# Table of Contents

Campus Locations .................................................................................................................. 10
Board of Trustees .................................................................................................................... 10
Annual Non-Discrimination Statement ..................................................................................... 10
College Information ................................................................................................................. 12
  Mission .................................................................................................................................... 12
  Institutional Purpose ............................................................................................................. 12
  IHCC History ....................................................................................................................... 12
  IHCC Foundation .................................................................................................................. 15
  Accreditation ....................................................................................................................... 15
A Message from the President .................................................................................................. 17
Calendar 2018-2020 ............................................................................................................... 18
  2018-2019 ........................................................................................................................ 18
  2019-2020 ........................................................................................................................ 19
Student Services ..................................................................................................................... 20
  How to Apply for Admission .............................................................................................. 20
  International Student Admissions ....................................................................................... 22
  Re-admission ...................................................................................................................... 27
  Tuition and Fees .................................................................................................................. 27
  Financial Assistance .......................................................................................................... 29
  Federal Programs ............................................................................................................... 32
  State Programs .................................................................................................................... 33
  IHCC Programs ................................................................................................................... 33
  Additional Student Resources ............................................................................................ 34
  Financial Assistance Office ............................................................................................... 34
  Veterans ............................................................................................................................... 34
  Division of Rehabilitation Services ...................................................................................... 35
  Academic/Career Advising ................................................................................................. 35
  Orientation ............................................................................................................................ 35
  Placement ............................................................................................................................. 36
  Housing and Residence Halls .............................................................................................. 36
  Student Identification Card ................................................................................................. 37
  Safe and Healthy Environment ............................................................................................ 37
  Child Development Center .................................................................................................. 39
  Student Health and Wellness Services ............................................................................... 39
  Student Activities ............................................................................................................... 40
  Student Code of Conduct .................................................................................................... 41
  Student Grievance Procedure for Discriminatory Practices .............................................. 47
  Title IX ................................................................................................................................. 48
The Academy .............................................................................................................................. 67
Online Education .......................................................................................................................... 67
Focus Areas .................................................................................................................................... 67
General Education Course Requirements (A.A., A.S.) ............................................................... 67
Associate of Arts Degree (AA) ..................................................................................................... 67
Associate of Science (AS) Degree ............................................................................................... 73
Accounting, A.A. ......................................................................................................................... 79
Agriculture / Entrepreneurship, A.A. ......................................................................................... 80
Art and Design, A.A. .................................................................................................................... 81
Athletic Coaching, A.A. .............................................................................................................. 83
Athletic Training, A.A. ................................................................................................................ 84
Biology, A.A. ............................................................................................................................... 85
Biology, A.S. .................................................................................................................................. 87
Business, A.A. .............................................................................................................................. 88
Chemistry, A.A. ............................................................................................................................. 89
Chemistry, A.S. ............................................................................................................................. 91
Counseling, A.A. ........................................................................................................................... 92
Education, A.A. ............................................................................................................................ 92
Engineering, A.S. ......................................................................................................................... 95
English / Literature, A.A. ........................................................................................................... 96
Entrepreneurship, A.A. .............................................................................................................. 98
Forestry .......................................................................................................................................... 99
Graphic Design, A.A. .................................................................................................................... 100
Health, A.A. ................................................................................................................................... 101
Health, A.S. ................................................................................................................................... 102
History, A.A. ................................................................................................................................... 103
Mass Media / Journalism, A.A. ................................................................................................. 104
Mathematics, A.A. ....................................................................................................................... 105
Mathematics, A.S. ......................................................................................................................... 106
Music, A.A. ..................................................................................................................................... 107
Natural Resources, A.S. ............................................................................................................... 109
Photography, A.A. ....................................................................................................................... 110
Physics, A.A. .................................................................................................................................. 111
Physics, A.S. .................................................................................................................................. 113
Political Science, A.A. .................................................................................................................. 114
Pre-Chiropractic, Pre-Dentistry, Pre-Medicine, Pre-Optometry, A.S. ........................................... 115
Pre-Law, A.A. .................................................................................................................................. 117
Pre-Mortuary Science, A.S. .......................................................................................................... 118
Pre-Osteopathy, A.S. .................................................................................................................... 119
Pre-Pharmacy (One-Year) ........................................................................................................... 120
Pre-Pharmacy (Two-Year), A.A. .................................................................................. 121
Pre-Pharmacy (Two-Year), A.S. .................................................................................. 122
Pre-Veterinary Medicine, A.S. .................................................................................... 124
Psychology, A.A. ......................................................................................................... 125
Public Relations / Organizational Communication, A.A. ............................................ 126
Social Work, A.A. ........................................................................................................ 127
Spanish / French, A.A. ............................................................................................... 129
Sport and Fitness Management, A.A. ......................................................................... 130
Theater, A.A. ................................................................................................................. 131
Undecided, A.A. ........................................................................................................... 132
Diploma ........................................................................................................................ 133
Culinary Arts, Diploma .................................................................................................. 133
Advanced Technology Programs ............................................................................. 135
General Education Course Requirements (A.A.S.) .................................................. 135
Associate of Applied Science (AAS) Degree ............................................................... 135
Information Technology ............................................................................................... 138
Accounting Assistant, Diploma ................................................................................... 139
Business Specialist - Accounting, A.A.S. ................................................................... 140
Business Specialist - Office Management, A.A.S. ....................................................... 141
Business Specialist, Diploma ....................................................................................... 143
Computer Accounting, Diploma .................................................................................. 143
Computer Networks and Security, A.A.S. ................................................................. 144
Computer Software Development, A.A.S. ................................................................. 145
Geospatial Technology, A.A.S. .................................................................................... 147
Interactive Media Technology, A.A.S. ....................................................................... 148
Manufacturing Technology .......................................................................................... 150
Agricultural / Biofuels Process Technology, A.A.S. .................................................... 150
Bio-Manufacturing, Diploma ....................................................................................... 152
Electrical & Renewable Energy Technology, A.A.S. .................................................. 152
Electronic Engineering Technology, A.A.S. ............................................................... 154
Electronic Technician - Robotics ................................................................................ 155
Electronic Technician - Lasers .................................................................................... 156
Electronic Technician Engineering, Diploma .............................................................. 157
Energy Auditor Certificate ............................................................................................ 157
HVAC and Refrigeration, Diploma ............................................................................. 158
Industrial Maintenance Technician, Diploma .............................................................. 158
Industrial Maintenance, A.A.S. ................................................................................... 159
Industrial-Utility Electrical Certificate ......................................................................... 160
Laser and Optics Technology, A.A.S. .......................................................................... 160
Machine Technology, A.A.S. ....................................................................................... 162
Health Sciences Programs

Emergency Medical Services

Early Childhood Education

Sustainable Agriculture and Entrepreneurship, A.A.S.

Landscape and Turfgrass Technology, A.A.S.

Construction Trades, Diploma

Construction Technology, A.A.S.

Diesel Technology, A.A.S.

Avionics Electronic Technician, Diploma

Aviation Pilot Training, A.A.S.

Automotive Power Train Certificate

Automotive Maintenance Certificate

Automotive Drive Train Certificate

Aviation Maintenance Technology, A.A.S.

Aviation Pilot Training, A.A.S.

Diesel Technology, A.A.S.

Instrument Rating Certificate

Other Career and Technical Programs

Construction Management, A.A.S.

Construction Technology, A.A.S.

Construction Trades, Diploma

Criminal Justice, A.A.S.

Culinary Arts, A.A.S.

Entrepreneurship

Grounds Equipment Technician, Certificate

Hotel & Restaurant Management, A.A.S.

Landscape and Turfgrass Technology, A.A.S.

Sustainable Agriculture and Entrepreneurship, A.A.S.

Truck Driving CDL, Certificate

Health Sciences Programs

Clinical Laboratory Sciences

Early Childhood Education

Emergency Medical Services

Health Informatics

Nursing

Other Health Sciences Program

Certified Dietary Manager
Course Descriptions ................................................................................................. 215
Articulation Agreements ......................................................................................... 215
Associate Degree Nursing ...................................................................................... 216
Anthropology .......................................................................................................... 218
Agriculture ................................................................................................................ 218
Agriculture ................................................................................................................ 220
Administrative Assistant ......................................................................................... 219
Nutrition and Dietary Management ........................................................................ 219
Occupational Therapy Assistant, A.A.S. ................................................................. 220
Pharmacy Technology, Diploma ............................................................................. 221
Physical Therapist Assistant, A.A.S. ...................................................................... 222
Radiologic Technology, A.A.S. .............................................................................. 224
Respiratory Care ....................................................................................................... 225
Surgical Technology, Diploma ................................................................................. 226
Health Sciences-Related Programs ......................................................................... 228
Articulation Agreements ......................................................................................... 228
High School Level .................................................................................................... 229
Baccalaureate Level .................................................................................................. 233
Continuing Education & Workforce Solutions ....................................................... 236
Enrollment/Tuition .................................................................................................... 236
Career Supplementary Courses .............................................................................. 236
General Interest Courses ....................................................................................... 237
Professional Relicensure Courses .......................................................................... 237
Short-Term Certificates .......................................................................................... 237
State- and Court-Mandated Courses ..................................................................... 238
Regional Entrepreneurship Center ......................................................................... 238
Small Business Development Center ..................................................................... 238
IowaWORKS ............................................................................................................ 238
Iowa BioDevelopment ............................................................................................. 238
Course Descriptions ............................................................................................... 240
Accounting ............................................................................................................... 240
Administrative Assistant ........................................................................................ 240
Agriculture - Agronomy .......................................................................................... 241
Agriculture - Animal Science .................................................................................. 242
Agriculture - Farm Management-Business ............................................................. 242
Agriculture - Horticulture ....................................................................................... 243
Agriculture - Natural Resources/Forestry ............................................................... 244
Agriculture - Precision Agriculture ....................................................................... 244
Anthropology ........................................................................................................... 244
Applied Music .......................................................................................................... 244
Art ............................................................................................................................... 247
Associate Degree Nursing ...................................................................................... 249
Automation Technology & Robotics ........................................................................ 251
Automotive Technology ................................................................. 252
Aviation ..................................................................................... 253
Aviation Maintenance ................................................................. 257
Basic Academic Skills ............................................................... 260
Biology ...................................................................................... 260
Bioprocess Technology ............................................................. 262
Business ................................................................................... 263
Business Computer Applications ............................................. 263
Chemistry ................................................................................. 264
Coaching Officiating ............................................................... 265
Collision Repair & Refinish ....................................................... 265
Communication ....................................................................... 267
Computer Aided Drafting ......................................................... 268
Computer Forensics ................................................................. 268
Computer Networking .............................................................. 268
Computer Programming ......................................................... 270
Computer Science .................................................................... 272
Construction ............................................................................ 273
Cultural Studies ....................................................................... 275
Dental Assisting ....................................................................... 275
Dental Hygienist ...................................................................... 276
Diesel ....................................................................................... 279
Early Childhood Education ...................................................... 280
Economics ................................................................................ 281
Education ................................................................................. 282
Electrical Technology .............................................................. 282
Electronics ................................................................................ 283
Emergency Medical Services ................................................ 284
Engineering .............................................................................. 286
Engineering Technology .......................................................... 288
English Composition .................................................................. 289
English Language Learning ..................................................... 290
Entrepreneur ............................................................................. 292
Environmental Science ............................................................ 292
Film & Theatre ........................................................................ 292
Finance ..................................................................................... 293
Foreign Language - French ...................................................... 293
Foreign Language - Spanish ..................................................... 293
General Music ......................................................................... 295
General Phys Ed & Health ......................................................... 297
<table>
<thead>
<tr>
<th>Subject</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>297</td>
</tr>
<tr>
<td>Radiologic Techn</td>
<td>297</td>
</tr>
<tr>
<td>Political Science</td>
<td>298</td>
</tr>
<tr>
<td>Physics</td>
<td>299</td>
</tr>
<tr>
<td>Health Information Technology</td>
<td>300</td>
</tr>
<tr>
<td>Health Sciences</td>
<td>301</td>
</tr>
<tr>
<td>Health Unit Coordinator</td>
<td>302</td>
</tr>
<tr>
<td>Heating &amp; Air Conditioning</td>
<td>303</td>
</tr>
<tr>
<td>History</td>
<td>302</td>
</tr>
<tr>
<td>Hospitality, Culinary, Management</td>
<td>303</td>
</tr>
<tr>
<td>Humanities</td>
<td>305</td>
</tr>
<tr>
<td>Industrial Technology</td>
<td>306</td>
</tr>
<tr>
<td>Intercollegiate Physical Ed</td>
<td>307</td>
</tr>
<tr>
<td>Laser Electro-Optics Technology</td>
<td>308</td>
</tr>
<tr>
<td>Literature</td>
<td>309</td>
</tr>
<tr>
<td>Management</td>
<td>310</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>310</td>
</tr>
<tr>
<td>Marketing</td>
<td>311</td>
</tr>
<tr>
<td>Mass Media Studies</td>
<td>312</td>
</tr>
<tr>
<td>Mathematics</td>
<td>312</td>
</tr>
<tr>
<td>Medical Lab Technology</td>
<td>313</td>
</tr>
<tr>
<td>Healthcare Documentation Specialist</td>
<td>315</td>
</tr>
<tr>
<td>Occupational Therapy Assistant</td>
<td>315</td>
</tr>
<tr>
<td>Pharmacy Technology</td>
<td>317</td>
</tr>
<tr>
<td>Philosophy</td>
<td>318</td>
</tr>
<tr>
<td>Phlebotomy</td>
<td>318</td>
</tr>
<tr>
<td>Physical Education Activities</td>
<td>318</td>
</tr>
<tr>
<td>Physical Education Training</td>
<td>318</td>
</tr>
<tr>
<td>Physical Science</td>
<td>319</td>
</tr>
<tr>
<td>Physical Therapist Assistant</td>
<td>319</td>
</tr>
<tr>
<td>Physics</td>
<td>321</td>
</tr>
<tr>
<td>Political Science</td>
<td>321</td>
</tr>
<tr>
<td>Practical Nursing</td>
<td>321</td>
</tr>
<tr>
<td>Psychology</td>
<td>323</td>
</tr>
<tr>
<td>Radiologic Technology</td>
<td>324</td>
</tr>
<tr>
<td>Reading</td>
<td>327</td>
</tr>
<tr>
<td>Religion</td>
<td>327</td>
</tr>
<tr>
<td>Science</td>
<td>327</td>
</tr>
<tr>
<td>Sign Communication Skills</td>
<td>327</td>
</tr>
<tr>
<td>Social Media &amp; Marketing</td>
<td>327</td>
</tr>
</tbody>
</table>
Sociology ........................................................................................................................................... 328
Speech ................................................................................................................................................ 329
Sustainable Energy Resources ........................................................................................................... 329
Truck Driving & Transportation ......................................................................................................... 330
Virtual Reality Technology ................................................................................................................ 330
Welding ................................................................................................................................................ 331
Wind Energy & Turbine Technology .................................................................................................. 333
Women’s Studies ............................................................................................................................... 333
Faculty/Professional Staff .................................................................................................................... 334
Campus Locations

Main Campus
525 Grandview Avenue
Ottumwa, Iowa 52501-1398
(641) 683-5111
(800) 726-2585

Centerville Campus
721 North First Street
Centerville, Iowa 52544
(641) 856-2143
(800) 670-3641

North Campus
Ottumwa Industrial Airport
Ottumwa, Iowa 52501-1398
(641) 683-5111
(800) 726-2585

www.indianhills.edu

Board of Trustees

John Pothoven – Oskaloosa – President
Nellie Coltrain – Albia
Beth Danowsky – Sigourney
Tom Keck – Agency
George Manning – Keosauqua

Lori Shaefer-Wheaton – Fairfield
Richard Gaumer – Ottumwa
Jerry Kirkpatrick – Centerville
Alan Wilson - Corydon

Annual Non-Discrimination Statement

It is the policy of Indian Hills Community College not to discriminate on the basis of race, color, national origin, sex, disability, age (employment), sexual orientation, gender identity, creed, religion, and actual or potential parental, family, or marital status in its programs, activities, or employment practices as required by the Iowa Code §§216.6 and 216.9, Titles VI and VII of the Civil Rights Act of 1964 (42 U.S.C. §§ 2000d and 2000e), the Equal Pay Act of 1973 (29 U.S.C. § 206, et seq.), Title IX (Educational Amendments, 20 U.S.C §§ 1681 – 1688), Section 504 (Rehabilitation Act of 1973, 29 U.S.C. § 794), and Title II of the Americans with Disabilities Act (42 U.S.C. § 12101, et seq.).

Indian Hills Community College offers career and technical programs in the following areas of study:

- Accounting Assistant
- Associate Degree Nursing*
- Automotive Technology
- Aviation Maintenance Technology
- Aviation Pilot Training*
- Avionics Electronic Technician
- Bioprocessing Technology
- Business Specialist
- Business Specialist - Accounting
- Business Specialist - Office Management
- Child Care Technician*
- Clinical Laboratory Assistant*
- Commercial Driver Training*
- Computer Accounting
- Computer Networks & Security
- Computer Software Development
- Construction Management
- Construction Technology
- Criminal Justice*
- Culinary Arts
- Dental Assisting*
- Dental Hygiene*
- Diesel Technology
- Early Childhood Associate*
- Electronic Engineering Technology
- Electrical & Renewable Energy Technology
- Emergency Medical Technician*
- Geospatial Technology
- Grounds Equipment Technician
- Health Information Technology*
- Healthcare Documentation Specialist*
- Health Unit Coordinator*
- Hotel & Restaurant Management
- HVAC & Refrigeration
- Industrial Maintenance
- Interactive Media Technology
- Landscape & Turfgrass Technology
- Laser & Optics Technology
- Machine Technology
- Medical/Insurance Coding*
- Medical Assistant*
- Medical Laboratory Technology*
- Nutrition & Dietary Management*
- Occupational Therapy Assistant*
- Paramedic*
- Paramedic Core*
- Pharmacy Technology*
- Phlebotomy Technician*
- Physical Therapist Assistant*
- Practical Nursing*
• Radiologic Technology*
• Respiratory Care*
• Robotics/Automation Technology
• Surgical Technology*
• Sustainable Agriculture & Entrepreneurship
• Welding Technology

If you have questions or complaints related to compliance with this policy, please contact Kristen Parks, Director, Human Resources/Equity Coordinator (staff), 525 Grandview Ave, Ottumwa, IA 52501, 683-5108, hrequity@indianhills.edu; Brett Monaghan, Dean, Student Affairs (students), 683-5159, studentsequity@indianhills.edu; Noel Gorden, Dean, Learning Services (students with disabilities), 683-5174, learningservicesequity@indianhills.edu; U.S. Department of Education, Citigroup Center, 500 W. Madison, Suite 1475, Chicago, IL 60661, phone number 312/730-1560, fax 312/730-1576.

*Indicate screened programs. For admissions criteria, please visit www.indianhills.edu/nondiscriminationadmissioncriteria

Every effort has been made to ensure the accuracy of the information contained in this catalog. However, due to the dynamic nature of community colleges, it is to be understood that any item in this publication is subject to change by proper administrative procedure.
College Information
Mission
Indian Hills Community College changes lives by inspiring learning, diversity, social enrichment, and regional economic development.

Indian Hills Community College Values

- Academic Excellence and Student Success
- Integrity, Relationships, and Teamwork
- Acceptance, Inclusion, and Accessibility
- Tradition and Culture
- Innovation and the Future

Indian Hills Community College Strategic Priorities

- Strategic Priority: Provide a quality learning environment focused on student success
- Strategic Priority: Implement technology solutions to best serve students and staff
- Strategic Priority: Improve internal and external communications
- Strategic Priority: Develop and implement a strategic enrollment management plan
- Strategic Priority: Provide a skilled workforce for our future
- Strategic Priority: Provide effective fiscal management and funding
- Strategic Priority: Create and implement a comprehensive facilities plan

Institutional Purpose

Indian Hills Community College is dedicated to providing a dynamic and timely response to the ever-changing needs of our business community and the populace of our small towns and rural areas.

In this context, it is our purpose to provide, to the greatest extent possible, the following educational opportunities and services:

1. The first two years of college work, including pre-professional education.
2. Career and technical training.
3. Programs for in-service training and retraining of workers.
4. Programs for high school completion for students of all ages.
5. Programs for all students of high school age who may best serve themselves by enrolling for career and technical training while also enrolled in a local high school, public or private.
6. Programs for students of high school age to provide advanced college placement courses not taught at a student’s high school while the student is also enrolled in the high school.
7. Student personnel services.
8. Community services.
9. Career and technical education for persons who have academic, socioeconomic or other disabilities which prevent succeeding in regular career education programs.
10. Training, retraining and all necessary preparation for productive employment of all citizens.
11. Career and technical training for persons who are not enrolled in a high school and who have not completed high school.
12. Developmental education for persons who are academically or personally underprepared to succeed in their program of study.

IHCC History

What is now known as Indian Hills Community College (IHCC) was established as Merged Area XV by the Iowa Board of Public Instruction on June 3, 1966. The college began operations on July 1, 1966, at the Ottumwa Regional
Airport under the governance of a nine-member board of trustees. Then known as Iowa Tech-Area XV Community College, the college conducted technical programs that included those formerly operated by the Ottumwa Community School District. The newly-renovated North Campus (formerly known as the "Airport Campus") is where the college's Aviation Maintenance Technology, Aviation Pilot Training, Avionics, Welding Technology, Commercial Driver Training and Automotive Collision Technology programs are taught. The campus covers 215 acres and is located seven miles northwest of Ottumwa.

**Centerville Campus**

On July 1, 1968, the Merged Area Board assumed responsibilities for operations of Centerville Junior College, which had been established by the Centerville Community School Board in 1930.

The Centerville Campus was completed in 1970 on a 72-acre site in the northwest part of the community. Offerings include Arts and Sciences courses and several technical programs, including Construction Technology and Mechanical Design Technology. Practical Nursing and Associate Degree Nursing instruction is also available at the Centerville Campus.

A new residence hall opened in 2000 on the Centerville Campus, giving that campus its first on-campus student housing unit.

Appanoose County philanthropist Morgan E. Cline has made a generous donation of $500,000 that will facilitate the creation of what will be known as the Morgan E. Cline School of Sustainable Agriculture on the Centerville Campus. The complex will include a greenhouse, welcome center, processing center and educational space and the project is expected to catapult Indian Hills and the Centerville community to the forefront of food production in the Midwest.

**Indian Hills Community College**

Merged Area XV Community College adopted the name "Indian Hills Community College" in 1970. Dr. Mel Everingham, who was named president of Merged Area XV Community College two years before, stayed on as the first president of Indian Hills Community College. A historical pavilion, containing photographs and other memorabilia and named for Dr. Everingham, was added in the Advanced Technology Center in 2004.

Dr. Lyle Hellyer became the college's president in 1973 and would remain in that position until his retirement in 2001. Dr. Jim Lindenmayer became the college's third president following Dr. Hellyer's retirement. Dr. Lindenmayer retired in 2013. He was succeeded by Dr. Mariene Sprouse in November of 2013.

**Ottumwa Heights**

The boards of Indian Hills Community College and Ottumwa Heights College merged operations on July 1, 1979. Ottumwa Heights was a private college operated by the Sisters of Humility of Mary. Its roots can be traced back to the 1860s, when the Visitation Academy was established in Ottumwa. The St. Joseph Academy was founded in 1925, and its name was changed to Ottumwa Heights College five years later.

The Ottumwa Heights College campus was situated on 126 acres and was purchased by the Indian Hills Community College Board of Trustees in 1981, becoming the IHCC Ottumwa Campus. The original building is used for administrative offices, the library, an art gallery, an auditorium, dormitory space, arts and sciences classrooms and instructors' offices. The library and art gallery were completed when the former chapel was renovated in 1984.

**Ottumwa Campus Development**

A number of facilities have since been constructed on the Ottumwa Campus, which now serves as the college's main campus. The Hellyer Student Life Center and Efner Academic Hall opened in October of 1985, the first of the new buildings added to the former Ottumwa Heights facilities. The Hellyer Center provides excellent recreational facilities for Indian Hills and the Ottumwa community.

The Advanced Technology Center was completed in the fall of 1990. The 125,000-square-foot building houses the college's many technical programs as well as offices for the Regional Economic Advancement team.
A new dormitory, Trustee Hall, opened in the summer of 1992. The Early Childhood Development and Day Care Center was completed two years later to provide quality child care services for the community. The building is also a teaching site for students enrolled in the IHCC Early Childhood Development programs.

As the college continued to expand, a Video Conferencing and Training Center opened in 1996. It provides interactive fiber-optic connectivity to all points on the Iowa Communications Network (ICN), government agencies in Kansas City and Washington, D.C., and to Indian Hills' eight county service centers. The building was renamed the Rosenman Video Conference Training Center, for Indian Hills benefactors Eli and Bea Rosenman, in 2005.

The Tom Arnold Net Center, built in 1997, provides year-round practice facilities for cross country, golf, soccer, softball and volleyball. A major renovation of that building in 2014 added coaches' offices, locker rooms, a training room and a new exterior look.

In addition to the recreational facilities at the Hellyer Center and Net Center, the college also has an 18-hole disc golf course on the Main Campus that is used by students and community members.

In the winter of 2002, Indian Hills began a project to update and renovate the Keokuk/Mahaska, Wapello and Appanoose residence halls. The reconstruction project was completed in 2004. IHCC students now have a variety of on-campus housing options ranging from a one-person room to a three-, four-, or five-person suite. The other residence halls on campus, Oak Hall and Trustee Hall, offer a more traditional atmosphere with two students per room.

The Bennett Student Services Center, constructed in 1987, was renovated in 2001. The building, which was constructed as the Economic Development Center and later became the Bennett Regional Training Center, provides many of the student services for Indian Hills students. Offices for admissions and recruiting, academic advising and counseling services, the Registrar, veterans services, financial aid and the college bookstore are all located under one roof at the Bennett Center.

The Rural Health Education Center opened in May of 2007 on the Ottumwa Campus as a classroom and laboratory building for the college's many health programs, as well as a conference and meeting facility for area health care organizations.

Although no new buildings have been added in recent years, the college has continued to update the existing facilities with renovations in almost every single building over the past couple of years.

Indian Hills Community College has grown to meet the changing needs of the residents in the 10-county area the college serves. The college staff members, administration, and board of trustees are committed to providing high quality educational opportunities through the Indian Hills programs and facilities.

### Historical Timeline

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1925</td>
<td>Ottumwa Heights Academy established at the present site of Indian Hills Community College—Ottumwa Campus</td>
</tr>
<tr>
<td>1930</td>
<td>Centerville Junior College established</td>
</tr>
<tr>
<td>1957</td>
<td>Ottumwa Heights Campus destroyed by fire</td>
</tr>
<tr>
<td>1960</td>
<td>New Ottumwa Heights Campus opened on Grandview Avenue in Ottumwa at the site of the original campus</td>
</tr>
<tr>
<td>1963</td>
<td>Iowa Tech established</td>
</tr>
<tr>
<td>1966</td>
<td>Iowa Legislature enacted legislation permitting the development of 15 Iowa community college districts</td>
</tr>
<tr>
<td>1966</td>
<td>Merged Area XV Community College formed; located at Ottumwa Airport Campus</td>
</tr>
<tr>
<td>1966</td>
<td>Iowa Tech became part of Merged Area XV Community College</td>
</tr>
<tr>
<td>1968</td>
<td>Centerville Junior College became part of Merged Area XV Community College</td>
</tr>
<tr>
<td>1970</td>
<td>Merged Area XV Community College adopted the name &quot;Indian Hills Community College&quot;</td>
</tr>
<tr>
<td>1972</td>
<td>Correspondent status granted by North Central Association</td>
</tr>
<tr>
<td>1973</td>
<td>Dr. Lyle Hellyer named the second president of Indian Hills Community College</td>
</tr>
<tr>
<td>1977</td>
<td>Candidate for Accreditation status granted by NCA</td>
</tr>
<tr>
<td>1977</td>
<td>Accredited status granted by NCA</td>
</tr>
<tr>
<td>1979</td>
<td>Indian Hills Community College and Ottumwa Heights College merged</td>
</tr>
<tr>
<td>1981</td>
<td>Indian Hills Community College purchased Ottumwa Heights College</td>
</tr>
<tr>
<td>1982</td>
<td>Continued Accreditation granted by NCA</td>
</tr>
<tr>
<td>1984</td>
<td>New Art Gallery and Learning Resources Center opened at the Ottumwa Campus</td>
</tr>
</tbody>
</table>
1985
- Hellyer Student Life Center opened
- Efner Academic Hall opened
- Computer Center opened at Ottumwa campus
- Economic Development Center opened
- 1988 Maintenance and Horticulture Center opened
- Continued Accreditation granted by NCA
- 1989 Centerville Maintenance facility constructed
- Marge Dodd Stage donated by Area Arts Council
- Centerville Administration building opened
- 1990 Advanced Technology Center opened
- Economic Development Center renamed Regional Training Center
- 1991 Maintenance and Horticulture Center opened
- Early Childhood Development and Day Care Center opened
- 1994 Ottumwa athletic complex constructed
- Video Conferencing and Training Center opened
- 1996 Appanoose County Day Care Center opened on the Centerville campus
- First of eight County Service Centers opened
- 1997 Tom Arnold Net Center opened
- 1999 Completion of County Service Centers
- 2000 Oak Hall and Centerville dormitories opened
- 2001 Dr. Jim Lindenmayer named third president of Indian Hills Community College
- 2002 Iowa Bioprocess Training Center in Eddyville opened
- Everingham Pavilion added at Advanced Technology Center
- 2004 Renovation of Appanoose, Wapello and Keokuk/Mahaska dormitories completed
- 2005 VCTC renamed Rosenman Video Conference Training Center
- 2007 Rural Health Education Center opened
- Renovation of North Campus completed
- 2009 Addition of dining facility at Advanced Technology Center
- Regional Economic Advancement facilities added to Advanced Technology Center
- Soccer Field added to Main Campus athletic complex
- 2013 Dr. Marlene Sprouse named fourth President of Indian Hills Community College
- Renovation of Pothoven Academic SUCCESS Center completed
- Renovation of Tom Arnold Net Center completed
- 2014 Dedication of the Morgan E. Cline School of Sustainable Agriculture on the Centerville Campus
- Dedication of the Regional Entrepreneurship Center on the North Campus
- Renovation of Ottumwa Campus Library completed
- 2017 Renovation of Centerville Residence Hall completed

IHCC Foundation

The Foundation is a 501(c)(3) tax-exempt organization that receives contributions to provide academic scholarships. All students enrolling at Indian Hills are eligible to apply for these scholarships. The Foundation receives tremendous support within the 10-county service area. For the past nine years, nearly all of Indian Hills' full-time employees have contributed to the scholarship fund. Hundreds of area businesses, organizations, industries and citizens also contribute each year. In recent years, the Foundation has received an increased number of trusts and memorials. Approximately 17,500 scholarships have been awarded to Indian Hills Community College students since 1975. Last year, students at IHCC received nearly $1.2 million in Foundation scholarships.

Accreditation

Indian Hills Community College is a public postsecondary institution accredited by the Higher Learning Commission of the North Central Association (NCA), 230 South LaSalle St. Suite 7-500, Chicago, IL 60602-2504, (800) 621-7440, www.higherlearningcommission.org. IHCC is also accredited by the Iowa Department of Education, Grimes State Office Building, Des Moines, IA 50319-0146, (515) 281-8260. IHCC programs are approved by the Division of Veterans and Military Education, Iowa Department of Education, for veterans education benefits through the U.S. Department of Veterans Affairs.

In addition, numerous IHCC programs are accredited and several others are seeking accreditation:

- The Health Information Technology program, Associate of Applied Science Degree, at Indian Hills Community College is accredited by the Commission on the Accreditation for Health Informatics and
• The Physical Therapist Assistant program is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE), American Physical Therapy Association, 1111 N. Fairfax St., Alexandria, VA 22314, (703) 706-3245. The commission's email address is accreditation@apta.org and their website is www.capteonline.org.

• The Radiologic Technology program is accredited by the Joint Review Committee on Education in Radiologic Technology, 20 N. Wacker Drive Suite 2850, Chicago, IL 60606-3182, (312) 704-5300; mail@jrcert.org

• The Nursing programs are approved by the Iowa Board of Nursing, Riverpoint Business Park, 400 SW Eighth St. Suite B, Des Moines, IA 50309-4685, (515) 281-3255.

• The Emergency Medical Responder (EMR), Emergency Medical Technician (EMT), Advanced Emergency Medical Technician (AEMT) and Paramedic programs are authorized as an Iowa EMS Training Program by the Iowa Department of Public Health, Bureau of Emergency and Trauma Services, Lucas State Office Building, 321 East 12th Street, Des Moines, IA 50309, (800) 728-3367.

• The Indian Hills Community College Paramedic Program is accredited by the Commission on Accreditation of Allied Health Programs (www.caahep.org) upon the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions. Commission on Accreditation of Allied Health Education Programs, 1361 Park Street, Clearwater, FL 33756, (727) 210-2350; www.caahep.org

• IHCC programs in Automotive Technology, Diesel Power Systems Technology and Automotive Collision Technology are certified by the National Automotive Technicians Education Foundation, 13505 Dulles Technology Drive Suite 2, Herndon, VA 20171-3421, (703) 713-0100.

• IHCC is a Federal Aviation Administration-approved aviation training facility; the Aviation Pilot Training program is Part 141 approved, while the Aviation Maintenance Technology program is Part 147 approved. The FAA may be contacted at 6500 S. MacArthur Blvd., Oklahoma City, OK 73169, (405) 954-0138.

• The Culinary Arts program is accredited by the American Culinary Federation, 180 Center Place Way, St. Augustine, FL 32095, (800) 624-9458.

• The Occupational Therapy Assistant program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), 4720 Montgomery Lane, Suite 200, Bethesda, MD 20814-3449, (301) 652-2682. Their website is www.acoteonline.org.

• The Early Childhood Associate program is accredited by the National Association for the Education of Young Children, 1313 L. Street NW, Suite 500, Washington, DC 20005, (202) 232-8777.

• The Clinical Laboratory Assistant program is approved through the National Accrediting Agency for Clinical Laboratory Sciences, 5600 N. River Rd, Suite 720, Rosemont, IL 60018, (773) 714-8880. naaclsinfo@naacls.org

• The Medical Laboratory Technology program is accredited through the National Accrediting Agency for Clinical Laboratory Sciences, 5600 N. River Rd, Suite 720, Rosemont, IL 60018, (773) 714-8880. naaclsinfo@naacls.org

• The Dental Assisting program is accredited by the Commission on Dental Accreditation (CODA). The Commission is a specialized body recognized by the United States Department of Education. The Commission on Dental Accreditation can be contacted at 211 East Chicago Avenue; Chicago, IL 60611. (312) 440-4653, http://www.ada.org

• The Dental Hygiene Program is accredited by the Commission on Dental Accreditation (CODA) and has been granted the accreditation status of "initial accreditation." The Commission (CODA) is a specialized accrediting body recognized by the United States Department of Education. The Commission (CODA) can be contacted at (312) 440-2500 or at 211 East Chicago Avenue, Chicago, Illinois 60611. www.ADA.org.

• The Nutrition & Dietary Management Program is an approved training program through the Association of Nutrition and Food Service Professionals (ANFP), 406 Surrey Woods Dr., St. Charles, IL 60174. 1-800-323-1908 www.anfponline.org
A Message from the President

Thank you for your interest in Indian Hills Community College. Whether you have come to the IHCC catalog as a student, a prospective student, a graduate or a friend, we welcome you. Indian Hills has much to offer.

At IHCC, our passion for providing quality education and services to the citizens of our 10-county area and beyond, stems from a deep dedication and commitment to the educational and economic well-being of all who come in contact with Indian Hills.

IHCC offers a wide variety of opportunities for learning. Almost half of our students are enrolled in the Arts and Sciences transfer program, known for faculty who are both scholarly and student-centered. Other students at the college are enrolled in one of our many Advanced Technology or Health Science programs. These programs have strong reputations, instructors who are highly skilled in their respective fields and industry advisors who keep the programs firmly linked to the most current technology and workforce needs.

Indian Hills also has many services to offer communities, entrepreneurs and professionals. The Division of Career and Workforce Education provides support to economic, business and industry leaders. Athletics, fine arts and international programs add entertainment, engagement and diversity to the student experience at Indian Hills.

Education at IHCC can be accessed through two beautiful, full-service campuses, an expansive and growing workforce campus and many county service centers and career academies—all located in Southeast Iowa. Interactive audio-visual and online options make Indian Hills accessible from almost anywhere. Students live on campus, commute to campus and connect through electronic means. We truly DO have much to offer.

I am proud to say that I am a lifelong resident of the Indian Hills Community College region, and I am a graduate of Indian Hills. Once again, I thank you for your interest in Indian Hills Community College, a place where we would be pleased to help you find a path to success, a place that is Life Changing.

Marlene Sprouse, Ed.D.
President
### Calendar 2018-2020
*Flexible Scheduling with a Four-Day Week. Evening and Weekend Classes Available.*

### 2018-2019

#### Fall Term
- August 27: First Day of Fall Term
- September 3
- September 4
- November 14: Last Day of Fall Term

#### Winter Term
- November 15: First Day of Winter Term
- November 22
- November 26
- December 24-January 3
- January 7
- February 19

#### Spring Term
- February 20: First Day of Spring Term
- April 1-4
- April 8
- May 16
- May 20-23
- May 27: Last Day of Spring Term

#### Summer Term
- May 28: First Day of Summer Term
- July 4
- July 8
- July 9
- August 15
- August 19-22

*Evening and Weekend Classes Available.*
2019-2020

Fall Term

August 26  
September 2  
September 3  
November 13  

First Day of Fall Term  
Labor Day Holiday - College Closed  
Classes Resume  
Last Day of Fall Term

Winter Term

November 14  
November 28  
December 2  
December 23-January 2  
January 6  
February 18  

First Day of Winter Term  
Thanksgiving Holiday - College Closed  
Classes Resume  
Winter Break - College Closed  
Classes Resume  
Last Day of Winter Term

Spring Term

February 19  
April 7-9  
April 13  
May 14  
May 18-21  
May 25  

First Day of Spring Term  
Spring Break - College Closed  
Classes Resume  
Last Day of Spring Term  
Early Summer Break - College Closed  
Memorial Day Holiday - College Closed

Summer Term

May 26  
July 6  
July 7  
August 13  
August 17-20  

First Day of Summer Term  
Independence Day Holiday College Closed  
Classes Resume  
Second Summer Session Begins  
Last Day of Summer Term  
Late Summer Break - College Closed
Student Services

Indian Hills has an open-door admissions policy and welcomes applications from all prospective students who desire, and can benefit from, programs offered by the college.

How to Apply for Admission

1. Students should go to the college’s website (www.indianhills.edu) to apply online.
2. Hover over the "Admissions" button on the home page.
3. Choose the "Apply Now" link from the drop down menu.
4. Create an account with your e-mail address and a password.
5. Complete and submit the online application.
6. Students may be required to provide the college with an official high school transcript or High School Equivalency diploma.
7. Provide IHCC with an official transcript from any other college(s) attended in order for the evaluation of any applicable transfer credit.
8. All prospective students in specific Health Sciences programs (Clinical Laboratory Sciences, Dental Assisting, Early Childhood Education, Emergency Medical Services, Health Informatics, Nursing, Occupational Therapy Assistant, Pharmacy Technology, Physical Therapist Assistant, Radiologic Technology, Surgical Technology and Therapeutic Massage) are required to take the ACCUPLACER test or the ACT test and have a minimum score. Meeting minimum requirements does not guarantee acceptance into a program. See specific program admissions criteria for additional information.
9. To be considered for a Health Sciences program, a prospective student must have at least a 2.0 grade point average or a specified score on the High School Equivalency Diploma. Students must meet the specific criteria for each Health Science program including a pre-determined minimum score on the ACCUPLACER, ACT or SAT.
10. A letter of acceptance will be sent as soon as all needed information is received by the college and it is determined that the program admission requirements are met.
11. Acceptance may be determined by the total number of openings in a program at the time the application is received.

Pre-admission Policy for Applicants Under the Age of 18

A pre-admission agreement is required for applicants under the age of 18 without a high school diploma. This agreement will address, but is not limited to, the applicant’s ability to benefit, exposure to harmful situations and the adult setting in which the youthful applicant will be placed.

Individual pre-admission agreements may be waived by Indian Hills Community College if the applicant is enrolled through existing post-secondary initiatives covered by Iowa Administrative Rules or a contract between IHCC and the resident school district of the applicant.

For more information, call the college's Coordinator of High School Programs at (641) 683-5202.

Residency Policy

Residency Requirements
Requirements for proof of Iowa residency are established for community colleges by the Iowa Department of Education.
Residency is determined based on the address information provided at the time of application and will not be changed except in the case of unusual circumstances. If you feel you should be considered for an exception, please submit a letter of explanation along with the documents described below to the Registrar's Office.

Please note that a student cannot be a resident of two states at the same time. If your home is in another state and you are living in Iowa for the purpose of attending school, you are a resident of your home state and not a resident of Iowa.

You will be considered a resident of Iowa for IHCC tuition and fee purposes if you are:
1. Permanently domiciled in Iowa (not living in Iowa primarily for educational purposes); and
2. Have resided here for a period of not less than ninety (90) days prior to the first day of the beginning of the first term for which you are enrolling; and
3. You provide supporting documentation issued/dated on or before the appropriate date on the timeline below to prove your Iowa residency. (See list of acceptable documents under Application Process below.)

If you are classified as an out-of-state student, it is your responsibility to submit the appropriate documents needed to prove Iowa residency to the IHCC Registrar (follow steps below). In-state residency status is not automatically changed after a certain period of time. If you seek to be reclassified after the term begins, your new classification will be effective beginning with your next term of enrollment. In no case will the reclassification to residency status be made retroactive for tuition and fee purposes, even if you could have previously qualified for residency status had you applied.

**Residency Application Timelines**

To meet the 90-day requirement, **you must provide documentation** proving that you began residing in Iowa on or before the following dates:

<table>
<thead>
<tr>
<th>Term</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>FALL</td>
<td>On or before May 25</td>
</tr>
<tr>
<td>WINTER</td>
<td>On or before August 15</td>
</tr>
<tr>
<td>SPRING</td>
<td>On or before November 15</td>
</tr>
<tr>
<td>SUMMER</td>
<td>On or before February 25</td>
</tr>
</tbody>
</table>

Residency status cannot be reclassified once the semester begins.

**Minors**

Students enrolling at Indian Hills Community College will be considered minors until the legal age of 18. Proof of parents’ residency will be required for these students.

**Students Age 18 and Over**

Students age 18 and older must provide proof of their residency, rather than that of their parents.

**Veterans, Federal Personnel and Their Dependents**

A veteran of U.S. military service or National Guard, or his/her spouse or dependent child shall be classified as a resident if the veteran is domiciled in Iowa and one of the following conditions is met:

1. The veteran has separated from a U.S. military force with an honorable discharge or a general discharge, is eligible for benefits, or has exhausted benefits, under the federal Post-9/11 Veterans Assistance Act of 2008 or any other federal veteran educational benefits program.
2. The individual is an active duty military person, or activated or temporarily mobilized National Guard member.

To be eligible for the exemption, a dependent child must be claimed as a dependent on an eligible veteran’s Internal Revenue Service tax filing for the previous year.

A person, or his/her spouse or dependent child, who has moved into the state of Iowa as the result of military or civil orders from the U.S. Government, and the minor children of such persons, are entitled to immediate Iowa residency status.

For more information, visit our Veterans Affairs site.

**International Students**

International students who are in the United States on any type of student visa (e.g. an F-1 or F-2 visa) cannot establish in-state residency while studying in this country.
Application Process for U.S. Citizens
To apply for reclassification from nonresident to resident status, follow these steps and submit items to IHCC Registrar:

1. Submit written explanation detailing your reason (other than educational purposes) for moving to Iowa.
2. Submit supporting, dated documentation demonstrating residency in Iowa. To show that your purpose for living in Iowa is for more than attending school and to show that you have been a resident of Iowa for 90 days or more prior to the date of initial enrollment, you must provide one of the items listed below:
   1. Iowa state income tax return, signed and dated
   2. Written and notarized documentation from an employer that you have been employed in Iowa for a minimum of 90 days prior to the start of the semester or a signed and notarized statement from you describing employment and sources of support.
   3. Proof of Iowa Homestead credit on property taxes
3. Submit a second document, which may be another from the above documents or one of the documents listed below:
   1. Iowa vehicle registration form
   2. Iowa driver’s license
   3. Iowa voter registration card
   4. Other indicators of Iowa residency, such as apartment lease dated and signed by both you and the manager, utility bills, bank

Application Process for Non-U.S. Citizens
If you are a lawful permanent resident (LPR) of the United States or an approved refugee, you may apply for residency status. Follow the steps below and submit all items to the IHCC Registrar. International students who are in the United States on any type of student visa (e.g. an F-1 or F-2 visa) cannot establish in-state residency while studying in this country.

1. Submit written explanation detailing your reason (other than educational purposes) for moving to Iowa.
2. Submit proof of your legal immigration status in the form of:
   1. A copy of an I-94 card showing political asylum, refugee or other appropriate status. OR
   2. A copy of your U.S. Permanent Resident Card. If you have applied for but have not yet received a Permanent Resident Card, you have not been approved to permanently reside in the U.S. and may not apply for residency status regardless of how long you have lived in Iowa.
3. Submit supporting, dated documentation demonstrating residency in Iowa. To show that your purpose for living in Iowa is for more than attending school and to show that you have been a resident of Iowa for 90 days or more, you must provide one of the items listed below as evidence.
   1. Iowa state income tax return, signed and dated
   2. Written and notarized documentation from an employer that you have been employed in Iowa for a minimum of 90 days prior to the start of the term or a signed and notarized statement from you describing employment and sources of support.
   3. Proof of Iowa Homestead credit on property taxes
4. The second document you provide may be any of the following:
   1. Iowa driver’s license
   2. Iowa vehicle registration form
   3. Other indicators of Iowa residency, such as apartment lease dated and signed by both you and the manager, utility bills, bank statements, etc., dated and showing your Iowa address.

In all events, to be determined a resident of Iowa, the individual must document residing in the state of Iowa for at least 90 days prior to the beginning of the first term for which he/she is enrolling, and not be enrolled in any Iowa college or university.

Appeal of a Residency Decision
Students wishing to appeal a residency decision need to contact the Interim Dean, Student Affairs, (641) 683-5152 or studentsequality@indianhills.edu

International Student Admissions
Non-immigrant international students wishing to attend Indian Hills Community College on an F-1/M-1 visa are welcome to apply at Indian Hills Community College. Non-immigrant international students may find admission information and apply online on the Indian Hills International Student webpage at www.indianhills.edu/internationalstudents. Questions may be emailed to the International Affairs Office at internationals@indianhills.edu. All application documents should be mailed to the International Affairs Office.
All Health Sciences Applicants must also submit:

Application documents required for international students transferring from a U.S. institution:

International Student Transfer Applicants
Application documents required for new (non-transfer) international students:

1. International Student Application for Admission. Apply online at www.indianhills.edu/internationalstudents.
2. Financial letter from bank/government sponsorship (must provide an official letter on official letterhead written in English showing sufficient funds in U.S. dollars for one year of study at Indian Hills Community College that is dated within 60 days of submission)
   1. If using a sponsor other than parents, please include a notarized, signed, sponsorship letter from the individual sponsoring you.
3. Copy of passport photo page
4. If the applicant has completed high school, send a copy of the final high school transcript showing date of graduation or High School Equivalency Transcript showing date of graduation (send the transcript in its original language and a second transcript translated into English).
   1. If the applicant is still enrolled in the final year of high school, send a copy of a current in-progress high school transcript (send the transcript in its original language and a second transcript translated into English). In addition, after graduation from high school, send the final high school transcript showing proof of date of graduation. The final high school transcript with proof of graduation must be provided to the International Affairs Office in order to attend orientation and prior the start of the student’s first term at IHCC.
5. Final high school transcript showing date of graduation or High School Equivalency Transcript showing date of graduation if the student has less than 24 transferrable credit hours completed from a U.S. higher education institution. (send a transcript in its original language and a second transcript translated into English.) The final high school transcript with proof of graduation does not need to be provided for admission, but must be provided to the International Affairs Office in order to attend orientation and prior to the start of the student’s first term at IHCC.
6. Financial letter from bank/government sponsorship (must provide an official letter on official letterhead written in English showing sufficient funds in U.S. dollars for one year of study at Indian Hills Community College that is dated within 60 days of submission) If using a sponsor other than parents, please include a notarized, signed, sponsorship letter from the individual sponsoring you.
7. Copy of passport photo page
8. Copies of current student visa and I-20 Form
9. Transfer-In Form

All Health Sciences Applicants must also submit:

1. Official ACT, SAT or ACCUPLACER score
2. Health Sciences applicants (who have graduated high school outside of the US) are required to have their final high school transcript evaluated by an accredited evaluating agency. The evaluation must include a
grade point average. Indian Hills can provide a list of approved evaluation companies upon request. Evaluations from a non-approved evaluation agency will be rejected.

3. Nursing programs applicants must also pass the TEAS exam. Information about the TEAS can be found on our Testing Center webpage at www.indianhills.edu/testingcenter and obtain a complete Certified Nursing Assistant (CNA) from the state of Iowa and submit their Iowa Direct Care Registry CNA card prior to admission consideration.

4. Dental Hygiene program applicants must also pass the Dental Assisting National Board (DANB) exam.

Aviation Pilot Training Applicants must also submit:
1. Prior to being admitted, applicants must be approved by the Alien Flight Student Program (AFSP). Please visit www.flightschoolcandidates.gov/ for more information.
2. Due to the higher tuition costs associated with this program, students are required to show a higher available amount on the Financial Letter. Please contact the International Affairs Office with questions.

All international student "guest students" (students whose home institution is not Indian Hills Community College, but who would like to take a class at the college) in the Arts and Sciences program, must submit:
1. International Student Application for Admission. Apply online at www.indianhills.edu/internationalstudents. Please select the "Guest Student" option for program of study.
2. Transcript from the U.S. institution you are currently attending (unofficial copy is acceptable)
3. Copies of current student visa and I-20 Form

Note to ALL applicants: At the discretion of the Director of International Affairs, students may be required to submit documents to an Education USA Advisor for certification prior to mailing materials to the Indian Hills International Affairs Office, or they may be required to have their high school transcript evaluated by an accredited agency (even if they are not a Health Sciences applicant). Evaluations from a non-approved evaluation agency will be rejected.

A TOEFL/IELTS score is not required for admission into Indian Hills Community College. Once your application is complete, your file will be reviewed. Careful attention must be given to the completion of all appropriate documents, as incomplete or improperly completed items will result in a delay in processing your application.

Official English translations are required for all documents.
ALL new Indian Hills Community College international students must:
1. Complete the Online Orientation prior to arrival
2. Report in-person to the multi-day Indian Hills International Student Orientation prior to registering for courses
3. Enroll full-time and attend Indian Hills Community College for a minimum of two 12-week terms
4. Be a high school graduate or have a High School Equivalency Diploma prior to the first day of classes at Indian Hills Community College
5. Present these original documents at International Student Orientation: Passport, student visa and I-20
6. Complete the ACCUPLACER or ESL ACCUPLACER test at Indian Hills prior to registering for courses
7. Have a Tuberculosis (TB) test during International Student Orientation

International students are encouraged to apply for scholarships. Please visit www.indianhills.edu/internationalstudents and click on the "Scholarship Opportunities" tab for more information.

Health insurance is mandatory for all F-1 & M-1 students. International students will be required to enroll in the Indian Hills Community College health insurance program, even if the student has health insurance through another company or in their home country. Fees will be added to the student’s account each term of enrollment.

International students can apply for admission to both the Ottumwa and Centerville campuses. Indian Hills Community College will provide the initial I-20 free of charge. In the event that a student is issued an I-20 and requests a deferral after the initial I-20 has been mailed to the applicant, the applicant will need to pay a $50 deferral fee prior to Indian Hills Community College shipping the I-20 document to his/her home country as well as provide an updated financial document.

All correspondence and questions should be addressed to:
Indian Hills Community College
International Affairs Office
Trustee Hall
525 Grandview Avenue
Proof of United States Status Required for Foreign-Born Applicants

Applicants to Indian Hills Community College whose country of birth is outside of the United States are required to provide proof of their status within the United States prior to being offered admission. If you have been asked to provide proof of your United States status, please submit at least one of the following documents that apply:

1. Copy of valid US Passport Photo page
2. Copy of US Naturalized Citizenship Certificate
3. Copy of US birth born abroad birth certificate
4. Copy of US Permanent Resident card
5. Copy of Work Authorization for DACA status
6. Copy of US Visa
7. Copy of I-94

Documents must be submitted to the International Affairs Office, and can be submitted via email, fax, or postal mail. Indian Hills Community College
International Affairs Office
Trustee Hall
525 Grandview Avenue
Ottumwa, IA 52501
Email: internationals@indianhills.edu
FAX: (641) 683-5274

Foreign Transcripts

Any prospective international student who is applying for admission into any Health Sciences program who has attended a high school and/or college/university outside the United States must have their foreign transcript(s) translated (if necessary) by and evaluated by one of the agencies listed below. At the discretion of the International Affairs Office representatives, students applying to other programs outside of the Health Sciences division may be required to have their high school transcript evaluated by one of the approved agencies below. The transcripts must be sent from that agency directly to:

Indian Hills Community College
International Affairs Office
Trustee Hall
525 Grandview Ave
Ottumwa, Iowa 50251

The evaluation must include the results of any examinations required by the country of origin as proof of successful completion (Example: Ordinary Level and/or Advanced Level examination scores). Students applying for a Health Sciences program must request an evaluation that includes a Grade Point Average.

In the event that a student is unable to have their high school transcript translated (if necessary) and evaluated, then the student must successfully complete the High School Equivalency Diploma and submit appropriate documentation of completion to the above office/address.

Academic 38 Credential Records Evaluation Verification Service
1778 Clear Lake Avenue
Milpitas, CA 95035
www.acrevs.com

Career Consulting International
1304 SW 160th Avenue
Sunrise, FL 33326
www.thedegreepeople.com

Foreign Consultants Inc.
(Credential Evaluation Services)
10955 Westmoor Drive, Suite 400
Curricular Practical Training (CPT)
Students wanting to participate in Curricular Practical Training while enrolled at Indian Hills Community College must first obtain authorization from the International Affairs Office prior to the start of their internship and must be enrolled in an academic internship credit class for the term. CPT must be authorized by the International Affairs office for each term the student is enrolled in the internship credit.

On-Campus Employment and Optional Practical Training (OPT)
There are many job opportunities available to students on-campus. International students holding a F-1 visa may apply for on-campus employment. On-campus employment positions are available on all campuses, and are limited to a maximum of 20 hours per week. F-1 visa holders are not allowed to work off campus except for approved CPT and OPT. After Associate degree completion, international students may apply to work for one full year in a position directly related to their area of study anywhere in the U.S.
Re-admission

Any student who is denied admission or re-admission to Indian Hills Community College may appeal the decision.

1. The appeal shall be a request for a hearing before the College Review Committee and shall be submitted to the Office of the Dean of Student Services. The appeal of the admissions decision must be initiated by the student no later than 15 days after notification of the decision has been issued. The appeal must be in writing and must fully state the basis for the request for admission or re-admission and the basis for why the admissions denial is unwarranted.

2. The appeal shall be presented to the chairperson of the College Review Committee who will set a hearing date in consultation with the other members of the Review Committee. The student appealing the admissions decision will be notified in writing of the date of the hearing. At least five school days of notice must be given to the party appealing the admissions decision.

3. The review committee hearing will be held in closed session unless the student requests in writing to the Chair of the Review Committee that it be open.

4. The student initiating the appeal has the responsibility for presenting their case for appeal to the committee. The student may be assisted by any person at the time of the hearing. The admissions department or designated instructional department will present its reason(s) for denying admission.

5. After hearing the appeal, the Review Committee shall decide either to reject the appeal or to uphold it. The Office of the Interim Dean, Student Affairs will be notified of the decision in writing by the College Review Committee chairperson, who in turn will notify the appellant and admissions department of the decision. The decision of the College Review Committee is final.

How to Register for Classes

The registration process includes: (1) the selection of courses to be taken, (2) entering the courses on-line and (3) paying or making arrangements to pay. All steps must be completed for proper registration.

Payment for Classes
All students must register and make arrangements to pay for their classes by the "Last Day to Register" date that is published in the current term registration schedule.

Failure to Pay
Students who have not completed registration or have not made arrangements to pay for classes by the end of the eighth day of the new term may be dropped from the enrollment lists and will not be re-admitted for the new term.

Change of Address

Entry of mailing addresses for Indian Hills students is made at the time of each term registration via the WebAdvisor contact information screen. Address changes after the close of registration can be accessed on WebAdvisor using the Contact Information option. It is strongly recommended that all address changes be processed through WebAdvisor. In special cases, a paper form of the Contact Information is available through Admissions or through the student’s program administrator.

Change of Program

A student transferring from one program to another will need to obtain proper forms and change procedures from the department into which he/she wishes to transfer.

Tuition and Fees

Tuition

(Tuition and fees are subject to change by action of the IHCC Board of Trustees.)

Effective Fall 2019:
Resident: $170 per credit hour
Non-Resident: $240 per credit hour
Fees
Course fees, web fees or ICN fees may be assessed on the individual course level if applicable.

Continuing Education
Tuition charges for non-credit courses offered through the Continuing Education and Workforce Solutions Department are established on a course-by-course basis. Course listings are published three times per year and can be found at www.indianhills.edu/docs/customized_learning_schedule.pdf. You may also call (800) 346-4413 to find out more information on available courses.

IHCC Institutional Refund Policy
Students who formally withdraw from a class within the first eight class days of any 12-week term or the first four days of any six-week term may receive a 100% refund of tuition and fees.

Students who withdraw on or after the ninth class day of a 12-week term (or the fifth day of a six-week term) are entitled to no refund.

Refund dates are posted on the Indian Hills Community College Calendar each term.

The Federal Higher Education Funding authorization requires a return of Title IV funds (Pell Grant, Supplemental Educational Opportunity Grant, Federal Direct and PLUS Loans) to the federal government if a student withdraws on or before 60 percent of the term has elapsed.

Students, please be advised that if you withdraw or drop from classes, it will impact your eligibility for financial aid grants and loans. The student will be required to return/repay the dollar amount calculated as unearned aid.

Students must complete all proper withdrawal papers and procedures to ensure they will not receive failing grades for all coursework during the term of withdrawal. Please refer to Academic Policies section, Schedule Changes/Withdrawal, for specific information.

Agencies and organizations sponsoring the payment of student tuition will be subject to the tuition refund policy.

Return of Student Federal Financial Aid Funds (Title IV Funds)
If a student withdraws completely or fails all courses (or any combination of the two), the Higher Education Amendments of 1998, Public Law 105-244, requires colleges to determine how much aid must be returned (repaid). Students could be required to return (repay) all or a portion of federal student aid (grants and loans) if they earned zero credit hours for the term.

Students will be notified if they must return (repay) federal financial aid (grant) funds. Failure to repay this, or to make satisfactory arrangements for payment, may result in becoming ineligible for Federal Financial Aid funds at any institution.

In addition, this regulation requires colleges to also return a portion of Financial Aid funds originally used to pay charges at Indian Hills Community College. When that occurs, students will then owe Indian Hills for the amount of tuition, fees, room and board, books, etc. paid for by the aid the school had to return to the Department of Education. Students will receive a statement if they owe Indian Hills Community College.

Completion of proper withdrawal papers and procedures ensures the student will not receive failing grades for all coursework during the term of withdrawal. Please refer to the section marked Schedule Changes/Withdrawal for specific information.

Agencies and organizations sponsoring the payment of student tuition will be subject to the tuition refund policy. For more detailed information on return of Federal Title IV Funds, go to www.indianhills.edu/financialaid.
Financial Assistance

Financial assistance for eligible students attending Indian Hills Community College is available in the form of grants, scholarships, work-study and loans. The Financial Assistance Office provides information services and counseling for students, parents, high school personnel and community agencies. Individual assistance is available on a drop-in basis during normal office hours.

Applying for Financial Assistance

1. **Complete the Free Application for Federal Student Aid (FAFSA) form**, which is available online through www.fafsa.ed.gov. The FAFSA should be submitted no later than the last week in March so your application will receive priority consideration for state and federal assistance. If needed, a paper application can be obtained from FAFSA by calling 1-800-4-FED-AID (1-800-433-3243).

2. **List Indian Hills Community College on the FAFSA** so the IHCC office will receive your financial information. The number for Indian Hills Community College is 008298. **Complete the State of Iowa Application** at www.iowacollegeaid.gov for state grants and scholarships available to Iowa residents.

Student Eligibility General Requirements

1. Must be a regular college student who is enrolled or accepted for enrollment in a degree or diploma program.
2. Must be a United States citizen or in the U.S. for other than a temporary purpose and with the intention of becoming a permanent resident.
3. Must have an official high school diploma, or
   1. have the recognized equivalent of a high school diploma such as a High School Equivalency Diploma certificate or a state certificate that is recognized as being equivalent to a high school diploma and certify receipt on the FAFSA.
   2. have completed homeschooling at the secondary level.
4. Must not be in default on any prior student loans.
5. Must not owe a refund to any Federal Title IV program.
6. Must be enrolled for a minimum of four credit hours to be considered eligible to receive a federal student loan.
7. Must re-apply for financial aid each academic year that you attend IHCC. Academic years begin each Fall term.
8. **Transfer students must also supply information regarding financial aid received at all other "after high school" institutions they have attended.**
9. Students may be subject to other eligibility requirements of federal, state, and program regulations, depending upon the student's situation and the particular aid program involved. These regulations are subject to change by the governing bodies.

Student Enrollment Status - Title IV Funds and Disbursements

Title IV eligibility, based on enrollment status (full-time, ¾ time, ½ time and less than ½ time), will be determined after the Pell census date (at the end of the add/drop period).

If full-time, ¾ time or ½ time status hinges on compressed coursework (courses less than 12 weeks in length) for any term, then the Pell census date for that particular student for that term will be the add/drop date for the full session - per Federal Student Aid guidelines. Funds will not be disbursed until after Pell census dates in respective terms based on the above criteria.

**NOTE:** For Pell eligibility, students must be enrolled in each course by the Pell census date regardless of the start date of the course.

Satisfactory Academic Progress (SAP) Policy

Indian Hills Community College (IHCC) is required to establish satisfactory academic progress (SAP) standards for students receiving federal and state financial aid in accordance with U.S. Department of Education regulations. The standards addressed below are applicable to all students receiving federal and state financial assistance administered
by the IHCC Financial Assistance office. Some scholarships may be governed by more stringent criteria specific to those awards. These are the minimum standards.

**THE PURPOSE FOR SATISFACTORY ACADEMIC PROGRESS STANDARDS** is to ensure that only those recipients demonstrating satisfactory progress toward the completion of their educational programs, in a timely manner, continue to receive financial aid.

Student SAP will be assessed at the end of each academic term (all summer sessions will be assessed at the completion of the full summer term, with all courses combined as one term). Students must meet all the requirements listed below at the end of each term to be considered satisfactory.

1. **Successful Credit Hour Completion** (See Additional Notes for attempted/completed details and determination of cumulative progression towards program requirements.)
   1. Full-time students must successfully complete at least 6 credit hours per term
   2. Three-quarter-time students must successfully complete at least 4 credit hours per term
   3. Half-time students must successfully complete at least 3 credit hours per term
   4. Less-than-half-time students must successfully complete at least 2 credit hours per term (or 1 credit hour if enrolled for just 1 credit hour)

2. **Cumulative Grade Point Average (GPA) requirement** (See Additional Notes for standards regarding zero term GPA progress.)
   1. All students are required to maintain a minimum cumulative (overall) 2.0 GPA based on the number of credit hours completed (some programs or scholarship standards may be higher).
   2. Grades adding any point value (or indicating successful completion) to the cumulative GPA include: A, B, C, D and P. Grades adding no point value to the cumulative GPA include: F and I. Grades not considered in the Cumulative GPA include: J, L, M, N, O, T and W.

3. **Pace** – is the measurement of the progression of a student through educational programs at Indian Hills as well as transfer credits accepted toward his/her declared major (please see Transfer Credit Policy in the IHCC Catalog). The calculation of Pace must be at least 67% (to achieve the 150% limit described in Maximum time limit below).
   1. Cumulative number of credit hours completed divided by the cumulative number of credit hours attempted = Pace

4. **Maximum time limit to complete program of study** (See Additional Notes for information regarding program changes.)
   1. Per federal regulations, students must complete their educational program in a reasonable length of time, which is defined as no more than 150% of the credit hours required for graduation, regardless of major changes.
   2. Hours attempted are the sum of all credit hours recorded at IHCC, for which tuition was charged (census date enrollment) whether or not financial aid was received as well as all transfer hours accepted for credit towards the applicable program of study, all developmental education credits, all ESL credits and all courses passed by examination.
   3. All repeats, withdrawals, failures, incompletes and academic renewals/requitals will be included in the sum of all term-equivalent, credit hours attempted.

**ADDITIONAL NOTES:**

1. **Warning Status followed by Ineligibility (No Aid) Status** - Any student failing to maintain the above requirements will be placed on Satisfactory Academic Warning for the next enrolled term. A Warning status may not prevent the student from receiving financial aid. The Warning period is meant to inform the student of potential academic problems and provide time for corrective action and intervention. If a student does not meet the satisfactory academic progress standards after the Warning period, Ineligibility status will be imposed. Ineligibility status will prevent the student from receiving any Title IV or state financial assistance for future enrollment until such time as the student meets all satisfactory academic progress standards.
   1. Students are encouraged to utilize the services at IHCC’s SUCCESS Center for tutoring, testing and other assistance designed to greatly increase their ability to persist with their educational goals.
   2. Academic advisors are also available to review IHCC educational opportunities for individual student needs and assist students in the development of an appropriate Academic Plan

2. **Attempted/Completed Credit Hours** – Only grades of A, B, C, D and P are counted as meeting the required successful completion of credit hours attempted. Courses passed by examination (T), courses transferred in (L), courses audited (N) and high school articulation credits (M) do not satisfy the successful completion Pace requirements. Failed courses (F), withdrawn courses (W), incomplete grades (I, J) and academic renewals/requitals (O) do not indicate successful completion of credit hours and may negatively impact Satisfactory Academic Progress.

3. **Zero Academic Progress in Any Term of Enrollment** – In addition to the cumulative standards as addressed above (GPA and percentage completed), a student will be placed on immediate financial aid ineligibility (no financial assistance eligibility) if any term results in zero academic progress. Zero academic
progress could result from total withdrawal, total failure of all enrolled courses or a combination of both. Eligibility must be reinstated before further financial aid will be available. (Refer to Appeal and Reinstatement policies shown below.)

4. **Cumulative Zero Academic Progress** – Students with zero cumulative academic progress may be required to prove ability-to-benefit before an appeal will be considered. The IHCC Testing Center administers the ACCUPLACER Test that may be used to indicate whether the student has the ability to benefit from additional, regular college coursework or whether remediation is recommended. An appeal may be considered in which an Academic Plan may be required to assist him/her toward college readiness.

5. **Appeal** – If there were extraordinary circumstances contributing to the lack of academic progress, the student may appeal his/her Ineligibility status by submitting an appeal letter and any other requested documentation to the Financial Assistance office for review. Some circumstances, such as medical problems, illness or death in the family, relocation or employment changes, can be considered as extraordinary for an appeal.

1. The appeal must contain information regarding **WHY** the student failed to make satisfactory progress; and **WHAT HAS CHANGED** in the student’s situation that will allow him/her to demonstrate satisfactory academic progress at the next evaluation (student’s next enrollment period).

2. Some appeal letters may not be considered until the subsequent term’s mid-term grades are evaluated and deemed successful.

3. The appeal may require an approved Academic Plan each student can obtain with the assistance of the Academic Advising Office on a case-by-case basis. The Academic Plan will be required if SAP is not feasible at the next measurement period (student’s next period of enrollment).

4. Failure to adhere to the Academic Plan will result in ineligibility until such time the student regains SAP without the assistance of federal and state funds.

5. The student will be notified in writing of the decision of the Appeal Committee. Ineligibility for financial assistance does not preclude the student from enrolling in subsequent terms and paying out of pocket.

6. The student is responsible for charges on his/her account if the appeal determination is negative and the ineligibility status remains in effect.

6. **Reinstatement** – Students will have their financial aid reinstated by the Financial Assistance office once all satisfactory academic progress standards are met, providing all other eligibility requirements remain the same. These SAP standards may be met at the student’s own expense or through the appeal process.

7. **Repeated Courses** – Students are allowed to repeat courses at IHCC, but only the highest grade will be counted in the cumulative GPA (appropriate paperwork must be filed with the Registrar’s Office); however, all credits will be included in the total attempted credit hours for measurement of the 150% maximum time limitation on Title IV aid. Please note that there are limits on the number of times a course may be repeated and financial aid received to pay for that course.

8. **Remedial Courses** – A student may receive Federal Title IV aid for up to one academic year’s worth of remedial coursework. For IHCC, one academic year is 24 credit hours in 36 weeks (3 terms), so a total of 24 credit hours will be considered towards federal assistance enrollment eligibility. However, eligibility will be monitored to determine the 150% point, which includes remedial courses and may be monitored on a case-by-case basis (for effects of remedial courses) to establish progression towards graduation.

9. **Transfer Students** – After evaluation of a transfer student’s loan records on the National Student Loan Data System (NSLDS), IHCC may request **official transfer transcripts before a student’s SAP eligibility can be determined**. Only credit hours completed at IHCC will be used in calculating the cumulative GPA requirement. The sum of all transfer credits accepted toward their program of study, as well as IHCC credits will be included in total hours completed for the measurement of the 150% maximum time limitation on Title IV aid. (See Attempted/Completed Credit Hours above.)

10. **Withdrawal and Re-Enrollment at IHCC** – A student who withdraws from IHCC and re-enrolls at a later date will re-enter with the same financial aid status in effect at the end of the term for which he/she withdrew.

11. **Program Changes** – Students are allowed to make program changes within the scope of financial aid eligibility; however, if they are on academic warning/ineligibility, that status remains in effect. Program changes will be considered in the appeal process. All IHCC credits already completed will be counted towards the measurement of the 150% maximum time limitation on Title IV aid.

12. **Consortium Agreements** – SAP will be monitored by the institution administering the student’s Title IV aid.

13. **Completion of All Required Coursework** – Once a student has satisfied all the required coursework for his/her program of study, eligibility for financial aid ends, whether or not the student has received the actual degree or certificate.
The Federal Higher Education Funding authorization requires a return of Title IV funds (Pell Grant, Supplemental Educational Opportunity Grant, Federal Direct and PLUS Loans) to the federal government if a student withdraws completely on or before the 60 percent (60%) mark of the term.

**Students please be advised that if you withdraw or drop from classes it will affect your eligibility for financial aid grants and loans. The student will be required to return/repay the dollar amount calculated as unearned aid. (see Return of Title IV Funds)**

Completion of proper withdrawal papers and procedures ensures the student will not receive failing grades for all coursework during the term of withdrawal. Please refer to the section marked Schedule Changes/Withdrawal for specific information.

Agencies and organizations sponsoring the payment of student tuition will be subject to the tuition refund policy.

**Federal Programs**

For additional information on federal grants, scholarships and loans, please visit our website at [www.indianhills.edu/finaid](http://www.indianhills.edu/finaid).

**Federal Pell Grant**

The Pell Grant Program provides gift funds to eligible students who have not yet earned their first bachelor’s degree. To be eligible for a Pell Grant, a student must be admitted to the college and be in good standing in a program leading to a certificate or degree. You may only receive a total lifetime eligibility of 600% (one full-time term at IHCC equals 33.33% of a grant).

To apply for a Pell Grant, students must complete the Free Application for Federal Student Aid (FAFSA). Students must include the Indian Hills Community College code number (008298) on the FAFSA. Students will receive a Student Aid Report (SAR) from the Federal Processors.

The Pell Grant award ranges from $606 to $5920 per academic year. The award amount for any student is determined by information on the FAFSA application. (Awards dependent on Federal authorization.)

**Federal Supplemental Educational Opportunity Grant**

The Federal Supplemental Educational Opportunity Grant (FSEOG) Program provides gift funds to eligible students with exceptional need. To be eligible for FSEOG, students must be admitted to the college and be enrolled in a program leading to a certificate or degree. The maximum FSEOG at IHCC is $300 per academic year. To apply for this program, students must complete the Free Application for Federal Student Aid (FAFSA). This grant is not available for the Summer term.

**William D. Ford Federal Direct Loan (Subsidized and Unsubsidized)**

The Federal Direct Loan program provides funds that must be repaid through the U.S. Department of Education. Eligible students must be admitted to the college and be enrolled at least half-time in a program leading to a diploma or degree.

Federal interest subsidies are available to qualifying students. To apply for the Direct Loan, students must complete the Free Application for Federal Student Aid (FAFSA). The student must also "accept" any loan eligibility online via their WebAdvisor. For first-time student loan borrowers, there are two additional online steps that must be completed: Master Promissory Note and Entrance Counseling. These are both available at [www.studentloans.gov](http://www.studentloans.gov).

FSA Ombudsman: If you have made a reasonable effort to resolve a problem or dispute with your student loan through normal processes and it is not resolved, you can contact the Ombudsman Office. This free service is offered by the U.S. Department of Education. To contact the FSA Ombudsman: Phone (877) 557-2575, Fax (606) -396-4821, Mail FSA Ombudsman Group, PO Box 1843 Monticello, KY 42633.
Federal PLUS Loan

The PLUS loan program provides funds, which must be repaid, through the U.S. Department of Education to parents of dependent undergraduate students. Students must be admitted to the college and be enrolled at least half-time in a program leading to a diploma or degree.

The college determines the amount parents of dependent students may borrow, according to federal regulations, up to the cost of attendance for the academic year. To apply for a PLUS loan, regulations require students to complete the Free Application for Federal Student Aid (FAFSA), and the parent-borrower must complete a PLUS application online at www.studentloans.gov or fill out a paper application, which is available in the Financial Assistance Office. The parent-borrower must also complete a Master Promissory Note at www.studentloans.gov.

State Programs

For additional information on specific State of Iowa Grants and Scholarships, please visit www.iowacollegeaid.gov.

State of Iowa Grants and Scholarships

To receive consideration for any of the state programs, Iowa residents must first complete and submit their Free Application for Federal Student Aid (FAFSA), and then complete their State of Iowa application at www.iowacollegeaid.gov. For priority consideration, students should complete the applications no later than March 1.

IHCC Programs

Indian Hills Community College Foundation Scholarship Program

IHCC Foundation Scholarships are awarded by the Indian Hills Community College Foundation to eligible students based upon academic performance and other demonstrated qualities and needs of the students. Several hundred scholarships, ranging from $600 to full tuition, are awarded each year.

To apply for IHCC Foundation scholarships, students must complete a Foundation Scholarship Application available online at www.indianhills.edu/scholarshipapp. The online scholarship application is available beginning October 1 each year for awards pertaining to the subsequent academic year.

Payment of Tuition and Fees

Payment dates for tuition and fee payments can be made online in WebAdvisor. These payment dates may be found in the calendar on the Indian Hills website.

There are three options available for the payment of tuition and fees:

1. Online by ACH, Visa, MasterCard or Discover. Login to WebAdvisor, click "Students", under Financial Information, click "Student Account Suite", then click "Payments" in the toolbar.

2. At the Bennett Student Services Center - OneStop 7:15 a.m. to 4:45 p.m. - via cash, check, cashier's check, money order or Visa, MasterCard or Discover.

3. By mail to:

   Indian Hills Community College
   Business Office - Student Accounts
   525 Grandview Ave.
   Ottumwa, IA 52501

   OR

   Indian Hills Community College
   Business Office - Student Accounts
   721 N. 1st St.
   Centerville, IA 52544
Indian Hills Community College Payment Plan

This payment plan assists students in the payment of tuition, fees and/or books on a short-term basis. You must be enrolled in a current term and sign-up for the payment plan before the tuition and fee due date to avoid late fees. To sign-up, login to WebAdvisor and click "Students", under Financial Information, click "Student Account Suite", then click "Payment Plans" in the toolbar.

The payment plan provides three equal installments to be paid each term. Due dates will be specified on registration materials and must be met to avoid late payment charges. Payment in full must be made before the student will be allowed to enroll in a future term.

Note: Indian Hills Community College participates in the State of Iowa Offset Program established by Section 8A.504 of the Code of Iowa. The Offset Program is a method used by the State of Iowa to Collect money owed to the State and other Iowa governmental agencies by matching records of past due claims to out-going tax refunds, vendor payments, Iowa Treasure Hunt payments and Iowa Lottery winnings. Please be aware your account may be subject to the Offset Program processing if not paid in full.

Additional Student Resources

Additional sources of financial assistance are available to students depending upon individual needs. Some programs may provide allowances for tuition, fees, books, child care and/or transportation expenses. Contact the following agencies in the area in which you reside. Local telephone numbers have been provided for Ottumwa area residents.

1. Vocational Rehabilitation Services  
   (641) 682-7569 or (641) 683-5276
2. Veterans Administration  
   (888) 442-4551 or (641) 683-5328
3. IowaWORKS - Southern Iowa  
   (641) 684-5401

Financial Assistance Office

OneStop Service Center  
Bennett Student Service Center  
Indian Hills Community College  
623 Indian Hills Drive  
Ottumwa, IA 52501  
(641) 683-5262 or (800) 726-2585, ext 5262  
onestop@indianhills.edu  
Office Hours: 7:15 a.m. - 4:45 p.m.  
Monday through Thursday

Veterans

Indian Hills Community College degree programs are approved by the Iowa Department of Education for education benefits administered by the U.S. Department of Veterans Affairs. Information concerning eligibility and application for these benefits may be obtained from the VA Regional Office in St. Louis, Mo., on the internet at www.gibill.va.gov or the Veterans Affairs Office at IHCC. Veterans or eligible dependents planning to enroll at IHCC should contact the Veterans Affairs Office at least six weeks prior to their anticipated enrollment date to establish eligibility and to avoid delays in payments by the VA. Veterans Affairs is located in the Admissions Office at the Bennett Student Services Center on IHCC’s Ottumwa campus. Contact may also be made by telephone at (641) 683-5328 or (800) 726-2585, ext. 5328, or by emailing veterans@indianhills.edu.

IHCC is a member of the Servicemembers Opportunity Colleges (SOC) Consortium. SOC Consortium members subscribe to principles and criteria ensuring that quality academic programs are available to military students, their family members, civilian employees of the Department of Defense and Coast Guard, as well as veterans. A list of current SOC Consortium member institutions can be found at www.soc.aascu.org.
Tuition Credit for Students Called to Active Military Duty

Indian Hills Community College is supportive of a student who is a member, or the spouse of a member if the member has a dependent child, of the Iowa National Guard or reserve forces of the United States and who is ordered to National Guard duty or federal active duty. Upon verification of orders requiring active duty, you may select from several tuition credit options. Additional information regarding tuition credit may be obtained by contacting the Registrar’s office (www.indianhills.edu/Registrar).

Options available to qualified students: Upon meeting with the Registrar to verify orders, the college will work with you to determine the best plan for your circumstances. The college has three options to review and consider with you.

1. Withdraw from the student’s entire registration and receive a full refund of tuition and mandatory fees.
2. Make arrangements with the student’s instructors for course grades, or for incompletes that shall be completed by the student at a later date. If such arrangements are made, the student's registration shall remain intact and tuition and mandatory fees shall be assessed for the courses in full.
3. Make arrangements with only some of the student’s instructors for grades, or for incompletes that shall be completed by the student at a later date. If such arrangements are made, the registration for those courses shall remain intact and tuition and mandatory fees shall be assessed for those courses. Any course for which arrangements cannot be made for grades or incompletes shall be considered dropped and the tuition and mandatory fees for the course refunded.

These rules are in compliance with Iowa Code 261.9(1)(g)

Division of Rehabilitation Services

The Rehabilitation, Education and Services Branch office is located at the campus in Ottumwa. Those who qualify for Rehabilitation Services can receive counseling and financial assistance to help them achieve an occupational objective through programs offered at Indian Hills.

Academic/Career Advising

Academic/career advisors are available to assist students in the development of a meaningful education plan consistent with their life goals.

IHCC recognizes the importance of a joint effort between the advisor and student to plan their academic path, select courses needed and complete their educational goals. The academic/career advisors will also facilitate a seamless transfer for those students wishing to continue their learning at another educational institution.

Orientation

Accepted students are required to complete online orientation and a mandatory advising session before enrolling in their first term at Indian Hills. The online orientation module is designed as a go-to source of information for students entering the college. We believe that the information provided in the online orientation module will prepare you to be successful as you begin your journey at Indian Hills.

Please complete the following steps to begin the orientation and advising process:

Step 1: Change Your Password in WebAdvisor
Log In to WebAdvisor and change your password.
If you need help changing your password in WebAdvisor, read these instructions or watch this demo.

Step 2: Complete your New Student Orientation in MyHills
- Open the "MyHills Login" page.
- Type your "Username" and new "Password" in the provided fields.
- Click "Login."
- Select your New Student Orientation from the "My Courses" module.
- Complete your New Student Orientation.
Step 3: Begin Course Registration Process

- Follow the instructions in the Final Step of your New Student Orientation to begin the course registration process. This step will instruct you to schedule an Academic Advising Appointment, register for an Academic Program Session, or email your Academic Program Contact.

If you have questions about your advising appointment, please contact our OneStop Office at 641-683-5262 or onestop@indianhills.edu and we will be happy to assist you! If you will be taking classes on the Centerville campus, you may also call 641-856-2143 for assistance with your appointment.

Placement

Placement services are available in most departments to assist students, graduates and alumni in obtaining employment. Contacts with business, industry, education and government are maintained to help the student find employment. Interviews by employers may be conducted at the college. Every reasonable effort is made to assist the student in finding satisfactory job opportunities.

Housing and Residence Halls

Indian Hills Community College provides housing for students with five residence halls located on the Ottumwa Campus and one on the Centerville Campus. Each residence hall is supervised by resident assistants and a residence hall supervisor. IHCC's facilities provide rooms for a total of 590 students in a variety of room styles ranging from single occupancy to traditional doubles and apartment-style housing. Wireless internet access is available in all residential rooms, as well as central air, cable, and telephone service on the floor. All are located within short walking distances from student classrooms, the library, and all campus offices.

Ottumwa Campus

On campus housing is available year-round. Residence hall stays are available during official college breaks for an additional charge. Arrangements must be made in advance with the Housing Office.

Meal plans are required with each residence hall contract, and are based on a meals per week system. Several options are available on the Ottumwa campus.

To apply for housing, students must complete and submit a Room and Board Application/Contract, available in the Housing Office or at http://www.indianhills.edu/lIFE/housing/index.php, along with a room/damage deposit. In addition, information on rentals available in the Ottumwa area may be obtained through the IHCC Ottumwa Housing Office.

For more information, contact the Housing Office in Trustee Hall at (641) 683-5152 or (800) 726-2585, ext. 5152, or visit the college's website at http://www.indianhills.edu/life/housing/index.php.

Centerville Campus

Double occupancy housing is available to those students wishing to live in a residence hall facility on the Centerville campus. Residential housing is available year round; however, the residence hall is closed during official college breaks.

A meal plan is required with each residence hall assignment in Centerville and includes breakfast, lunch and dinner in a four-day meal plan. The residence hall has wireless internet service, is supervised by residence hall staff, and is located a short walking distance from classes.

To apply for housing, students must complete and submit a Room and Board Application/Contract, available in the Administration Building or at, http://www.indianhills.edu/life/housing/index.php, along with a room/damage deposit.

In addition, information on rentals in Centerville may be obtained through the Administration Building.

For more information, contact the Centerville Campus at (641) 856-2143 or (800) 670-3641.
Student Identification Card

Student identification cards are required of all Indian Hills Community College students. They are used for admission to all athletic events (with the exclusion of post-season tournaments), social events sponsored by Student Senate and community events offering free student admission. Identification cards serve as a student's library card, a meal card in the college's dining facilities, for use of the Hellyer Student Life Center and the Tom Arnold Net Center on the Ottumwa campus, for use with Student Health Services on the Ottumwa Campus, and in the Success Center labs, as well as for identification purposes with campus security and local businesses. Student ID cards must be produced when seeking services in all departments within the college.

Student identification cards are available in the IHCC Library and the Academic Advising office and are issued at no cost to a student at their initial registration. Students must present a photo ID in order to be issued an IHCC identification card. Replacement cards will be issued at a cost of $10.00 to the student.

Safe and Healthy Environment

Safety and Security

At Indian Hills Community College, having a safe campus is a cooperative effort of students, staff, faculty, visitors and professionals. Indian Hills' security is staffed 24-hours a day, 365 days a year and spearheads the effort to maintain a safe and secure environment. Security works closely with the Ottumwa Police Department to accomplish this mission and with the Ottumwa Fire Department regarding fire protection and safety. The college strives to maintain an open, secure campus that all can enjoy and benefit from. Security personnel assist with problems of any type and can be contacted at (641) 683-5300. Persons can also call the Ottumwa Police Department at (641) 683-0661 or, in the event of an emergency or fire, 911.

Drug and Alcohol Policies

Indian Hills Community College is committed to providing a drug-free environment for all students and staff. In support of this effort, the college holds membership and affiliation with these organizations: Iowa Safety Council, Will Rogers Institute, Presidents Drug and Alcohol Free Colleges and the Department of Educations’ Drug Free Schools and Campuses (The Drug Free Schools and Communities Act Amendments of 1989 – Public Law 101-226).

Indian Hills prohibits the use of illegal drugs and alcohol on or around its property at any time except for those areas licensed under the laws of the State of Iowa. Areas where the use is prohibited include dormitories, student campus activities, classrooms, school parking lots, roadways and leisure activity areas.

Any violation of this policy will result in prosecution under Iowa law when applicable, as well as disciplinary action by the college deemed appropriate within the policies of conduct prescribed and approved by the Indian Hills Community College Board of Trustees.

This policy addresses alcohol, drugs and other intoxicants. The purpose of this policy is to clarify the rules regarding possession, consumption and distribution of intoxicants within university-owned or operated buildings, property and grounds including administrative, instructional and research facilities; the policy applies to all university employees, students and visitors. This policy supplements Iowa Administrative Code Section 681-13.17(2). In all instances, this policy will be construed to comply with federal and state law.

Indian Hills Community College acknowledges its legal obligation to conduct a biennial review of compliance with the Drug-Free Schools and Communities Act and authorized an administrative review to be conducted to determine if the college fulfills the requirements of the previously mentioned Federal regulations. The Vice President of Academic Affairs Office along with the Institutional Research Office and the Student Services Office, is responsible for conducting the review and reporting on the findings. The purpose of this report is to comply as best as possible, using data collected over the past two years, and to give evidence of the procedures in place for subsequent biennial reports. A copy of the Biennial Review can be found at the following web address: http://www.indianhills.edu/about/docs/drug_alcohol_biennial_20152017.pdf
Communicable Disease Responsibility

Indian Hills Community College believes students or employees with communicable diseases should be allowed to attend to their regularly assigned duties as long as they are physically able to perform the tasks assigned them and as long as their attendance does not create a substantial risk of transmission of the illness to students or employees in the college. The college will make every effort, in light of the individual's circumstances, to provide the least restrictive environment for continued attendance. A complete policy is available upon request.

Education and Awareness

Indian Hills provides quality educational programs for its students and staff on the subjects of drugs, alcohol, and sexual violence. Guest lectures, video presentations, and seminars are held to provide information to our college community about such areas as peer pressure resistance, health concerns, rehabilitation, and awareness. When applicable, instructors provide educational information concerning drugs and alcohol within the academic environment. These areas may include: health, physical education, human service, and the behavioral science offerings.

Indian Hills Community College recognizes that use of illicit drugs and alcohol abuse may lead to severe health risks.

Campus Sexual Violence Elimination (SaVE) Act and Women Against Violence Act (VAWA)

The Campus SaVE Act seeks to address the violence women face on campus: the highest rates of stalking, the highest risk of nonfatal intimate partner violence and 20-25% of female students experiencing rape or attempted rape. In 2013, President Obama signed a bill that strengthened and reauthorized the Violence Against Women Act (VAWA). Included in the bill was the Campus Sexual Violence Elimination Act (Campus SaVE), which amends the Jeanne Clery Act and affords additional rights to campus victims of sexual violence, dating violence, domestic violence, and stalking. This bill requires colleges to adopt certain institutional policies to address and prevent campus sexual violence, such as to train students on awareness topics relating to sexual misconduct including domestic violence, dating violence and stalking.

Indian Hills cares about student safety, therefore, all students must complete an online educational course which discusses sexual violence, bystander intervention and Title IX. This content has been added to the mandatory online orientation beginning in April, 2018.

Emergency Notification System - Indian Hills Alert

Indian Hills Alert is the emergency notification system of Indian Hills Community College. Indian Hills Alert allows the college to communicate timely emergency information quickly to students, faculty, staff and interested members of the community. To sign up to receive alerts, go to https://ihccalert.bbcportal.com/ and create an account to receive information via phone, email, and/or text message about college–related emergencies, college closings or delayed openings due to inclement weather, or other urgent campus communications. Indian Hills Alert will only be used to send you messages related to college emergencies or safety issues, never to send you advertisements.

AlertUs

Truly effective mass notification must reach users in more than one way. In addition to IHCC Alert, AlertUs Desktop gets the attention of computer users immediately. When an emergency occurs, IHCC will activate a warning, AlertUs Desktop will pop up a full-screen alert on all PCs owned by Indian Hills Community College, taking over the whole screen with a warning that's impossible to miss.

Clery Act

Indian Hills Community College is required by law in Section 485 of the Higher Education Act (also known as the Jeanne Clery Disclosure of Campus Security Act) to submit crime and fire statistics to the Department of Education and compile an annual security and fire safety report for distribution to current students and staff.
The Clery Act, formerly known as the Crime Awareness and Campus Security Act, was signed in 1990 and is named after 19-year-old Jeanne Clery, who was raped and murdered in her Lehigh University residence hall in 1986. Clery’s parents lobbied Congress to enact the law when they discovered students at Lehigh hadn’t been notified about 38 violent crimes that had occurred on campus in the three years prior to Clery’s murder.

The 2016 Annual Security and Fire Safety Report for Indian Hills Community College includes statistics for both the Ottumwa campus and the Centerville campus for 2013, 2014, and 2015 concerning reported crimes that occurred on campus; in certain off-campus buildings or property owned or controlled by Indian Hills Community College; and on public property within, or immediately adjacent to and accessible from the campus.

The report also includes institutional policies concerning campus security, reporting crimes on campus, confidential reporting, policies concerning sexual assault, drug and alcohol policies, missing students, fire safety information, and other safety matters. You can obtain a paper copy of this report by contacting the Student Services office on the Ottumwa campus, the Dean’s office on the Centerville campus, or by accessing report on the following web site: www.indianhills.edu/security

In addition, Indian Hills Security maintains a public log of all crimes reported. This crime log is available for inspection in the Interim Dean, Student Affairs, Student Services office in Trustee Hall during normal business hours.

Questions about this report should be directed to the Interim Dean, Student Affairs, Student Services Office at (641) 683-5159.

**Tobacco-Free Environment**

Indian Hills is committed to providing a tobacco-free environment for our staff, students, constituents and visitors to our campuses. Tobacco use, including the use of electronic cigarettes, is prohibited on college property including in its buildings, college-owned vehicles, outdoor areas or any vehicle located on college grounds. The use of electronic cigarettes are also prohibited on any of our campuses. This policy is consistent with the Iowa Smokefree Air Act. Fines are issued by IHCC Security for non-compliance: 1st offense/$25, 2nd offense/$50, 3rd offense/$100.

**Photographic/Videotape Productions**

IHCC maintains the right to photograph and/or videotape students and staff for promotional and instructional purposes. Persons with questions can contact the Director of Information, (641) 683-5105.

**Child Development Center**

The Child Development Center at Indian Hills Community College is dedicated to providing age-appropriate early childhood education along with quality child care and preschool services to children ages six weeks through five years. A Summer Adventure Club is offered for school-age (finished kindergarten through age 12) children from June to August each year.

The center is open from 6:00 a.m. to 6:00 p.m., Monday through Friday year-round, except for two weeks of Indian Hills Winter Break and other noted holidays.

Parents select a weekly schedule based on the hours and days care is needed. Drop-in care is not offered.

The center is located near Trustee Hall on the Ottumwa Campus. For more information, visit www.indianhills.edu/community/childcare.

**Student Health and Wellness Services**

Student Health and Wellness Services is located on the ground floor of Trustee Hall on the Main Campus and houses the clinic as well as the campus behavioral health counseling services. Hours of operation are Monday - Thursday; 8:00 a.m. to 4:00 p.m. The clinic is not open on weekends, during holidays, or when school is not in session. Student Health Services are provided in a partnership with Ottumwa Health Group. They can be reached at (641) 954-1336.
Student Activities

In keeping with the philosophy of the college, extracurricular activities are designed to provide an environment conducive to student growth. Planned programs provide for experiences that lend enrichment to career-oriented activities and assist in the development of social skills and social responsibility.

Co-curricular activities, such as athletics, intramurals, dances, concerts, clubs, film series, drama groups and field trips, provide a meaningful complement to academic programs.

Indian Hills is very proud of its Performing and Visual Arts program. The mainstays of an impressive calendar of events are the student, faculty and professional art exhibits and music recitals that appear throughout the year. Also highlighting the program are three annual dramatic productions and the IHCC Jazzfest. Aspiring writers are given the opportunity to read their material to public audiences. Many of these events take place in St. John Auditorium, located in the Arts and Sciences Building. The college’s uniquely designed Art Gallery is located within the Learning Resources Center on the Ottumwa campus.

Indian Hills offers men and women an opportunity to participate in intercollegiate competition in basketball, baseball, co-ed competitive cheer, cross country, golf, soccer, softball, sports shooting, track and field and volleyball. In past years, IHCC has received state and national recognition in these sports. Many athletes from IHCC programs have continued athletic participation at four-year colleges and universities after completing their eligibility at Indian Hills. The college maintains membership in the National Junior College Athletic Association and competes as a member of the Iowa Community College Athletic Conference.

Intramural sports are planned around student interests to provide maximum opportunity for participation.

The Hellyer Student Life Center on the Ottumwa Campus and the Multi-Purpose Building on the Centerville Campus provide optimum opportunities for the college to offer a variety of activities that contribute to the physical, social, and educational growth of the student.

In addition, the Tom Arnold Net Center on the Ottumwa campus provides additional opportunities for activities, specifically tennis, basketball, volleyball, free weight training and social gatherings.

Access to Activities

Indian Hills Community College provides activities that contribute to the growth and enjoyment of all students. To ensure that all students have access, it is the policy of Indian Hills Community College not to discriminate on the basis of race, color, national origin, sex, disability, age (employment), sexual orientation, gender identity, creed, religion, and actual or potential parental, family, or marital status in its programs, activities, or employment practices as required by the Iowa Code §§216.6 and 216.9, Titles VI and VII of the Civil Rights Act of 1964 (42 U.S.C. §§ 2000d and 2000e), the Equal Pay Act of 1973 (29 U.S.C. § 206, et seq.), Title IX (Educational Amendments, 20 U.S.C §§ 1681 – 1688), Section 504 (Rehabilitation Act of 1973, 29 U.S.C. § 794), and Title II of the Americans with Disabilities Act (42 U.S.C. § 12101, et seq.). Read the full policy here.

Student Government

The Student Senate organizes and coordinates the many student activities at Indian Hills on both the Ottumwa and Centerville campuses. The Director of Student Life serves as the faculty or staff advisor. The Student Senate functions as the executive body for students. It holds general meetings twice a month to discuss campus concerns and to plan activities.

Student Senate membership is open to all students. Officers are elected by students, ensuring that the best interests of the student body and Indian Hills Community College are served.

Student Clubs and Organizations

The following student clubs and organizations have been recognized by the IHCC Student Senate:

- Active Minds Club
- Arts & Sciences Academy
- Aerospace Club
- Ag Club (Centerville Campus)
- Allies for Equality
- Art Club
Student Code of Conduct

Indian Hills Community College is an academic community built on the principles of mutual respect, integrity, and honesty. The college strives to provide a community wherein individuals have the right to express their opinions and ideas, to assemble peacefully, and to associate freely in a manner that does not interfere with the rights of others and is in the confines of intellectual honesty. In order to thrive as an educational institution, the college has adopted this Student Conduct Code ("Student Code") to promote and preserve its educational mission for the benefit of all who are invited to be a part of the community.

Purpose

It is in the best interest of the college and all those who are students or who may desire to become students at the college that the disciplinary procedure be defined. This document prescribes procedures to be followed in disciplinary cases in order that cases may be handled in a timely manner while serving the interests of the college community and safeguarding the rights of all students. Administrative responsibility for the establishment and enforcement of policies governing non-academic student conduct and disciplinary action has been delegated by the Indian Hills Community College President to the Interim Dean, Student Affairs. The Interim Dean, Student Affairs has, in turn, delegated considerable authority for the establishment of rules and handling of violations to the Director of Student Life and other bodies as designated in this policy.

Article I: Definitions

1. The term "accused student" means any student accused of violating this Student Code.
2. The term "business days" means all days except Fridays, Saturdays, Sundays, and college holidays. When counting days, the day a complaint is received at any point in the procedure shall be considered "day one."
3. The term "college" means Indian Hills Community College.
4. The term "college premises" includes all land, buildings, facilities, and other property in the possession of or owned, used, or controlled by the college (including adjacent streets and sidewalks).
5. The term "college official" includes any person employed by the college or any person performing assigned administrative or professional responsibilities on behalf of the college.
6. The term "complainant" means any person who submits a charge alleging that a student violated this Student Code. When a student believes that s/he has been a victim of another student's misconduct, the student who believes s/he has been a victim will have the same rights under this Student Code as are provided to the Complainant, even if another member of the college community submitted the charge itself.
7. The term "faculty member" means any person hired by the college to conduct classroom or teaching activities or who is otherwise considered by the college to be a member of its faculty.
8. The term "member of the college community" includes any person who is a student, faculty member, college official or any other person employed by the college. A person's status in a particular situation will be determined by the Interim Dean, Student Affairs or designee.
9. The term "staff member" means any person employed by the college who is not a faculty member or student employee.
Article III: Prohibited Conduct

10. The term "student organization" means any number of persons who have complied with the formal requirements for college recognition as a club or organization.
11. The term "policy" means the written regulations of the college as found in, but not limited to, the student conduct code, student handbook, academic program handbook, college catalog, and college website.
12. The term "student" includes all persons taking courses at Indian Hills Community College, either full-time or part-time, pursuing degree or non-degree programs including customized learning and distance courses. Persons who withdraw after allegedly violating the Student Code, who are not officially enrolled for a particular term but who have a continuing relationship with the college or who have been notified of their acceptance for admission are considered "students," although not enrolled in this institution.
13. The term "student conduct administrator" means a college official authorized by the Interim Dean, Student Affairs to determine whether a student has violated the student conduct code and to impose sanctions.
14. The term "student conduct board" means any person or persons selected by the Interim Dean, Student Affairs, including but not limited to members of the Student Conduct Committee, to determine whether a student has violated the Student Conduct Code and to recommend sanctions that may be imposed when a rules violation has been committed.
15. The term "student conduct board chairperson" means an individual selected by the Interim Dean, Student Affairs or designee to facilitate a Student Conduct Board.
16. The term "student conduct committee" means the college committee appointed by the Interim Dean, Student Affairs to serve as participants on the Student Conduct Committee.

Article II: Student Code Authority

1. The Interim Dean, Student Affairs along with the Student Conduct Administrator will determine the composition of Student Conduct Boards and will determine which Student Conduct Board will be authorized to hear each matter.
2. The Interim Dean, Student Affairs will develop policies for the administration of the student conduct system and procedural rules for the administration of Student Conduct Board Hearings that are not inconsistent with provisions of the Student Code.
3. Decisions made by a Student Conduct Board and/or Student Conduct Administrator are final, pending the normal appeal process.

Article III: Prohibited Conduct

1. Jurisdiction of the Student Conduct Code
   The Student Conduct Code will apply to conduct that occurs on college premises, at college-sponsored activities, and to off-campus conduct, including, but not limited to, activities on college partners' premises, that adversely affects the college community and/or the pursuit of its objectives. Each student will be responsible for his/her conduct from the time of application for admission through the actual awarding of a degree, even though conduct may occur before classes begin or after classes end, as well as during the academic year and during periods between terms of actual enrollment (and even if their conduct is not discovered until after a degree is awarded). The Student Conduct Code applies to a student's conduct even if the student withdraws from school while a disciplinary matter is pending.
2. Conduct - Rules and Regulations
   Any student found to have committed or to have attempted to commit the following offenses is subject to the full range of disciplinary sanctions outlined in Article IV including warning, probation, suspension, or expulsion:
   1. Acts of dishonesty, including but not limited to the following:
      1. Furnishing false information to any college official, faculty member, or office.
      2. Forgery, alteration, or misuse of any college document, record, or instrument of identification.
   2. Disruption or obstruction of teaching, research, administration, disciplinary proceedings, other college activities, including its public service functions on or off campus, or of other authorized non-college activities when the conduct occurs on college premises.
   3. Physical abuse, verbal abuse, threats, intimidation, harassment, bullying, coercion, and/or other conduct which threatens or endangers the physical/mental health or safety of any person.
      1. Verbal abuse includes but is not limited to: derogatory remarks directed at another person or use of foul language that is excessive and pervasive on college property or at a college sponsored event.
   4. Telephone (cell, landline or social media apps that use a phone number) or Internet harassment, which shall include:
      1. Making calls containing lewd or obscene remarks.
      2. Making calls intended to harass or harm whether or not conversation ensues.
      3. Making the telephone ring repeatedly with intent to harass or harm.
      4. Making repeated calls in which conversation ensues solely to harass or harm.
      5. Sending text, picture or video messages with intent to harass or harm.
Abuse of the Student Conduct Code, including but not limited to:

1. Theft or other abuse of computer facilities and resources, including but not limited to surreptitiously taking pictures of another person in a gym, locker room, or restroom when such a recording is likely to cause injury or distress. This includes, but is not limited to, their family members, friends, or acquaintances, witnesses, panel members, or advisors, prior to, during, and/or after a student conduct proceeding.

2. Hazing, defined as an act which, intentionally or recklessly, endangers the physical health or safety of a student, for the purpose of initiation, admission into, affiliation with, or as a condition for continued membership in, any organization operating in connection to the college.

3. Unauthorized possession, duplication or use of keys to any college premises or unauthorized entry to or use of college premises.

4. Violation of any college policy, rule, or regulation published in hard copy or available electronically on the college website.

5. Violation of any federal, state or local law.

6. Manufacturing, selling, distribution, use, or possession of marijuana, heroin, narcotics, or other controlled substances except as expressly permitted by law or possession of a device (drug paraphernalia) used to ingest or inhale an illegal drug or narcotic.

7. Manufacturing, selling, distribution, use, or possession of alcoholic beverages (except as expressly permitted by college regulations), or public intoxication. Alcoholic beverages may not, in any circumstance, be used by, possessed by, or distributed to any person under twenty-one (21) years of age.

8. Participating in an on-campus or off-campus demonstration, riot or activity that disrupts the normal operations of the college and/or infringes on the rights of other members of the college community; leading or inciting others to disrupt scheduled and/or normal activities within any campus building or area.

9. Obstruction of the free flow of pedestrian or vehicular traffic on college premises or at college sponsored or supervised functions.

10. Conduct that is disorderly, lewd, or indecent; breach of peace; or aiding, abetting, or procuring another person to breach the peace on college premises or at functions sponsored by, or participated in by, the college or members of the college community.

11. Any unauthorized use of electronic or other devices to make an audio or video record of any person while on college premises without his/her prior knowledge, or without his/her effective consent when such a recording is likely to cause injury or distress. This includes, but is not limited to, surreptitiously taking pictures of another person in a gym, locker room, or restroom.

12. Theft or other abuse of computer facilities and resources, including but not limited to:
   1. Unauthorized entry into a file, to use, read, or change the contents, or for any other purpose.
   2. Unauthorized transfer of a file.
   3. Use of another individual’s identification and/or password.
   4. Use of computing facilities and resources to interfere with the work of another student, faculty member or college official.
   5. Use of computing facilities and resources to send obscene or abusive messages.
   6. Use of computing facilities and resources to interfere with normal operation of the college computer system.
   7. Use of computing facilities and resources in violation of copyright laws.
   8. Any violation of college policies pertaining to use of information technology, including computer use policies.

13. Abuse of the Student Conduct Code, including but not limited to:
   1. Failure to obey the notice from a Student Conduct Board or college official to appear for a meeting or hearing as part of the Student Conduct System.
   2. Falsification, distortion, or misrepresentation of information before a Student Conduct Board.
   3. Disruption or interference with the orderly conduct of a Student Conduct Board proceeding.
   4. Institution of a student conduct code proceeding in bad faith (e.g. filing a false complaint).
   5. Attempting to discourage an individual’s proper participating in, or use of, the conduct system.
   6. Harassment (verbal or physical) and/or intimidation of a victim or other person who files a student conduct complaint or any participant(s) of a conduct proceeding, including but not limited to, their family members, friends, or acquaintances, witnesses, panel members, or advisors, prior to, during, and/or after a student conduct proceeding.
   7. Retaliation against a victim or other person who files a student conduct complaint or any participant(s) of a conduct proceeding, including but not limited to, their family members, friends, or acquaintances, witnesses, Board members, or advisors, prior to, during, and/or...
after a student conduct proceeding. This includes any form of intimidation, threats, harassment (verbal or physical) or knowingly filing a false complaint.

8. Failure to comply with the sanction(s) imposed under the Student Conduct Code.

9. Influencing or attempting to influence another person to commit an abuse of the student conduct code system.

10. Intentionally sounding a false alarm or tampering with fire safety equipment.

11. Use or possession on the campus or at or during any college-authorized function or event of firearms, ammunition, or other dangerous weapons, substances, or materials, except as expressly authorized by the College, or of bombs, explosives, or explosive or incendiary devices prohibited by law or any other violation of the college weapons policy.

12. Undue or willful neglect to meet financial obligations to the College when properly notified by the College. Failure to comply with directions of college officials or law enforcement officers acting in performance of their duties and/or failure to identify oneself to these persons when requested to do so.


14. Violation of the Student Conduct Code while on disciplinary probation, or violation of the terms of one's probation.

**Article IV: Student Conduct Code Procedures**

1. **Charges and Student Conduct Hearings**

   1. Any person may file charges against a student for violations of the Student Conduct Code. A charge should be prepared in writing and directed to the Student Conduct Administrator or designee. Any charge should be submitted as soon as possible after the event takes place, preferably within one calendar year. With respect to any complaint that is 1) by a person who is not a member of the college community, and 2) relating to non-college conduct, the College reserves the right to determine, in its sole discretion, whether the conduct described in the complaint constitutes a sufficient risk to the college community to warrant processing the complaint.

   2. The Student Conduct Administrator or designee may conduct an investigation to determine if the charges have merit. If the accused student elects to acknowledge his or her actions and take responsibility for the alleged misconduct, the Student Conduct Administrator or designee will propose a resolution to the complaint and issue a sanction. If the accused student agrees to the proposed sanction, the complaint is resolved without a hearing and without any further rights of appeal. If the accused student objects to the proposed sanction, a hearing will be convened for the sole purpose of determining a sanction, and in these cases, the decision is subject to appeal pursuant to Article IV, D.

   All cases will be disposed of through an administrative hearing conducted by the Interim Dean, Student Affairs, Student Discipline Administrator, or designee. If the accused student objects to the proposed sanction, a hearing will be convened for the sole purpose of determining a sanction, and in these cases, the decision is subject to appeal pursuant to Article IV, D.

   3. Complaints alleging conduct that includes sexual harassment and other forms of sexual misconduct will be handled according to the rules and procedures described in the Sexual and Gender-Based Misconduct Policy and the applicable sections of this policy.

   4. All charges will be presented to the Accused Student in written form. A time will be set for an administrative hearing or Student Conduct Board hearing that ensures a prompt and equitable resolution, not less than five (5) nor more than thirty (30) business days after the accused student has been notified. Maximum time limits for scheduling of an administrative hearing or Student Conduct Board hearing may be extended at the discretion of the Interim Dean, Student Affairs of Student Services. Written notification to the Accused Student will include:

      1. the alleged conduct violation,
      2. a summary of the specific allegations,
      3. the time, date, and place of the hearing,
      4. the name(s) of the Student Conduct Administrator or Student Conduct Board members, who will hear the case,
      5. the potential disciplinary sanctions, and
      6. the related procedures outlined in Article IV.

   5. Formal rules of process, procedure, and/or technical rules of evidence, such as are applied in criminal or civil court, are not used in Student Code proceedings.

   6. The determination of whether or not a violation of the Student Conduct Code occurred will be made on the basis of whether it is more likely than not that the Accused Student violated the Student Conduct Code. This is more formally referred to as the, "Preponderance of the Evidence Standard."

   7. The Interim Dean, Student Affairs or designee will notify the Accused Student and the Complainant of the outcome of the hearing in writing within ten (10) business days of completion of the hearing.

   8. If an Accused Student, with notice, does not appear for the hearing, the information in support of the charges will be presented and considered even if the Accused Student is not present.
9. During the administrative hearing the accused student will have an opportunity to respond to the charges and to present evidence or witnesses contesting the charges. The Interim Dean, Student Affairs, Student Conduct Administrator, or designee will determine if a violation occurred and will issue appropriate sanctions.

10. An alleged violation of the Student Conduct Code in which the accused student contests responsibility and wishes to appeal the sanction will be resolved through a Student Conduct Board Hearing according to the following guidelines:

1. Hearings will be conducted in private.

2. The Student Conduct Committee chairperson and two members of the Student Conduct Committee will be appointed by the Interim Dean, Student Affairs to serve on the Student Conduct Board.

3. The Complainant, Accused Student and their advisors, if any, will be allowed to attend the entire portion of the Student Conduct Board Hearing at which information is received (excluding deliberations). Admission of any other person to the Student Conduct Board Hearing will be at the discretion of the chairperson of the Student Conduct Board.

4. In hearings involving more than one Accused Student, the Interim Dean, Student Affairs, in his or her discretion, may permit the Student Conduct Board Hearing(s) concerning each student to be conducted either separately or jointly.

5. The Complainant and the Accused Student have the right to challenge any member of the Student Conduct Board on grounds of prejudice. This challenge, with the reasons for the challenge, must be submitted in writing to the Interim Dean, Student Affairs at least two (2) business days prior to the hearing. The Interim Dean, Student Affairs or designee will determine if the member will sit on that case. If the challenge is upheld, the Interim Dean, Student Affairs or designee will select another Student Conduct Committee member for the Student Conduct Board.

6. The Complainant and the Accused Student have the right to be assisted by an advisor they choose, at their own expense. The Complainant and/or the Accused Student is responsible for presenting his or her own information, and therefore, advisors are not permitted to speak or to participate directly in any Student Conduct Board Hearing before a Student Conduct Board. The participants should select as an advisor a person whose schedule allows attendance at the scheduled date and time for the Student Conduct Board Hearing because delays will not normally be allowed due to the scheduling conflicts of an advisor.

7. The Complainant, the Accused Student, Student Conduct Administrator, and the Student Conduct Board may arrange for witnesses to present pertinent information to the Student Conduct Board. The College will try to arrange the attendance of possible witnesses who are members of the college community, if reasonably possible, and who are identified by the Complainant and/or Accused Student at least two (2) weekdays prior to the Student Conduct Board Hearing. Witnesses will provide information to and answer questions from the Student Conduct Board.

8. Questions may be suggested by the Accused Student and/or Complainant to be answered by each other or by other witnesses. This will be conducted by the Student Conduct Board with such questions directed to the chairperson, rather than to the witness directly. This method is used to preserve the educational tone of the hearing and to avoid creation of an adversarial environment. Questions of whether potential information will be received will be resolved in the discretion of the chairperson of the Student Conduct Board.

9. Pertinent records, exhibits, and written statements (including Student Impact Statements) may be accepted as information for consideration by a Student Conduct Board at the discretion of the chairperson.

10. All procedural questions are subject to the final decision of the chairperson of the Student Conduct Board.

11. After the portion of the Student Conduct Board Hearing concludes in which all pertinent information has been received, the Student Conduct Board will determine by majority vote whether the Accused Student has violated each section of the Student Code which the student is charged with violating.

12. There will be a single verbatim record, such as a tape recording, of all Student Conduct Hearings before a Student Conduct Board (not including deliberations). Deliberations will not be recorded. The record will be the property of the college.

13. The Student Conduct Board may accommodate concerns for the personal safety, well-being, and/or fears of confrontation of the Complainant, Accused Student, and/or other witness during the hearing by providing separate facilities, by using a visual screen, and/or by permitting participation by telephone, videophone, closed circuit television, video conferencing, videotape, audio tape, written statement, or other means, where and as determined in the sole judgment of the Interim Dean, Student Affairs or designee to be appropriate.

2. Sanctions
The following sanctions may be imposed upon any student found to have violated the Student Conduct Code:

1. Warning – a notice in writing to the student that the student is violating or has violated institutional regulations.
2. Probation – a written reprimand for violation of specified regulations. Probation is for a designated period of time and includes the probability of more severe disciplinary sanctions if the student is found to violate any institutional regulation(s) during the probationary period.
3. Loss of Privileges – denial of specified privileges for a designated period of time.
4. Fines– previously established and published fines may be imposed.
5. Restitution – compensation for loss, damage, or injury. This may take the form of appropriate service and/or monetary or material replacement.
6. Discretionary Sanctions – work assignments, essays, service to the college, or other related discretionary assignments.
7. Deferred Suspension – A serious and final notification that any violation of College policy may result in the immediate suspension of the student from the College for a specified period of time after which the student would be eligible to return. Conditions for readmission may be specified prior to the student being eligible to return.
8. Suspension – separation of the student from the college for a definite period of time, after which the student is eligible to return. Conditions for readmission may be specified.
9. Expulsion – permanent separation of the student from the college.
10. Revocation of Admission and/or Degree – admission to or a degree awarded from the college may be revoked for fraud, misrepresentation, or other violation of college standards in obtaining the degree, or for other serious violations committed by a student prior to graduation.
11. Withholding Degree – The College may withhold awarding a degree otherwise earned until the completion of the process set forth in this Student Conduct Code, including the completion of all sanctions imposed, if any.
12. Delayed Registration – A student may be required to delay his/her course registration until a complainant or any other student(s) involved in a conduct matter has completed course registration. Delayed registration is for a specified number of terms or may be required until the complainant or other involved student(s) graduate.

2. More than one of the sanctions listed above may be imposed for any single violation.
3. Other than college expulsion or revocation or withholding of a degree, disciplinary sanctions will not be made part of the student’s permanent academic record but will become part of the student’s disciplinary record.
4. In situations involving both an Accused Student(s) (or group or organization) and a student(s) claiming to be the victim of another student’s conduct, the records of the process and of the sanctions imposed, if any, will be considered to be the education records of both the Accused Student(s) and the student(s) claiming to be the victim because the educational career and chances of success in the academic community of each may be impacted.
5. The following sanctions may be imposed upon groups or organizations:
   1. Those sanctions listed above in article IV(B)(1)(a)–(k).
   2. Loss of selected rights and privileges for a specified period of time.
   3. Deactivation–loss of all privileges, including college recognition, for a specified period of time.
6. In each case in which a Student Conduct Board or Student Conduct Administrator determines that a student and/or group or organization has violated the Student Code, the sanction(s) will be determined and imposed by the Interim Dean, Student Affairs or Student Conduct Administrator.

3. Interim Suspension
   In certain circumstances, the Student Conduct Administrator or designee, may impose an interim suspension prior to the disposition of a student conduct hearing.
   1. Interim suspension may be imposed only:
      1. to ensure the safety and well-being of members of the college community or preservation of college property; or
      2. to ensure the student’s own physical or emotional safety and well-being; or
      3. if the student poses an ongoing threat of disruption of, or interference with, the normal operations of the college.
   2. During the interim suspension, a student will be denied access to the campus (including classes) and/or all other college activities or privileges for which the student might otherwise be eligible, as the Interim Dean, Student Affairs or designee may determine to be appropriate.
   3. The interim suspension does not replace the regular process, which will proceed on the normal schedule, up to and through an Administrative or Student Conduct Board proceeding, if required. However, the student should be notified in writing of this action and the reasons for the suspension. The notice should include the time, date, and place of a subsequent hearing at which the student
may show cause why his or her continued presence on the campus does not constitute a threat and at which they may contest whether a campus rule was violated.

4. Appeals

1. The decision of a Student Conduct Administrator or Student Conduct Board including sanctions imposed may be appealed by the Accused Student(s) or Complainant(s) to the Interim Dean, Student Affairs or designee within five (5) business days of the decision. Such appeals will be in writing and will be delivered to the Interim Dean, Student Affairs or his or her designee. The Interim Dean, Student Affairs or designee will determine if the decision and/or sanctions imposed will be stayed pending the outcome of the appellate decision.

2. Except as required to explain the basis of new information, an appeal will be limited to a review of the verbatim record of the student conduct hearing and supporting documents for one or more of the following purposes:
   1. To determine whether the Student Conduct Board Hearing was conducted fairly in light of the charges and information presented, and in conformity with prescribed procedures. Deviations from designated procedures will not be a basis for sustaining an appeal unless significant prejudice results.
   2. To determine whether the sanction(s) imposed were appropriate for the violation of the Student Conduct Code which the student was found to have committed.
   3. To consider new information, sufficient to alter a decision or other relevant facts not brought out in the original hearing, because such information and/or facts were not known to the person appealing at the time of the original hearing.

3. The Interim Dean, Student Affairs may affirm, reverse, or modify the decision regarding the violation and/or sanctions imposed. The appeal decision of the Interim Dean, Student Affairs is the final decision of the college, and no further appeals are permitted under this policy.

4. All parties will be informed of whether the grounds for an appeal are accepted and the results of the appeal decision.

Article V: Composition of Student Conduct Committee

1. The Student Conduct Committee is appointed by the Interim Dean, Student Affairs and is composed of three (3) staff members nominated by the Director of Human Resources, three (3) faculty members nominated by the Vice President for Academic Affairs, and one (1) faculty/staff chairperson appointed by the Interim Dean, Student Affairs. The Interim Dean, Student Affairs, Student Conduct Administrator or designee will preside over all meetings of the Student Conduct Committee.

Article VI: Training

1. The Student Conduct Administrator or designee will conduct annual training with persons involved in the administration of the student conduct system. This includes, but is not limited to, the Student Conduct Committee members and other Student Conduct Administrators. Training will be conducted in a manner that is consistent with provisions of the student conduct code.

Article VII: Interpretation and Revision

1. Any question of interpretation or application of the Student Conduct Code will be referred to the Interim Dean, Student Affairs or designee for final determination.

2. The Student Conduct Code will be reviewed every three years under the direction of the Interim Dean, Student Affairs.

Student Grievance Procedure for Discriminatory Practices

The following grievance procedure is for students, applicants for employment, and employees of Indian Hills Community College. This grievance procedure is also intended to coincide with the current grievance procedure for discriminatory practices and the Americans with Disabilities Act of 1990.

Level 1 – A person with a grievance of discrimination on the basis of race, color, national origin, sex, disability, age (employment), sexual orientation, gender identity, creed, religion, and actual or potential parental, family, or marital status in its programs, activities, or employment practices may first discuss it with their instructor, immediate supervisor, administrator, or the person most directly involved in order to resolve it informally. If a resolution is achieved, the grievant should complete the electronic form on the IHCC website with the appropriate documentation. Should the grievant not be comfortable addressing the grievance with the person(s) directly involved or they are unsatisfied with the result of the Level 1 discussions, they may proceed to Level 2.

Level 2 – If the grievance is not resolved at Level 1 and the grievant wishes to pursue it further they may formalize it by completing the electronic form on the IHCC website. The grievance form must be filed within 5 business days of the date of incident. The grievance form will be routed to the next level of supervision with a copy to Brett Monaghan,
Interim Dean, Student Affairs (students) or Kristen Parks, Director of Human Resources (employees/applicants). At this time a meeting is arranged between the grievant, the Director of Human Resources, the grievant's supervisor, and the next level of supervision represented in the department. This formal meeting must take place within 15 business days after the written grievance has been received in the Human Resources Office. One additional meeting may be needed to resolve the matter. A final written decision will be supplied to the grievant by the second level supervisor within 30 business days after the receipt of the original written complaint. Should the grievance not be resolved at Level 2, the grievant may proceed to Level 3.

**Level 3** – At Level 3, the grievant will present a written appeal to the president within 10 business days after the grievant has received a report from the second level supervisor. The grievant may also request a personal meeting with the president or his/her designee. A decision will be rendered by the president or his/her designee within 10 business days after the receipt of the written appeal.

This procedure in no way denies the right of the grievant to file a formal complaint with the Iowa Civil Rights Commission, the Federal Office of Civil Rights, or the Equal Opportunity Commission for mediation or rectification of civil rights grievances, or to seek private counsel for complaints alleging discrimination. No person filing a grievance will be subjected to coercion or retaliation for filing a grievance.

**Title IX**

**Title IX of the Education Amendments of 1972, and its implementing regulation at 34 C.F.R. Part 106:**
"No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving federal financial assistance."

Indian Hills Community College is dedicated to providing a learning, living, and working environment that is free from sexual assault and sex discrimination. We are committed to ensuring a safe campus climate for all of our students and the entire College community. We promote fundamental rights, advance individual and institutional integrity, and uphold the vital aims of Title IX.

**Pregnant and Parenting Students**

Title IX of the Education Amendments of 1972 ("Title IX"), 20 U.S.C. §1681 et seq., is a Federal civil rights law that prohibits discrimination on the basis of sex—including pregnancy and parental status—in educational programs and activities.

All public and private schools, school districts, colleges, and universities receiving any Federal funds ("schools") must comply with Title IX.

**Here are some things you should know about your rights:**

1. **Classes and School Activities** – your school MUST:
   1. Allow you to continue participating in classes and extracurricular activities even though you are pregnant. This means that you can still participate in advanced placement and honors classes, school clubs, sports, honor societies, student leadership opportunities, and other activities, like after-school programs operated at the school.
   2. Allow you to choose whether you want to participate in special instructional programs or classes for pregnant students. You can participate if you want to, but your school cannot pressure you to do so. The alternative program must provide the same types of academic, extracurricular and enrichment opportunities as your school’s regular program.
   3. Provide you with reasonable adjustments, like a larger desk, elevator access, or allowing you to make frequent trips to the restroom, when necessary because of your pregnancy.

2. **Excused Absences and Medical Leave** – your school MUST:
   1. Excuse absences due to pregnancy or childbirth for as long as your doctor says it is necessary.
   2. Allow you to return to the same academic and extracurricular status as before your medical leave began, which should include giving you the opportunity to make up any work missed while you were out.
   3. Ensure that teachers understand the Title IX requirements related to excused absences/medical leave. Your teacher may not refuse to allow you to submit work after a deadline you missed because of pregnancy or childbirth. If your teacher’s grading is based in part on class participation or attendance and you missed class because of pregnancy or childbirth, you should be allowed to make up the participation or attendance credits you didn’t have the chance to earn.
4. Provide pregnant students with the same special services it provides to students with temporary medical conditions. This includes homebound instruction/at-home tutoring/independent study.

3. Harassment—your school MUST:
   1. Protect you from harassment based on sex, including harassment because of pregnancy or related conditions. Comments that could constitute prohibited harassment include making sexual comments or jokes about your pregnancy, calling you sexually charged names, spreading rumors about your sexual activity, and making sexual propositions or gestures, if the comments are sufficiently serious that it interferes with your ability to benefit from or participate in your school’s program.

4. Helpful Tips for Pregnant and Parenting Students:
   1. Ask your school for help—meet with your school’s Title IX Coordinator or counselor regarding what your school can do to support you in continuing your education. Click here for Title IX contact information.
   2. Keep notes about your pregnancy-related absences, any instances of harassment and your interactions with school officials about your pregnancy, and immediately report problems to your school’s Title IX Coordinator, counselor, or other staff.
   3. If you feel your school is discriminating against you because you are pregnant or parenting you may file a complaint:
      1. Using your school’s internal Title IX grievance procedures. Click here for more information about the Student Code of Conduct and making a complaint.
   4. Contact OCR if you have any questions. We are here to help make sure all students, including pregnant and parenting students, have equal educational opportunities!

If you want to learn more about your rights, or if you believe that a school district, college, or university is violating Federal law, you may contact the U.S. Department of Education, Office for Civil Rights, at (800) 421-3481 or ocr@ed.gov. If you wish to fill out a complaint form online, you may do so at: http://www.ed.gov/ocr/complaintintro.html.

Supporting Transgender Students

Schools are increasingly being called upon to include and support transgender students. Recognizing that this can seem daunting or overwhelming, we have put together a brief synopsis of the guidance from the Departments of Education and Justice below. If you have any additional questions or concerns, please don’t hesitate to reach out to our Title IX staff.

1. Terminology
   1. The term "gender identity" means an individual’s internal sense of gender; it may be different from or the same as the person’s sex assigned at birth.
   2. The term "sex assigned at birth" means the sex designation recorded on an infant’s birth certificate.
   3. The term "Transgender" means an individual whose gender identity is different from the sex they were assigned at birth.
      1. A "transgender male" was assigned as female at birth but identifies as male
      2. A "transgender female" was assigned as male at birth but identifies as female.
   4. The term "gender transition" means the process in which transgender individuals begin asserting the sex that corresponds with their gender identity instead of the sex assigned at birth. Individuals begin to live and identify as the sex consistent with their gender identity and may dress differently, adopt a new name, and/or use pronouns consistent with their gender identity. The gender transition may happen at any stage in their lives and can happen swiftly or over a long period of time.

2. Safe and Nondiscriminatory Environment
   1. If a student is being targeted or harassed based on their gender identity, transgender status, or gender transition, it falls under Title IX and must be handled accordingly.

3. Identification Documents, Names/Pronouns, and Education Records
   1. FERPA requirements apply to a student’s transgender status, birth name, sex assigned at birth, etc. Records can be kept regarding this information, but the records must remain private. Disclosure violates FERPA and Title IX.
   2. Education records must be updated to reflect a person's gender identity and name when requested.
   3. Students must be addressed using the names and pronouns that are consistent with their gender identities.

4. Sex-Segregated Activities and Facilities
   1. When housing, restrooms, locker rooms, etc. are sex-specific, transgender students must have access to the facility or activity that matches their gender identities.
2. The rules concerning athletics is slightly more complex. The NCAA has guidelines that are generally accepted; the NCAA guidelines can be found at [http://www.ncaapublications.com/productdownloads/11INCL.pdf](http://www.ncaapublications.com/productdownloads/11INCL.pdf)

### Sexual and Gender-Based Misconduct Policy

Indian Hills Community College is dedicated to providing a learning, living, and working environment that is free from sexual assault and discrimination. We are committed to ensuring a safe campus climate for all of our students and the entire College community. We promote fundamental rights, advance individual and institutional integrity, and uphold the vital aims of Title IX.

Indian Hills Community College prohibits sexual and gender-based misconduct in any form, including sexual assault, sexual harassment, gender-based harassment, sexual exploitation, stalking, intimate partner violence (domestic violence and dating violence), and retaliation, all as defined in Section VII of This Policy. The College will respond to reports of sexual and gender-based misconduct in accordance with This Policy. Read the full policy here.

### Civil Rights

Indian Hills Community College is in compliance with all federal regulations pertaining to post-secondary institutions. Indian Hills Community College declares and reaffirms to its students, employees, and the public that it is firmly committed to a policy of recruitment, employment, and promotion in all job classifications and for all educational programs without regard to color, sex, sexual orientation, gender identity, marital status, religion or genetic information. Indian Hills Community College’s policy is in compliance with Section 504 of the Rehabilitation Act of 1973, as amended: No qualified individual with a disability shall, solely by reason of disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance. As evidence of compliance, the following documents are available upon request:

1. the affidavit certifying compliance with the Civil Rights Act of 1964;
2. a detailed policy and procedure for compliance with the Family Educational Rights and Privacy Act of 1974; and
3. an affirmative action plan in compliance with state and federal codes relating to civil rights and equal employment

### Family Educational Rights and Privacy Act (FERPA)

FERPA affords students certain rights with respect to their education records. They are:

1. The right to inspect and review the student’s education records within 45 days of the day the college receives a request for access.
   1. Students should submit to the Registrar, dean, head of the academic department, or other appropriate official, written requests that identify the record(s) they wish to inspect. The college official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the college official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.

2. The right to request the amendment of the student's education records that the student believes are inaccurate or misleading.
   1. The right to request the amendment of the student's education records that the student believes are inaccurate or misleading.
      1. Students may ask the college to amend a record that they believe is inaccurate or misleading. They should write to the college official responsible for the record, clearly identify the part of the record they want changed, and specify why it is inaccurate or misleading. The validity of grades awarded is not subject to this policy.
      2. If the college decides not to amend the record as requested by the student, the college will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing process will be provided to the student when notified of the right to a hearing.

3. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent.
   1. One exception which permits disclosure without consent is disclosure to school officials with legitimate educational interests. A school official is a person employed by the college in an
administrative, supervisory, academic, research or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the college has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks.

2. A school official has a legitimate educational interest if the official needs to review an educational record in order to fulfill his or her professional responsibility.

3. Upon request, the college discloses educational records without consent to officials of another school in which the student has dual enrollment.

4. Other exceptions which do not require the prior consent of the student to disclose information include:
   1. to federal, state and local authorities involving an audit or evaluation of compliance with education programs.
   2. in connection with financial aid.
   3. to organizations conducting studies for or on behalf of educational institutions.
   4. to accrediting organizations.
   5. to comply with a judicial order or subpoena.
   6. health or safety emergency.
   7. results of disciplinary hearing to an alleged victim of a crime of violence.
   8. to the student.
   9. directory information.*

4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by Indian Hills Community College to comply with the requirements of FERPA. The name and address of the office that administers FERPA is: Family Policy Compliance Office, U.S. Department of Education, 600 Independence Ave. SW, Washington, DC 20202-4605.

*Directory Information: Indian Hills Community College has identified as directory information to include, but not limited to, the following: name, address, telephone listing, e-mail address, field of study, previous schools attended, photographs, date and place of birth, participation in officially recognized activities and sports, dates of attendance, degrees and awards, full- or part-time status, expected date of graduation and weight and height of athletes.

1. Students have the right to refuse to permit the designation of any or all of the above identified items as directory information during the period of time the student is officially enrolled. To do so, the student must inform the Registrar in writing within 10 days of the beginning of the term of the student's first enrollment or within 10 days of the start of Fall term, that such information is not to be designated as directory information for that student.

2. Compliance with this Act does not require IHCC to disclose directory information, and discretion will be used.
Academic Policies

Student Classification

Freshman: A student who has earned fewer than 24 semester hours of credit.
Sophomore: A student who has earned at least 24 semester hours of credit.
Full-time: A student who is registered for 8 or more semester hours of credit.
Part-time: A student who is registered for fewer than 8 semester hours of credit.

Unit of Credit

Credits are issued in semester hours and meet or exceed requirements set by the Iowa Department of Education for minimum instructional time per credit. An average credit hour load is 10-12 semester hours per term.

Course Load

Full-time: 8 semester hours or more each term
Part-time: Fewer than 8 semester hours each term
3/4-time: 6 to 7 semester hours each term
1/2-time: 4 to 5 semester hours each term

Students may not carry a course load of more than 15 semester hours in any term without permission of the appropriate instructional dean.

Grading Symbols

A = 4.0
B = 3.0
C = 2.0
D = 1.0
F = 0.0/Failure
I = Incomplete
J = Grade reported next term
L = Credit for prior education
M = High school articulation credit
N = Audit, no credit
O = Academic Renewal
P = Pass
R = Repeated - no credit (Prior to Fall 1998)
T = Credit by examination
V = Withdrawal to military
W = Withdrawal
X = Course repeated - no credit

All indicated prerequisites must be successfully completed with a passing grade to satisfy course requirements.

Incomplete Grades

Students who are unable to complete assigned work in a course may be given a grade of "I" (incomplete). Students must complete the assigned work as soon as possible (at the discretion of the instructor/department chair), but no later than six weeks into the following term. Grades for courses left with an "I" past the six-week completion period will automatically convert to "F".

Academic Misconduct

Academic Integrity Statement

Indian Hills Community College expects a full commitment to academic integrity from each student. Academic integrity means:
1. Your work on each assignment will be completely your own
2. Your collaboration with another classmate on any assignment will be pre-approved by your instructor
3. You will not plagiarize in any form
4. You will not allow others to copy your work
5. You will not misuse content from the Internet
6. You will not manufacture or falsify data
7. You will not receive assistance from another person or other outside source (book, internet, etc) while taking any type of test or completing an online course

**Academic Misconduct**

Plagiarism or any form of cheating on assignments, quizzes, exams or any course materials is considered academic misconduct and will not be tolerated. Plagiarism is defined as copying or using ideas or words (from another person, an online classmate, or an internet or print course) and presenting them as your own. Students should be aware of the various types of plagiarism when writing papers or reports. These include but are not limited to students who:

1. Buy a paper from an Internet site, another student or writer, or any other source
2. Turn in any paper that someone else has written, whether it was given to you, you download it from the Internet, or you copied it from any other source
3. Change selected parts of an existing paper, and claim the paper as your own
4. Combine the ideas from many sources and claim that they're your own thoughts
5. Use general or specific ideas from a source without using full and correct documentation telling where you got the ideas
6. Copy or paste into your paper any key terms, phrases, sentences or longer passages from another source without using documentation to tell precisely where the material came from
7. Neglect to put quotation marks around words that you quote directly from a source, even if you document the source


**Academic Integrity Requirements**

1. Indian Hills Community College requires all students taking online exams to utilize Respondus Lockdown Browser and Respondus Monitor.
2. Students completing make-up exams or exams through distance learning must do so through a pre-approved proctor.

**Sanctions for Academic Misconduct**

Indian Hills Community College takes all cases of academic misconduct seriously utilizing various forms of technology to monitor and detect academic misconduct. Faculty may require students to use technology that searches for instances of plagiarism in written assignments and software that ensures academic integrity while taking quizzes or exams. Faculty will report instances of academic misconduct through the college's electronic reporting system. Students who commit academic misconduct are subject to the following sanctions:

1. Failure of the assignment
2. Failure of the course
3. Removal from the academic program
4. Indefinite suspension from the college

Each case of academic misconduct will be reviewed by the appropriate faculty member and college administration. Cases of academic misconduct deemed to be a serious threat to the academic mission of the program or institution may result in immediate action including indefinite suspension from the college. A higher level of sanction may be deemed appropriate if a student has prior academic misconduct offenses.

**Appeal of Academic Misconduct**

Students who fail a course due to academic misconduct may appeal the course failure by following the Indian Hills Community College Appeal of Final Grade Policy. Students who have reached the level of removal from an academic program or indefinite suspension from the college due to academic misconduct may appeal this decision using the following process:

1. The student wishing to complete an academic misconduct appeal hearing before the Academic Standards Committee must submit in writing and must fully state the basis for the academic misconduct appeal. The written appeal shall be filed by the student with the Interim Dean, Student Affairs within 15 regular academic days following the decision. The written appeal should be completed in the form of a standard business letter. The appeal letter must document the rationale for the appeal, and include appropriate facts related as to why the individual believes they did not complete academic misconduct.
2. The Interim Dean, Student Affairs shall present the student’s written appeal to the chairperson of the Academic Standards Committee. The written appeal shall be sent electronically to the chairperson who will set a hearing date in the consultation with other members of the Academic Standards Committee. The chairperson will have 5 regular academic days to identify the appropriate meeting date, time, and location of the hearing. The chairperson of the Academic Standards Committee will communicate in writing the date of the hearing to the student and appropriate faculty member or college administrator.
3. At least 5 regular academic days of notice must be given to the parties affected to insure an opportunity to prepare for the hearing. The Academic Standards Committee hearing shall be held in closed session unless the student requests in writing to the Chair of the Academic Standards Committee that it be open. The open session must be requested 2 regular academic days prior to the hearing.

4. During the hearing, both the student making the appeal and the faculty member or college administrator who issued the program removal or indefinite suspension shall be given the opportunity to testify and present evidence and/or witnesses. Each shall have the opportunity to hear and question adverse witnesses.

5. The Academic Standards Committee decision shall be based solely on the evidence introduced at the hearing. The student has the burden of proving that there are sufficient grounds that academic misconduct was not completed.

6. After hearing the appeal, the Academic Standards Committee shall have up to 2 regular academic days to decide either to reject the appeal or to uphold it. The Office of the Interim Dean, Student Affairs will be notified of the decision and rationale for the decision in writing by the Academic Standards Committee chairperson. The Interim Dean, Student Affairs shall in turn notify in writing the appropriate faculty member or college administrator of the decision. Should the appeal be granted, the committee chairperson and the faculty member or college administrator shall determine the steps to reinstate the student. The decision of the Academic Standards Committee is final.

A student who wishes to pursue the academic program removal or indefinite suspension beyond the jurisdiction of the Academic Standards Committee may submit a written appeal within five (5) days through the Interim Dean, Student Affairs to the Vice President of Academic Affairs, who will review all facts and determine if the student’s due process rights were protected.

**Appeal of Final Grade**

Indian Hills Community College students are responsible for maintaining standards of academic performance established by the instructor for each course in which they are enrolled. A student may appeal a final course grade that he/she feels is inaccurate or unwarranted. The final grade appeal process is recognized as the appropriate method students may utilize to appeal a disputed grade. The final grade appeal process should begin as soon as possible following the date of issue of final grades, and in any case, no later than 10 regular academic days into the next college term following the enrollment period for which the challenged grade was issued. (The college “term” is defined as fall, winter, spring, summer one, summer two, or full summer)

Indian Hills Community College will provide students the appropriate due process in disputing final grades. All grades submitted by faculty are considered final and a part of a student’s permanent academic record. Indian Hills Community College believes it is the student’s responsibility to review and understand the final grades on their permanent academic record. Indian Hills Community College provides students access to final grades and their permanent academic record. Students who do not initiate the appeal of final grades within 10 regular academic days forfeit the right to appeal a final grade, and the grade on the permanent academic record is final.

**Grade Appeal Process**

1. The student shall confer with the instructor who issued the challenged grade to ascertain and/or reaffirm the method for grade determination. If the matter is not resolved at this point, the student may proceed to step 2

2. The student shall confer with the appropriate program director or department chair. The program director or department chair shall confer with the instructor and the student, and the program director or department chair shall render an opinion to the student.

3. If unsatisfied with the opinion of the program director or department chair, the student may confer with the Academic Dean. It is understood that the Academic Dean will initiate a closed meeting between the student and instructor, and act in a mediating role to ensure that no misunderstanding exists regarding the grading policy of the instructor. If the matter is not resolved at this point, the student may initiate a final grade appeal to be reviewed by the Academic Standards Committee. The final grade appeal reviewed by the Academic Standards Committee must be initiated by the student no later than 15 regular academic days into the next college term following the enrollment period for which the challenged grade was issued. (The college “term” is defined as fall, winter, spring, summer one, summer two, or full summer)

4. The student wishing to complete a final grade appeal hearing before the Academic Standards Committee must submit in writing and must fully state the basis for the grade challenged, identifying the reason or reasons the student feels the grade is unwarranted. The written appeal shall be filed by the student with the Interim Dean, Student Affairs within 15 regular academic days into the next college term. The written appeal should be completed in the form of a standard business letter, identify the course name and the faculty member teaching the course. The appeal letter must document the rationale for the appeal, and include appropriate facts related to the final grade being appealed.

5. The Interim Dean, Student Affairs shall present the student’s written appeal to the chairperson of the Academic Standards Committee. The written appeal shall be sent electronically to the chairperson who will set a hearing date in the consultation with other members of the Academic Standards Committee. The chairperson will have 5 regular academic days to identify the appropriate meeting date, time, and location of
the hearing. The chairperson of the Academic Standards Committee will communicate in writing the date of
the hearing to the student and faculty member involved in the final grade dispute.

6. At least 5 regular academic days of notice must be given to the parties affected to insure an opportunity to
prepare for the hearing. The Academic Standards Committee hearing shall be held in closed session unless
the student requests in writing to the Chair of the Academic Standards Committee that it be open. The open
session must be requested 2 regular academic days prior to the hearing.

7. During the hearing, both the student making the appeal and the instructor who issued the challenged grade
shall be given the opportunity to testify and present evidence and/or witnesses. Each shall have the
opportunity to hear and question adverse witnesses.

8. The Academic Standards Committee decision shall be based solely on the evidence introduced at the
hearing. The student bears the burden of proving that there are sufficient grounds to change the grade.

9. After hearing the appeal, the Academic Standards Committee shall have up to 2 regular academic days to
decide either to reject the appeal or to uphold it. The Office of the Interim Dean, Student Affairs will be
notified of the decision and rationale for the decision in writing by the Academic Standards Committee
chairperson. The Interim Dean, Student Affairs shall in turn notify in writing the student and the instructor
who issued the challenged grade. Should the appeal be granted, the committee chairperson and the
instructor shall re-examine the student’s course work and recommend in writing appropriate steps to rectify
the disputed grade. The decision of the Academic Standards Committee is final.

10. A student who wishes to pursue the grade appeal beyond the jurisdiction of the Academic Standards
Committee may submit a written appeal within five (5) days through the Interim Dean, Student Affairs to the
Vice President of Academic Affairs, who will review all facts and determine if the student’s due process rights
were protected.

Pass/Fail Course Grading Policy

Indian Hills Community College offers a limited number of courses that can be taken on a Pass/Fail basis. In order for
courses to be considered specifically for Pass/Fail grading, it must be designated as a Pass/Fail through curriculum
action and noted in the course description in the college catalog.

The grade award for Pass/Fail courses shall be:

- P = Pass
- F = Fail

Credits earned through course work as P-Pass shall count toward the total number of credits earned by the student
while enrolled at Indian Hills Community College. However, no numerical value is assigned to a P-Pass grade. P-Pass
course grades are not used in calculating the student’s term or cumulative grade point average.

Transfer Credit

Indian Hills accepts credits from other regionally-accredited, post-secondary institutions and will apply these credits,
when appropriate, toward requirements of the program in which the student is enrolled. Acceptance of credit by
Indian Hills does not guarantee acceptance at other colleges. Indian Hills does not accept as transfer credit courses
for which a grade of “D” or less (or equivalent) was earned. Courses will be evaluated by the Registrar for final
determination as to transferability of credit.

Students transferring from a technical education program to the Arts and Sciences Program may transfer up to 16
semester hours of technical education credit. These credits will be applied toward the elective requirements for the
student’s particular major. Contact an academic advisor to find out how your credits transfer.

Students earning Arts and Sciences transfer credit in international programs will have their credits processed in
accordance with the IHCC International Students Policy. Contact the Registrar for additional information.

Audit Policy

Students may be allowed to audit certain courses. Students who audit will not be held responsible for lesson
assignments or tests and will not receive credit for the course.

A student should indicate a course is being audited during registration. Tuition for courses audited is charged at the
normal credit hour rate. Registration for a course may be changed from audit to credit or from credit to audit anytime
prior to midterm with permission from the instructor.

Repeat Policy
Students may repeat a course in order to earn a higher grade. Requests to repeat any course require approval from the appropriate department. The lowest grade earned will then be replaced with an "X". Permission to repeat courses in which a grade of "C" or higher was earned will be granted on a course-by-course basis and will require permission from the appropriate Dean(s) and from the Registrar.

Students wishing to take advantage of this policy must file a "Notification of Intent to Repeat Courses" form in the Registrar's office. This form must list each course the student wishes to repeat. The highest grade earned in a repeated course will be calculated in the student's cumulative GPA (The "X" carries no credit, nor does it affect a student's grade point average). Students who withdraw from courses they are repeating will retain their original grades.

**Academic Renewal Policy**

Students may request permission to remove one entire academic term from future degree and GPA considerations.

**Eligibility**

To be eligible for academic renewal consideration, students must be currently enrolled at Indian Hills Community College.

**Conditions**

Academic Renewal is based on the following conditions:

1. Renewal may be applied to only one academic term.
2. ALL courses and credits that were taken during the chosen term will be removed from consideration for GPA and degree requirements. Students MAY NOT combine courses from multiple terms to comprise the term dropped.
3. If the student has been previously awarded a degree or diploma, the chosen term MUST be after the term in which the degree or diploma was awarded.
4. All courses for the chosen term will remain on the student's academic record. Grades for those courses will be changed to the "O". [Note: Courses marked with a grade of "O" do not meet graduation requirements in any program at Indian Hills Community College.]
5. A student may be granted only ONE academic renewal.
6. All other IHCC academic rules, policies and requirements apply.

**Procedure**

Students should begin the renewal process by discussing their desire to pursue academic renewal with a counselor or advisor in the program in which they are currently enrolled. Students must submit a properly completed Administrative Appeal form to the Registrar's office.

**Examinations for Credit**

Indian Hills will accept for credit appropriate test scores from the College Level Examination Program (CLEP). A maximum of 16 semester hours earned through the CLEP Program may be applied to the associate degree requirement.

Complete CLEP rules, guidelines, subject matter examinations and test fees are available from the IHCC Testing Centers on the Ottumwa and Centerville campuses. Students are advised to review these policies before registering to take any of the exams. There is a charge for each CLEP test. However, there is no additional charge to add CLEP credit to an Indian Hills Community College transcript.

Credit by CLEP exam will not be granted:

1. if it duplicates courses previously passed or failed.
2. for a course which the student does not meet the stated prerequisites listed in the granting community college's catalog, or
3. for a course which is a prerequisite to one for which credit has previously been earned.

Students can contact the Ottumwa Testing Center by calling (800) 726-2585, ext. 5142, or (641) 683-5142. The Centerville Testing Center can be reached at (800) 670-3641, ext. 2232, or (641) 856-2143. Students can also send an email to testing@indianhills.edu.

Students may "test out" of certain courses at Indian Hills. The student must be enrolled in the course and is usually required to take the final exam. The student must achieve an "A" or "B" to receive credit for "testing out." Indian Hills "test out" grades will appear as a "T" on the transcript. Contact an advisor or instructor prior to enrolling if you wish to test out of a course.
Credit for Prior Learning

Credit for Prior Learning (CPL) is defined as college credit earned through experiences outside of Indian Hills credit course completion or transfer course completion. CPL can be earned in a variety of methods, such as work experience, professional training, industry-recognized credentials, credit by examination, military training and more. A maximum of 18 technical credits can be earned through the CPL process. A maximum of 30 credits may be awarded for CPL of any kind, with the exception of transfer credit from other institutions of higher learning. A student must request alternative credit be awarded, the credit is not awarded automatically.

Schedule Changes/Withdrawal

Students may add classes to their schedule during the first five college calendar days of a 12-week term either online or through the academic advisors or technical program directors. Students may enroll in SUCCESS Center courses through the tenth week of the term. Students may elect to drop courses through the eighth college calendar day of a 12-week term with full refund. There are no refunds after the eighth college calendar day.

No adds can be made to a student's schedule after these first five class days and no drops with refund can be made to a student's schedule after these first eight class days. No student can enroll for the new term after the fifth class day. Students may drop with grade "W" from classes through the 10th week of a 12-week term and receive a "W" (withdrawal) on their transcripts. Withdrawal and drop dates may vary for courses scheduled for less than a full 12-week term. Students should contact their academic department for specific dates.

The procedure to add/drop or withdraw must be completed within two days of the first notification to the department official. The procedure is as follows:
1. Obtain and complete the Add/Drop/Withdrawal form in the Academic Advising Office or Technical Program offices. The student's signature is required.
2. Take completed form to Enrollment Services for proper authorization.
3. If schedule change increases credit hour load, report to the Business Office for payment of any additional tuition and fees.
4. If schedule change decreases credit hour load and a refund is due, the Business Office will issue a refund check within four weeks of the withdrawal date.

Failure to follow these procedures in withdrawing or dropping from a course will result in a grade of "F" for the course.

Students withdrawing from college are required to obtain and complete withdrawal papers. Completion of proper procedures ensures the student will not receive failing grades for all courses during the term of withdrawal. Withdrawal papers may be obtained from the department offices. Online students need to contact an academic counselor, program director or department administrator to drop all courses.

(Refer to section on Return of Title IV Funds.)

Arranged Study

Arranged study is the procedure whereby eligible students may take approved courses on an independent basis due to emergency, hardship or unusual circumstances. Arranged study is not available in all subject areas, and students must document their need for this type of study to their department administration.

Academic Progress/Probation/Dismissal

Minimum satisfactory scholastic achievement is represented by a 2.0 grade point average each term of enrollment. Students who fall below this level will be placed on academic probation for the following term. Students who fail to achieve a 2.0 GPA during their probationary term may then be dismissed from their current program or from the college. Students not dismissed must have permission from their Dean and from the Registrar to re-enroll for the next term. Very poor work in any term, however, may result in dismissal at the close of that term.

NOTE: To graduate, a student must achieve a 2.0 cumulative grade point average as well as comply with all other academic requirements.

Class Attendance
Attendance is important and expected. Class attendance policies are established by divisions and instructors. Students are expected to meet all program and class requirements, including those pertaining to attendance.

**Students Attending School-Sanctioned Events**

It is the intention of IHCC to provide meaningful and equitable education for all students. No individual student or group of students will receive either preferential or punitive treatment; all students will have an equal opportunity to perform to the best of their abilities. IHCC recognizes that students should be allowed to make up work missed while attending school-sanctioned events. IHCC also recognizes that the total educational experience of the student is of primary importance and that the student must take responsibility for his/her own academic growth. In order to ensure that students can realize both their scholastic and extra-curricular goals, they need to follow these basic rules:

1. When students schedule their classes, they should keep in mind that they need to minimize the number of absences from classes. In addition, they should inform their instructors of any conflict between class time and extra-curricular schedules.
2. At the beginning of the term, or as soon thereafter as possible, students should present their instructors with a list of required absences.
3. Prior to missing class for a school-sanctioned event, the student must make arrangements with instructors for any tests, quizzes and class work that he/she will miss.
4. If a student has any question about an instructor’s execution of these policies, that student should speak to the instructor first. If a satisfactory conclusion is not reached, the student then should speak with the appropriate department chair or dean.
5. Students attending school-sanctioned events are representing IHCC and must adhere to school policies regarding conduct.

**Transcript Policy**

1. Indian Hills Community College has authorized the National Student Clearinghouse to provide transcript ordering via the Web at www.studentclearinghouse.org.
2. A processing fee of $5.00 per transcript will be charged for all transcripts produced.
3. Transcripts will not be released if a student is considered to be in default on a student loan or if there are outstanding financial obligations to the college.

**Retention of Student Records**

Indian Hills Community College retains the official academic record (transcript) of enrollment and credits earned in Indian Hills Community College credit programs in perpetuity. All other student record documents will be destroyed three years after the student’s last enrollment at Indian Hills. Students who believe there is an inaccuracy in their official academic records (transcript) must notify the Registrar's office immediately.

**Graduation Requirements**

Graduation will be certified by the issuance of a degree or diploma. Satisfactory completion includes complying with all program requirements, as well as the following:

1. The student must achieve at least a 2.00 cumulative grade point average;
2. A minimum of 16 semester hours in an associate degree program must be earned at Indian Hills (a minimum of 12 semester hours, or one term, in a diploma program must be taken at Indian Hills);
3. The student must have made arrangements for meeting all financial obligations to the college.

**Associate of Arts Degree (AA)**

The student must meet all previously listed general requirements and earn a total of 61 semester hours, which include the following:

**English/Speech**
- 6 hours composition
- 3 hours speech

**Humanities/Fine Arts**
- 3 hours literature, minimum
- 5 hours electives from humanities and/or fine arts

**Social Sciences**
3 hours U.S. History or Western Civilization
6 hours electives from social sciences

**Mathematics/Science**
3 hours lab science
3 hours mathematics
2 hours mathematics or science elective

**Distributed Electives**
7 hours from the above disciplines

**General Electives**
20 hours unrestricted electives; a maximum of 16 hours technical education credit may be included; must include 1-3 hours of computer literacy and SDV101 How to Be Successful in College

### Associate of Science Degree (AS)

The student must meet all previously listed general requirements and earn a total of 61 semester hours, which include the following:

**English/Speech**
- 6 hours composition
- 3 hours speech

**Humanities/Fine Arts**
- 3 hours literature, minimum
- 5 hours electives from humanities and/or fine arts

**Social Sciences**
- 3 hours U.S. History or Western Civilization
- 6 hours electives from social sciences

**Mathematics/Science**
- 30 hours mathematics and science
  - Must include 3 hours mathematics and 3 hours lab science, minimum

**General Electives**
- 5 hours electives; technical education credit may be included; must include 1-3 hours of computer literacy and SDV101 How to Be Successful in College

### Associate of General Studies (AGS)

The student must meet all general graduation requirements.

The student must prepare a tentative educational plan that demonstrates uniqueness prior to acceptance into the AGS program. Before beginning any coursework toward the degree, the student’s educational plan must be approved by an academic advisor and the Academic Standards Committee, contain courses totaling at least 60 hours of credit, and be submitted to the Registrar’s office. The general studies degree is designed to indicate the student has achieved an educational goal in an area unique to his or her own interests. The degree may be transferable on a course-by-course basis.

### Associate of Applied Science Degree (AAS)

The student must meet all previously listed general graduation requirements as well as successful completion of an approved technical education program. The following are approved AAS programs:

- Agricultural/Biofuels Process Technology
- Associate Degree Nursing
- Associate Degree Nursing-Online/ Hybrid Completion
- Automotive Collision Technology
- Auto Technology
- Aviation Maintenance Technology
- Aviation Pilot Training
- Business Specialist - Accounting
- Business Specialist - Office Management
- Computer Networks and Security
- Computer Software Development
- Construction Management Technology
- Electrical and Renewable Energy Technology
- Electromechanical Technology
- Electronic Engineering Technology
- Geospatial Technology
- Health Information Technology
- Hospitality Management
- Interactive Media Technology
- Landscape and Turfgrass Technology
- Laser & Optics Technology
- Machine Technology
- Medical Laboratory Technology
- Nutrition and Dietary Management
Construction Technology  Occupational Therapy Assistant
Criminal Justice  Paramedic
Culinary Arts  Physical Therapist Assistant
Dental Hygiene  Radiologic Technology
Diesel Technology  Robotics/Automation Technology
Early Childhood Associate  Sustainable Agriculture and Entrepreneurship
  Welding Technology

**Dual Major Policy**

For students planning to transfer to a four-year institution for a bachelor’s degree, it is possible to combine degrees from some Career and Technical and Health Sciences programs with an Associate of Arts degree for a dual major. A dual major form must be filed with the Office of the Registrar prior to registering for classes. For more information on this option and a list of courses the student will need to add to the current major, please speak with an academic advisor, the department chair or dean of the specialized major.

**Diploma**

The student must meet all general requirements and complete an approved program of at least 15 semester credits and not more than 48 semester credits. The program and its length must be stated on the diploma. The following are approved diploma programs:

Accounting Assistant  Healthcare Documentation Specialist
Avionics Electronic Technician  HVAC and Refrigeration
Bio-Manufacturing  Medical/Insurance Coding
Business Specialist  Office Technology and Media Design Specialist
Child Care Technician  Paramedic
Clinical Laboratory Assistant  Pharmacy Technology
Computer Accounting  Practical Nursing
Construction Trades  Practical Nursing - Evening
Culinary Assistant  Process Control
Dental Assisting  Welding Technology
Electrical Systems
Electromechanical Technician
Electronic Technician
Health Unit Coordinator

**Certificate of Completion**

A Certificate of Completion is granted to students who meet the graduation requirements of an approved program of instruction that is not intended to result in the awarding of a degree or diploma. The course and its length should be stated on the certificate. The length may not exceed 48 semester credits.

**General Education**

The general education curriculum builds a foundation of knowledge that allows for a broad understanding of life; it also defines and promotes effective communication and critical thinking skills that create for the student the basis for making learning a lifelong goal.

IHCC is committed to preparing its students for a challenging future. The Career and Technical and Health Sciences divisions at the college educate students to excel in their chosen professions while Arts and Sciences students learn the essentials necessary for them to succeed in baccalaureate programs. All students, however, take General Education courses designed to impart common knowledge, intellectual concepts and attitudes that every educated person should possess.

Though General Education requirements vary by program, all General Education courses enrich students’ lives academically, professionally and personally.

**General Education Categories and Goals**

The General Education components of programs at Indian Hills Community College address the following:

**Communication**
Goal: Communicate effectively to the intended audience

**Computer/Information Literacy**
Goal: Apply technology and information for academic, professional and/or personal purposes

**Culture**
Goal: Understand people, cultures, diversity, aesthetics and/or historical purposes

**Mathematical Reasoning**
Goal: Apply mathematical techniques to solve problems

**Scientific Systems**
Goal: Demonstrate scientific understanding, including knowledge of systems, methodology and application
Academic Services
Indian Hills Community College offers a variety of classes and services to assist students in reaching their education and career goals. Academic Services include:

SUCCESS Center Classes
SUCCESS=Skill Upgrading for College and Careers Ensuring Student Success. Skill Building courses are available through the IHCC SUCCESS Centers, with Centers located on both the Ottumwa and Centerville campuses. Courses are designed to prepare students for entry into a program or to support their instruction while enrolled in a program or college class. Courses are offered in the basic skills of reading, writing and math, and also include instruction in study skills, preparation for advanced mathematics, comprehensive writing skills, English as a Second Language and many other areas. Students work with instructors in the SUCCESS Center and may also work with peer and professional tutors.

Peer and professional tutors are available to students in many but not all specialized subject areas. Tutors are available at no charge to the student, but tutoring is limited to the availability of tutors. The SUCCESS Center does not guarantee that tutors can be arranged for every subject area. Tutoring sessions are arranged day and evening and may be arranged in group or individual sessions.

Credit Exchange provides an opportunity for those students experiencing academic difficulty in a course. From the ninth day of the term through the 28th day of the term, students can withdraw from a transfer or technical credit course and enroll in an equal number of SUCCESS Center credits with no additional tuition charge. Students may exchange a maximum of six credits per term. The purpose of the program is to allow students to acquire the skills needed to pass a transfer or technical credit course without a penalty. Contact the SUCCESS Center or an academic advisor for more information.

The Ottumwa and Centerville Centers each contain computer labs for general use by IHCC students.

On the Main Campus, the Pothoven Academic SUCCESS Center is housed in the Arts and Sciences Wing and may be reached by calling (641) 683-5238. The Centerville SUCCESS Center can be reached by calling (641) 856-2143, ext. 2214. The SUCCESS Centers may be contacted by email at successcenter@indianhills.edu.

Services for Students with Disabilities
Individuals with disabilities who require accommodations for special services should contact the IHCC Disability Services office for assistance. Services are available to students who need classroom accommodations, interpreters and/or specialized equipment.

Students who are requesting accommodations must document their disability by providing a written statement signed by a school counselor, physician, psychologist or other health care professional. Statements must include: (a) a description of the disability, (b) a statement of how the disability prohibits one or more major life activities and is a barrier to the student’s full participation in the program, and (c) a description of the specific accommodations to be provided. (Requested accommodations must be related to the individual’s specific disability.)

All requests for accommodations should be made prior to enrollment.

Students should make their requests for accommodations to the Disability Services office at the time they are applying for admission and, preferably, no later than six weeks prior to the beginning of each academic term. All student requests are dealt with in a confidential manner. Students should contact Disability Services by calling (641) 683-5749 (Ottumwa) or (641) 856-2143, ext. 2214 (Centerville) or by email at disabilityservices@indianhills.edu.

RISE
RISE stands for Raising Individual Student Expectations. It is a support program designed for secondary students who have been receiving special education services while in high school. Continued educational support and instructional services provide students an opportunity to develop career- or occupationally-specific skills. Student conduct rules are structured to provide respect and protection to the rights and welfare of all students. While RISE students must adhere to the IHCC Code of Conduct, the IEP team may make the final decision about suspension and dismissal without meeting with the IHCC Student Discipline Administrator. Participation in this program may lead to
a variety of outcomes including completing an instructional program to earn a certificate, diploma or an Associate of Arts, Associate of Science or Associate of Applied Science degree.

**Library**

Centralized library facilities are located at the Ottumwa and Centerville campuses. Each library offers comprehensive services and collections to support the information needs of students, staff and community patrons.

Access to the library collection is available via the college's website at www.indianhills.edu/libraries. Full-text periodical indexes are also available via the library web page.

You may contact the library by calling (800) 726-2585, ext. 5199 (Ottumwa), or (800) 670-3641, ext. 2237 (Centerville).

**Student Support Services**

The Student Support Services program (SSS) is a federally funded TRIO program that provides free services and ongoing support to help students complete a college degree. SSS provides counseling/advising services, academic support, assistance with financial aid, and assistance with transferring to four-year colleges and universities. Interested students must apply for admission to the program and meet at least one criterion: 1) be a first-generation student, 2) have a low income, and/or 3) have a documented disability. Applications are available on the IHCC Student Support Services webpage or by calling (800)726-2585, ext 5246 or by email at studentsupportservices@indianhills.edu.

**Educational Opportunity Center**

The target audience for the Educational Opportunity Center is non-traditional students age 19 and older who are low income and first-generation college students. Services provided include assistance with completion of financial aid applications, admissions applications, academic advising and career counseling. The Educational Opportunity Center serves residents of 22 counties: Appanoose, Davis, Des Moines, Henry, Jefferson, Keokuk, Lee, Louisa, Mahaska, Monroe, Van Buren, Wapello and Wayne counties in Iowa and Adair, Clark, Knox, Lewis, Putnam, Scotland, Schuyler and Sullivan counties in Missouri. To apply for services, call (800) 726-2585, ext. 5315, or (641) 683-5315 or email eoc@indianhills.edu.

**County Service Centers**

Indian Hills Community College operates five education centers located in county seat communities served by the college. The county service centers provide opportunities for students to take courses and earn credit toward a degree without leaving their own communities. The centers offer a wide selection of both credit and non-credit courses. Students may register for courses, consult an academic advisor and take career and academic assessments at the centers. Students may take ACCUPLACER tests at any of the five service centers. To schedule an appointment for ACCUPLACER at a county service center, contact the center where you would like to take the test. Contact a service center by email at servicecenters@indianhills.edu.

The county service centers are:

- **Davis County Center** - 501 E. Locust, Bloomfield, IA 52537  
  (800) 726-2585, ext. 1931, (641) 664-2050,  
  FAX (641) 664-2030
- **Jefferson County Center** - 112 S. Court, Fairfield, IA 52556  
  (800) 726-2585, ext. 1951, (641) 472-6366,  
  FAX (641) 472-1504
- **Keokuk County Center** - 909 E. Pleasant Valley, Sigourney, IA 52591  
  (800) 726-2585, ext. 1961, (641) 622-3385,  
  FAX (641) 622-3273
- **Monroe County Center** - 322 C Avenue East, Albia, IA 52531  
  (800) 726-2585, ext. 1901, (641) 932-5297,  
  FAX (641) 932-7085
- **William Penn Center** - 1710 N. Market, Oskaloosa, IA 52577  
  (800) 726-2585, ext. 1971, (641) 673-0824,  
  FAX (641) 673-5451
Online Courses

Indian Hills offers many fully online courses and hybrid courses (courses that meet both online and on-campus). On-campus courses also use the Internet as a convenient means to submit assignments, receive handouts, interact with instructors and take tests.

The following programs may be completed entirely online:
- Associate of Arts (AA degree)
- Aviation Ground School
- Health Information Technology (AAS degree)
- Health Unit Coordinator (diploma)
- Healthcare Documentation Specialist (diploma)
- Medical Insurance Coding (certificate)
- Office Technology & Media Design Specialist (diploma)

In addition to these programs, many general education, technical, nursing and skill-building courses are currently offered online. More online courses are continually being developed.

Online courses carry the same credit hours and course numbers as their traditional classroom counterparts. Tuition is the same as for all other college credit courses. A technology fee is also required.

Online courses at Indian Hills are delivered through the college's learning management system, which is called "MyHills." More information concerning online learning at Indian Hills may be found at www.indianhills.edu/online. Questions concerning specific online courses or programs should be directed to the appropriate academic department.

Testing Centers

The IHCC Testing Centers offer a variety of tests. Testing services are available to current students and to the general public. IHCC Testing Centers also provide testing services to businesses and industries throughout the area.

Services Available
Testing services include college entrance tests (ACT and ACCUPLACER), CLEP (College Level Examination Program) TEAS, and graduate school admissions tests. New full-time students are required to take the ACCUPLACER test or provide written transcripts of ACT scores. The ACCUPLACER assesses reading, writing and math skills. ACCUPLACER and ACT scores are used for academic advising and to determine admission to Health Sciences or other college programs.

Testing for professional or occupational certification is available. Tests available include: aviation testing, chemical testing, computer certification tests, CNA (certified nursing assistant), cosmetology, dental testing, EMS/EMT (emergency medical technician) and pharmacy technician. Other tests are available upon request. ACCUPLACER tests are available at IHCC Testing Centers.

VUE Testing for information technology, emergency services and many other career fields are available at the Testing Center on the Main Campus. For a complete list or to register for a test, go to www.vue.com.

Testing Centers Contact Information
For a complete schedule of all IHCC testing services in the area, please call (641) 683-5142, or send an email to testing@indianhills.edu.

The Ottumwa Testing Center is located on the Main Campus in Trustee Hall. The center is open Monday, Wednesday and Thursday from 7:15 a.m. to 4:45 p.m.; Tuesday from 7:15 a.m. to 9 p.m.; and Saturday from 8 a.m. to 12:30 p.m. The hours listed may change during regularly scheduled college breaks.

In Centerville, the Testing Center is located in the SUCCESS Center. The Center is open Monday through Thursday from 7:15 a.m. to 4:45 p.m. For more information, call (641) 856-2214.

English Language Learners

Indian Hills provides assistance in oral and written communication skills to students for whom English is not their native language. Tutoring and one-to-one assistance are available. Non-transferable courses to develop and improve
basic English skills are available for credit at the regular tuition rate. Students should contact the IHCC English Language Learning Center, (641) 683-5210.

Adult Basic Education and High School Equivalency Diploma Programs

This program is for students who need to earn a high school equivalency diploma. The offices for the program are located at the Ottumwa North campus. Classes are scheduled on campus and at locations throughout the 10 counties of Area 15. Classes are available in Adult Basic Education, High School Equivalency Diploma, and High School Completion. For more information, interested persons may visit the ABE/High School Equivalency Diploma at the North Campus or call the ABE Coordinator at (641) 683-5189, or email at: ABE_GED@indianhills.edu.
Arts & Sciences Programs

Arts and Sciences

The Arts and Sciences Division of Indian Hills Community College is dedicated to serving the wide range of students who take classes in the division. Arts and Sciences courses leading to an associate degree are offered at both the Ottumwa and Centerville campuses and at the county service centers.

Students desiring a four-year baccalaureate degree can take the first two years at Indian Hills Community College, earn an associate degree, and transfer to another college or university. Some students take individual courses and apply them toward transfer elsewhere, while others may need specific classes for preparation in a particular career field. Finally, some students may enroll in classes simply to increase their knowledge in that course's content area. Arts and Sciences can satisfy each one of these students' needs.

The mission of the Arts and Sciences Division is fulfilled through a curriculum combining traditional (classroom) and non-traditional (i.e., distance education, service learning) delivery forms that enable students:

1. to think critically and creatively;
2. to communicate effectively, both orally and in writing;
3. to use mathematics, science, and technologies appropriate to the student's fields of interest; and
4. to recognize and appreciate historical, cultural, artistic, and/or personal concepts of society, native as well as global.

Science Majors (Ottumwa Campus)

The following is a recommended course sequence for Associate of Science majors and students interested in majoring in a science, engineering or another technical field. The courses should be taken in the order listed to avoid scheduling conflicts and to insure that all courses can be completed in two years. Students without a high school background in science and math may need to enroll in additional courses to strengthen their academic preparation.

**Fall, Freshman Year**
- Principles of Chemistry I (CHM 157)
- Classical Physics I (PHY 200)

**Winter, Freshman Year**
- Principles of Chemistry II (CHM 158)
- Classical Physics II (PHY 201)

**Spring, Freshman Year**
- Principles of Chemistry III (CHM 159)
- Classical Physics III (PHY 202)

**Fall, Sophomore Year**
- General Biology I (BIO 120)
- Organic Chemistry I (CHM 251)
- Calculus I (MAT 210)

**Winter, Sophomore Year**
- General Biology II (BIO 122)
- Organic Chemistry II (CHM 252)
- Calculus II (MAT 216)

**Spring, Sophomore Year**
- General Biology III (BIO 121)
- Organic Chemistry III (CHM 253)
- Calculus III (MAT 219)

**Note:** Principles of Chemistry I has a prerequisite of Introduction to General Chemistry or other background in chemistry.

**Note:** General Chemistry I and General Chemistry II are taught in the summer and are equivalent to Principles of Chemistry I, II, and III.

**Note:** Classical Physics I has a prerequisite of College Algebra or equivalent.
Note: Students should have a strong background in advanced algebra and trigonometry before enrolling in Calculus I. College Algebra can be taken in the freshman year.

Academic Excursions

A variety of educational trips and special events for academic credit are offered each year to facilitate classroom learning. Information regarding these opportunities may be obtained from the Arts and Sciences Office or an academic advisor.

The Academy

Highly-motivated students will find that the Arts and Sciences Academy is an excellent opportunity to share experiences with people who have similar interests. Specialized classes, field trips, guest speakers, and honors banquets highlight this distinguished program. For more information on the Academy, visit the Arts and Sciences Office.

Online Education

The Arts and Sciences Division at Indian Hills Community College provides college credit courses online and during evening hours each term. Courses are also offered on campus as well as at the five county service centers. Night courses typically meet one night per week. Students wishing to mix day courses with evening courses, as well as those wishing to take all of their classes at night, enroll in these courses. Students are able to meet all Associate of Arts degree requirements during evening hours. In addition, courses leading to an A.A. degree are available at the five IHCC County Service Centers in Albia, Bloomfield, Fairfield, Oskaloosa and Sigourney. For more information, visit the County Service Centers, Arts and Sciences Office or an academic counselor.

Focus Areas

The Arts and Sciences program is designed to prepare students for a variety of majors at the baccalaureate level. During the first two years of undergraduate study, most of the coursework consists of general education courses and courses common to any major. Therefore, many students prefer to begin their educational path with a very general or 'undecided' direction of course work. The Arts and Sciences program is designed around that premise. However, in order to provide direction to those persons who have very definite career goals, as well as those who are experimenting with several major areas of study, Indian Hills has created focus areas for many baccalaureate fields. These are suggested courses that typically are necessary for students who wish to focus on a specific major. These have been designed around the requirements of the Iowa Regents universities, as well as the baccalaureate institutions where most Indian Hills students transfer. If students know the exact program of study and college or university where they will transfer, a more specific program can also be tailored to meet individual needs. Suggested courses for students who do not wish to focus on any particular area (undecided) are included as well.

Requirements

General Education Course Requirements (A.A., A.S.)

Associate of Arts Degree (AA)

I. English and Communication (minimum of 9 credits)
A. Complete each of the following:
   • ENG 105 - Composition I - Credits: 3.00
   • ENG 106 - Composition II - Credits: 3.00
B. Select one of the following courses:
   • SPC 101 - Fundamentals of Oral Communication - Credits: 3.00 OR
   • SPC 112 - Public Speaking - Credits: 3.00
C. The following courses may be selected as part of distributed or general electives:
   • COM 948 - Special Topics - Credits: 1.00
   • ENG 101 - Elements of Writing - Credits: 3.00
   • ENG 111 - Technical Writing - Credits: 3.00
   • ENG 225 - Creative Writing: Poetry - Credits: 3.00
II. Mathematics and Sciences (minimum of 8 credits)

One mathematics course (3 semester hours) and one lab science course (3 semester hours) are required. An additional mathematics course or science course must be selected to fulfill the remaining hours required.

A. You may select from the following courses to meet the mathematics requirement:

- MAT 110 - Math for Liberal Arts - Credits: 3.00
- MAT 117 - Math for Elementary Teachers - Credits: 3.00
- MAT 118 - Math for Elementary Teacher II - Credits: 3.00
- MAT 120 - College Algebra - Credits: 3.00
- MAT 125 - Precalculus - Credits: 3.00
- MAT 140 - Finite Math - Credits: 3.00
- MAT 156 - Statistics - Credits: 3.00
- MAT 161 - Business Statistics - Credits: 3.00
- MAT 210 - Calculus I - Credits: 4.00
- MAT 216 - Calculus II - Credits: 4.00
- MAT 219 - Calculus III - Credits: 4.00
- MAT 226 - Differential Equations with Laplace - Credits: 3.00

B. You may select from the following courses to meet the lab science requirement:

- BIO 101 - Introductory Biology - Credits: 2.00 AND
- BIO 103 - Introductory Biology Lab - Credits: 1.00
- BIO 120 - General Biology 1D - Credits: 4.00
- BIO 121 - General Biology IID - Credits: 3.00
- BIO 122 - General Biology IIID - Credits: 3.00
- BIO 127 - Field Botany - Credits: 3.00
- BIO 161 - Basic Anatomy and Physiology - Credits: 3.00 AND
- BIO 199 - Basic Anatomy and Physiology Lab I - Credits: 1.00
- BIO 175 - Human Anatomy - Credits: 3.00 AND
- BIO 176 - Human Anatomy Lab - Credits: 1.00
- BIO 178 - Human Physiology - Credits: 3.00 AND
- BIO 179 - Human Physiology Lab - Credits: 1.00
- BIO 187 - Microbiology w/lab - Credits: 4.00
- CHM 121 - Introduction to General Chemistry - Credits: 3.00
- CHM 132 - Introduction to Organic and Biochemistry - Credits: 4.00
- CHM 157 - Principles of Chemistry I - Credits: 3.00
- CHM 158 - Principles of Chemistry II - Credits: 3.00
- CHM 159 - Principles of Chemistry III - Credits: 4.00
- CHM 166 - General Chemistry I - Credits: 5.00
- CHM 176 - General Chemistry II - Credits: 5.00
- CHM 251 - Organic Chemistry I - Credits: 3.00
- CHM 252 - Organic Chemistry II - Credits: 3.00
- CHM 253 - Organic Chemistry III - Credits: 3.00
- ENV 105 - Introductory Environmental Science - Credits: 2.00 AND
- ENV 106 - Introductory Environmental Science Lab - Credits: 1.00
- PHS 184 - Introduction to Earth Science - Credits: 2.00 AND
- PHS 186 - Introduction to Earth Science Lab - Credits: 1.00
• PHY 101 - Physics - Credits: 2.00 AND
• PHY 102 - Physics Lab - Credits: 1.00

• PHY 200 - Classical Physics I - Credits: 3.00
• PHY 201 - Classical Physics II - Credits: 3.00
• PHY 202 - Classical Physics III - Credits: 3.00

C. You may select from the above courses or any of the following to fulfill remaining mathematics/sciences credit hour requirements:
• BIO 925 - Honors Research - Credits: 1.00
• BIO 949 - Special Topics - Credits: 1.00
• CHM 924 - Honors Project - Credits: 1.00
• CHM 949 - Special Topics - Credits: 1.00
• ENV 142 - Natural Resources - Credits: 3.00
• MAT 101 - Intermediate Algebra - Credits: 3.00
• MAT 925 - Honors Research - Credits: 1.00
• MAT 952 - Topics - Credits: 1.00
• SCI 130 - Limits of Science - Credits: 2.00
• EGR 160 - Engineering I - Credits: 3.00
• EGR 162 - Engineering Math - Matrix Algebra - Credits: 2.00
• EGR 165 - Engineering II - Credits: 3.00
• EGR 180 - Statics - Credits: 3.00
• EGR 284 - Introduction to Electrical Circuits - Credits: 3.00
• EGR 290 - Thermodynamics - Credits: 3.00
• EGR 400 - PLTW Introduction to Engineering Design - Credits: 3.00
• EGR 401 - PLTW-Introduction to Engineering Design - Credits: 2.00
• EGR 402 - PLTW-Introduction to Engineering Design - Credits: 1.00
• EGR 410 - PLTW Principles of Engineering - Credits: 3.00
• EGR 411 - PLTW-Principles of Engineering I - Credits: 1.00
• EGR 412 - PLTW-Principles of Engineering II - Credits: 2.00
• EGR 420 - PLTW Digital Electronics - Credits: 3.00
• EGR 440 - PLTW-Biotechnical Engineering - Credits: 3.00

III. Social Sciences (minimum of 9 semester credits)
A. You must select one of the following history courses:
• HIS 110 - Western Civilization: Ancient to Early Modern - Credits: 3.00
• HIS 111 - Western Civilization: Early Modern to Present - Credits: 3.00
• HIS 151 - U.S. History to 1877 - Credits: 3.00
• HIS 152 - U.S. History since 1877 - Credits: 3.00

B. The remaining six semester credits may be selected from the above courses or from the following history, social science, and behavioral science courses:
• ANT 105 - Cultural Anthropology - Credits: 3.00
• ECN 110 - Introduction to Economics - Credits: 3.00
• ECN 120 - Principles of Macroeconomics - Credits: 3.00
• ECN 130 - Principles of Microeconomics - Credits: 3.00
• GEO 121 - World Regional Geography - Credits: 3.00
• GEO 924 - Honors Project - Credits: 1.00
• GEO 949 - Special Topics - Credits: 1.00
• HIS 121 - Ancient Mediterranean World - Credits: 3.00
• HIS 125 - Modern Europe - Credits: 3.00
• HIS 141 - History of Asia - Credits: 3.00
• HIS 214 - Russian History and Culture - Credits: 3.00
• HIS 257 - African American History - Credits: 3.00
• HIS 927 - Honors Study - Credits: 1.00
• HIS 949 - Special Topics - Credits: 1.00
• POL 111 - American National Government - Credits: 3.00
• POL 121 - International Relations - Credits: 3.00
• POL 949 - Special Topics - Credits: 1.00
• PSY 111 - Introduction to Psychology - Credits: 3.00
• PSY 112 - Psychology of Human Relations - Credits: 3.00
• PSY 121 - Developmental Psychology - Credits: 3.00
• PSY 211 - Psychology of Adjustment - Credits: 3.00
• PSY 223 - Child and Adolescent Psychology - Credits: 3.00
• PSY 226 - Psychology of Aging - Credits: 3.00
• PSY 241 - Abnormal Psychology - Credits: 3.00
• PSY 251 - Social Psychology - Credits: 3.00
• PSY 281 - Educational Psychology - Credits: 3.00
• PSY 296 - Investigating the Effects of Recreational Drugs - Credits: 1.00
• PSY 924 - Honors Project - Credits: 1.00
• PSY 949 - Special Topics - Credits: 1.00
• PSY 994 - Special Topics - Credits: 1.00

• SOC 110 - Introduction to Sociology - Credits: 3.00
• SOC 115 - Social Problems - Credits: 3.00
• SOC 120 - Marriage and Family - Credits: 3.00
• SOC 135 - Death and Dying - Credits: 3.00
• SOC 147 - Foreign and Domestic Terrorism - Credits: 3.00
• SOC 170 - Sociology and Technology - Credits: 3.00
• SOC 230 - Juvenile Delinquency - Credits: 3.00
• SOC 240 - Criminology - Credits: 3.00
• SOC 242 - Introduction to Corrections - Credits: 3.00
• SOC 244 - Criminal Procedures - Credits: 3.00
• SOC 245 - Criminal Law - Credits: 3.00
• SOC 261 - Human Sexuality - Credits: 3.00
• SOC 280 - Social Issues - Credits: 3.00
• SOC 924 - Honors Project - Credits: 1.00
• SOC 949 - Special Topics - Credits: 1.00

IV. Humanities and Fine Arts (minimum of 8 semester credits)
A. You must select at least 3 credits from the following literature courses:
• LIT 101 - Introduction to Literature - Credits: 3.00
• LIT 110 - American Literature to Mid-1800’s - Credits: 3.00
• LIT 112 - American Literature: 1945 to Present - Credits: 3.00
• LIT 113 - American Literature: 1865 to 1945 - Credits: 3.00
• LIT 140 - British Literature I - Credits: 3.00
• LIT 141 - British Literature II - Credits: 3.00
• LIT 150 - World Literature I - Credits: 3.00
• LIT 152 - Early Modern World Literature - Credits: 3.00
• LIT 153 - Modern World Literature - Credits: 3.00
• LIT 157 - Bible as Literature - Credits: 3.00
• LIT 161 - The Short Story - Credits: 3.00
• LIT 165 - The Novel - Credits: 3.00
• LIT 167 - Popular Genres I - Credits: 3.00
• LIT 168 - Popular Genres II - Credits: 3.00
• LIT 171 - Survey of Poetry - Credits: 3.00
• LIT 175 - Survey of Drama - Credits: 3.00
• LIT 181 - Mythology and Literature - Credits: 3.00
• LIT 190 - Women Writers - Credits: 3.00
• LIT 802 - Readings in Literature I - Credits: 1.00
• LIT 804 - Readings in Literature II - Credits: 2.00
• LIT 806 - Readings in Literature III - Credits: 3.00

B. The remaining 5 credits may be selected from any of the above courses or any of the following:
• ART – any course
• CLS 106 - Popular Culture - Credits: 1.00
• CLS 150 - Latin American History and Culture - Credits: 3.00
• CLS 155 - Brazilian History and Culture - Credits: 3.00
• CLS 175 - Native American Studies - Credits: 3.00
• CLS 185 - Cultural History of Iowa - Credits: 3.00
• CLS 215 - Cultural Excursions I - Credits: 1
• CLS 216 - Cultural Excursions II - Credits: 2
• CLS 217 - Cultural Excursions III - Credits: 3
• CLS 222 - Survey of Latino Literature U.S./Mexico - Credits: 3.00
• CLS 930 - Diversity Experience - Credits: 1.0
• DRA 101 - Introduction to Theatre - Credits: 3.00
• DRA 108 - Drama Excursions - Credits: 1.00
• DRA 109 - Drama Excursions II - Credits: 1.00
• DRA 110 - Introduction to Film - Credits: 3.00
• DRA 130 - Acting I - Credits: 3.00
• DRA 132 - Acting II - Credits: 3.00
• DRA 133 - Acting III - Credits: 3.00
• DRA 162 - Technical Theatre - Credits: 3.00
• DRA 180 - Theatre Lab I - Credits: 1.00
• DRA 181 - Theatre Lab II - Credits: 1.00
• DRA 235 - Acting Workshop - Credits: 3.00
• DRA 280 - Theatre Lab III - Credits: 1.00
• DRA 281 - Theatre Lab IV - Credits: 1.00
• FLF 131 - Elementary French I - Credits: 3.00
• FLF 132 - Elementary French II - Credits: 3.00
• FLF 133 - Elementary French III - Credits: 3.00
• FLF 145 - French I - Credits: 5.00
• FLF 231 - Intermediate French I - Credits: 3.00
• FLF 232 - Intermediate French II - Credits: 3.00
• FLF 233 - Intermediate French III - Credits: 3.00
• FLF 245 - French II - Credits: 5.00
• FLS 125 - Spanish for Health Professionals - Credits: 3.00
• FLS 131 - Elementary Spanish I - Credits: 3.00
• FLS 132 - Elementary Spanish II - Credits: 3.00
• FLS 133 - Elementary Spanish III - Credits: 3.00
• FLS 153 - Accelerated Elementary Spanish I - Credits: 5.00
• FLS 154 - Accelerated Elementary Spanish II - Credits: 5.00
• FLS 231 - Intermediate Spanish I - Credits: 3.00
• FLS 232 - Intermediate Spanish II - Credits: 3.00
• FLS 233 - Intermediate Spanish III - Credits: 3.00
• HUM 135 - Humanities of the Early World - Credits: 3.00
• HUM 136 - Humanities of the Renaissance - Credits: 3.00
• HUM 137 - Humanities of the Modern World - Credits: 3.00
• HUM 205 - Humanities: The Hero - Credits: 3.00
• HUM 210 - Humanities: Nature of Conflict - Credits: 3.00
• HUM 927 - Honors Study - Credits: 1.00
• HUM 952 - Topics - Credits: 1.00
• MUA – any course
• MUS – any course
• PHI 101 - Introduction to Philosophy - Credits: 3.00
• PHI 105 - Introduction to Ethics - Credits: 3.00
• PHI 114 - Critical Reasoning - Credits: 3.00
• PHI 120 - Modern Philosophy - Credits: 3.00
• PHI 121 - Classical/Medieval Philosophy - Credits: 3.00
• PHI 145 - Introduction to Ethical Conflicts - Credits: 3.00
• REL 101 - Survey of World Religions - Credits: 3.00
V. Computer Literacy (minimum of 1 credit counted as General Elective hours)
Select from the following courses:
- CSC 105 - Computer Essentials - Credits: 1.00 OR
- CSC 110 - Introduction to Computers - Credits: 3.00

VI. Distributed Electives (7 semester credits)
Electives in this area must be chosen from English/Speech, Mathematics/Sciences, Social Sciences, or Humanities/Fine Arts

VII. How to Be Successful In College: SDV 101 (3 semester credits counted as General Elective hours)

VIII. General Electives (16 semester credits)
These unrestricted electives may be selected from the previously mentioned areas or any of the following courses:

Business
- ACC 121 - Principles of Accounting I - Credits: 3.00
- ACC 122 - Principles of Accounting II - Credits: 3.00
- ACC 221 - Cost Accounting - Credits: 3.00
- ACC 931 - Accounting Internship - Credits: 1.00
- BUS 102 - Introduction to Business - Credits: 3.00
- BUS 104 - Business Essentials - Credits: 3.00
- BUS 130 - Introduction to Entrepreneurship - Credits: 3.00
- BUS 188 - Legal Environment of Business - Credits: 3.00
- BUS 204 - Professionalism in the Workplace - Credits: 3.00
- BUS 924 - Honors Project - Credits: 1.00
- BUS 932 - Internship - Credits: 1.00
- BUS 949 - Special Topics - Credits: 1.00
- FIN 121 - Personal Finance - Credits: 3.00
- MGT 101 - Principles of Management - Credits: 3.00
- MGT 170 - Human Resource Management - Credits: 3.00
- MGT 220 - Intro to Sport Management - Credits: 3.00
- MKT 110 - Principles of Marketing - Credits: 3.00
- MKT 140 - Principles of Selling - Credits: 3.00
- MKT 198 - Sports Marketing - Credits: 3.00

Education
- EDU 120 - Communication, Ethics and - Credits: 2.00
- EDU 121 - Behavior Improvement - Credits: 2.00
- EDU 122 - Roles and Responsibilities - Credits: 2.00
- EDU 213 - Introduction to Education - Credits: 3.00
- EDU 235 - Children's Literature - Credits: 3.00
- EDU 260 - Art for the Elementary Educator - Credits: 3.00
- EDU 925 - Honors Research - Credits: 1.00
- EDU 949 - Special Topics - Credits: 1.00

Physical Education
- PEA 122 - Cardiovascular Training I - Credits: 2.00
- PEA 135 - Golf I - Credits: 2.00
- PEA 152 - Racquet Sports I - Credits: 2.00
- PEA 155 - Recreational Activities I - Credits: 2.00
- PEA 188 - Weight Training I - Credits: 2.00
- PEA 222 - Cardiovascular Training II - Credits: 2.00
- PEA 235 - Golf II - Credits: 2.00
- PEA 288 - Weight Training II - Credits: 2.00
- PEC 112 - Theory of Coaching - Credits: 3.00
- PEC 113 - Coaching Ethics - Credits: 3.00
- PEC 128 - Care and Prevention of Athletic Injuries - Credits: 2.00
- PEC 162 - Sports Officiating: Fall Sports - Credits: 2.00
• PEC 163 - Sports Officiating: Winter Sports - Credits: 2.00
• PEC 164 - Sports Officiating: Spring Sports - Credits: 2.00
• PEH 102 - Health - Credits: 3.00
• PEH 115 - Wellness Education - Credits: 3.00
• PEH 142 - First Aid - Credits: 3.00
• PEH 162 - Introduction to Physical Education - Credits: 3.00
• PEH 176 - Sport Psychology - Credits: 3.00
• PEC 164 - Sports Officiating: Spring Sports - Credits: 2.00
• PEH 210 - Elementary Physical Education - Credits: 3.00
• PEH 215 - Introduction to Secondary Physical Education - Credits: 3.00
• PET 105 - Basic Athletic Training - Credits: 3.00
• PET 140 - Athletic Training Practicum I - Credits: 1.00
• PET 146 - Athletic Training Administration - Credits: 3.00
• PET 150 - Athletic Training Practicum II - Credits: 1.00
• PET 171 - Athletic Training Practicum III - Credits: 1.00
• PET 181 - Athletic Training Practicum IV - Credits: 1.00
• PET 185 - Athletic Training Practicum V - Credits: 1.00
• PEV 107 - Techniques of Sports I - Credits: 1.00
• PEV 108 - Techniques of Sports II - Credits: 1.00
• PEH 110 - Health - Credits: 3.00
• PEH 115 - Wellness Education - Credits: 3.00
• PEH 142 - First Aid - Credits: 3.00
• PEH 162 - Introduction to Physical Education - Credits: 3.00
• PEH 176 - Sport Psychology - Credits: 3.00
• PEC 163 - Sports Officiating: Winter Sports - Credits: 2.00
• PEC 164 - Sports Officiating: Spring Sports - Credits: 2.00
• PEH 102 - Health - Credits: 3.00
• PEH 115 - Wellness Education - Credits: 3.00
• PEH 142 - First Aid - Credits: 3.00
• PEH 162 - Introduction to Physical Education - Credits: 3.00
• PEH 176 - Sport Psychology - Credits: 3.00

Other
• CSC 130 - Business Computer Software - Credits: 3.00
• MMS 241 - Public Relations and Marketing - Credits: 3.00
• SDV 126 - Library and Internet Research - Credits: 2.00
• SDV 142 - Career Planning - Credits: 3.00

Notes:
*A maximum of 16 semester credits (subject to Registrar approval) may be awarded for some technical education course work.

**Associate of Science (AS) Degree**

I. English and Communication (minimum of 9 credits)

A. Complete each of the following:
• ENG 105 - Composition I - Credits: 3.00
• ENG 106 - Composition II - Credits: 3.00

B. Select one of the following courses:
• SPC 101 - Fundamentals of Oral Communication - Credits: 3.00 OR
• SPC 112 - Public Speaking - Credits: 3.00

C. The following courses may be selected as part of general electives:
• COM 948 - Special Topics - Credits: 1.00
• ENG 101 - Elements of Writing - Credits: 3.00
• ENG 111 - Technical Writing - Credits: 3.00
• ENG 225 - Creative Writing: Poetry - Credits: 3.00
• ENG 230 - Creative Writing: Fiction - Credits: 3.00
• ENG 925 - Honors Research - Credits: 1.00
• SPC 122 - Interpersonal Communication - Credits: 3.00

II. Mathematics and Sciences (minimum of 30 credits)

One mathematics course (3 semester hours) and one lab science course (3 semester hours) are required. An additional 24 semester credit hours in either mathematics or science must be selected to fulfill the remaining hours required.

A. You may select from the following courses to meet the mathematics requirement:
• MAT 110 - Math for Liberal Arts - Credits: 3.00
• MAT 117 - Math for Elementary Teachers - Credits: 3.00
• MAT 118 - Math for Elementary Teacher II - Credits: 3.00
• MAT 120 - College Algebra - Credits: 3.00
• MAT 125 - Precalculus - Credits: 3.00
• MAT 140 - Finite Math - Credits: 3.00

73
• MAT 156 - Statistics - Credits: 3.00
• MAT 161 - Business Statistics - Credits: 3.00
• MAT 210 - Calculus I - Credits: 4.00
• MAT 216 - Calculus II - Credits: 4.00
• MAT 219 - Calculus III - Credits: 4.00
• MAT 226 - Differential Equations with Laplace - Credits: 3.00

B. You may select from the following courses to meet the lab science requirement:
• BIO 101 - Introductory Biology - Credits: 2.00
• BIO 103 - Introductory Biology Lab - Credits: 1.00

• BIO 120 - General Biology 1D - Credits: 4.00
• BIO 121 - General Biology IID - Credits: 3.00
• BIO 122 - General Biology IIID - Credits: 3.00
• BIO 127 - Field Botany - Credits: 3.00

• BIO 161 - Basic Anatomy and Physiology - Credits: 3.00
• BIO 199 - Basic Anatomy and Physiology Lab I - Credits: 1.00

• BIO 175 - Human Anatomy - Credits: 3.00
• BIO 176 - Human Anatomy Lab - Credits: 1.00

• BIO 178 - Human Physiology - Credits: 3.00
• BIO 179 - Human Physiology Lab - Credits: 1.00

• BIO 187 - Microbiology w/lab - Credits: 4.00
• CHM 121 - Introduction to General Chemistry - Credits: 3.00
• CHM 132 - Introduction to Organic and Biochemistry - Credits: 4.00
• CHM 157 - Principles of Chemistry I - Credits: 3.00
• CHM 158 - Principles of Chemistry II - Credits: 3.00
• CHM 159 - Principles of Chemistry III - Credits: 4.00
• CHM 166 - General Chemistry I - Credits: 5.00
• CHM 176 - General Chemistry II - Credits: 5.00
• CHM 251 - Organic Chemistry I - Credits: 3.00
• CHM 252 - Organic Chemistry II - Credits: 3.00
• CHM 253 - Organic Chemistry III - Credits: 3.00

• ENV 105 - Introductory Environmental Science - Credits: 2.00
• ENV 106 - Introductory Environmental Science Lab - Credits: 1.00

• PHS 184 - Introduction to Earth Science - Credits: 2.00
• PHS 186 - Introduction to Earth Science Lab - Credits: 1.00

• PHY 101 - Physics - Credits: 2.00
• PHY 102 - Physics Lab - Credits: 1.00

• PHY 200 - Classical Physics I - Credits: 3.00
• PHY 201 - Classical Physics II - Credits: 3.00
• PHY 202 - Classical Physics III - Credits: 3.00

C. You may select from the above courses or any of the following to fulfill remaining mathematics/sciences credit hour requirements:
• BIO 925 - Honors Research - Credits: 1.00
• BIO 949 - Special Topics - Credits: 1.00
• CHM 924 - Honors Project - Credits: 1.00
• CHM 949 - Special Topics - Credits: 1.00
• EGR 160 - Engineering I - Credits: 3.00
• EGR 162 - Engineering Math - Matrix Algebra - Credits: 2.00
• EGR 165 - Engineering II - Credits: 3.00
III. Social Sciences (minimum of 9 semester credits)

A. You must select one of the following history courses:
   - HIS 110 - Western Civilization: Ancient to Early Modern - Credits: 3.00
   - HIS 111 - Western Civilization: Early Modern to Present - Credits: 3.00
   - HIS 151 - U.S. History to 1877 - Credits: 3.00
   - HIS 152 - U.S. History since 1877 - Credits: 3.00

B. The remaining six semester credits may be selected from the above courses or from the following:
   - ANT 105 - Cultural Anthropology - Credits: 3.00
   - ECN 110 - Introduction to Economics - Credits: 3.00
   - ECN 120 - Principles of Macroeconomics - Credits: 3.00
   - ECN 130 - Principles of Microeconomics - Credits: 3.00
   - GEO 121 - World Regional Geography - Credits: 3.00
   - GEO 924 - Honors Project - Credits: 1.00
   - GEO 949 - Special Topics - Credits: 1.00
   - HIS 121 - Ancient Mediterranean World - Credits: 3.00
   - HIS 125 - Modern Europe - Credits: 3.00
   - HIS 141 - History of Asia - Credits: 3.00
   - HIS 214 - Russian History and Culture - Credits: 3.00
   - HIS 257 - African American History - Credits: 3.00
   - HIS 927 - Honors Study - Credits: 1.00
   - HIS 949 - Special Topics - Credits: 1.00
   - POL 111 - American National Government - Credits: 3.00
   - POL 121 - International Relations - Credits: 3.00
   - POL 949 - Special Topics - Credits: 1.00
   - PSY 111 - Introduction to Psychology - Credits: 3.00
   - PSY 112 - Psychology of Human Relations - Credits: 3.00
   - PSY 121 - Developmental Psychology - Credits: 3.00
   - PSY 211 - Psychology of Adjustment - Credits: 3.00
   - PSY 223 - Child and Adolescent Psychology - Credits: 3.00
   - PSY 226 - Psychology of Aging - Credits: 3.00
   - PSY 241 - Abnormal Psychology - Credits: 3.00
   - PSY 251 - Social Psychology - Credits: 3.00
   - PSY 281 - Educational Psychology - Credits: 3.00
   - PSY 924 - Honors Project - Credits: 1.00
   - PSY 949 - Special Topics - Credits: 1.00
   - SOC 110 - Introduction to Sociology - Credits: 3.00
   - SOC 115 - Social Problems - Credits: 3.00
   - SOC 120 - Marriage and Family - Credits: 3.00
• SOC 135 - Death and Dying - Credits: 3.00
• SOC 147 - Foreign and Domestic Terrorism - Credits: 3.00
• SOC 170 - Sociology and Technology - Credits: 3.00
• SOC 230 - Juvenile Delinquency - Credits: 3.00
• SOC 240 - Criminology - Credits: 3.00
• SOC 242 - Introduction to Corrections - Credits: 3.00
• SOC 244 - Criminal Procedures - Credits: 3.00
• SOC 245 - Criminal Law - Credits: 3.00
• SOC 261 - Human Sexuality - Credits: 3.00
• SOC 280 - Social Issues - Credits: 3.00
• SOC 924 - Honors Project - Credits: 1.00
• SOC 949 - Special Topics - Credits: 1.00

IV. Humanities and Fine Arts (minimum of 8 semester credits)
A. You must select at least 3 credits from the following literature courses:
• LIT 101 - Introduction to Literature - Credits: 3.00
• LIT 110 - American Literature to Mid-1800's - Credits: 3.00
• LIT 112 - American Literature: 1945 to Present - Credits: 3.00
• LIT 113 - American Literature: 1865 to 1945 - Credits: 3.00
• LIT 140 - British Literature I - Credits: 3.00
• LIT 141 - British Literature II - Credits: 3.00
• LIT 150 - World Literature I - Credits: 3.00
• LIT 152 - Early Modern World Literature - Credits: 3.00
• LIT 153 - Modern World Literature - Credits: 3.00
• LIT 157 - Bible as Literature - Credits: 3.00
• LIT 161 - The Short Story - Credits: 3.00
• LIT 165 - The Novel - Credits: 3.00
• LIT 167 - Popular Genres I - Credits: 3.00
• LIT 168 - Popular Genres II - Credits: 3.00
• LIT 171 - Survey of Poetry - Credits: 3.00
• LIT 175 - Survey of Drama - Credits: 3.00
• LIT 181 - Mythology and Literature - Credits: 3.00
• LIT 190 - Women Writers - Credits: 3.00
• LIT 802 - Readings in Literature I - Credits: 1.00
• LIT 804 - Readings in Literature II - Credits: 2.00
• LIT 806 - Readings in Literature III - Credits: 3.00

B. The remaining 5 credits may be selected from any of the above courses or any of the following:
• ART – any course
• CLS 106 - Popular Culture - Credits: 1.00
• CLS 150 - Latin American History and Culture - Credits: 3.00
• CLS 155 - Brazilian History and Culture - Credits: 3.00
• CLS 175 - Native American Studies - Credits: 3.00
• CLS 185 - Cultural History of Iowa - Credits: 3.00
• CLS 215 - Cultural Excursions I - Credits: 1
• CLS 216 - Cultural Excursions II - Credits: 2
• CLS 217 - Cultural Excursions III - Credits: 3
• CLS 222 - Survey of Latino Literature U.S./Mexico - Credits: 3.00
• DRA 101 - Introduction to Theatre - Credits: 3.00
• DRA 108 - Drama Excursions - Credits: 1.00
• DRA 109 - Drama Excursions II - Credits: 1.00
• DRA 110 - Introduction to Film - Credits: 3.00
• DRA 130 - Acting I - Credits: 3.00
• DRA 132 - Acting II - Credits: 3.00
• DRA 133 - Acting III - Credits: 3.00
• DRA 162 - Technical Theatre - Credits: 3.00
• DRA 180 - Theatre Lab I - Credits: 1.00
- DRA 181 - Theatre Lab II - Credits: 1.00
- DRA 235 - Acting Workshop - Credits: 3.00
- DRA 280 - Theatre Lab III - Credits: 1.00
- DRA 281 - Theatre Lab IV - Credits: 1.00
- FLF 131 - Elementary French I - Credits: 3.00
- FLF 132 - Elementary French II - Credits: 3.00
- FLF 133 - Elementary French III - Credits: 3.00
- FLF 145 - French I - Credits: 5.00
- FLF 231 - Intermediate French I - Credits: 3.00
- FLF 232 - Intermediate French II - Credits: 3.00
- FLF 233 - Intermediate French III - Credits: 3.00
- FLF 245 - French II - Credits: 5.00
- FLS 125 - Spanish for Health Professionals - Credits: 3.00
- FLS 131 - Elementary Spanish I - Credits: 3.00
- FLS 132 - Elementary Spanish II - Credits: 3.00
- FLS 133 - Elementary Spanish III - Credits: 3.00
- FLS 153 - Accelerated Elementary Spanish I - Credits: 5.00
- FLS 154 - Accelerated Elementary Spanish II - Credits: 5.00
- FLS 231 - Intermediate Spanish I - Credits: 3.00
- FLS 232 - Intermediate Spanish II - Credits: 3.00
- FLS 233 - Intermediate Spanish III - Credits: 3.00
- HUM 135 - Humanities of the Early World - Credits: 3.00
- HUM 136 - Humanities of the Renaissance - Credits: 3.00
- HUM 137 - Humanities of the Modern World - Credits: 3.00
- HUM 145 - Language and Society - Credits: 3.00
- HUM 205 - Humanities: The Hero - Credits: 3.00
- HUM 210 - Humanities: Nature of Conflict - Credits: 3.00
- HUM 927 - Honors Study - Credits: 1.00
- HUM 952 - Topics - Credits: 1.00
- MUA – any course
- MUS – any course
- PHI 101 - Introduction to Philosophy - Credits: 3.00
- PHI 105 - Introduction to Ethics - Credits: 3.00
- PHI 114 - Critical Reasoning - Credits: 3.00
- PHI 120 - Modern Philosophy - Credits: 3.00
- PHI 121 - Classical/Medieval Philosophy - Credits: 3.00
- PHI 145 - Introduction to Ethical Conflicts - Credits: 3.00
- REL 101 - Survey of World Religions - Credits: 3.00
- WST 101 - Women's Studies - Credits: 3.00

V. Computer Literacy (minimum of 1 credit counted as General Elective hours)
Select from the following courses:
- CSC 105 - Computer Essentials - Credits: 1.00 OR
- CSC 110 - Introduction to Computers - Credits: 3.00

VI. How To Be Successful In College: SDV 101 (3 Semester Credits counted as General Elective hours)

VII. General Electives (5 semester credits)
These unrestricted electives may be selected from the previously mentioned areas or any of the following courses:

Business
- ACC 121 - Principles of Accounting I - Credits: 3.00
- ACC 122 - Principles of Accounting II - Credits: 3.00
- ACC 221 - Cost Accounting - Credits: 3.00
- ACC 931 - Accounting Internship - Credits: 1.00
- BUS 102 - Introduction to Business - Credits: 3.00
- BUS 104 - Business Essentials - Credits: 3.00
- BUS 130 - Introduction to Entrepreneurship - Credits: 3.00
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 188</td>
<td>Legal Environment of Business</td>
<td>3.00</td>
</tr>
<tr>
<td>BUS 204</td>
<td>Professionalism in the Workplace</td>
<td>3.00</td>
</tr>
<tr>
<td>BUS 924</td>
<td>Honors Project</td>
<td>1.00</td>
</tr>
<tr>
<td>BUS 932</td>
<td>Internship</td>
<td>1.00</td>
</tr>
<tr>
<td>BUS 949</td>
<td>Special Topics</td>
<td>1.00</td>
</tr>
<tr>
<td>FIN 121</td>
<td>Personal Finance</td>
<td>3.00</td>
</tr>
<tr>
<td>MGT 101</td>
<td>Principles of Management</td>
<td>3.00</td>
</tr>
<tr>
<td>MGT 170</td>
<td>Human Resource Management</td>
<td>3.00</td>
</tr>
<tr>
<td>MGT 220</td>
<td>Intro to Sport Management</td>
<td>3.00</td>
</tr>
<tr>
<td>MKT 110</td>
<td>Principles of Marketing</td>
<td>3.00</td>
</tr>
<tr>
<td>MKT 140</td>
<td>Principles of Selling</td>
<td>3.00</td>
</tr>
<tr>
<td>MKT 198</td>
<td>Sports Marketing</td>
<td>3.00</td>
</tr>
<tr>
<td>EDU 120</td>
<td>Communication, Ethics and</td>
<td>2.00</td>
</tr>
<tr>
<td>EDU 121</td>
<td>Behavior Improvement</td>
<td>2.00</td>
</tr>
<tr>
<td>EDU 122</td>
<td>Roles and Responsibilities</td>
<td>2.00</td>
</tr>
<tr>
<td>EDU 213</td>
<td>Introduction to Education</td>
<td>3.00</td>
</tr>
<tr>
<td>EDU 235</td>
<td>Children’s Literature</td>
<td>3.00</td>
</tr>
<tr>
<td>EDU 260</td>
<td>Art for the Elementary Educator</td>
<td>3.00</td>
</tr>
<tr>
<td>EDU 925</td>
<td>Honors Research</td>
<td>1.00</td>
</tr>
<tr>
<td>EDU 949</td>
<td>Special Topics</td>
<td>1.00</td>
</tr>
<tr>
<td>PEA 122</td>
<td>Cardiovascular Training I</td>
<td>2.00</td>
</tr>
<tr>
<td>PEA 135</td>
<td>Golf I</td>
<td>2.00</td>
</tr>
<tr>
<td>PEA 152</td>
<td>Racquet Sports I</td>
<td>2.00</td>
</tr>
<tr>
<td>PEA 155</td>
<td>Recreational Activities I</td>
<td>2.00</td>
</tr>
<tr>
<td>PEA 188</td>
<td>Weight Training I</td>
<td>2.00</td>
</tr>
<tr>
<td>PEA 222</td>
<td>Cardiovascular Training II</td>
<td>2.00</td>
</tr>
<tr>
<td>PEA 235</td>
<td>Golf II</td>
<td>2.00</td>
</tr>
<tr>
<td>PEA 288</td>
<td>Weight Training II</td>
<td>2.00</td>
</tr>
<tr>
<td>PEC 112</td>
<td>Theory of Coaching</td>
<td>3.00</td>
</tr>
<tr>
<td>PEC 113</td>
<td>Coaching Ethics</td>
<td>3.00</td>
</tr>
<tr>
<td>PEC 128</td>
<td>Care and Prevention of Athletic Injuries</td>
<td>2.00</td>
</tr>
<tr>
<td>PEC 162</td>
<td>Sports Officiating: Fall Sports</td>
<td>2.00</td>
</tr>
<tr>
<td>PEC 163</td>
<td>Sports Officiating: Winter Sports</td>
<td>2.00</td>
</tr>
<tr>
<td>PEC 164</td>
<td>Sports Officiating: Spring Sports</td>
<td>2.00</td>
</tr>
<tr>
<td>PEH 102</td>
<td>Health</td>
<td>3.00</td>
</tr>
<tr>
<td>PEH 115</td>
<td>Wellness Education</td>
<td>3.00</td>
</tr>
<tr>
<td>PEH 142</td>
<td>First Aid</td>
<td>3.00</td>
</tr>
<tr>
<td>PEH 162</td>
<td>Introduction to Physical Education</td>
<td>3.00</td>
</tr>
<tr>
<td>PEH 176</td>
<td>Sport Psychology</td>
<td>3.00</td>
</tr>
<tr>
<td>PEH 210</td>
<td>Elementary Physical Education</td>
<td>3.00</td>
</tr>
<tr>
<td>PEH 215</td>
<td>Introduction to Secondary Physical Education</td>
<td>3.00</td>
</tr>
<tr>
<td>PET 105</td>
<td>Basic Athletic Training</td>
<td>3.00</td>
</tr>
<tr>
<td>PET 140</td>
<td>Athletic Training Practicum I</td>
<td>1.00</td>
</tr>
<tr>
<td>PET 146</td>
<td>Athletic Training Administration</td>
<td>3.00</td>
</tr>
<tr>
<td>PET 150</td>
<td>Athletic Training Practicum II</td>
<td>1.00</td>
</tr>
<tr>
<td>PET 171</td>
<td>Athletic Training Practicum III</td>
<td>1.00</td>
</tr>
<tr>
<td>PET 181</td>
<td>Athletic Training Practicum IV</td>
<td>1.00</td>
</tr>
<tr>
<td>PET 185</td>
<td>Athletic Training Practicum V</td>
<td>1.00</td>
</tr>
<tr>
<td>PET 230</td>
<td>Care and Prevention of Athletic Injuries</td>
<td>3.00</td>
</tr>
<tr>
<td>PET 250</td>
<td>Introduction to Modalities</td>
<td>3.00</td>
</tr>
<tr>
<td>PEV 107</td>
<td>Techniques of Sports I</td>
<td>1.00</td>
</tr>
<tr>
<td>PEV 108</td>
<td>Techniques of Sports II</td>
<td>1.00</td>
</tr>
<tr>
<td>PEV 207</td>
<td>Techniques of Sports III</td>
<td>1.00</td>
</tr>
<tr>
<td>PEV 208</td>
<td>Techniques of Sports IV</td>
<td>1.00</td>
</tr>
</tbody>
</table>
Focus Area

Students should consult with an advisor and the four-year institution to which they plan to transfer to determine specific requirements for the major they intend to pursue. The recommended courses are based on a comparison of various programs and should not be considered as a substitute for consulting with an academic advisor.

Accounting, A.A.

Objectives:
The accounting emphasis is for students contemplating a career in accounting or associated fields. This area of concentration provides an excellent foundation for students interested in transfer to a four-year college to earn a baccalaureate degree with a major in accounting or a related business major. Coursework prepares individuals to practice the profession of accounting and to perform related business functions. Students receive a broad education with special attention to the functions, theory and practice of accounting as related to contemporary society. The curriculum combines a well-balanced distribution of business and liberal arts courses. Students have the opportunity to develop skills, abilities and understanding that are required for successful job entry and for advanced study in the accounting field.

Students who take the courses recommended in the accounting focus area will be able to:
1. display knowledge of accounting principles and theories.
2. examine the theory, policy and trends of economic problems of society and the individual
3. display knowledge of business concepts required for today's ever changing business environment.
4. examine principles and techniques used in organizing, planning, managing and leading within various organizations.
5. display knowledge in economics, accounting, marketing, management and communications.

Career Possibilities:
Job opportunities are available in public, private, financial or government accounting and other related areas of accounting and finance.

Preparation for IHCC :
Students interested in this area should have sound writing, critical reading skills, and a strong mathematics background.

Recommended Courses:
Since the bachelor's degree requirements of various transfer institutions differ, students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the program at the institution to which they plan to transfer. Students should consult with an advisor at the transfer institution and with an IHCC academic counselor to plan a program that meets those requirements.

Required Courses:
- CSC 105 - Computer Essentials - Credits: 1.00
- CSC 110 - Introduction to Computers - Credits: 3.00
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Math - Credits: 3.00
- Lab Science - Credits: 3.00
- Math or Science elective - Credits: 2.00-3.00
- Literature - Credits: 3.00
- Humanities/Fine Arts/Foreign Language electives - Credits: 5.00
- U.S. History or Western Civilization - Credits: 3.00
- Social Science electives - Credits: 6.00

**Recommended Courses:**
- ACC 121 - Principles of Accounting I - Credits: 3.00
- ACC 122 - Principles of Accounting II - Credits: 3.00
- ACC 221 - Cost Accounting - Credits: 3.00
- ACC 931 - Accounting Internship - Credits: 1.00
- BUS 102 - Introduction to Business - Credits: 3.00
- BUS 130 - Introduction to Entrepreneurship - Credits: 3.00
- BUS 188 - Legal Environment of Business - Credits: 3.00
- BUS 204 - Professionalism in the Workplace - Credits: 3.00
- ECN 120 - Principles of Macroeconomics - Credits: 3.00
- ECN 130 - Principles of Microeconomics - Credits: 3.00
- FIN 121 - Personal Finance - Credits: 3.00
- MAT 156 - Statistics - Credits: 3.00
- MAT 161 - Business Statistics - Credits: 3.00
- MGT 101 - Principles of Management - Credits: 3.00
- MKT 110 - Principles of Marketing - Credits: 3.00

**Agriculture / Entrepreneurship, A.A. Transfer Option - Offered at Centerville Campus Only**

**Objectives:**
This focus area provides a broad foundation for students interested in continuing their degree work in order to pursue career opportunities in agriculture studies, agriculture education, agriculture business, agronomy, animal science and food sciences. Entry-level jobs are available with the Associate of Applied Science (A.A.S) degree, but many careers will require at least a baccalaureate degree.

**Career Possibilities:**
Students in the Sustainable Agriculture transfer program will have the opportunity to enter many different areas of agriculture. Career possibilities will depend on the student's area of interest.

**Preparation for IHCC:**
Prospective students should have a strong background in science and mathematics as well as good writing and reading skills. Students should have three years of high school math and course work in biology and chemistry.

**Required Courses:**
- CSC 105 - Computer Essentials - Credits: 1.00
  OR
- CSC 110 - Introduction to Computers - Credits: 3.00
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
• SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
• Math Elective - Credits: 3.00
• Humanities/Fine Art Elective - Credits: 5.00
• U.S. History or Western Civilization - Credits: 3.00
• Social Science Electives - Credits: 6.00
• Literature Elective - Credits: 3.00
• Math/Science Elective - Credits: 3.00
• Lab Science Elective - Credits: 2.00 - 3.00

• ENV 142 - Natural Resources - Credits: 3.00
• AGA 154 - Fundamentals of Soil Science - Credits: 3.00
• AGA 450 - Issues in Sustainable Agriculture - Credits: 3.00
• AGN 127 - Agrarian Systems and Ecology - Credits: 3.00
• AGP 450 - Fundamentals of GIS - Credits: 3.00
• AGA 114 - Principles of Agronomy - Credits: 3.00
• AGN 130 - Soil and Water Conservation - Credits: 3.00
• AGN 115 - Integrated Agroforestry - Credits: 3.00
• AGS 113 - Survey of the Animal Industry - Credits: 3.00
• AGS 216 - Equine Science - Credits: 3.00
• AGS 226 - Beef Cattle Science - Credits: 3.00
• AGB 212 - Agriculture Law and Taxation - Credits: 3.00
• BUS 102 - Introduction to Business - Credits: 3.00
• AGB 235 - Introduction to Agriculture Markets - Credits: 3.00
• Special Topics - Credits: 2.00

Recommended Courses:
• BIO 101 - Introductory Biology - Credits: 2.00 AND
• BIO 103 - Introductory Biology Lab - Credits: 1.00 OR
• BIO 120 - General Biology 1D - Credits: 4.00 OR
• BIO 121 - General Biology IID - Credits: 3.00 OR
• BIO 122 - General Biology IIIID - Credits: 3.00

• CHM 121 - Introduction to General Chemistry - Credits: 3.00 OR
• CHM 157 - Principles of Chemistry I - Credits: 3.00

• MAT 156 - Statistics - Credits: 3.00

Art and Design, A.A.
Objectives:

This area of concentration provides an excellent foundation for students interested in transferring to a four-year college to earn a baccalaureate degree with a major in studio art, commercial art or art education. The program equally applies to those students who want to take selected art courses to fulfill general education requirements. The curriculum focuses on studies in art and design, combining creative experiences with technical training in the skills and aesthetic principles of various art forms. Throughout the program, students will be provided information on transfer options and on the preparation and presentation of a portfolio of work for a four-year program.

Students who take the courses recommended in the art and design focus area will be able to:
1. recognize and discuss the basic elements and principles of design as they apply to the visual arts;
2. recognize and discuss the major art movements of the past and their influence on the concepts of contemporary art and design;
3. use the elements and principles of design as they apply to design, drawing, painting and three-dimensional art work;
4. demonstrate an ability to use a variety of art media, tools and techniques as a means of personal expression and communication.
Career Possibilities:
Career options for graduates with a bachelor's degree include advertising and commercial art, art education, studio art and museum or gallery employment.

Preparation for IHCC:
Students interested in this program should have a strong interest in the visual arts and a desire to produce art work using a variety of traditional as well as nontraditional media.

Recommended Courses:
Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the art program at the institution to which they plan to transfer and work with an IHCC academic advisor to plan a program that meets those requirements.

Required Courses:
Since the Art and Design Focus Area involves a variety of introductory level courses, previous art experience is not a requirement. However, some advanced courses may require specific course prerequisites. Successful completion of future course work is contingent upon a student enrolling in introductory art courses followed by more advanced art courses in a proper sequence.

- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Literature - Credits: 3.00
- Lab Science - Credits: 3.00
- Math - Credits: 3.00
- Math or Science elective - Credits: 3.00
- U.S. History or Western Civilization - Credits: 3.00
- Social Science electives - Credits: 6.00
- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00

First-year Introductory Art Courses:
- ART 133 - Drawing - Credits: 3.00 (Fall, Winter and Spring terms)
- ART 134 - Drawing II - Credits: 3.00 (Fall, Winter and Spring terms)
- ART 119 - 2-D Design - Credits: 2.00 (Fall term)
- ART 118 - Design, Form and Function - Credits: 2.00 (Winter term)
- ART 122 - 3-D Design - Credits: 2.00 (Spring term)

First-year courses for Art emphasis (can also be taken as electives for Graphic Design emphasis):
- ART 170 - Ceramics - Credits: 2.00
- ART 171 - Ceramics II - Credits: 2.00
- ART 172 - Ceramics III - Credits: 2.00
- ART 145 - Water Color - Credits: 3.00
- ART 140 - Painting - Credits: 2.00
- ART 141 - Painting II - Credits: 2.00
- ART 142 - Painting III - Credits: 2.00

Second-year courses for Art emphasis:
- ART 200 - Art History I - Credits: 2.00 (Fall term)
- ART 201 - Art History II - Credits: 2.00 (Winter term)
- ART 202 - Art History III - Credits: 2.00 (Spring term)
First-year courses for Graphic Design emphasis:

- ART 156 - Digital Design I: ILLUSTRATOR - Credits: 2.00
- ART 149 - Digital Design 2: PHOTOSHOP - Credits: 2.00
- ART 150 - Digital Design 3: INDESIGN - Credits: 2.00
- ART 118 - Design, Form and Function - Credits: 2.00
- ART 119 - 2-D Design - Credits: 2.00

Second-year courses for Graphic Design emphasis:

- ART 113 - Graphic Design - Credits: 3.00 (Winter term)
- ART 114 - Graphic Design II - Credits: 3.00 (Spring term)
- ART 133 - Drawing - Credits: 3.00
- ART 134 - Drawing II - Credits: 3.00

Athletic Coaching, A.A.

Objectives:
This focus area provides the necessary background for students interested in transferring to a four-year institution to earn a baccalaureate degree.

Career Possibilities:
This area of concentration provides an excellent foundation for students preparing to enter professional areas related to the health, exercise or sport science fields.

Preparation for IHCC:
Prospective students should have a strong background in reading, writing and listening skills.

Recommended Courses:
Since the bachelor's degree requirements of various transfer institutions differ, students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the program at the institution to which they plan to transfer. Students should consult with an advisor at the transfer institution and with an IHCC academic counselor to plan a program that meets those requirements.

Required Courses:

- BIO 175 - Human Anatomy - Credits: 3.00 *
- BIO 176 - Human Anatomy Lab - Credits: 1.00 *
- BIO 161 - Basic Anatomy and Physiology - Credits: 3.00 *
- BIO 199 - Basic Anatomy and Physiology Lab I - Credits: 1.00 *
- CSC 105 - Computer Essentials - Credits: 1.00
- CSC 110 - Introduction to Computers - Credits: 3.00
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- PEC 112 - Theory of Coaching - Credits: 3.00 *
- PEC 113 - Coaching Ethics - Credits: 3.00 *
- PEC 128 - Care and Prevention of Athletic Injuries - Credits: 2.00 *
- PSY 121 - Developmental Psychology - Credits: 3.00 *
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Math - Credits: 3.00
- Lab Science - Credits: 3.00
- Math or Science elective - Credits: 2.00-3.00
- Literature - Credits: 3.00
- Humanities/Fine Arts/Foreign Language electives - Credits: 5.00
- U.S. History or Western Civilization - Credits: 3.00
- Social Science electives - Credits: 6.00

Notes:
Courses marked with an (*) are required by the Iowa Department of Education for issuance of a coaching authorization certificate.

Recommended Courses:
- BIO 178 - Human Physiology - Credits: 3.00
- BIO 179 - Human Physiology Lab - Credits: 1.00
- BUS 130 - Introduction to Entrepreneurship - Credits: 3.00
- BUS 188 - Legal Environment of Business - Credits: 3.00
- ECN 120 - Principles of Macroeconomics - Credits: 3.00
- ECN 130 - Principles of Microeconomics - Credits: 3.00
- MGT 220 - Intro to Sport Management - Credits: 3.00
- MKT 198 - Sports Marketing - Credits: 3.00
- PEA 122 - Cardiovascular Training I - Credits: 2.00
- PEA 188 - Weight Training I - Credits: 2.00
- PEA 222 - Cardiovascular Training II - Credits: 2.00
- PEA 288 - Weight Training II - Credits: 2.00
- PEH 102 - Health - Credits: 3.00
- PEH 115 - Wellness Education - Credits: 3.00
- PEH 142 - First Aid - Credits: 3.00
- PEH 162 - Introduction to Physical Education - Credits: 3.00
- PEH 176 - Sport Psychology - Credits: 3.00

Athletic Training, A.A.
Offered Only at Main Campus

Objectives:
The athletic training education focus area is designed to teach students the knowledge, skills and attitudes to prepare for a career in athletic training. This program is a combination of classroom lecture, discussion, demonstration and practice with observation, learning, application and experience.

Career Possibilities:
An athletic trainer functions as an integral member of the athletic health care team in secondary schools, colleges and universities, medical clinics, performing arts, large corporations, NASCAR and professional sports teams.

Preparation for IHCC:
Prospective students should have a background in science classes and take a course in anatomy and/or sport medicine if available.

Recommended Courses:
Since the bachelor's degree requirements of various transfer institutions differ, students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the program at the institution to which they plan to transfer. Students should consult with an advisor at the transfer institution and with an IHCC academic counselor to plan a program that meets those requirements.

Required Courses:
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Humanities/Fine Arts/Foreign Language electives - Credits: 5.00
- U.S. History or Western Civilization - Credits: 3.00
- MAT 110 - Math for Liberal Arts - Credits: 3.00 OR
- MAT 156 - Statistics - Credits: 3.00
- Lab Science - Credits: 3.00
- Math or Science elective - Credits: 2.00-3.00
- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00
- Literature - Credits: 3.00
- Social Science electives - Credits: 6.00

**Recommended Courses:**
- PEC 128 - Care and Prevention of Athletic Injuries - Credits: 2.00
- PEH 142 - First Aid - Credits: 3.00
- PEH 115 - Wellness Education - Credits: 3.00
- PEH 102 - Health - Credits: 3.00
- BIO 175 - Human Anatomy - Credits: 3.00
- BIO 176 - Human Anatomy Lab - Credits: 1.00
- BIO 178 - Human Physiology - Credits: 3.00
- BIO 179 - Human Physiology Lab - Credits: 1.00
- PSY 111 - Introduction to Psychology - Credits: 3.00
- PSY 112 - Psychology of Human Relations - Credits: 3.00
- PET 105 - Basic Athletic Training - Credits: 3.00
- PET 146 - Athletic Training Administration - Credits: 3.00
- PET 140 - Athletic Training Practicum I - Credits: 1.00
- PET 150 - Athletic Training Practicum II - Credits: 1.00
- PET 171 - Athletic Training Practicum III - Credits: 1.00
- PET 181 - Athletic Training Practicum IV - Credits: 1.00
- PET 185 - Athletic Training Practicum V - Credits: 1.00

**Biology, A.A.**

**Objectives:**

This area of concentration provides a foundation for students interested in the life sciences. It is suitable for students interested in the Associate of Arts (A.A.) or Associate of Science (A.S.) degree and employment in a biology field in a position such as laboratory technician. It also applies to students interested in transferring to a four-year institution in order to pursue a baccalaureate degree or advanced degrees in the life sciences. The curriculum establishes the necessary foundation in mathematics, physics, chemistry, and biology.

Students who take the courses recommended in the biology focus area will be able to:
1. use and understand the facts, concepts, theories, and vocabulary of biology.
2. use the techniques and tools of biology in the laboratory and in the field.
3. use the scientific process and describe the development of scientific ideas.
4. employ analytic and problem-solving skills.
5. draw inferences from observations and synthesize and integrate information and ideas.
6. use higher-order thinking skills in applying learned principles to new problems and real-world situations.
7. recognize that humans are one component of the natural world.
8. be successful in upper-level biology courses.

**Career Possibilities:**

The biology focus area graduate has three major options:
1. Employment can be found after receiving the A.A. or A.S. degree as biological laboratory technician, hospital laboratory technician (non-certified), laboratory matter sampler, or animal care technician.

2. Transfer to a four-year institution and complete a baccalaureate degree in a biological science and find employment in a wide variety of fields, including forestry, biochemistry, pollution control, horticulture, environmental science, wildlife management, or agriculture.

3. Transfer to a four-year institution in a pre-professional program and develop a career in bioengineering, chiropractic, clinical laboratory technology, dentistry, education, medicine, occupational or physical therapy, optometry, pharmacy, plant pathology, or veterinary medicine.

**Preparation for IHCC:**

Prospective students should have a strong background in mathematics, science, writing, and reading skills. At least one year of high school biology, one year of high school chemistry, one year of high school algebra, and four years of high school English are highly recommended. Additional courses in science and mathematics, including physics, geometry, and advanced courses in biology and chemistry are also recommended.

**Recommended Courses:**

Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the biology program at the college to which they plan to transfer and work with a counselor and the biology faculty at IHCC to plan a program that meets those requirements. Students should also consider working toward the Associate of Science degree at IHCC which requires 30 semester credits in mathematics and science. Biology is a one year sequence and it is important to take all three majors-level IHCC biology courses (BIO120, BIO121, and BIO122). If a student takes only one or two of the three courses, they may not transfer easily to a four-year college.

**Required Courses:**

- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Literature - Credits: 3.00
- Humanities/Fine Arts/Foreign Language electives - Credits: 5.00
- U.S. History or Western Civilization - Credits: 3.00
- Social Science electives - Credits: 6.00
- Math and Science - Credits: 8.00

- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00

**Recommended courses to meet the mathematics and science requirements:**

- BIO 120 - General Biology 1D - Credits: 4.00
- BIO 121 - General Biology IID - Credits: 3.00
- BIO 122 - General Biology IIID - Credits: 3.00
- CHM 157 - Principles of Chemistry I - Credits: 3.00
- CHM 158 - Principles of Chemistry II - Credits: 3.00
- CHM 159 - Principles of Chemistry III - Credits: 4.00
- PHY 200 - Classical Physics I - Credits: 3.00
- PHY 201 - Classical Physics II - Credits: 3.00
- PHY 202 - Classical Physics III - Credits: 3.00
- MAT 120 - College Algebra - Credits: 3.00
- MAT 156 - Statistics - Credits: 3.00
- MAT 125 - Precalculus - Credits: 3.00
- MAT 210 - Calculus I - Credits: 4.00
- MAT 216 - Calculus II - Credits: 4.00
Biology, A.S.

Objectives:

This area of concentration provides a foundation for students interested in the life sciences. It is suitable for students interested in the Associate of Arts (A.A.) or Associate of Science (A.S.) degree and employment in a biology field in a position such as laboratory technician. It also applies to students interested in transferring to a four-year institution in order to pursue a baccalaureate degree or advanced degrees in the life sciences. The curriculum establishes the necessary foundation in mathematics, physics, chemistry, and biology.

Students who take the courses recommended in the biology focus area will be able to:

1. use and understand the facts, concepts, theories, and vocabulary of biology.
2. use the techniques and tools of biology in the laboratory and in the field.
3. use the scientific process and describe the development of scientific ideas.
4. employ analytic and problem-solving skills.
5. draw inferences from observations and synthesize and integrate information and ideas.
6. use higher-order thinking skills in applying learned principles to new problems and real-world situations.
7. recognize that humans are one component of the natural world.
8. be successful in upper-level biology courses.

Career Possibilities:

The biology focus area graduate has three major options:

1. Employment can be found after receiving the A.A. or A.S. degree as biological laboratory technician, hospital laboratory technician (non-certified), laboratory matter sampler, or animal care technician.
2. Transfer to a four-year institution and complete a baccalaureate degree in a biological science and find employment in a wide variety of fields, including forestry, biochemistry, pollution control, horticulture, environmental science, wildlife management, or agriculture.
3. Transfer to a four-year institution in a pre-professional program and develop a career in bioengineering, chiropractic, clinical laboratory technology, dentistry, education, medicine, occupational or physical therapy, optometry, pharmacy, plant pathology, or veterinary medicine.

Preparation for IHCC:

Prospective students should have a strong background in mathematics, science, writing, and reading skills. At least one year of high school biology, one year of high school chemistry, one year of high school algebra, and four years of high school English are highly recommended. Additional courses in science and mathematics, including physics, geometry, and advanced courses in biology and chemistry are also recommended.

Recommended Courses:

Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the biology program at the college to which they plan to transfer and work with a counselor and the biology faculty at IHCC to plan a program that meets those requirements. Students should also consider working toward the Associate of Science degree at IHCC which requires 30 semester credits in mathematics and science. Note that college biology is a one-year course and it is important to take all three majors-level biology courses (BIO120, BIO121, and BIO122). If a student takes only one or two of the three courses, they may not transfer easily to a four-year college.

Required Courses:

- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Literature - Credits: 3.00
- Humanities/Fine Arts/Foreign Language electives - Credits: 6.00
- U.S. History or Western Civilization - Credits: 3.00
• Social Science electives - Credits: 6.00
• Math and Science - Credits: 30.00
• CSC 110 - Introduction to Computers - Credits: 3.00
• CSC 105 - Computer Essentials - Credits: 1.00

Recommended courses to meet the mathematics and science requirements:
• BIO 120 - General Biology 1D - Credits: 4.00
• BIO 121 - General Biology IID - Credits: 3.00
• BIO 122 - General Biology IID - Credits: 3.00
• CHM 157 - Principles of Chemistry I - Credits: 3.00
• CHM 158 - Principles of Chemistry II - Credits: 3.00
• CHM 159 - Principles of Chemistry III - Credits: 4.00
• PHY 200 - Classical Physics I - Credits: 3.00
• PHY 201 - Classical Physics II - Credits: 3.00
• PHY 202 - Classical Physics III - Credits: 3.00
• MAT 120 - College Algebra - Credits: 3.00
• MAT 156 - Statistics - Credits: 3.00
• MAT 125 - Precalculus - Credits: 3.00
• MAT 210 - Calculus I - Credits: 4.00
• MAT 216 - Calculus II - Credits: 4.00
• MAT 219 - Calculus III - Credits: 4.00

Business, A.A.
Objectives:
The objectives of the business program are to provide students with the skills and knowledge necessary to seek and hold employment in a business-related field, to provide students with a well-rounded education which can be transferred to a four-year college or university, and to provide students with the skills necessary to function in a diverse and computer-literate society.

The program offers a well-balanced distribution of business and liberal arts courses. The program is divided into two major areas of emphasis. One area focuses on the study of business topics, while the other area emphasizes the coursework that meets the general education requirements. The program provides the student with the opportunity to develop skills, abilities, and understanding that are required for successful job entry or for advanced study in the business field.

Students who take the courses recommended in the business focus area will be able to:
1. display knowledge of business concepts required for today's ever-changing business environment.
2. obtain an appreciation for the evolution of the profession and an awareness of the social, technological, political, legal and economic forces shaping its future.
3. demonstrate the ability to recognize and appreciate ethical and social values.
4. examine the theory, policy and trends of economic problems of society and the individual.

Career Possibilities:
The business program offers the student a number of career and educational opportunities. The curriculum is designed for career-oriented students who desire career positions in business, college transfer students who wish to complete a four-year degree, and working adults who want to complete their associate degree and gain further career skills for today's work environment.

Graduates with a bachelor's degree work in management, human resources, finance, production, marketing, sales, accounting or as administrative assistants in all areas of commerce and industry.

Preparation for IHCC:
A strong mathematics and English background is recommended for the business program.

Recommended Courses:
Since the bachelor's degree requirements of various transfer institutions differ, students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the business program at the institution to which they plan to transfer. Students should consult with an advisor at the transfer institution and with an IHCC academic counselor to plan a program that meets those requirements.

**Required Courses:**
- CSC 105 - Computer Essentials - Credits: 1.00 OR
- CSC 110 - Introduction to Computers - Credits: 3.00
- ECN 120 - Principles of Macroeconomics - Credits: 3.00
- ECN 130 - Principles of Microeconomics - Credits: 3.00
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- MAT 120 - College Algebra - Credits: 3.00 OR
- MAT 125 - Precalculus - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Literature - Credits: 3.00
- Humanities/Fine Arts/Foreign Language electives - Credits: 5.00
- U.S. History or Western Civilization course - Credits: 3.00
- Lab Science - Credits: 3.00
  Math or Science Elective - Credits: 2.00-3.00

**Recommended Courses:**
- ACC 121 - Principles of Accounting I - Credits: 3.00
- ACC 122 - Principles of Accounting II - Credits: 3.00
- ACC 221 - Cost Accounting - Credits: 3.00
- BUS 102 - Introduction to Business - Credits: 3.00
- BUS 130 - Introduction to Entrepreneurship - Credits: 3.00
- BUS 188 - Legal Environment of Business - Credits: 3.00
- BUS 204 - Professionalism in the Workplace - Credits: 3.00
- BUS 932 - Internship - Credits: 1.00
- FIN 121 - Personal Finance - Credits: 3.00
- MAT 156 - Statistics - Credits: 3.00
- MAT 161 - Business Statistics - Credits: 3.00
- MAT 210 - Calculus I - Credits: 4.00
- MGT 101 - Principles of Management - Credits: 3.00
- MGT 170 - Human Resource Management - Credits: 3.00
- MGT 220 - Intro to Sport Management - Credits: 3.00
- MKT 110 - Principles of Marketing - Credits: 3.00
- MKT 198 - Sports Marketing - Credits: 3.00

**Chemistry, A.A.**

**Objectives:**
This area of concentration provides a foundation for students interested in chemistry. It is suitable for students interested in the Associate of Arts (A.A.) or Associate of Science (A.S.) degree and employment in a chemistry field such as a laboratory technician. It also applies to students interested in transferring to a four-year institution in order to pursue a baccalaureate degree or advanced degrees in chemistry. The curriculum establishes the necessary foundation in mathematics, physics and chemistry.

Students who take the courses recommended in the chemistry focus area will be able to:
1. use and understand the facts, concepts, theories, and vocabulary of chemistry.
2. use the techniques and tools of chemistry.
3. use the scientific process and describe the development of scientific ideas.
4. employ analytic and problem-solving skills.
5. draw inferences from observations and synthesize and integrate information and ideas.
6. use higher-order thinking skills in applying learned principles to new problems and real-world situations.
7. be successful in upper-level chemistry courses.

**Career Possibilities:**

Chemistry is a science central to many other disciplines. The chemistry focus area graduate has two major options:

1. transfer to a four-year institution and complete a baccalaureate degree in chemistry or a biological science and find employment in agriculture, biotechnology, medicine, and the petrochemical and pharmaceutical industries.
2. transfer to a four-year institution in a pre-professional or professional program and develop a career in bioengineering, chiropractic, clinical laboratory technology, dentistry, education, medicine, occupational or physical therapy, optometry, pharmacy, plant pathology, or veterinary medicine.

**Preparation for IHCC:**

Prospective students should have a strong background in mathematics, science, writing, and reading skills. At least one year of high school chemistry, one year of high school geometry, two years of high school algebra, and four years of high school English are highly recommended.

**Recommended Courses:**

Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the chemistry program at the college to which they plan to transfer and work with a counselor and the chemistry faculty at IHCC to plan a program that meets those requirements. The IHCC program should include one year of college chemistry and one year of organic chemistry. Students should also consider working toward the Associate of Science degree at IHCC which requires 30 semester credits in mathematics and science.

**Required Courses:**

- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Literature - Credits: 3.00
- Humanities/Fine Arts/Foreign Language electives - Credits: 5.00
- U.S. History/Western Civilization - Credits: 3.00
- Social Science electives - Credits: 6.00
- Math and Science - Credits: 8.00
- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00

**Recommended courses to meet the mathematics and science requirement:**

- BIO 120 - General Biology 1D - Credits: 4.00
- CHM 157 - Principles of Chemistry I - Credits: 3.00
- CHM 158 - Principles of Chemistry II - Credits: 3.00
- CHM 159 - Principles of Chemistry III - Credits: 4.00
  Or
- CHM 166 - General Chemistry I - Credits: 5.00
- CHM 176 - General Chemistry II - Credits: 5.00
- CHM 251 - Organic Chemistry I - Credits: 3.00
- CHM 252 - Organic Chemistry II - Credits: 3.00
- CHM 253 - Organic Chemistry III - Credits: 3.00
PHY 200 - Classical Physics I - Credits: 3.00
PHY 201 - Classical Physics II - Credits: 3.00
PHY 202 - Classical Physics III - Credits: 3.00
MAT 120 - College Algebra - Credits: 3.00
MAT 156 - Statistics - Credits: 3.00
MAT 125 - Pre-calculus - Credits: 3.00
MAT 210 - Calculus I - Credits: 4.00
MAT 216 - Calculus II - Credits: 4.00
MAT 219 - Calculus III - Credits: 4.00
BIO 122 - General Biology III D - Credits: 3.00
BIO 121 - General Biology II D - Credits: 3.00

Chemistry, A.S.

Objectives:
This area of concentration provides a foundation for students interested in chemistry. It is suitable for students interested in the Associate of Arts (A.A.) or Associate of Science (A.S.) degree and employment in a chemistry field such as a laboratory technician. It also applies to students interested in transferring to a four-year institution in order to pursue a baccalaureate degree or advanced degrees in chemistry. The curriculum establishes the necessary foundation in mathematics, physics and chemistry.

Students who take the courses recommended in the chemistry focus area will be able to:
1. use and understand the facts, concepts, theories, and vocabulary of chemistry.
2. use the techniques and tools of chemistry.
3. use the scientific process and describe the development of scientific ideas.
4. employ analytic and problem-solving skills.
5. draw inferences from observations and synthesize and integrate information and ideas.
6. use higher-order thinking skills in applying learned principles to new problems and real-world situations.
7. be successful in upper-level chemistry courses.

Career Possibilities:
Chemistry is a science central to many other disciplines. The chemistry focus area graduate has two major options:
1. transfer to a four-year institution and complete a baccalaureate degree in chemistry or a biological science and find employment in agriculture, biotechnology, medicine, and the petrochemical and pharmaceutical industries.
2. transfer to a four-year institution in a pre-professional or professional program and develop a career in bioengineering, chiropractic, clinical laboratory technology, dentistry, education, medicine, occupational or physical therapy, optometry, pharmacy, plant pathology, or veterinary medicine.

Preparation for IHCC:
Prospective students should have a strong background in mathematics, science, writing, and reading skills. At least one year of high school chemistry, one year of high school geometry, two years of high school algebra, and four years of high school English are highly recommended.

Recommended Courses:
Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the chemistry program at the college to which they plan to transfer and work with a counselor and the chemistry faculty at IHCC to plan a program that meets those requirements. The IHCC program should include one year of college chemistry and one year of organic chemistry. Students should also consider working toward the Associate of Science degree at IHCC which requires 30 semester credits in mathematics and science.

Required Courses:
- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00
- ENG 105 - Composition I - Credits: 3.00
ENG 106 - Composition II - Credits: 3.00
SDV 101 - How to be Successful in College - Credits: 3.00
SPC 112 - Public Speaking - Credits: 3.00 OR
SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
Literature - Credits: 3.00
Humanities/Fine Arts/Foreign Language electives - Credits: 5.00
U.S. History/Western Civilization - Credits: 3.00
Social Science electives - Credits: 6.00
Math and Science - Credits: 30.00

Recommended courses to meet the mathematics and science requirement:
- BIO 120 - General Biology I - Credits: 4.00
- CHM 157 - Principles of Chemistry I - Credits: 3.00
- CHM 158 - Principles of Chemistry II - Credits: 3.00
- CHM 159 - Principles of Chemistry III - Credits: 4.00
  Or
- CHM 166 - General Chemistry I - Credits: 5.00
- CHM 176 - General Chemistry II - Credits: 5.00
- CHM 251 - Organic Chemistry I - Credits: 3.00
- CHM 252 - Organic Chemistry II - Credits: 3.00
- CHM 253 - Organic Chemistry III - Credits: 3.00
- PHY 200 - Classical Physics I - Credits: 3.00
- PHY 201 - Classical Physics II - Credits: 3.00
- PHY 202 - Classical Physics III - Credits: 3.00
- MAT 120 - College Algebra - Credits: 3.00
- MAT 156 - Statistics - Credits: 3.00
- MAT 125 - Precalculus - Credits: 3.00
- MAT 210 - Calculus I - Credits: 4.00
- MAT 216 - Calculus II - Credits: 4.00
- MAT 219 - Calculus III - Credits: 4.00
- BIO 122 - General Biology IID - Credits: 3.00
- BIO 121 - General Biology IID - Credits: 3.00

Counseling, A.A.
School counselors follow the recommended courses for either elementary or secondary teaching. Mental health counselors follow the recommended courses for either psychology or social work.

Education, A.A.
Objectives:
By selecting courses in education and education-related areas, students will
1. prepare for a major in early childhood, elementary or secondary education;
2. examine the issues, skills, rewards and problems of the teaching profession;
3. examine issues related to the American educational system; and
4. analyze issues related to student learning and development.

Career Possibilities:
Students pursuing a degree in education usually work as teachers at the elementary or secondary level. Further career options include guidance counselor, educational consultant, educational administration, coaching and other careers connected to both public and private school systems.

Preparation for IHCC:
Students planning a career in education should take four years of high school English because a great deal of reading and writing is expected in both the academic training of teachers and in their professional careers. A strong grounding in other core academic subjects such as math, science, and social studies is also quite necessary to successful academic preparation for an educational career. Familiarity with computers is also a necessity for those interested in teaching. Additionally, students interested in pursuing an education major should consider electives in developmental and educational psychology. It is also advisable for students considering a career in education to volunteer in the public schools and find opportunities to work with children in an educational setting in order to make an informed career decision.

**Recommended Courses:**

Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the education program at the institution to which they plan to transfer and work with an IHCC academic counselor to plan a program that meets those requirements.

**Elementary Education**

**Required Courses:**

- CSC 110 - Introduction to Computers - Credits: 3.00
  OR
- CSC 105 - Computer Essentials - Credits: 1.00
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00 OR
- SPC 112 - Public Speaking - Credits: 3.00
- Literature Elective: Credits - 3.00
- Social Science Elective: Credits - 6.00
- U.S. History or Western Civilization Elective: Credit - 3.00
- Math Elective: Credits - 3.00
- Lab Science Elective: Credits - 3.00
- Math/Science Elective: Credits - 2.00
- Humanities/Fine Art Elective: Credits - 5.00

**Recommended Courses:**

- BIO 101 - Introductory Biology - Credits: 2.00
- BIO 103 - Introductory Biology Lab - Credits: 1.00
- EDU 213 - Introduction to Education - Credits: 3.00
- EDU 235 - Children's Literature - Credits: 3.00
- GEO 121 - World Regional Geography - Credits: 3.00
- LIT 101 - Introduction to Literature - Credits: 3.00
- PHI 114 - Critical Reasoning - Credits: 3.00
- MUS 100 - Music Appreciation - Credits: 3.00 OR
- ART 101 - Art Appreciation - Credits: 3.00
- FLS 131 - Elementary Spanish I - Credits: 3.00 AND
- FLS 132 - Elementary Spanish II - Credits: 3.00 AND
- FLS 133 - Elementary Spanish III - Credits: 3.00 OR
- FLF 145 - French I - Credits: 5.00 AND
- FLF 245 - French II - Credits: 5.00 OR
- French III: Credits - 9.00
- MAT 110 - Math for Liberal Arts - Credits: 3.00 OR
- MAT 156 - Statistics - Credits: 3.00
• MAT 117 - Math for Elementary Teachers - Credits: 3.00
• MAT 118 - Math for Elementary Teacher II - Credits: 3.00
• PHS 184 - Introduction to Earth Science - Credits: 2.00
• PHS 186 - Introduction to Earth Science Lab - Credits: 1.00
• POL 111 - American National Government - Credits: 3.00
• PSY 111 - Introduction to Psychology - Credits: 3.00
• PSY 121 - Developmental Psychology - Credits: 3.00
• PSY 281 - Educational Psychology - Credits: 3.00
• SOC 110 - Introduction to Sociology - Credits: 3.00

Secondary Education
Required Courses:
• ENG 105 - Composition I - Credits: 3.00
• ENG 106 - Composition II - Credits: 3.00
• SDV 101 - How to be Successful in College - Credits: 3.00
• SPC 101 - Fundamentals of Oral Communication - Credits: 3.00 OR
• SPC 112 - Public Speaking - Credits: 3.00
• Literature - Credits: 3.00

Recommended Courses:
• BIO 101 - Introductory Biology - Credits: 2.00
• BIO 103 - Introductory Biology Lab - Credits: 1.00
• CLS 175 - Native American Studies - Credits: 3.00 OR
• Non-U.S. Cultural Studies - Credits 3.00
• EDU 213 - Introduction to Education - Credits: 3.00
• FLS 131 - Elementary Spanish I - Credits: 3.00 AND
• FLS 132 - Elementary Spanish II - Credits: 3.00 AND
• FLS 133 - Elementary Spanish III - Credits: 3.00 OR
• FLF 145 - French I - Credits: 5.00 AND
• FLF 245 - French II - Credits: 5.00 AND
• French III: Credits 9.00
• GEO 121 - World Regional Geography - Credits: 3.00
• HIS 257 - African American History - Credits: 3.00
• MAT 156 - Statistics - Credits: 3.00
• PHI 114 - Critical Reasoning - Credits: 3.00
• PHS 184 - Introduction to Earth Science - Credits: 2.00
• PHS 186 - Introduction to Earth Science Lab - Credits: 1.00
• POL 111 - American National Government - Credits: 3.00
• PSY 111 - Introduction to Psychology - Credits: 3.00
• PSY 121 - Developmental Psychology - Credits: 3.00
• PSY 281 - Educational Psychology - Credits: 3.00
• SOC 110 - Introduction to Sociology - Credits: 3.00

Physical Education
Required Courses:
• CSC 110 - Introduction to Computers - Credits: 3.00 OR
• CSC 105 - Computer Essentials - Credits: 1.00
• ENG 105 - Composition I - Credits: 3.00
• ENG 106 - Composition II - Credits: 3.00
• SDV 101 - How to be Successful in College - Credits: 3.00
• SPC 101 - Fundamentals of Oral Communication - Credits: 3.00 OR
• SPC 112 - Public Speaking - Credits: 3.00
• Literature - Credits: 3.00
• U.S. History or Western Civilization Elective

Recommended Courses:
• BIO 175 - Human Anatomy - Credits: 3.00
• BIO 176 - Human Anatomy Lab - Credits: 1.00
• BIO 178 - Human Physiology - Credits: 3.00
• BIO 179 - Human Physiology Lab - Credits: 1.00
• FLS 131 - Elementary Spanish I - Credits: 3.00 AND
• FLS 132 - Elementary Spanish II - Credits: 3.00 AND
• FLS 133 - Elementary Spanish III - Credits: 3.00 OR
• FLF 145 - French I - Credits: 5.00 AND
• FLF 245 - French II - Credits: 5.00
• PEC 112 - Theory of Coaching - Credits: 3.00
• PEC 113 - Coaching Ethics - Credits: 3.00
• PEC 128 - Care and Prevention of Athletic Injuries - Credits: 2.00
• PEH 102 - Health - Credits: 3.00
• PEH 115 - Wellness Education - Credits: 3.00
• PEH 142 - First Aid - Credits: 3.00
• PEH 176 - Sport Psychology - Credits: 3.00
• PEH 210 - Elementary Physical Education - Credits: 3.00
• PEH 215 - Introduction to Secondary Physical Education - Credits: 3.00

Engineering, A.S.
Objectives:
The Engineering transfer program is intended primarily for students who choose to study at Indian Hills to establish the groundwork necessary for a bachelor’s degree in engineering before transferring to a four-year program. The program curriculum is designed to provide these students with a strong foundation in communications, mathematics, natural sciences, and the fundamentals of engineering.

Indian Hills has an articulation agreement with The University of Iowa College of Engineering. Provided that the student maintains a 3.0 grade point average or higher for all core program courses during Indian Hills’ one and one-half year curriculum, Iowa will accept transfer credit for these courses leading toward a B.S. in Engineering. As a result, students will enter The University of Iowa as a second-semester sophomore. For more information on the articulation agreement, visit www.engineering.uiowa/ess/indian-hills-community-college-transfer-agreement.

Students planning to transfer to other four-year institutions are strongly advised to familiarize themselves with the requirements of the engineering program at the institution to which they plan to transfer and work with an academic advisor and the IHCC engineering program coordinator to devise a study plan comprising of courses that would count towards those requirements.

Students who complete the curriculum for the engineering focus area will:
1. understand the facts, concepts, theories, and vocabulary of chemistry and physics.
2. develop analytic and problem-solving skills.
3. know how to apply learned principles to new problems and real-world situations.
4. be prepared to succeed in upper-level engineering courses.

Internships:
Students in the Engineering program are strongly encouraged to pursue an internship. An internship provides the opportunity to observe first-hand the daily activities of a professional engineer and to put knowledge acquired in the classroom to work in a real-world work environment. This valuable experience is also an advantage when applying for employment upon graduation. Students in the program are introduced to engineering companies in the region through field trips, where they tour engineering facilities and meet the engineering staffs of these companies.
Students can contact an academic advisor or the Engineering program coordinator to discuss how an internship can fit into their program of study.

**Career Possibilities:**
Job opportunities are found in both government and in the industrial sector and include aerospace, chemical, computer, electrical, electronic, marine, mechanical, mining, and nuclear engineering. Engineering careers are available in research, design, development, production, consulting, and technical sales.

**Preparation for IHCC:**
Prospective students should have a strong background in math, science, writing, and reading skills. At least two years of high school algebra, one year of high school geometry, one-half year of trigonometry, four years of high school English, and one year of high school laboratory science are highly recommended.

**Program Total: 72 Credits**

**Fall (First Year)**
- EGR 410 - PLTW Principles of Engineering - Credits: 3.00 OR
- EGR 160 - Engineering I - Credits: 3.00
- MAT 210 - Calculus I - Credits: 4.00
- PHY 200 - Classical Physics I - Credits: 3.00
- CHM 157 - Principles of Chemistry I - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00

**Total: 16 Credits**

**Winter**
- EGR 165 - Engineering II - Credits: 3.00
- MAT 216 - Calculus II - Credits: 4.00
- PHY 201 - Classical Physics II - Credits: 3.00
- CHM 158 - Principles of Chemistry II - Credits: 3.00
- ENG 105 - Composition I - Credits: 3.00

**Total: 16 Credits**

**Spring**
- MAT 219 - Calculus III - Credits: 4.00
- PHY 202 - Classical Physics III - Credits: 3.00 OR
- CHM 159 - Principles of Chemistry III - Credits: 4.00
- ENG 106 - Composition II - Credits: 3.00
- Humanities and Fine Arts Elective - Credits: 3

**Total: 14 Credits**

**Summer**
- EGR 162 - Engineering Math - Matrix Algebra - Credits: 2.00
- EGR 180 - Statics - Credits: 3.00
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Social Sciences Elective - Credits: 3
- Social Sciences Elective - Credits: 3

**Total: 14 Credits**

**Fall (Second Year)**
- EGR 284 - Introduction to Electrical Circuits - Credits: 3.00
- EGR 290 - Thermodynamics - Credits: 3.00
- MAT 226 - Differential Equations with Laplace - Credits: 3.00
- Humanities and Fine Arts Elective - Credits: 3

**Total: 12 Credits**

**English / Literature, A.A.**
Objectives:

This area of concentration provides an excellent foundation for students interested in transferring to a four-year college to earn a baccalaureate degree with a major in communication, literature, English or English education. This program equally applies to those students who want to take selected English/literature courses to fulfill general education requirements. The curriculum focuses on oral and written communication, literature, drama, religion, philosophy, creative writing and media.

Students who take the courses recommended in the English/literature focus area will be able to:

1. communicate effectively in academic and nonacademic situations;
2. read, write and think critically and analytically;
3. understand the social, historical and personal contexts that inform literary works; and
4. research effectively using a variety of sources.

Career Possibilities:

The English/literature focus area graduate has two major options:

1. After transferring to a four-year program and completion of a bachelor’s degree, employment can be found in secondary education, research, public relations, government, dramaturgy, journalism, speech writing, editing (evaluate manuscripts for publication, review books and literary, musical or artistic works), technical writing (prepare service manuals or handbooks; prepare sales literature; write publicity releases, catalogs, and brochures; company newsletters; and trade journals), writing (scripts for motion pictures and television, stage production, radio and television broadcasts; fiction or non-fiction works; newspaper or magazine articles).
2. Complete an advanced degree and develop a career in higher education along with those listed above.

Preparation for IHCC:

Students considering a degree in English/Literature should take four years of high school English, as many literature classes as possible, and a speech class. They should also take any courses that require critical reading and provide opportunities for academic writing, no matter what field.

Since IHCC’s program involves a variety of introductory level courses in literature, drama, philosophy, religion, speech, creative writing and media, previous experience is not a requirement. Some advanced writing courses, however, require specific course prerequisites. Applicants are required to complete a basic skills evaluation during the admissions process or during the first week of classes for placement purposes.

Recommended Courses:

Students are strongly advised to familiarize themselves with the English/Literature program at the college to which they plan to transfer and work with a counselor at IHCC to plan a program that meets those requirements.

Required Courses:

- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Lab Science - Credits: 3.00
- Math - Credits: 3.00
- Math or Science elective - Credits: 2.00-3.00
- U.S. History or Western Civilization - Credits: 3.00
- Social Science elective - Credits: 6.00

Recommended Courses:

- ENG 225 - Creative Writing: Poetry - Credits: 3.00
- ENG 230 - Creative Writing: Fiction - Credits: 3.00
Entrepreneurship, A.A.

Objectives:
This area of concentration provides a foundation for students to gain skills that are necessary to successfully open and operate their own business. Students are introduced to the areas of management, marketing, accounting and finance. Students who take the courses recommended in the entrepreneurship focus area will be able to:
1. understand the steps in starting a new business.
2. demonstrate the skills most often required in running a small business.
3. understand the process of risk management in a small business.
4. develop a comprehensive business plan.

Career Possibilities:
Entrepreneurship four-year graduates will be prepared to begin careers in a variety of areas. Graduates will be prepared to start and manage small businesses or to grow an existing business.

Preparation for IHCC:
A strong mathematics and English background is recommended for the entrepreneurship area.

Recommended Courses:
Since bachelor’s degree requirements of various transfer institutions differ, students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the program at the institution to which they plan to transfer. Students should consult with an advisor at the transfer institution and with an IHCC academic counselor to plan a program that meets those requirements.

Required Courses:
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Literature - Credits: 3.00
- Humanities/Fine Arts/Foreign Language electives - Credits: 5.00
- U.S. History or Western Civilization - Credits: 3.00
- MAT 110 - Math for Liberal Arts - Credits: 3.00 OR
- MAT 156 - Statistics - Credits: 3.00
- Lab Science - Credits: 3.00
- Math or Science elective - Credits: 2.00
- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00

**Recommended Courses:**
- BUS 130 - Introduction to Entrepreneurship - Credits: 3.00
- BUS 102 - Introduction to Business - Credits: 3.00
- ACC 121 - Principles of Accounting I - Credits: 3.00
- ACC 122 - Principles of Accounting II - Credits: 3.00
- ACC 221 - Cost Accounting - Credits: 3.00
- MKT 110 - Principles of Marketing - Credits: 3.00
- MGT 101 - Principles of Management - Credits: 3.00
- ECN 110 - Introduction to Economics - Credits: 3.00
- MGT 170 - Human Resource Management - Credits: 3.00
- MAT 161 - Business Statistics - Credits: 3.00
- PSY 112 - Psychology of Human Relations - Credits: 3.00
- BUS 188 - Legal Environment of Business - Credits: 3.00
- BUS 932 - Internship - Credits: 1.00
- MGT 220 - Intro to Sport Management - Credits: 3.00
- MKT 198 - Sports Marketing - Credits: 3.00
- BUS 204 - Professionalism in the Workplace - Credits: 3.00

**Forestry Objectives:**

This area of concentration provides a foundation for students interested in forestry. It is suitable for students interested in transferring to a four-year institution in order to pursue a baccalaureate degree or advanced degrees in forestry. The curriculum establishes the necessary foundation in mathematics, chemistry, and biology. It is intended for the student who will study for one year at IHCC before transferring, since many undergraduate forestry programs at four-year institutions include field work and field classes beginning in the sophomore year.

Students who take the courses recommended in the forestry focus area will begin to develop the ability to:

1. use and understand the facts, concepts, theories, and vocabulary of biology and chemistry.
2. use the techniques and tools of biology in the laboratory and in the field.
3. use the scientific process and describe the development of scientific ideas.
4. employ analytic and problem-solving skills.
5. draw inferences from observations and synthesize and integrate information and ideas.
6. use higher-order thinking skills in applying learned principles to new problems and real-world situations.
7. recognize that humans are one component of the natural world.
8. be successful in upper-level science courses.

**Career Possibilities:**

Most students interested in forestry have a strong interest in nature, ecology, and the wise use of natural resources. The forestry focus area graduate has one major option: transfer to a four-year institution and complete a baccalaureate degree or advanced degrees in a forestry area and find employment in forest products and technology, forest ecosystem management, urban and community forestry, or natural resource conservation. Career possibilities include forestry technician, timber cruiser, urban or industrial forester, woodlands manager, boundary surveyor, wood and logging engineer, log-pulpwood buyer, and work in municipal, state, and federal parks.

**Preparation for IHCC:**

Prospective students should have a strong background in mathematics, science, writing, and reading skills. At least three years of high school mathematics (including advanced algebra) and high school science (including biology, chemistry, and/or physics) are highly recommended.

**Recommended Courses:**

Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the forestry program at the college to which they plan to transfer and work with a counselor and the
science faculty at IHCC to plan a program that meets those requirements. The specific forestry curriculum, including field studies, usually begins in the sophomore year.

**Recommended Courses:**
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Literature - Credits: 3.00
- Humanities/Fine Arts electives - Credits: 3.00
- BIO 120 - General Biology I - Credits: 4.00
- BIO 121 - General Biology II - Credits: 3.00
- BIO 122 - General Biology III - Credits: 3.00
- BIO 127 - Field Botany - Credits: 3.00
- CHM 157 - Principles of Chemistry I - Credits: 3.00
- CHM 158 - Principles of Chemistry II - Credits: 3.00
- CHM 159 - Principles of Chemistry III - Credits: 4.00 OR
- CHM 166 - General Chemistry I - Credits: 5.00
- CHM 176 - General Chemistry II - Credits: 5.00
- MAT 120 - College Algebra - Credits: 3.00
- MAT 156 - Statistics - Credits: 3.00
- MAT 125 - Precalculus - Credits: 3.00

**Graphic Design, A.A.**
**Offered Only at Main Campus**

**Objectives:**
Computer graphics technology has significantly impacted both fine and commercial art careers over the last decade. Artist/Designers are finding unparalleled opportunity to apply their skills with public and commercial enterprises. The graphic design focus area prepares students for entry into various design careers that utilize print and electronic media. Although students within the program have traditional preparation, the graphic design program helps students understand and apply those fundamental art and design skills to the larger context of the visual communications industry. Skill development within this program emphasizes various graphic processes, cognitive and creative skill development and aesthetic awareness. Students enrolled within the program are encouraged to pursue four-year baccalaureate degree art programs in graphic design, illustration or related programs of instruction.

Students who take the courses recommended in the graphic design focus area will be able to:
1. effectively apply general art and design concepts to the process of developing a graphic image.
2. demonstrate an ability to use a variety of vector, raster, and page layout programs in the development of graphic designs for publication.
3. demonstrate the ability to conceptualize, problem solve and creatively develop a graphic design.
4. utilize and demonstrate an awareness of historical and contemporary movements of graphic design during the last century.
5. apply an aesthetic sensibility and awareness of graphic trends in electronic and print media.

**Career Possibilities:**
Career options for the graphic design major with a baccalaureate degree are varied within the advertising and commercial art industries. Current trends indicate significant growth and employment for prepared individuals in many aspects of the printed and electronic media utilized by advertising and manufacturing companies. Graphic designers, illustrators, typographers and layout designers are common areas of employment for the graphic design major.

**Preparation for IHCC:**
Many courses within the graphic design curriculum are introductory level. Students are encouraged to speak with IHCC art instructors or academic counselors for specific enrollment information. Students who pursue a graphic
design focus must demonstrate a strong interest in the visual arts with additional interest in working with highly technical information utilized in the graphic design industry.

**Recommended Courses:**

Students planning to transfer to four-year baccalaureate degree programs of art and design are urged to familiarize themselves with the prospective department and institutional requirements for graduation. Students should visit with IHCC advisors and their respective art instructors for additional information regarding course selections.

**Required Courses:**

- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- CSC 110 - Introduction to Computers - Credits: 3.00
  Or
- CSC 105 - Computer Essentials - Credits: 1.00
  Literature Elective - Credits: 3.00
  Lab Science Elective - Credits: 3.00
  Math Elective - Credits: 3.00
  U.S. History or Western Civilization Elective - Credits: 3.00
  Social Sciences Elective
  Math or Science Elective - Credits: 2.00

**Recommended Courses:**

- ART 119 - 2-D Design - Credits: 2.00
- ART 156 - Digital Design I: ILLUSTRATOR - Credits: 2.00
- ART 118 - Design, Form and Function - Credits: 2.00
- ART 149 - Digital Design 2: PHOTOSHOP - Credits: 2.00
- ART 133 - Drawing - Credits: 3.00
- ART 150 - Digital Design 3: INDESIGN - Credits: 2.00
- ART 184 - Photography - Credits: 3.00
- ART 134 - Drawing II - Credits: 3.00
- ART 113 - Graphic Design - Credits: 3.00
- ART 140 - Painting - Credits: 2.00
- ART 114 - Graphic Design II - Credits: 3.00
- ART 122 - 3-D Design - Credits: 2.00

**Health, A.A.**

**Objectives:**

This area of concentration provides a foundation for students interested in a career in health sciences.

Students who take the courses recommended in the health focus area will be able to:

1. use their broad liberal arts education with a concentration in one of the biological or physical sciences to further their career in health sciences.
2. use higher-order thinking skills.
3. meet the admissions requirements of the selected health science program.

**Career Possibilities:**

The health focus area graduate has two options:

1. apply for admission to a health sciences program.
2. transfer to a four-year institution in a health science area.

**Preparation for IHCC:**

Prospective students should have a strong interest in the health sciences.
Recommended Courses:

Students planning to transfer to an IHCC program or to a four-year institution are strongly advised to familiarize themselves with the selected program at the college to which they plan to transfer and work with a counselor and the health occupations faculty at IHCC to plan a program that meets those requirements. Applicants to these programs will find that they have a strong emphasis on the life and physical sciences. Most programs require biology and chemistry, and some require physics. These courses are often (but not always) completed at the non-majors level.

Required Courses:

- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Literature - Credits: 3.00
- Humanities/Fine Arts electives - Credits: 5.00-6.00
- U.S. History or Western Civilization - Credits: 3.00
- Social Science electives - Credits: 6.00
- Math and Lab Science - Credits: 8.00
- BIO 101 - Introductory Biology - Credits: 2.00
- BIO 103 - Introductory Biology Lab - Credits: 1.00
- BIO 161 - Basic Anatomy and Physiology - Credits: 3.00
- BIO 199 - Basic Anatomy and Physiology Lab I - Credits: 1.00
- MAT 120 - College Algebra - Credits: 3.00

Health, A.S.

Objectives:

This area of concentration provides a foundation for students interested in a career in health sciences.

Students who take the courses recommended in the health focus area will be able to:
1. use their broad liberal arts education with a concentration in one of the biological or physical sciences to further their career in health sciences.
2. use higher-order thinking skills.
3. meet the admissions requirements of the selected health science program.

Career Possibilities:

The health focus area graduate has two options:
1. apply for admission to a health sciences program.
2. transfer to a four-year institution in a health science area.

Preparation for IHCC:

Prospective students should have a strong interest in the health sciences.

Recommended Courses:

Students planning to transfer to an IHCC program or to a four-year institution are strongly advised to familiarize themselves with the selected program at the college to which they plan to transfer and work with a counselor and the health occupations faculty at IHCC to plan a program that meets those requirements. Applicants to these programs will find that they have a strong emphasis on the life and physical sciences. Most programs require biology and chemistry, and some require physics. These courses are often (but not always) completed at the non-majors level.
Required Courses:
- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Literature - Credits: 3.00
- Humanities/Fine Arts electives - Credits: 5.00-6.00
- U.S. History or Western Civilization - Credits: 3.00
- Social Science electives - Credits: 6.00
- Math and Lab Science - Credits: 30.00

History, A.A.
Objectives:
This focus area provides the necessary background for students interested in transferring to a four-year institution to earn a baccalaureate degree with a major in history or history education. The curriculum provides the student with the opportunity to satisfy the general education requirements for history majors in most four-year institutions.

Students who take the courses recommended in the history focus area will acquire:
1. substantial familiarity with the vast amount of historical information;
2. intense exposure to the historical interrelationship of political, social and economic processes; and
3. comparative analysis of nations and civilizations.

Career Possibilities:
The history focus area graduate has two major options:
1. transfer to a four-year program and complete a bachelor's degree in history. Job and career opportunities extend over a large spectrum embracing governmental, corporate, and private elements. Generally, more than 50 specific careers are listed for history graduates. Some of these include: archivist, curator, historian, politician and researcher.
2. transfer to a four-year program and complete a bachelor's degree in history education. Most of the job and career opportunities listed above also apply to a degree in history education. A history education degree would be required in order to become a teacher of history.

Preparation for IHCC:
Students considering a degree in history or history education should have good reading and writing skills. Students also should take all available history, English, and government courses in high school. Students are strongly urged to routinely read as many newspapers and periodicals as possible.

Recommended Courses:
Students are strongly advised to familiarize themselves with the history/history education program at the college to which they plan to transfer and work with a counselor at IHCC to plan a program that meets those requirements.

Required Courses:
- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
Recommended Courses:

- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Literature - Credits: 3.00
- Lab Science - Credits: 3.00
- Math or Science elective - Credits: 2.00-3.00

Recommended Courses:

- ECN 120 - Principles of Macroeconomics - Credits: 3.00
- ECN 130 - Principles of Microeconomics - Credits: 3.00
- GEO 121 - World Regional Geography - Credits: 3.00
- HIS 121 - Ancient Mediterranean World - Credits: 3.00
- HIS 125 - Modern Europe - Credits: 3.00
- HIS 141 - History of Asia - Credits: 3.00 OR
- HIS 214 - Russian History and Culture - Credits: 3.00
- HIS 257 - African American History - Credits: 3.00
- MAT 156 - Statistics - Credits: 3.00
- PHI 114 - Critical Reasoning - Credits: 3.00
- POL 111 - American National Government - Credits: 3.00
- POL 121 - International Relations - Credits: 3.00
- U.S. History Elective - Credits: 6.00
- Spanish or French - Credits: 9.00
- Western Civilization Elective

Mass Media / Journalism, A.A.

Objectives:

Students focusing in this area could be preparing themselves for a number of related majors at the four-year college/university level. Students could earn a baccalaureate degree in mass communications, journalism, broadcast journalism or public relations. The curriculum of this area stresses basic written communication competency as well as adherence to print and broadcast writing styles. In addition, the curriculum focuses on current media industry practices and media history.

Students who take the courses recommended in the mass media/journalism focus area will:
1. know the general history of media as well as the function of contemporary media.
2. be able to write news material competently.
3. know print and broadcast writing and editing styles.
4. know general communication law.

Career Possibilities:

Mass media/journalism is a vast and varied field. Employment opportunities exist in newspapers, magazines, radio, television and the Internet, as well as public relations and technical writing within private business. Both writing and editing jobs exist within the professions mentioned above. A career in mass media/journalism would likely require someone to travel, to meet the general public regularly and to cover many subject matters for story material.

Preparation for IHCC:

Students interested in this area should have sound writing skills. Four years of study in journalism, mass communication and/or English is highly recommended. Students should have knowledge of varied topics, including science, sociology, psychology, ecology, history, literature/philosophy/art and business/economics.

Recommended Courses:
Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the mass media/journalism program at the institution to which they plan to transfer and work with an IHCC academic counselor to plan a program that meets those requirements.

**Required Courses:**
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- MAT 110 - Math for Liberal Arts - Credits: 3.00 OR
- MAT 156 - Statistics - Credits: 3.00
- Lab Science - Credits: 3.00
- Math or Science elective - Credits: 3.00
- Literature - Credits: 3.00
- ECN 120 - Principles of Macroeconomics - Credits: 3.00
- ECN 130 - Principles of Microeconomics - Credits: 3.00
- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00

**Recommended Courses:**
- DRA 110 - Introduction to Film - Credits: 3.00 AND/OR
- ENG 225 - Creative Writing: Poetry - Credits: 3.00
- ENG 230 - Creative Writing: Fiction - Credits: 3.00
- FLS 131 - Elementary Spanish I - Credits: 3.00 AND
- FLS 132 - Elementary Spanish II - Credits: 3.00 AND
- FLS 133 - Elementary Spanish III - Credits: 3.00
- FLF 131 - Elementary French I - Credits: 3.00
- FLF 132 - Elementary French II - Credits: 3.00
- FLF 133 - Elementary French III - Credits: 3.00

**Mathematics, A.A. Objectives:**
This area of concentration provides a foundation for students interested in mathematics (as well as many other careers). It is suitable for students interested in transferring to a four-year institution in order to pursue a baccalaureate degree or advanced degrees in mathematics, science, or business.

Students who take the courses recommended in the mathematics focus area will be able to:
1. use algebra, calculus, and statistics to assist in problem solving.
2. use the computer and graphics calculator as tools to aid in problem solving.
3. use higher-order thinking skills in applying learned principles to new problems and real-world situations.
4. be successful in upper-level mathematics courses.

**Career Possibilities:**
A mathematics major is one of the most versatile majors in Arts and Sciences. An understanding of mathematics is necessary for the study of many disciplines in science and business. The mathematics focus area graduate has three major options:
1. transfer to a four-year institution and complete a baccalaureate degree in mathematics and find employment as a computer scientist, financial analyst, statistician, systems analyst, actuary, economist, laboratory supervisor, insurance salesman, secondary school teacher, bookkeeper, accountant, biostatistician, auditor, surveyor, air traffic controller, or tax consultant.
2. transfer to a four-year institution and complete a baccalaureate degree in science such as biology, chemistry, or physics.
3. transfer to a four-year institution in a pre-professional or professional program and develop a career in architecture, bioengineering, business, chiropractic, clinical laboratory technology, dentistry, education, law, medicine, occupational or physical therapy, optometry, pharmacy, plant pathology, or veterinary medicine.

Preparation for IHCC:
Prospective students should have a strong background in mathematics, science, writing, and reading skills. At least two years of high school algebra, one year of high school geometry, one-half year of high school trigonometry, four years of high school English and one year of high school laboratory science are highly recommended.

Recommended Courses:
Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the mathematics program at the college to which they plan to transfer and work with a counselor and the mathematics faculty at IHCC to plan a program that meets those requirements. Students should also consider working toward the Associate of Science degree at IHCC, which requires 30 semester credits in mathematics and science.

Required Courses:
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Literature - Credits: 3.00
- Humanities/Fine Arts/Foreign Language electives - Credits: 5.00
- U.S. History/Western Civilization - Credits: 3.00
- Social Science electives - Credits: 6.00
- Math and Lab Science - Credits: 8.00
- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00

Recommended course for mathematics focus area
- MAT 120 - College Algebra - Credits: 3.00
- MAT 125 - Precalculus - Credits: 3.00
- MAT 156 - Statistics - Credits: 3.00
- MAT 210 - Calculus I - Credits: 4.00
- MAT 216 - Calculus II - Credits: 4.00
- MAT 219 - Calculus III - Credits: 4.00

Mathematics, A.S.
Objectives:
This area of concentration provides a foundation for students interested in mathematics (as well as many other careers). It is suitable for students interested in transferring to a four-year institution in order to pursue a baccalaureate degree or advanced degrees in mathematics, science, or business.

Students who take the courses recommended in the mathematics focus area will be able to:
1. use algebra, calculus, and statistics to assist in problem solving.
2. use the computer and graphics calculator as tools to aid in problem solving.
3. use higher-order thinking skills in applying learned principles to new problems and real-world situations.
4. be successful in upper-level mathematics courses.

Career Possibilities:
A mathematics major is one of the most versatile majors in Arts and Sciences. An understanding of mathematics is necessary for the study of many disciplines in science and business. The mathematics focus area graduate has three major options:

1. Transfer to a four-year institution and complete a baccalaureate degree in mathematics and find employment as a computer scientist, financial analyst, statistician, systems analyst, actuary, economist, laboratory supervisor, insurance salesman, secondary school teacher, bookkeeper, accountant, biostatistician, auditor, surveyor, air traffic controller, or tax consultant.
2. Transfer to a four-year institution and complete a baccalaureate degree in science such as biology, chemistry, or physics.
3. Transfer to a four-year institution in a pre-professional or professional program and develop a career in architecture, bioengineering, business, chiropractic, clinical laboratory technology, dentistry, education, law, medicine, occupational or physical therapy, optometry, pharmacy, plant pathology, or veterinary medicine.

Preparation for IHCC:
Prospective students should have a strong background in mathematics, science, writing, and reading skills. At least two years of high school algebra, one year of high school geometry, one-half year of high school trigonometry, four years of high school English, and one year of high school laboratory science are highly recommended.

Recommended Courses:
Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the mathematics program at the college to which they plan to transfer and work with a counselor and the mathematics faculty at IHCC to plan a program that meets those requirements. Students should also consider working toward the Associate of Science degree at IHCC, which requires 30 semester credits in mathematics and science.

Required Courses:
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to Be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Literature - Credits: 3.00
- Humanities/Fine Arts/Foreign Language electives - Credits: 6.00
- U.S. History/Western Civilization - Credits: 3.00
- Social Science electives - Credits: 6.00
- Math and Lab Science - Credits: 30.00
- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00

Recommended course for mathematics focus area
- MAT 120 - College Algebra - Credits: 3.00
- MAT 125 - Pre-calculus - Credits: 3.00
- MAT 156 - Statistics - Credits: 3.00
- MAT 210 - Calculus I - Credits: 4.00
- MAT 216 - Calculus II - Credits: 4.00
- MAT 219 - Calculus III - Credits: 4.00

Music, A.A.
Offered Only at Main Campus

Objectives:
Because the usual requirements in a four-year music degree begin immediately in the first year of college, the prospective music student is strongly urged to enroll in music theory at the outset: two full years of music theory is
nearly a universal foundation for any music degree. This would include the Music Theory I-VI sequence and Music Theory Labs I-VI. In addition, two years (six terms) of Applied Music (private lessons) in a concentration area are recommended. Concentration areas are: brass, percussion, piano, voice and woodwinds. Participation in one or more ensembles is open to all students, and it should be a priority for the music student. Class Piano and Class Piano II are strongly recommended for the voice or instrumental student with little or no keyboard background, since the keyboard plays such a vital role in the general music education process. In addition, the Music Appreciation class makes an excellent introduction to the study of musical styles and literature in a historical perspective.

The Arts and Sciences graduate with this background of study will be well prepared to enter a music education major or minor upon transfer to a four-year college or university. Upon completion of the bachelor’s degree, the student will have many options. Among them are employment in elementary or secondary music education, church music ministry and private music instruction. The student may also enter an advanced degree program.

**Preparation for IHCC:**

The student who is considering a degree in music should have as much experience in vocal or instrumental ensembles as possible. An ability to read music and some keyboard proficiency would be highly desirable before entering a college music program.

Applicants may be required to complete a basic skills evaluation during the admissions process for placement purposes.

**Required Courses:**

- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00 OR
- SPC 112 - Public Speaking - Credits: 3.00
- Literature - Credits: 3.00
- Lab Science Elective - Credits: 3.00
- Math Elective - Credits: 3.00
- Math or Science Elective - Credits: 2.00
- U.S. History or Western Civilization Elective - Credits: 3.00
- Social Science Electives - Credits: 6.00

**Recommended Courses:**

- MUS 115 - Music Theory I - Credits: 2.00
- MUS 116 - Music Theory II - Credits: 2.00
- MUS 117 - Music Theory III - Credits: 2.00
- MUS 215 - Music Theory IV - Credits: 2.00
- MUS 216 - Music Theory V - Credits: 2.00
- MUS 217 - Music Theory VI - Credits: 2.00
- MUS 135 - Music Theory Lab I - Credits: 1.00
- MUS 136 - Music Theory Lab II - Credits: 1.00
- MUS 235 - Music Theory Lab III - Credits: 1.00
- MUS 236 - Music Theory Lab IV - Credits: 1.00
- MUS 249 - Music Theory Lab V - Credits: 1.00
- MUS 339 - Music Theory Lab VI - Credits: 1.00
- MUS 170 - Jazz Band - Credits: 1.00
- MUS 171 - Jazz Band II - Credits: 1.00
- MUS 172 - Jazz Band III - Credits: 1.00
- MUS 270 - Jazz Band IV - Credits: 1.00
- MUS 271 - Jazz Band V - Credits: 1.00
- MUS 272 - Jazz Band VI - Credits: 1.00
- MUA 119 - Class Piano - Credits: 1.00
- MUA 219 - Class Piano II - Credits: 1.00
- Applied Music (lessons) I-VI - Credits: 6.00-12.00
- Applied Voice Lessons I-IX
- MUS 100 - Music Appreciation - Credits: 3.00
- MUS 205 - Jazz History and Appreciation - Credits: 3.00
- MUS 140 - Concert Choir - Credits: 1.00
- MUS 141 - Concert Choir II - Credits: 1.00
- MUS 142 - Concert Choir III - Credits: 1.00
- MUS 240 - Concert Choir IV - Credits: 1.00
- MUS 241 - Concert Choir V - Credits: 1.00
- MUS 242 - Concert Choir VI - Credits: 1.00
- MUS 309 - Concert Choir VII - Credits: 1.00
- MUS 318 - Concert Choir VIII - Credits: 1.00
- MUS 319 - Concert Choir IX - Credits: 1.00

**Natural Resources, A.S.**  
Offered Only at Centerville Campus

**Objectives:**

This focus area provides a broad foundation for students interested in continuing their degree work in order to pursue career opportunities in forestry, parks, recreation, agronomy, wildlife management, fisheries, environmental sciences, animal ecology, and food sciences. Some entry-level jobs can be found with an Associate of Science (A.S.) degree, but most careers in this area will require at least a baccalaureate degree.

Students who take the courses recommended in the natural resources focus area will be able to:

1. understand relationships between environmental resources and human wants and needs.
2. be able to apply scientific thought and processes.
3. employ analytic and problem-solving skills.
4. develop the tools to apply solutions in real world situations.
5. use the scientific process and describe the development of scientific ideas.
6. be successful in upper-level science courses.

**Career Possibilities:**

Students who study the natural resources area have an interest in the environment and promoting the appropriate use of natural resources. Most employment opportunities are based on the completion of a baccalaureate degree. Many graduates from these programs find employment in the private sector while others have joined metropolitan, state, and federal agencies.

**Preparation for IHCC:**

Prospective students should have a strong background in science and mathematics as well as good writing and reading skills. Students should have three years of high school math and course work in biology and chemistry.

**Recommended Courses:**

Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the natural resources program at the college to which they plan to transfer. Students should consult with an advisor at the transfer institution and with an IHCC academic counselor to plan a program that meets those requirements. The following list of classes will provide a solid foundation for most areas of study natural resources. Note that college biology is a one-year course and it is important to take all three majors-level IHCC biology courses (BIO120, BIO121, and BIO122). If a student takes only one or two of the three courses, they may not transfer easily to a four-year college.

**Required Courses**
Required Courses:
- CSC 100 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00
- ECN 120 - Principles of Macroeconomics - Credits: 3.00
- ECN 130 - Principles of Microeconomics - Credits: 3.00
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- Math Elective - Credits: 3.00
- Lab Science Elective - Credits: 3.00
- Math or Science Elective - Credits: 2.00
- Literature Elective - Credits: 3.00
- Non U.S. Cultural Studies - Credits: 3.00
- Fine Arts Elective - Credits: 2.00
- Western Civilization - Credits: 3.00

Recommended Courses:
- AGA 114 - Principles of Agronomy - Credits: 3.00
- AGA 116 - Agricultural Issues - Credits: 1.00
- AGA 154 - Fundamentals of Soil Science - Credits: 3.00
- AGN 120 - Wildlife and Agriculture - Credits: 3.00
- AGN 125 - Woodland Management - Credits: 3.00
- AGN 127 - Agrarian Systems and Ecology - Credits: 3.00
- AGN 130 - Soil and Water Conservation - Credits: 3.00
- BIO 120 - General Biology I - Credits: 4.00
- BIO 121 - General Biology I - Credits: 3.00
- BIO 122 - General Biology I - Credits: 3.00
- CHM 157 - Principles of Chemistry I - Credits: 3.00
- CHM 158 - Principles of Chemistry II - Credits: 3.00
- CHM 159 - Principles of Chemistry III - Credits: 4.00
- CHM 166 - General Chemistry I - Credits: 5.00
- CHM 176 - General Chemistry II - Credits: 5.00
- ENV 142 - Natural Resources - Credits: 3.00
- MAT 120 - College Algebra - Credits: 3.00
- MAT 156 - Statistics - Credits: 3.00
- MAT 210 - Calculus I - Credits: 4.00
- MAT 216 - Calculus II - Credits: 4.00
- MAT 219 - Calculus III - Credits: 4.00
- SOC 110 - Introduction to Sociology - Credits: 3.00
- SOC 115 - Social Problems - Credits: 3.00

Photography, A.A.

Objectives:
This area of concentration provides an excellent foundation for students interested in transferring to a four-year institution to earn a baccalaureate degree in fine arts/photography or for persons seeking employment in a studio or photography businesses.

Students who take the courses recommended in the photography focus area will be able to:
1. recognize and discuss changes in the development of cameras and imaging techniques.
2. demonstrate correct photographic composition in a variety of settings.
3. compare and contrast digital composition and traditional darkroom techniques.
4. demonstrate working knowledge of current technology advances.
5.
Career Possibilities:

Career options include but are not limited to employment as assistants in the field of portrait, commercial, computer imaging, or photojournalism. Students can elect to open their own business. Students may elect to continue their education toward a bachelor’s degree.

Preparation for IHCC:

Prospective students should have a strong background in general education. Students should also have a strong background in visual arts.

Recommended Courses:

Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the program at the college to which they plan to transfer and to work with an IHCC academic counselor to plan a program which meets these requirements.

Recommended Courses:

- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Literature - Credits: 3.00
- Lab Science - Credits: 3.00
- Math - Credits: 3.00
- Math or Science elective - Credits: 2.00
- U.S. History or Western Civilization - Credits: 3.00
- Social Science - Credits: 6.00
- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00
- ART 122 - 3-D Design - Credits: 2.00
- ART 119 - 2-D Design - Credits: 2.00
- ART 184 - Photography - Credits: 3.00
- ART 149 - Digital Design 2: PHOTOSHOP - Credits: 2.00
- ART 185 - Photography II - Credits: 3.00
- ART 150 - Digital Design 3: INDESIGN - Credits: 2.00
- ART 302 - Studio and Portrait Photography - Credits: 3.00
- ART 307 - Photography Practicum 1 - Credits: 1.00
- ART 289 - Photojournalism - Credits: 3.00
- ART 190 - History of Photography - Credits: 3.00
- ART 303 - Commercial Photography - Credits: 2.00
- ART 304 - Architecture and Landscape Photography - Credits: 2.00
- ART 309 - Photography Practicum III - Credits: 1.00
- ART 305 - Wedding and Event Photography - Credits: 2.00
- ART 306 - Photography Portfolio - Credits: 1.00
- ART 310 - Photography Practicum IV - Credits: 1.00

Physics, A.A.

Offered Only at Main Campus

Objectives:

This area of concentration provides a foundation for students interested in physics. It is suitable for students interested in transferring to a four-year institution in order to pursue a baccalaureate degree or advanced degrees in physics. The curriculum establishes the necessary foundation in mathematics, physics and chemistry.
Students who take the courses recommended in the physics focus area will be able to:

1. use and understand the facts, concepts, and theories of physics.
2. use the scientific process and describe the development of scientific ideas.
3. employ analytic and problem-solving skills.
4. draw inferences from observations and synthesize and integrate information and ideas.
5. use higher-order thinking skills in applying learned principles to new problems and real-world situations.
6. be successful in upper-level physics courses.

Career Possibilities:
The physics focus area graduate has two major options:

1. transfer to a four-year institution and complete a baccalaureate degree in physics or a biological science and find employment in a variety of fields.
2. transfer to a four-year institution in a pre-professional or professional program and develop a career in bioengineering, chiropractic, clinical laboratory technology, dentistry, education, medicine, occupational or physical therapy, optometry, pharmacy, plant pathology, or veterinary medicine.

Preparation for IHCC:
Prospective students should have a strong background in mathematics, science, writing, and reading skills. At least one year of high school chemistry, one year of high school geometry, two years of high school algebra, and four years of high school English are highly recommended.

Recommended Courses:
Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the physics program at the college to which they plan to transfer and work with a counselor and the science faculty at IHCC to plan a program that meets those requirements. Students should also consider working toward the Associate of Science degree at IHCC, which requires 30 semester credits in mathematics and science.

Required Courses:
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Literature course - Credits: 3.00
- Humanities/Fine Arts/Foreign Language electives - Credits: 6.00
- U.S. History/Western Civilization - Credits: 3.00
- Social Science electives - Credits: 6.00
- Math and Lab Science - Credits: 8.00
- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00

Recommended courses to meet the mathematics and science requirement:
- BIO 120 - General Biology 1D - Credits: 4.00
- BIO 121 - General Biology IID - Credits: 3.00
- BIO 122 - General Biology IIID - Credits: 3.00
- CHM 157 - Principles of Chemistry I - Credits: 3.00
- CHM 158 - Principles of Chemistry II - Credits: 3.00
- CHM 159 - Principles of Chemistry III - Credits: 4.00 OR
- CHM 166 - General Chemistry I - Credits: 5.00
- CHM 176 - General Chemistry II - Credits: 5.00
Physics, A.S.
Offered Only at Main Campus

Objectives:
This area of concentration provides a foundation for students interested in physics. It is suitable for students interested in transferring to a four-year institution in order to pursue a baccalaureate degree or advanced degrees in physics. The curriculum establishes the necessary foundation in mathematics, physics and chemistry.

Students who take the courses recommended in the physics focus area will be able to:
1. use and understand the facts, concepts, and theories of physics.
2. use the scientific process and describe the development of scientific ideas.
3. employ analytic and problem-solving skills.
4. draw inferences from observations and synthesize and integrate information and ideas.
5. use higher-order thinking skills in applying learned principles to new problems and real-world situations.
6. be successful in upper-level physics courses.

Career Possibilities:
The physics focus area graduate has two major options:
1. transfer to a four-year institution and complete a baccalaureate degree in physics or a biological science and find employment in a variety of fields.
2. transfer to a four-year institution in a pre-professional or professional program and develop a career in bioengineering, chiropractic, clinical laboratory technology, dentistry, education, medicine, occupational or physical therapy, optometry, pharmacy, plant pathology, or veterinary medicine.

Preparation for IHCC:
Prospective students should have a strong background in mathematics, science, writing, and reading skills. At least one year of high school chemistry, one year of high school geometry, two years of high school algebra, and four years of high school English are highly recommended.

Recommended Courses:
Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the physics program at the college to which they plan to transfer and work with a counselor and the science faculty at IHCC to plan a program that meets those requirements. Students should also consider working toward the Associate of Science degree at IHCC, which requires 30 semester credits in mathematics and science.

Required Courses:
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Literature course - Credits: 3.00
- Humanities/Fine Arts/Foreign Language electives - Credits: 6.00
- U.S. History/Western Civilization - Credits: 3.00
- Social Science elective - Credits: 6.00
- Math and Lab Science - Credits: 30.00
- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00

Recommended courses to meet the mathematics and science requirement:
- BIO 120 - General Biology 1D - Credits: 4.00
- BIO 121 - General Biology IID - Credits: 3.00
- BIO 122 - General Biology IID - Credits: 3.00
- CHM 157 - Principles of Chemistry I - Credits: 3.00
- CHM 158 - Principles of Chemistry II - Credits: 3.00
- CHM 159 - Principles of Chemistry III - Credits: 4.00
  OR
- CHM 166 - General Chemistry I - Credits: 5.00
- CHM 176 - General Chemistry II - Credits: 5.00
- CHM 251 - Organic Chemistry I - Credits: 3.00
- CHM 252 - Organic Chemistry II - Credits: 3.00
- CHM 253 - Organic Chemistry III - Credits: 3.00
- PHY 200 - Classical Physics I - Credits: 3.00
- PHY 201 - Classical Physics II - Credits: 3.00
- PHY 202 - Classical Physics III - Credits: 3.00
- MAT 120 - College Algebra - Credits: 3.00
- MAT 156 - Statistics - Credits: 3.00
- MAT 125 - Precalculus - Credits: 3.00
- MAT 210 - Calculus I - Credits: 4.00
- MAT 216 - Calculus II - Credits: 4.00
- MAT 219 - Calculus III - Credits: 4.00

Political Science, A.A.
Objectives:
This area of concentration provides an excellent foundation for students interested in transfer to a four-year institution to earn a baccalaureate degree in political science. The curriculum focuses on the history and political science courses required by most four-year institutions for political science majors.

Students who take the courses recommended in the political science focus area will be able to:
1. recognize the historical interrelationship of political, social, and economic processes;
2. understand historical influences upon contemporary international relations; and
3. recognize philosophical/ethical theories that have influenced political science.

Career Possibilities:
The political science focus area graduate has two major options:
1. transfer to a four-year program and complete a bachelor's degree in political science. Job and career opportunities extend over a broad spectrum embracing governmental, corporate, and private elements. Some of these include: foreign service officer, political scientist, politician and researcher.
2. transfer to a four-year program and complete a bachelor's degree in political science education. In addition to the above opportunities, a political science education degree would enable the graduate to teach political science courses not requiring an advanced degree.
Preparation for IHCC:

Students considering a degree in political science should have good reading and writing skills. They should also take as many history, English and political science courses as possible in high school. In addition, they are strongly advised to routinely read as many newspapers and periodicals as possible.

Recommended Courses:

Students are strongly advised to familiarize themselves with the political science program at the college to which they plan to transfer and work with a counselor at IHCC to plan a program that meets those requirements.

Required Courses:

- CSC 105 - Computer Essentials - Credits: 1.00 OR
- CSC 110 - Introduction to Computers - Credits: 3.00
- Social Science Electives - Credits: 6.00
- U.S. History/Western Civilization - Credits: 3.00
- Humanities Electives - Credits: 6.00
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- MAT 156 - Statistics - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00 OR
- SPC 112 - Public Speaking - Credits: 3.00
- Lab Science Elective - Credits: 3.00
- Literature - Credits: 3.00
- Math or Science Elective - Credits: 2.00-3.00

Recommended Courses

- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00
- ECN 120 - Principles of Macroeconomics - Credits: 3.00
- ECN 130 - Principles of Microeconomics - Credits: 3.00
- HIS 257 - African American History - Credits: 3.00
- HIS 141 - History of Asia - Credits: 3.00 OR
- HIS 214 - Russian History and Culture - Credits: 3.00
- PHI 114 - Critical Reasoning - Credits: 3.00
- Religion in Human Culture - Credits: 3.00
- Non-U.S. Cultural Studies - Credits: 3.00
- Spanish or French - Credits: 9.00
- U.S. History - Credits: 6.00
- POL 111 - American National Government - Credits: 3.00
- POL 121 - International Relations - Credits: 3.00
- PSY 111 - Introduction to Psychology - Credits: 3.00
- SOC 115 - Social Problems - Credits: 3.00
- SOC 110 - Introduction to Sociology - Credits: 3.00

Pre-Chiropractic, Pre-Dentistry, Pre-Medicine, Pre-Optometry, A.S.

Objectives:
This area of concentration provides a foundation for students interested in the professional fields of chiropractic, dentistry, law, medicine, mortuary science, optometry, osteopathy, pharmacy and veterinary medicine. It is suitable for students interested in transferring to a four-year institution in order to pursue a baccalaureate degree or advanced degrees in these professional fields. The curriculum establishes the necessary foundation in mathematics, physics, chemistry and biology.

Students who take the courses recommended in the pre-professional focus area will be able to:
1. use and understand the facts, concepts, theories and vocabulary of the physical and biological sciences.
2. use the scientific process and describe the development of scientific ideas.
3. develop analytic and problem-solving skills.
4. develop the ability to draw inferences from observations and synthesize and integrate information and ideas.
5. use higher-order thinking skills in applying learned principles to new problems and real-world situations.
6. be successful in upper-level courses.

Career Possibilities:
The pre-professional focus area graduate has one major option: transfer to a four-year institution in a pre-professional or professional program and develop a career in one of the professional fields.

Preparation for IHCC:
Prospective students should have a strong background in mathematics, science, writing, and reading skills. At least one year of high school biology, chemistry, and algebra are highly recommended. Additional courses in science and mathematics, including physics, geometry and advanced courses in biology and chemistry are also recommended.

Recommended Courses:
Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the professional program at the college to which they plan to transfer and work with a counselor and the faculty at IHCC to plan a program that meets those requirements. Students should also consider working toward the Associate of Science degree at IHCC, which requires 30 semester credits in mathematics and science.

Required Courses:
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00 OR
- SPC 112 - Public Speaking - Credits: 3.00
- CSC 105 - Computer Essentials - Credits: 1.00 OR
- CSC 110 - Introduction to Computers - Credits: 3.00
- Literature 3 credits
- Humanities/Fine Arts/Foreign Language Electives 5 credits
- U.S. History or Western Civilization 3 credits
- Social Science Electives 6 credits
- Math and Science Electives 30 credits

Recommended Courses:
Recommended courses to meet the math and science requirements.
- BIO 120 - General Biology 1D - Credits: 4.00
- BIO 121 - General Biology IID - Credits: 3.00
- BIO 122 - General Biology IIID - Credits: 3.00
- BIO 175 - Human Anatomy - Credits: 3.00
- BIO 176 - Human Anatomy Lab - Credits: 1.00
- BIO 178 - Human Physiology - Credits: 3.00
- BIO 179 - Human Physiology Lab - Credits: 1.00
- CHM 157 - Principles of Chemistry I - Credits: 3.00
- CHM 158 - Principles of Chemistry II - Credits: 3.00
- CHM 159 - Principles of Chemistry III - Credits: 4.00 OR
Pre-Law, A.A.

Follow the course requirements for one or more of the following focus areas: English, political science or business.

Objectives:

This area of concentration provides a foundation for students interested in the professional fields of chiropractic, dentistry, law, medicine, mortuary science, optometry, osteopathy, pharmacy, and veterinary medicine. It is suitable for students interested in transferring to a four-year institution in order to pursue a baccalaureate degree or advanced degrees in these professional fields. The curriculum establishes the necessary foundation in mathematics, physics, chemistry, and biology.

Students who take the courses recommended in the pre-professional focus area will be able to:

1. use and understand the facts, concepts, theories, and vocabulary of the physical and biological sciences.
2. use the scientific process and describe the development of scientific ideas.
3. develop analytic and problem-solving skills.
4. develop the ability to draw inferences from observations and synthesize and integrate information and ideas.
5. use higher-order thinking skills in applying learned principles to new problems and real-world situations.
6. be successful in upper-level courses.

Career Possibilities:

The pre-professional focus area graduate has one major option: transfer to a four-year institution in a pre-professional or professional program and develop a career in one of the professional fields.

Preparation for IHCC:

Prospective students should have a strong background in mathematics, science, writing, and reading skills. At least one year of high school biology, chemistry, and algebra are highly recommended. Additional courses in science and mathematics, including physics, geometry, and advanced courses in biology and chemistry are also recommended.

Recommended Courses:

Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the professional program at the college to which they plan to transfer and work with a counselor and the faculty at IHCC to plan a program that meets those requirements. Students should also consider working toward the Associate of Science degree at IHCC, which requires 30 semester credits in mathematics and science. Note that college biology is a one-year course and it is important to take all three majors-level IHCC biology courses (BIO120, BIO121, and BIO122). If a student takes only one or two of the three courses, they may not transfer easily to a four-year college.

Required Courses:

- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
Pre-Mortuary Science, A.S.

Objectives:

This area of concentration provides a foundation for students interested in the professional fields of chiropractic, dentistry, law, medicine, mortuary science, optometry, osteopathy, pharmacy and veterinary medicine. It is suitable for students interested in transferring to a four-year institution in order to pursue a baccalaureate degree or advanced degrees in these professional fields. The curriculum establishes the necessary foundation in mathematics, physics, chemistry and biology.

Students who take the courses recommended in the pre-professional focus area will be able to:
1. use and understand the facts, concepts, theories and vocabulary of the physical and biological sciences.
2. use the scientific process and describe the development of scientific ideas.
3. develop analytic and problem-solving skills.
4. develop the ability to draw inferences from observations and synthesize and integrate information and ideas.
5. use higher-order thinking skills in applying learned principles to new problems and real-world situations.
6. be successful in upper-level courses.

Career Possibilities:

The pre-professional focus area graduate has one major option: transfer to a four-year institution in a pre-professional or professional program and develop a career in one of the professional fields.

Preparation for IHCC:

Prospective students should have a strong background in mathematics, science, writing, and reading skills. At least one year of high school biology, chemistry, and algebra are highly recommended. Additional courses in science and mathematics, including physics, geometry and advanced courses in biology and chemistry are also recommended.

Recommended Courses:

Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the professional program at the college to which they plan to transfer and work with a counselor and the faculty at IHCC to plan a program that meets those requirements. Students should also consider working toward the Associate of Science degree at IHCC, which requires 30 semester credits in mathematics and science.

Required Courses:

- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00
Humanities/Fine Arts/Foreign Language Electives - Credits: 5.00
Language Electives - Credits: 6.00
U.S. History or Western Civilization Elective - Credits: 3.00
Social Science Electives - Credits: 6.00
Math and Lab Science Elective - Credits: 30.00

Recommended Courses:
Recommended courses to meet the math and science requirements.
- BIO 120 - General Biology 1D - Credits: 4.00
- BIO 121 - General Biology IID - Credits: 3.00
- BIO 122 - General Biology IIID - Credits: 3.00
- BIO 175 - Human Anatomy - Credits: 3.00
- BIO 176 - Human Anatomy Lab - Credits: 1.00
- BIO 178 - Human Physiology - Credits: 3.00
- BIO 179 - Human Physiology Lab - Credits: 1.00
- CHM 157 - Principles of Chemistry I - Credits: 3.00
- CHM 158 - Principles of Chemistry II - Credits: 3.00
- CHM 159 - Principles of Chemistry III - Credits: 4.00
  Or
- CHM 166 - General Chemistry I - Credits: 5.00
- CHM 176 - General Chemistry II - Credits: 5.00
- MAT 120 - College Algebra - Credits: 3.00 OR
- MAT 156 - Statistics - Credits: 3.00
- BIO 187 - Microbiology w/lab - Credits: 4.00
- CHM 251 - Organic Chemistry I - Credits: 3.00
- CHM 252 - Organic Chemistry II - Credits: 3.00
- CHM 253 - Organic Chemistry III - Credits: 3.00
- MAT 125 - Precalculus - Credits: 3.00

Pre-Osteopathy, A.S.

Objectives:
This area of concentration provides a foundation for students interested in the professional fields of chiropractic, dentistry, law, medicine, mortuary science, optometry, osteopathy, pharmacy and veterinary medicine. It is suitable for students interested in transferring to a four-year institution in order to pursue a baccalaureate degree or advanced degrees in these professional fields. The curriculum establishes the necessary foundation in mathematics, physics, chemistry and biology.

Students who take the courses recommended in the pre-professional focus area will be able to:
1. use and understand the facts, concepts, theories and vocabulary of the physical and biological sciences.
2. use the scientific process and describe the development of scientific ideas.
3. develop analytic and problem-solving skills.
4. develop the ability to draw inferences from observations and synthesize and integrate information and ideas.
5. use higher-order thinking skills in applying learned principles to new problems and real-world situations.
6. be successful in upper-level courses.

Career Possibilities:
The pre-professional focus area graduate has one major option: transfer to a four-year institution in a preprofessional or professional program and develop a career in one of the professional fields.

Preparation for IHCC:
Prospective students should have a strong background in mathematics, science, writing, and reading skills. At least one year of high school biology, chemistry, and algebra are highly recommended. Additional courses in science and mathematics, including physics, geometry and advanced courses in biology and chemistry are also recommended.

Recommended Courses:
Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the professional program at the college to which they plan to transfer and work with a counselor and the faculty at IHCC to plan a program that meets those requirements. Students should also consider working toward the Associate of Science degree at IHCC, which requires 30 semester credits in mathematics and science.

**Required Courses:**
- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00

Humanities/Fine Arts/Foreign Language Electives - Credits: 5.00
- Language Electives - Credits: 6.00
- U.S. History or Western Civilization Elective - Credits: 3.00
- Social Science Electives - Credits: 6.00
- Math and Lab Science Elective - Credits: 30.00

**Recommended Courses:**
- BIO 120 - General Biology 1D - Credits: 4.00
- BIO 121 - General Biology IID - Credits: 3.00
- BIO 122 - General Biology IIID - Credits: 3.00
- BIO 175 - Human Anatomy - Credits: 3.00
- BIO 176 - Human Anatomy Lab - Credits: 1.00
- BIO 178 - Human Physiology - Credits: 3.00
- BIO 179 - Human Physiology Lab - Credits: 1.00
- CHM 157 - Principles of Chemistry I - Credits: 3.00
- CHM 158 - Principles of Chemistry II - Credits: 3.00
- CHM 159 - Principles of Chemistry III - Credits: 4.00
- CHM 251 - Organic Chemistry I - Credits: 3.00
- CHM 252 - Organic Chemistry II - Credits: 3.00
- CHM 253 - Organic Chemistry III - Credits: 3.00

- MAT 120 - College Algebra - Credits: 3.00 OR
- MAT 125 - Precalculus - Credits: 3.00
- MAT 156 - Statistics - Credits: 3.00

- PSY 111 - Introduction to Psychology - Credits: 3.00
- PSY 241 - Abnormal Psychology - Credits: 3.00

**Pre-Pharmacy (One-Year)**
Students considering pharmacy as their major need to make early contact with the four-year institution to which they plan to transfer to arrange to take the PCAT exam, which is generally required for admission to the pharmacy program. You must request PCAT dates early enough to allow sufficient time to meet application deadlines at your intended institution. Note that college biology is a one-year course and it is important to take all three majors-level IHCC biology courses (BIO120, BIO121, and BIO122). If a student takes only one or two of the three courses, they may not transfer to a four-year college.

**Recommended Courses:**
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
Pre-Pharmacy (Two-Year), A.A.

Students considering pharmacy as their major need to make early contact with the four-year institution to which they plan to transfer to arrange to take the PCAT exam, which is generally required for admission to the pharmacy program. You must request PCAT dates early enough to allow sufficient time to meet application deadlines at your intended institution. Note that college biology is a one-year course and it is important to take all three majors-level IHCC biology courses (BIO 120, BIO 121, and BIO 122). If a student takes only one or two of the three courses, they may not transfer easily to a four-year college.

Objectives:

This area of concentration provides a foundation for students interested in the professional fields of chiropractic, dentistry, law, medicine, mortuary science, optometry, osteopathy, pharmacy, and veterinary medicine. It is suitable for students interested in transferring to a four-year institution in order to pursue a baccalaureate degree or advanced degrees in these professional fields. The curriculum establishes the necessary foundation in mathematics, physics, chemistry, and biology.

Students who take the courses recommended in the pre-professional focus area will be able to:
1. use and understand the facts, concepts, theories, and vocabulary of the physical and biological sciences.
2. use the scientific process and describe the development of scientific ideas.
3. develop analytic and problem-solving skills.
4. develop the ability to draw inferences from observations and synthesize and integrate information and ideas.
5. use higher-order thinking skills in applying learned principles to new problems and real-world situations.
6. be successful in upper-level courses.

Career Possibilities:

The pre-professional focus area graduate has one major option: transfer to a four-year institution in a pre-professional or professional program and develop a career in one of the professional fields.

Preparation for IHCC:

Prospective students should have a strong background in mathematics, science, writing, and reading skills. At least one year of high school biology, chemistry, and algebra are highly recommended. Additional courses in science and mathematics, including physics, geometry, and advanced courses in biology and chemistry are also recommended.
Recommended Courses:

Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the professional program at the college to which they plan to transfer and work with a counselor and the faculty at IHCC to plan a program that meets those requirements. Students should also consider working toward the Associate of Science degree at IHCC, which requires 30 semester credits in mathematics and science. Note that college biology is a one-year course and it is important to take all three majors-level IHCC biology courses (BIO120, BIO121, and BIO122). If a student takes only one or two of the three courses, they may not transfer easily to a four-year college.

Required Courses:
- Lab Science Elective - Credits: 3
- Math or Science Elective - Credits: 2
- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00
- ENG 106 - Composition II - Credits: 3.00
- ENG 105 - Composition I - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Literature - Credits: 3.00
- Humanities/Fine Arts/Foreign Language electives - Credits: 6.00
- U.S. History or Western Civilization - Credits: 3.00
- Social Science electives - Credits: 6.00
- Math Elective - Credits: 3.00
- Language Electives - Credits: 6.00

Recommended courses to meet the math, science, and social science requirements.
- BIO 120 - General Biology 1D - Credits: 4.00
- BIO 121 - General Biology IID - Credits: 3.00
- BIO 122 - General Biology IID - Credits: 3.00
- BIO 175 - Human Anatomy - Credits: 3.00
- BIO 176 - Human Anatomy Lab - Credits: 1.00
- BIO 178 - Human Physiology - Credits: 3.00
- BIO 179 - Human Physiology Lab - Credits: 1.00
- BIO 187 - Microbiology w/lab - Credits: 4.00
- CHM 157 - Principles of Chemistry I - Credits: 3.00
- CHM 158 - Principles of Chemistry II - Credits: 3.00
- CHM 159 - Principles of Chemistry III - Credits: 4.00
- CHM 166 - General Chemistry I - Credits: 5.00
- CHM 176 - General Chemistry II - Credits: 5.00
- CHM 251 - Organic Chemistry I - Credits: 3.00
- CHM 252 - Organic Chemistry II - Credits: 3.00
- CHM 253 - Organic Chemistry III - Credits: 3.00
- MAT 210 - Calculus I - Credits: 4.00
- MAT 216 - Calculus II - Credits: 4.00
- MAT 219 - Calculus III - Credits: 4.00
- MAT 120 - College Algebra - Credits: 3.00
- MAT 156 - Statistics - Credits: 3.00

Pre-Pharmacy (Two-Year), A.S.
Students considering pharmacy as their major need to make early contact with the four-year institution to which they plan to transfer to arrange to take the PCAT exam, which is generally required for admission to the pharmacy program. You must request PCAT dates early enough to allow sufficient time to meet application deadlines at your intended institution. Note that college biology is a one-year course and it is important to take all three majors-level IHCC biology courses (BIO120, BIO121, and BIO122). If a student takes only one or two of the three courses, they may not transfer easily to a four-year school.

Objectives:
This area of concentration provides a foundation for students interested in the professional fields of chiropractic, dentistry, law, medicine, mortuary science, optometry, osteopathy, pharmacy and veterinary medicine. It is suitable for students interested in transferring to a four-year institution in order to pursue a baccalaureate degree or advanced degrees in these professional fields. The curriculum establishes the necessary foundation in mathematics, physics, chemistry and biology.

Students who take the courses recommended in the pre-professional focus area will be able to:
1. use and understand the facts, concepts, theories and vocabulary of the physical and biological sciences.
2. use the scientific process and describe the development of scientific ideas.
3. develop analytic and problem-solving skills.
4. develop the ability to draw inferences from observations and synthesize and integrate information and ideas.
5. use higher-order thinking skills in applying learned principles to new problems and real-world situations.
6. be successful in upper-level courses.

Career Possibilities:
The pre-professional focus area graduate has one major option: transfer to a four-year institution in a pre-professional or professional program and develop a career in one of the professional fields.

Preparation for IHCC:
Prospective students should have a strong background in mathematics, science, writing, and reading skills. At least one year of high school biology, chemistry, and algebra are highly recommended. Additional courses in science and mathematics, including physics, geometry and advanced courses in biology and chemistry are also recommended.

Recommended Courses:
Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the professional program at the college to which they plan to transfer and work with a counselor and the faculty at IHCC to plan a program that meets those requirements. Students should also consider working toward the Associate of Science degree at IHCC, which requires 30 semester credits in mathematics and science.

Required Courses:
- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00

- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00

- SDV 101 - How to be Successful in College - Credits: 3.00

- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00

- Humanities/Fine Arts/Foreign Language electives - Credits: 5.00
- U.S. History or Western Civilization - Credits: 3.00
- Social Science electives - Credits: 6.00
- Math and Lab Science - Credits: 30.00
- Language Electives - Credits: 6.00

Recommended courses to meet the math, science, and social science requirements.
Pre-Veterinary Medicine, A.S.

Objectives:

This area of concentration provides a foundation for students interested in the professional fields of chiropractic, dentistry, law, medicine, mortuary science, optometry, osteopathy, pharmacy and veterinary medicine. It is suitable for students interested in transferring to a four-year institution in order to pursue a baccalaureate degree or advanced degrees in these professional fields. The curriculum establishes the necessary foundation in mathematics, physics, chemistry and biology.

Students who take the courses recommended in the pre-professional focus area will be able to:

1. use and understand the facts, concepts, theories and vocabulary of the physical and biological sciences.
2. use the scientific process and describe the development of scientific ideas.
3. develop analytic and problem-solving skills.
4. develop the ability to draw inferences from observations and synthesize and integrate information and ideas.
5. use higher-order thinking skills in applying learned principles to new problems and real-world situations.
6. be successful in upper-level courses.

Career Possibilities:

The pre-professional focus area graduate has one major option: transfer to a four-year institution in a pre-professional or professional program and develop a career in one of the professional fields.

Preparation for IHCC:

Prospective students should have a strong background in mathematics, science, writing, and reading skills. At least one year of high school biology, chemistry, and algebra are highly recommended. Additional courses in science and mathematics, including physics, geometry and advanced courses in biology and chemistry are also recommended.

Recommended Courses:

Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the professional program at the college to which they plan to transfer and work with a counselor and the faculty at IHCC to plan a program that meets those requirements. Students should also consider working toward the Associate of Science degree at IHCC, which requires 30 semester credits in mathematics and science.

Required Courses:
• CSC 110 - Introduction to Computers - Credits: 3.00 OR
  CSC 105 - Computer Essentials - Credits: 1.00

• ENG 105 - Composition I - Credits: 3.00
  ENG 106 - Composition II - Credits: 3.00

• SDV 101 - How to be Successful in College - Credits: 3.00

• SPC 112 - Public Speaking - Credits: 3.00 OR
  SPC 101 - Fundamentals of Oral Communication - Credits: 3.00

• Humanities/Fine Arts/Foreign Language Electives - Credits: 5.00
• Language Electives - Credits: 6.00
• U.S. History or Western Civilization Elective - Credits: 3.00
• Math and Lab Science Elective - Credits: 30.00
• Social Science Electives - Credits: 6.00

**Recommended Courses:**

• BIO 120 - General Biology 1D - Credits: 4.00
• BIO 121 - General Biology IID - Credits: 3.00
• BIO 122 - General Biology IIID - Credits: 3.00
• BIO 175 - Human Anatomy - Credits: 3.00
• BIO 176 - Human Anatomy Lab - Credits: 1.00
• BIO 178 - Human Physiology - Credits: 3.00
• BIO 179 - Human Physiology Lab - Credits: 1.00
• BIO 187 - Microbiology w/lab - Credits: 4.00
• CHM 157 - Principles of Chemistry I - Credits: 3.00
• CHM 158 - Principles of Chemistry II - Credits: 3.00
• CHM 159 - Principles of Chemistry III - Credits: 4.00
  Or
• CHM 166 - General Chemistry I - Credits: 5.00
• CHM 176 - General Chemistry II - Credits: 5.00
• CHM 251 - Organic Chemistry I - Credits: 3.00
• CHM 252 - Organic Chemistry II - Credits: 3.00
• CHM 253 - Organic Chemistry III - Credits: 3.00
• PHY 200 - Classical Physics I - Credits: 3.00
• PHY 201 - Classical Physics II - Credits: 3.00
• PHY 202 - Classical Physics III - Credits: 3.00
• MAT 210 - Calculus I - Credits: 4.00
• MAT 216 - Calculus II - Credits: 4.00
• MAT 219 - Calculus III - Credits: 4.00

**Psychology, A.A. Objectives:**

This area of concentration provides an excellent foundation for students interested in transferring to a four-year institution to earn a degree with a major in psychology or counseling. This curriculum focuses on developing critical thinking skills, gaining insights in human behavior and increasing interpersonal knowledge.

**Career Possibilities:**

Career possibilities depend on educational level. An Associate of Arts degree in this area of concentration will qualify the student for various paraprofessional service positions. Additional education increases the career opportunities. There are opportunities for a career in an academic setting such as teaching, counseling, or research. Also opportunities exist in applied settings such as hospitals, mental health clinics, corrections and business/industry.

**Preparation for IHCC:**
Prospective students should have a strong background in reading, writing and listening skills. Students should be emotionally stable.

**Recommended Courses:**

Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the psychology/counseling program at the institution to which they plan to transfer and work with an IHCC academic counselor to plan a program that meets those requirements.

**Required Courses:**

- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00

- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00

- SDV 101 - How to be Successful in College - Credits: 3.00

- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00

- Literature - Credits: 3.00
- Humanities/Fine Arts/Foreign Language electives - Credits: 5.00
- U.S. History or Western Civilization - Credits: 3.00
- Math Elective - Credits: 3.00
- Lab Science Elective - Credits: 3.00

**Recommended Courses:**

- BIO 120 - General Biology 1D - Credits: 4.00
  OR
- BIO 101 - Introductory Biology - Credits: 2.00 AND
- BIO 103 - Introductory Biology Lab - Credits: 1.00

- MAT 156 - Statistics - Credits: 3.00

- POL 111 - American National Government - Credits: 3.00
- PSY 111 - Introduction to Psychology - Credits: 3.00
- PSY 112 - Psychology of Human Relations - Credits: 3.00
- PSY 121 - Developmental Psychology - Credits: 3.00
- PSY 211 - Psychology of Adjustment - Credits: 3.00
- PSY 241 - Abnormal Psychology - Credits: 3.00
- PSY 251 - Social Psychology - Credits: 3.00

- SOC 110 - Introduction to Sociology - Credits: 3.00
- SOC 115 - Social Problems - Credits: 3.00
- SOC 120 - Marriage and Family - Credits: 3.00
- SOC 135 - Death and Dying - Credits: 3.00

**Public Relations / Organizational Communication, A.A. Objectives:**

Students who take the courses recommended in the public relations/organizational communications emphasis will be able to:

1. understand the function of public relations as a business and organizational tool as it is used to influence public opinion.
2. explain the relationship between public relations, the business or organizational culture/climate and the media.
3. identify and create methods of communication suited to the business or organization that will influence internal and/or external public opinion.

**Career Possibilities:**

Public relations/organizational communications is an interdisciplinary field where employment opportunities exist in both the business and non-profit sectors. Public relations or organizational communication specialists provide both internal and external communication for the business/organization they represent and therefore need to have a strong understanding of the relationship between communication, business and media. Career possibilities include: public relations, corporate communications, image consulting, graphic design, media relations, promotions/sales, advertising, publicity, fund raising, publications/editing, technical writing, marketing or management.

**Preparation for IHCC:**

Prospective students should have a strong background in reading, writing and listening skills.

**Recommended Courses:**

Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the program at the college to which they plan to transfer and work with a counselor and the faculty at IHCC to plan a program that meets those requirements.

**Required Courses:**

- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Literature - Credits: 3.00
- Humanities/Fine Arts/Foreign Language electives - Credits: 5.00
- U.S. History or Western Civilization - Credits: 3.00
- Social Science Electives - Credits: 6.00
- MAT 110 - Math for Liberal Arts - Credits: 3.00 OR
- MAT 156 - Statistics - Credits: 3.00
- Lab Science - Credits: 3.00
- Math or Science elective - Credits: 2.00

**Recommended Courses:**

- SPC 122 - Interpersonal Communication - Credits: 3.00
- BUS 102 - Introduction to Business - Credits: 3.00
- ACC 121 - Principles of Accounting I - Credits: 3.00
- ECN 120 - Principles of Macroeconomics - Credits: 3.00

**Social Work, A.A. Objectives:**

This area of concentration provides an excellent foundation for students interested in transferring to a four-year college to earn a baccalaureate degree with a major in social work. This program equally applies to those students who want to take selected social sciences courses to fulfill general education requirements. The curriculum focuses on social problems by addressing them from various perspectives, including social psychology, diversity and criminology.

Students who take the courses recommended in the social work focus area will be able to:
1. discuss culture, society, social institutions and social change.
2. identify social problems.
3. demonstrate a foundation of core information that will serve as a foundation for upper-level social work/sociology courses.
4. understand the role of the social workers/sociologist in addressing current social situations.

Career Possibilities:
The social work focus area graduate has the following options:
1. transfer to a four-year school and complete a major in social work. Career opportunities could then include direct services and program development and implementation, among others.
2. transfer to a four-year school and complete a major in sociology. Career opportunities could then include research as well as direct services and program development.
3. after completion of a baccalaureate degree, pursue a master’s degree in social work, which would open up opportunities for teaching and counseling.

Preparation for IHCC:
Prospective students should have a strong background in general education. Four years of high school English are highly recommended.

Recommended Courses:
Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the program at the college to which they plan to transfer and to work with an IHCC academic counselor to plan a program that meets those requirements.

Required Courses:
- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00
- ECN 120 - Principles of Macroeconomics - Credits: 3.00
- ECN 130 - Principles of Microeconomics - Credits: 3.00
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- MAT 156 - Statistics - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Literature - Credits: 3.00
- Humanities/Fine Arts/Foreign Language electives - Credits: 5.00
- U.S. History or Western Civilization - Credits: 3.00
- Lab Science - Credits: 3.00
- Math or Science elective - Credits: 2.00

Recommended Courses:
- HIS 257 - African American History - Credits: 3.00
- POL 111 - American National Government - Credits: 3.00
- PSY 111 - Introduction to Psychology - Credits: 3.00
- PSY 241 - Abnormal Psychology - Credits: 3.00
- PSY 251 - Social Psychology - Credits: 3.00
- SOC 110 - Introduction to Sociology - Credits: 3.00
- SOC 115 - Social Problems - Credits: 3.00
- SOC 120 - Marriage and Family - Credits: 3.00
- SOC 240 - Criminology - Credits: 3.00
- SOC 242 - Introduction to Corrections - Credits: 3.00
Spanish / French, A.A.
Objectives:

This area of concentration provides a foundation for students interested in transfer to a four-year college or university to earn a baccalaureate degree with a major or minor in Spanish or French. This program will also be useful to those students who want to fulfill the foreign language requirement at a four-year college or university. Students in this curriculum will focus on oral and written communication in the target language.

Students who take the courses recommended in the Spanish/French focus area will be able to:
1. use the four communicative skills of reading, writing, listening and speaking in the target language;
2. compare Spanish and/or French to the English language;
3. compare the culture(s) of regions where the target language is spoken with that of the United States; and
4. understand the importance of being familiar with other languages and cultures in today's world.

Career Possibilities:

Modern language majors or minors are typically combined with other fields of specialization to create unique job opportunities, both in the United States and abroad. Some of the areas that may be advantageously linked with modern languages are education, business, social work, health care, journalism, criminal justice and law. Fluency in a second language will enhance job credentials in most fields, as there is a strong demand for individuals with speaking and writing skills in modern languages. A Spanish major or minor will be of great benefit for those seeking employment in parts of the United States with a large Hispanic population or with businesses that deal with Spanish-speaking countries. A French major or minor will be exceptionally helpful in positions that deal with the European Common market, African nations or Southeast Asia.

Preparation for IHCC:

It is recommended that prospective students study as many years as possible of a foreign language in high school. Students find that experience in one foreign language lends facility to the learning of additional languages. It is possible, however, to graduate in this focus area with no previous foreign language experience. A strong English background is very helpful. Students with high school foreign language experience are advised to consult with an IHCC counselor or language instructor to determine appropriate placement.

Students are also advised to familiarize themselves with the foreign language requirements at the college or university to which they plan to transfer and work with a counselor at IHCC to plan a program that meets those requirements.

Required Courses:

- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Literature - Credits: 3.00
- FLS 131 - Elementary Spanish I - Credits: 3.00 AND
- FLS 132 - Elementary Spanish II - Credits: 3.00 AND
- FLS 133 - Elementary Spanish III - Credits: 3.00 OR
- FLF 131 - Elementary French I - Credits: 3.00 AND
- FLF 132 - Elementary French II - Credits: 3.00 AND
- FLF 133 - Elementary French III - Credits: 3.00
- FLS 231 - Intermediate Spanish I - Credits: 3.00 AND
• FLS 232 - Intermediate Spanish II - Credits: 3.00 AND
• FLS 233 - Intermediate Spanish III - Credits: 3.00
OR
• FLF 231 - Intermediate French I - Credits: 3.00 AND
• FLF 232 - Intermediate French II - Credits: 3.00 AND
• FLF 233 - Intermediate French III - Credits: 3.00

• U.S. History or Western Civilization - Credits: 3.00
• Lab Science - Credits: 3.00
• Math - Credits: 3.00
• Math or Science elective - Credits: 2.00

• PSY 112 - Psychology of Human Relations - Credits: 3.00 OR
• Social Science elective Credits: 3.00

• SOC 110 - Introduction to Sociology - Credits: 3.00 OR
• Social Science elective Credits: 3.00

**Sport and Fitness Management, A.A. Objectives:**

Sport and fitness management prepares students for careers in the sports, recreation and fitness industry. Students will learn principles of business, including marketing, finance, management and law while applying those principles to different areas of the sport industry. Students who graduate with an Associate of Arts degree focusing in sport and fitness management will be prepared to transfer to a four-year college/university.

**Career Possibilities:**

Sport and fitness four-year graduates will be prepared to begin careers in a variety of areas. Professional sport teams, college athletic departments, sport communication and public relations firms, sports agencies, health and fitness facilities and park and recreation organizations are some of the businesses for which graduates will be qualified to work.

**Preparation for IHCC:**

A strong mathematics and English background is recommended for this area.

**Recommended Courses:**

Since the bachelor's degree requirements of various transfer institutions differ, students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the program at the institution to which they plan to transfer. Students should consult with an advisor at the transfer institution and with an IHCC academic counselor to plan a program that meets those requirements.

**Required Courses:**

• CSC 110 - Introduction to Computers - Credits: 3.00 OR
• CSC 105 - Computer Essentials - Credits: 1.00
• ENG 105 - Composition I - Credits: 3.00
• ENG 106 - Composition II - Credits: 3.00
• MAT 110 - Math for Liberal Arts - Credits: 3.00 OR
• MAT 156 - Statistics - Credits: 3.00
• Lab Science - Credits: 3.00
• Math or Science elective - Credits: 2.00
• Social Science Electives - Credits: 6.00
• SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Literature - Credits: 3.00
- Humanities/Fine Arts/Foreign Language electives - Credits: 5.00
- U.S. History or Western Civilization - Credits: 3.00

**Recommended Courses:**
- ACC 121 - Principles of Accounting I - Credits: 3.00
- ACC 122 - Principles of Accounting II - Credits: 3.00
- ACC 221 - Cost Accounting - Credits: 3.00
- BUS 102 - Introduction to Business - Credits: 3.00
- BUS 130 - Introduction to Entrepreneurship - Credits: 3.00
- BUS 188 - Legal Environment of Business - Credits: 3.00
- BUS 932 - Internship - Credits: 1.00
- ECN 120 - Principles of Macroeconomics - Credits: 3.00
- ECN 130 - Principles of Microeconomics - Credits: 3.00
- MAT 161 - Business Statistics - Credits: 3.00
- MGT 101 - Principles of Management - Credits: 3.00
- MGT 170 - Human Resource Management - Credits: 3.00
- MGT 220 - Intro to Sport Management - Credits: 3.00
- MKT 110 - Principles of Marketing - Credits: 3.00
- MKT 198 - Sports Marketing - Credits: 3.00
- PSY 112 - Psychology of Human Relations - Credits: 3.00

**Theater, A.A.**

**Offered only at Main Campus**

**Objectives:**
This area of concentration provides an excellent foundation for students interested in transfer to a four-year college to earn a baccalaureate degree with a major in theater and performing arts, communication, speech and theater education. This program equally applies to those students who want to take selected theater courses to fulfill general education requirements. The curriculum focuses on performance, theater history, performance theory and design for the theater.

Students who take the courses recommended in the theater focus area will:
1. know the general history of theater and its influence on contemporary theater.
2. know basic performance techniques and styles.
3. read and respond critically to diverse dramatic literature.
4. gain technical and performance experience in theatrical productions.
5. know basic techniques of design for the theater.

**Career Possibilities:**
The theater focus area graduate has three options:
1. employment in the performing arts, performance studies, radio/television broadcasting, improvisation, directing, theater management, stage management, lighting/sound design, costume design and scene design/construction.
2. transfer to a four-year institution for advanced studies.
3. with the appropriate teacher preparation courses, the student can find employment in secondary education.

**Preparation for IHCC:**
Students interested in this area should have sound writing and critical reading skills. While previous theatrical experience is not required, some background in performance or design will be helpful. The ability to read and analyze dramatic literature is crucial. A theater major must have a broad understanding of a variety of topics, including literature, music, art, film, psychology and history.
Recommended Courses:

Students planning to transfer to a four-year institution are strongly advised to familiarize themselves with the requirements of the theater program at the college to which they plan to transfer and work with a counselor and the faculty at IHCC to plan a program that meets those requirements.

Required Courses:

- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Math - Credits: 3.00
- Lab Science - Credits: 3.00
- Math or Science elective - Credits: 2.00
- U.S. History or Western Civilization - Credits: 3.00
- Social Science electives - Credits: 6.00
- Literature - Credits: 3.00
- Humanities/Fine Arts/Foreign Language electives - Credits: 5.00

Recommended Courses:

- DRA 101 - Introduction to Theatre - Credits: 3.00
- DRA 110 - Introduction to Film - Credits: 3.00
- DRA 130 - Acting I - Credits: 3.00
- DRA 132 - Acting II - Credits: 3.00
- DRA 133 - Acting III - Credits: 3.00
- Drama Excursion - Credits: 1.00
- DRA 162 - Technical Theatre - Credits: 3.00
- DRA 180 - Theatre Lab I - Credits: 1.00
- DRA 181 - Theatre Lab II - Credits: 1.00
- DRA 235 - Acting Workshop - Credits: 3.00
- DRA 280 - Theatre Lab III - Credits: 1.00
- DRA 281 - Theatre Lab IV - Credits: 1.00
- LIT 175 - Survey of Drama - Credits: 3.00
- MUS 100 - Music Appreciation - Credits: 3.00 OR
- ART 101 - Art Appreciation - Credits: 3.00 OR
- Applied Music - Credits: 3.00
- PSY 111 - Introduction to Psychology - Credits: 3.00

Undecided, A.A.

Objectives:

This focus area is designed for the student who is undecided about a major at the time of enrollment, but who wishes to pursue a general education that will apply to many major areas. Students should use this opportunity to explore a variety of possible academic majors and career possibilities.

Students who take the courses recommended in this focus area will be able to:
1. think critically and analytically about a variety of issues and topics.
2. discuss a variety of topics and issues.
3. demonstrate knowledge of core information from a variety of academic fields.
4. explore a variety of academic disciplines and career possibilities.
Career Possibilities:

Career possibilities depend entirely upon the student’s choice of a major when transferring to a four-year institution. The undecided option is not designed to direct the student to a specific career, but rather to allow him/her to explore interests and options before committing himself/herself to a specific academic major or career choice. An undecided focus area graduate has the following option: transfer to a four-year institution and complete a major of the student’s choice.

Preparation for IHCC:

It is recommended that students who are unsure of their major should study a general college preparatory curriculum in high school. Students should take four years of English; three years of math, including algebra and at least one other higher level math class; three years of science, including a lab science; and a selection of social sciences, including history. It is also advantageous to have some background in fine arts.

Recommended Courses:

- BUS 102 - Introduction to Business - Credits: 3.00
- CSC 110 - Introduction to Computers - Credits: 3.00 OR
- CSC 105 - Computer Essentials - Credits: 1.00
- Foreign Language electives - Credits: 9.00
- ENG 105 - Composition I - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- FIN 121 - Personal Finance - Credits: 3.00
- PSY 111 - Introduction to Psychology - Credits: 3.00
- REL 101 - Survey of World Religions - Credits: 3.00
- Lab Science - Credits: 3.00
- Math - Credits: 3.00
- Math or Science elective - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
- SOC 110 - Introduction to Sociology - Credits: 3.00
- U.S. History or Western Civilization - Credits: 3.00
- Humanities/Fine Arts/Foreign Language Electives - Credits: 5.00
- SOC 120 - Marriage and Family - Credits: 3.00
- SOC 135 - Death and Dying - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00 OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- Literature - Credits: 3.00

Diploma

Culinary Arts, Diploma

Offered at Main Campus

The Culinary Arts Diploma Program is a 9-month (three-term) program. Experiences are provided in aspects of cooking and baking. The Culinary Arts program is accredited by the American Culinary Federation. To enroll, complete an application and attend any required academic orientation and information session.

Program Total: 36 Credits

Term I

- CSC 105 - Computer Essentials - Credits: 1.00
- HCM 101 - Safety/Sanitation - Credits: 1.00
- HCM 102 - Food Service Technology - Credits: 1.00
- HCM 163 - Culinary Skills(lab) - Credits: 3.00
- HCM 202 - Food Service Lab 1 - Credits: 2.00
- HCM 261 - Math Principles - Credits: 1.00
XXX Approved Elective - 3 Credits
Total: 12 Credits

Term II
- HCM 145 - Garde Manger(lab) - Credits: 3.00
- HCM 146 - Cold Food Principles(lab) - Credits: 1.00
- HCM 203 - Food Service Lab 2 - Credits: 2.00
- HCM 232 - Culinary Nutrition(lab/lab) - Credits: 2.00
XXX Approved Elective - 2 Credits
Total: 10 Credits

Term III
- BUS 102 - Introduction to Business - Credits: 3.00
- HCM 149 - Principles of Cooking (lab) - Credits: 4.00
- HCM 150 - Shellfish, Poultry, Meats(lab) - Credits: 1.00
- HCM 200 - Dining Service - Credits: 2.00
XXX Approved Elective - 3 Credits
Total: 14 Credits
Advanced Technology Programs
Career and Technical Programs at Indian Hills are developed in consultation with competent advisory committees selected from representative business, institutional, and industrial employers. Students receive training for entry-level positions in two years or less.

Programs leading to a diploma vary in length from six to 12 months. Associate of Applied Science (AAS) degree programs vary in length from 18 to 24 months, depending on the occupational area. This preparation may also serve as a transfer basis for further study toward a four-year degree. Selected Diploma and Associate in General Studies programs are available in the evening for non-traditional students.

General Education Course Requirements
(A.A.S.)
Associate of Applied Science (AAS) Degree
All students earning the Associate of Applied Science degree must complete general education courses distributed over the content areas listed below. For more information, see individual program requirements.

General Education Core
A. Communication (minimum one course)
   - COM 149 - Mass Media Analysis - Credits: 3.00
   - ENG 101 - Elements of Writing - Credits: 3.00
   - ENG 105 - Composition I - Credits: 3.00
   - ENG 106 - Composition II - Credits: 3.00
   - ENG 111 - Technical Writing - Credits: 3.00
   - ENG 225 - Creative Writing: Poetry - Credits: 3.00
   - ENG 230 - Creative Writing: Fiction - Credits: 3.00
   - SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
   - SPC 112 - Public Speaking - Credits: 3.00
   - SPC 122 - Interpersonal Communication - Credits: 3.00
B. Computer/Information Literacy
   - CSC 105 - Computer Essentials - Credits: 1.00
   - CSC 110 - Introduction to Computers - Credits: 3.00
C. Culture
   - ANT 105 - Cultural Anthropology - Credits: 3.00
   - ART 100 - The Arts Today - Credits: 1.00
   - ART 101 - Art Appreciation - Credits: 3.00
   - ART 103 - Art Excursions I - Credits: 1.00
   - ART 104 - Art Excursions II - Credits: 1.00
   - ART 200 - Art History I - Credits: 2.00
   - ART 201 - Art History II - Credits: 2.00
   - ART 202 - Art History III - Credits: 2.00
   - CLS 106 - Popular Culture - Credits: 1.00
   - CLS 150 - Latin American History and Culture - Credits: 3.00
   - CLS 155 - Brazilian History and Culture - Credits: 3.00
   - CLS 175 - Native American Studies - Credits: 3.00
   - CLS 185 - Cultural History of Iowa - Credits: 3.00
   - CLS 215 - Cultural Excursions I - Credits: 1
   - CLS 216 - Cultural Excursions II - Credits: 2
   - CLS 217 - Cultural Excursions III - Credits: 3
   - CLS 222 - Survey of Latino Literature U.S./Mexico - Credits: 3.00
• DRA 108 - Drama Excursions - Credits: 1.00
• DRA 109 - Drama Excursions II - Credits: 1.00
• DRA 110 - Introduction to Film - Credits: 3.00
• FLF 131 - Elementary French I - Credits: 3.00
• FLF 132 - Elementary French II - Credits: 3.00
• FLF 133 - Elementary French III - Credits: 3.00
• FLF 145 - French I - Credits: 5.00
• FLF 231 - Intermediate French I - Credits: 3.00
• FLF 232 - Intermediate French II - Credits: 3.00
• FLF 233 - Intermediate French III - Credits: 3.00
• FLF 245 - French II - Credits: 5.00
• FLS 125 - Spanish for Health Professionals - Credits: 3.00
• FLS 131 - Elementary Spanish I - Credits: 3.00
• FLS 132 - Elementary Spanish II - Credits: 3.00
• FLS 133 - Elementary Spanish III - Credits: 3.00
• FLS 153 - Accelerated Elementary Spanish I - Credits: 5.00
• FLS 154 - Accelerated Elementary Spanish II - Credits: 5.00
• FLS 231 - Intermediate Spanish I - Credits: 3.00
• FLS 232 - Intermediate Spanish II - Credits: 3.00
• FLS 233 - Intermediate Spanish III - Credits: 3.00
• GEO 121 - World Regional Geography - Credits: 3.00
• HIS 110 - Western Civilization: Ancient to Early Modern - Credits: 3.00
• HIS 111 - Western Civilization: Early Modern to Present - Credits: 3.00
• HIS 121 - Ancient Mediterranean World - Credits: 3.00
• HIS 125 - Modern Europe - Credits: 3.00
• HIS 141 - History of Asia - Credits: 3.00
• HIS 151 - U.S. History to 1877 - Credits: 3.00
• HIS 152 - U.S. History since 1877 - Credits: 3.00
• HIS 214 - Russian History and Culture - Credits: 3.00
• HIS 257 - African American History - Credits: 3.00
• HUM 135 - Humanities of the Early World - Credits: 3.00
• HUM 136 - Humanities of the Renaissance - Credits: 3.00
• HUM 137 - Humanities of the Modern World - Credits: 3.00
• HUM 145 - Language and Society - Credits: 3.00
• HUM 205 - Humanities: The Hero - Credits: 3.00
• HUM 210 - Humanities: Nature of Conflict - Credits: 3.00
• LIT 101 - Introduction to Literature - Credits: 3.00
• LIT 110 - American Literature to Mid-1800's - Credits: 3.00
• LIT 112 - American Literature: 1945 to Present - Credits: 3.00
• LIT 113 - American Literature: 1865 to 1945 - Credits: 3.00
• LIT 140 - British Literature I - Credits: 3.00
• LIT 141 - British Literature II - Credits: 3.00
• LIT 150 - World Literature I - Credits: 3.00
• LIT 152 - Early Modern World Literature - Credits: 3.00
• LIT 153 - Modern World Literature - Credits: 3.00
• LIT 157 - Bible as Literature - Credits: 3.00
• LIT 161 - The Short Story - Credits: 3.00
• LIT 165 - The Novel - Credits: 3.00
• LIT 167 - Popular Genres I - Credits: 3.00
• LIT 168 - Popular Genres II - Credits: 3.00
• LIT 171 - Survey of Poetry - Credits: 3.00
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIT 175</td>
<td>Survey of Drama</td>
<td>3.00</td>
</tr>
<tr>
<td>LIT 181</td>
<td>Mythology and Literature</td>
<td>3.00</td>
</tr>
<tr>
<td>LIT 190</td>
<td>Women Writers</td>
<td>3.00</td>
</tr>
<tr>
<td>LIT 802</td>
<td>Readings in Literature I</td>
<td>1.00</td>
</tr>
<tr>
<td>LIT 804</td>
<td>Readings in Literature II</td>
<td>2.00</td>
</tr>
<tr>
<td>LIT 806</td>
<td>Readings in Literature III</td>
<td>3.00</td>
</tr>
<tr>
<td>MUS 100</td>
<td>Music Appreciation</td>
<td>3.00</td>
</tr>
<tr>
<td>MUS 205</td>
<td>Jazz History and Appreciation</td>
<td>3.00</td>
</tr>
<tr>
<td>MUS 293</td>
<td>Music Excursions</td>
<td>1.00</td>
</tr>
<tr>
<td>PHI 101</td>
<td>Introduction to Philosophy</td>
<td>3.00</td>
</tr>
<tr>
<td>PHI 105</td>
<td>Introduction to Ethics</td>
<td>3.00</td>
</tr>
<tr>
<td>PHI 114</td>
<td>Critical Reasoning</td>
<td>3.00</td>
</tr>
<tr>
<td>PHI 120</td>
<td>Modern Philosophy</td>
<td>3.00</td>
</tr>
<tr>
<td>PHI 121</td>
<td>Classical/Medieval Philosophy</td>
<td>3.00</td>
</tr>
<tr>
<td>PHI 145</td>
<td>Introduction to Ethical Conflicts</td>
<td>3.00</td>
</tr>
<tr>
<td>POL 111</td>
<td>American National Government</td>
<td>3.00</td>
</tr>
<tr>
<td>POL 121</td>
<td>International Relations</td>
<td>3.00</td>
</tr>
<tr>
<td>PSY 111</td>
<td>Introduction to Psychology</td>
<td>3.00</td>
</tr>
<tr>
<td>PSY 112</td>
<td>Psychology of Human Relations</td>
<td>3.00</td>
</tr>
<tr>
<td>PSY 121</td>
<td>Developmental Psychology</td>
<td>3.00</td>
</tr>
<tr>
<td>PSY 211</td>
<td>Psychology of Adjustment</td>
<td>3.00</td>
</tr>
<tr>
<td>PSY 223</td>
<td>Child and Adolescent Psychology</td>
<td>3.00</td>
</tr>
<tr>
<td>PSY 226</td>
<td>Psychology of Aging</td>
<td>3.00</td>
</tr>
<tr>
<td>PSY 241</td>
<td>Abnormal Psychology</td>
<td>3.00</td>
</tr>
<tr>
<td>PSY 251</td>
<td>Social Psychology</td>
<td>3.00</td>
</tr>
<tr>
<td>PSY 281</td>
<td>Educational Psychology</td>
<td>3.00</td>
</tr>
<tr>
<td>REL 101</td>
<td>Survey of World Religions</td>
<td>3.00</td>
</tr>
<tr>
<td>SOC 110</td>
<td>Introduction to Sociology</td>
<td>3.00</td>
</tr>
<tr>
<td>SOC 115</td>
<td>Social Problems</td>
<td>3.00</td>
</tr>
<tr>
<td>SOC 120</td>
<td>Marriage and Family</td>
<td>3.00</td>
</tr>
<tr>
<td>SOC 135</td>
<td>Death and Dying</td>
<td>3.00</td>
</tr>
<tr>
<td>SOC 147</td>
<td>Foreign and Domestic Terrorism</td>
<td>3.00</td>
</tr>
<tr>
<td>SOC 170</td>
<td>Sociology and Technology</td>
<td>3.00</td>
</tr>
<tr>
<td>SOC 240</td>
<td>Criminology</td>
<td>3.00</td>
</tr>
<tr>
<td>SOC 261</td>
<td>Human Sexuality</td>
<td>3.00</td>
</tr>
<tr>
<td>SOC 280</td>
<td>Social Issues</td>
<td>3.00</td>
</tr>
<tr>
<td>WST 101</td>
<td>Women's Studies</td>
<td>3.00</td>
</tr>
</tbody>
</table>

**D. Mathematical Reasoning**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 101</td>
<td>Intermediate Algebra</td>
<td>3.00</td>
</tr>
<tr>
<td>MAT 110</td>
<td>Math for Liberal Arts</td>
<td>3.00</td>
</tr>
<tr>
<td>MAT 117</td>
<td>Math for Elementary Teachers</td>
<td>3.00</td>
</tr>
<tr>
<td>MAT 118</td>
<td>Math for Elementary Teacher II</td>
<td>3.00</td>
</tr>
<tr>
<td>MAT 120</td>
<td>College Algebra</td>
<td>3.00</td>
</tr>
<tr>
<td>MAT 125</td>
<td>Precalculus</td>
<td>3.00</td>
</tr>
<tr>
<td>MAT 140</td>
<td>Finite Math</td>
<td>3.00</td>
</tr>
<tr>
<td>MAT 156</td>
<td>Statistics</td>
<td>3.00</td>
</tr>
<tr>
<td>MAT 161</td>
<td>Business Statistics</td>
<td>3.00</td>
</tr>
<tr>
<td>MAT 210</td>
<td>Calculus I</td>
<td>4.00</td>
</tr>
<tr>
<td>MAT 216</td>
<td>Calculus II</td>
<td>4.00</td>
</tr>
<tr>
<td>MAT 219</td>
<td>Calculus III</td>
<td>4.00</td>
</tr>
</tbody>
</table>
- MAT 226 - Differential Equations with Laplace - Credits: 3.00

**E. Scientific Systems**

- BIO 101 - Introductory Biology - Credits: 2.00
- BIO 103 - Introductory Biology Lab - Credits: 1.00
- BIO 120 - General Biology 1D - Credits: 4.00
- BIO 121 - General Biology IID - Credits: 3.00
- BIO 122 - General Biology IIID - Credits: 3.00
- BIO 127 - Field Botany - Credits: 3.00
- BIO 161 - Basic Anatomy and Physiology - Credits: 3.00
- BIO 175 - Human Anatomy - Credits: 3.00
- BIO 176 - Human Anatomy Lab - Credits: 1.00
- BIO 178 - Human Physiology - Credits: 3.00
- BIO 179 - Human Physiology Lab - Credits: 1.00
- BIO 187 - Microbiology w/lab - Credits: 4.00
- BIO 199 - Basic Anatomy and Physiology Lab I - Credits: 1.00

- CHM 121 - Introduction to General Chemistry - Credits: 3.00
- CHM 132 - Introduction to Organic and Biochemistry - Credits: 4.00
- CHM 157 - Principles of Chemistry I - Credits: 3.00
- CHM 158 - Principles of Chemistry II - Credits: 3.00
- CHM 159 - Principles of Chemistry III - Credits: 4.00
- CHM 166 - General Chemistry I - Credits: 5.00
- CHM 176 - General Chemistry II - Credits: 5.00
- CHM 251 - Organic Chemistry I - Credits: 3.00
- CHM 252 - Organic Chemistry II - Credits: 3.00
- CHM 253 - Organic Chemistry III - Credits: 3.00

- EGR 160 - Engineering I - Credits: 3.00
- EGR 162 - Engineering Math - Matrix Algebra - Credits: 2.00
- EGR 165 - Engineering II - Credits: 3.00
- EGR 180 - Statics - Credits: 3.00
- EGR 284 - Introduction to Electrical Circuits - Credits: 3.00
- EGR 290 - Thermodynamics - Credits: 3.00
- EGR 400 - PLTW Introduction to Engineering Design - Credits: 3.00
- EGR 410 - PLTW Principles of Engineering - Credits: 3.00
- EGR 420 - PLTW Digital Electronics - Credits: 3.00
- EGR 440 - PLTW-Biotechnical Engineering - Credits: 3.00

- ENV 105 - Introductory Environmental Science - Credits: 2.00
- ENV 106 - Introductory Environmental Science Lab - Credits: 1.00
- ENV 142 - Natural Resources - Credits: 3.00

- PHS 184 - Introduction to Earth Science - Credits: 2.00
- PHS 186 - Introduction to Earth Science Lab - Credits: 1.00

- PHY 101 - Physics - Credits: 2.00
- PHY 102 - Physics Lab - Credits: 1.00
- PHY 200 - Classical Physics I - Credits: 3.00
- PHY 201 - Classical Physics II - Credits: 3.00
- PHY 202 - Classical Physics III - Credits: 3.00
- SCI 130 - Limits of Science - Credits: 2.00

**Information Technology**

Students interested in careers in the field of information technology have numerous options. Indian Hills offers several accounting and office programs as well as instruction in computer networks and security, computer software...
Accounting Assistant, Diploma
Offered at Main Campus

Accounting Assistant is a one-year (four-term) program which provides the student with the background needed for a career in accounting or associated fields. This diploma provides continued education in the accounting and computer areas to better the student's skills and performance in related business functions. Students will be introduced to the accounting principles and theories needed for today's business environment.

To enroll, complete an application and attend any required academic orientation and information session. Students may enter this program at the beginning of the Fall, Winter and Spring terms. Students meeting all program and graduation requirements receive a diploma.

Program Total: 46 Credits

Term I
- ACC 121 - Principles of Accounting I - Credits: 3.00
- ADM 131 - Office Calculators - Credits: 1.00
- BCA 142 - Spreadsheets - Credits: 3.00
- CSC 110 - Introduction to Computers - Credits: 3.00
- ADM 134 - Business Math - Credits: 2.00 OR
- XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 *

Total: 12 Credits

Term II
- ACC 122 - Principles of Accounting II - Credits: 3.00
- ACC 160 - Payroll Accounting - Credits: 2.00
- ACC 311 - Computer Accounting - Credits: 3.00
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00 OR
- SPC 112 - Public Speaking - Credits: 3.00

Total: 11 Credits

Term III
- ACC 221 - Cost Accounting - Credits: 3.00
- ACC 261 - Income Tax Accounting - Credits: 3.00
- BUS 104 - Business Essentials - Credits: 3.00 OR
- BUS 102 - Introduction to Business - Credits: 3.00
- ECN 120 - Principles of Macroeconomics - Credits: 3.00 OR
- ECN 130 - Principles of Microeconomics - Credits: 3.00

Total: 12 Credits

Term IV
- ACC 191 - Financial Analysis - Credits: 3.00
- ACC 211 - Intermediate Accounting - Credits: 3.00
- ADM 221 - Career Development Skills - Credits: 2.00
- ENG 101 - Elements of Writing - Credits: 3.00

Total: 11 Credits

Notes:
*Refer to General Education Course Requirements (A.A.S.) for approved courses.

*Optional Course
BUS 128 Foundation to Entrepreneurship
The Business Specialist - Accounting program is an 18-month (six-term) program designed to prepare students for employment in the accounting field. Students will be prepared to provide accounting support by completing courses in accounting, taxes, payroll, business and data base. The curriculum incorporates up-to-date software applications, including accounting software, spreadsheets and payroll. The courses are designed to demonstrate competency in identifying, analyzing, recording and interpreting business transactions and financial statements.

To enroll, complete an application and attend any required academic orientation and information session. Students may enroll in this program at the beginning of any term.

Students meeting all program and graduation requirements receive an Associate of Applied Science degree.

### Program Total: 68 Credits

#### Term I
- ACC 121 - Principles of Accounting I - Credits: 3.00
- ADM 131 - Office Calculators - Credits: 1.00
- ADM 162 - Office Procedures - Credits: 3.00
- BCA 142 - Spreadsheets - Credits: 3.00
- CSC 110 - Introduction to Computers - Credits: 3.00 *

**Total: 13 Credits**

#### Term II
- ACC 122 - Principles of Accounting II - Credits: 3.00
- ACC 150 - Financial Reports and Presentations - Credits: 2.00
- ACC 160 - Payroll Accounting - Credits: 2.00
- ACC 311 - Computer Accounting - Credits: 3.00
- BCA 134 - Word Processing - Credits: 3.00

**Total: 13 Credits**

#### Term III
- ACC 221 - Cost Accounting - Credits: 3.00
- BCA 167 - Comprehensive Databases - Credits: 3.00
- ENG 101 - Elements of Writing - Credits: 3.00
- XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 *

**Total: 12 Credits**

#### Term IV
- ACC 211 - Intermediate Accounting - Credits: 3.00
- ENG 105 - Composition I - Credits: 3.00
- XXX XXX - Approved Scientific Systems Course - Credits: 3.00 *

**Total: 9 Credits**

#### Term V
- ACC 261 - Income Tax Accounting - Credits: 3.00
- ADM 221 - Career Development Skills - Credits: 2.00
- ECN 120 - Principles of Macroeconomics - Credits: 3.00 OR
- ECN 130 - Principles of Microeconomics - Credits: 3.00
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00 OR
- SPC 112 - Public Speaking - Credits: 3.00

**Total: 11 Credits**

#### Term VI
- ACC 191 - Financial Analysis - Credits: 3.00
• ACC 929 - Individual Projects - Credits: 4.00
  OR
• ACC 932 - Internship - Credits: 4.00
• XXX XXX - Approved Culture Course - Credits: 3.00 *

Total: 10 Credits

**Dual Major Option**
Students who wish to complete an Associate of Arts degree along with this program can do so by taking these additional courses, pending that their built-in Science Elective has a lab component. For the Cultural elective, the student should choose a three credit Literature. The Math elective should be MAT110 or higher.

• Distributed Core Electives - Credits: 7.00
• Composition II - Credits: 3.00
• Humanities and/or Fine Arts Electives - Credits: 5.00
• Math or Science Electives - Credits: 2.00
• Social Science Electives - Credits: 3.00
• How to be Successful in College - Credit: 3.00
• U.S. History or Western Civilization - Credits: 3.00

For A.A. degree required course options see General Education Course Requirements (A.A., A.S.)

**Notes:**
*Refer to General Education Course Requirements (A.A.S.) for approved courses.

**Optional Courses**
BUS 128 - Foundation to Entrepreneurship - Credits: 3.00

**Business Specialist - Office Management, A.A.S.**
**Offered at Main Campus**

The Business Specialist - Office Management program is an 18-month (six-term) program that prepares students for employment in various office positions. Students will learn to provide high-level administrative support by completing training on up-to-date software applications, demonstrating competency in accounting applications and performing administrative assistant functions such as preparing correspondence, scheduling meetings, transcribing dictation and demonstrating strong verbal and written communication skills.

To enroll, complete an application and attend any required academic orientation and information session. Students may enroll in this program at the beginning of any term.

Students meeting all program and graduation requirements receive an Associate of Applied Science degree.

**Program Total: 72 Credits**

**Term I**
• ACC 121 - Principles of Accounting I - Credits: 3.00
• ADM 108 - Keyboarding Skill Development - Credits: 1.00
• ADM 131 - Office Calculators - Credits: 1.00
• BCA 142 - Spreadsheets - Credits: 3.00
• CSC 110 - Introduction to Computers - Credits: 3.00

Total: 11 Credits

**Term II**
• ACC 160 - Payroll Accounting - Credits: 2.00
• ACC 311 - Computer Accounting - Credits: 3.00
• ADM 162 - Office Procedures - Credits: 3.00
• BCA 134 - Word Processing - Credits: 3.00
• BCA 178 - Presentation Software - Credits: 3.00
Total: 14 Credits

**Term III**
• ADM 123 - Document Formatting - Credits: 3.00
• BCA 167 - Comprehensive Databases - Credits: 3.00
• ENG 101 - Elements of Writing - Credits: 3.00
• XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 **
Total: 12 Credits

**Term IV**
• ADM 148 - Transcription - Credits: 2.00
• BCA 138 - Advanced Word Processing Applications - Credits: 3.00
• ENG 105 - Composition I - Credits: 3.00
• XXX XXX - Approved Scientific Systems Course - Credits: 3.00 **
• XXX XXX - Approved Program Elective - Credits: 3.00*
Total: 13 Credits

**Term V**
• ADM 159 - Proofreading and Editing - Credits: 3.00
• ADM 221 - Career Development Skills - Credits: 2.00
• SPC 101 - Fundamentals of Oral Communication - Credits: 3.00 OR
• SPC 112 - Public Speaking - Credits: 3.00
• XXX XXX - Approved Program Elective - Credits: 3.00 *
Total: 10 Credits

**Term VI**
• ADM 180 - Administrative Management - Credits: 3.00
• ADM 900 - Internship - Credits: 4.00 OR
• ADM 929 - Individual Projects - Credits: 4.00
•XXX XXX - Approved Culture Course - Credits: 3.00 **
• XXX XXX - Approved Program Elective - Credits: 3.00 *
Total: 12 Credits

**Dual Major Option**
Students who wish to complete an Associate of Arts degree along with this program can do so by taking these additional courses. The Math elective chosen should be MAT 110 or higher and the Science course should have a lab component. The Cultural elective should be a three credit Literature. The three approved electives should be Macroeconomics and two Psychology courses.
• Humanities and/or Fine Arts - Credits: 5.00
• Composition II - Credits: 3.00
• Math or Science Electives - Credits: 2.00
• U.S. History or Western Civilization - Credits: 3.00
• How to be Successful in College- Credits: 3.00
• Distributed Core Electives - Credits 4.00

Refer to General Education Course Requirements (A.A.S.) for approved courses.

* **Approved Program Electives:**
  • ACC 122 - Principles of Accounting II - Credits: 3.00
  • ACC 221 - Cost Accounting - Credits: 3.00
  • ADM 198 - Legal Terminology - Credits: 2.00
  • ECN 120 - Principles of Macroeconomics - Credits: 3.00
  • HSC 113 - Medical Terminology - Credits: 2.00
  • ACC xxx - Accounting courses
  • BCA xxx - Business Computer Applications courses
  • BUS xxx - Business courses
- CIS xxx - Computer Programming courses
- PSY xxx - Psychology courses

**Notes:**
**Refer to General Education Course Requirements (A.A.S.) for approved courses.**

**Optional Course(s)**
- BUS 128 - Foundation to Entrepreneurship - Credits: 3.00

**Business Specialist, Diploma**
**Offered at Main Campus**

The office assistant is one of the most vital team members in a business. The Business Specialist program is an excellent opportunity for students who want to obtain skills and enter the job market in any office area, including the medical, legal, accounting, manufacturing, insurance and education fields. The program can be completed in nine months (three terms) or on an extended basis. All earned credits can be applied to an Associate of Arts degree for those students who want to continue their education. Students can enroll in this program at the beginning of any term on the Ottumwa campus.

To enroll, complete an application and attend any required academic orientation and information session. Students meeting all program and graduation requirements receive a diploma.

**Program Total: 38 Credits**

**Term I**
- ACC 121 - Principles of Accounting I - Credits: 3.00
- ADM 108 - Keyboarding Skill Development - Credits: 1.00
- ADM 134 - Business Math - Credits: 2.00 OR
- XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 *
- BCA 142 - Spreadsheets - Credits: 3.00
- CSC 110 - Introduction to Computers - Credits: 3.00

Total: 12-13 Credits

**Term II**
- ACC 160 - Payroll Accounting - Credits: 2.00
- ADM 162 - Office Procedures - Credits: 3.00
- BCA 134 - Word Processing - Credits: 3.00
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00 OR
- SPC 112 - Public Speaking - Credits: 3.00

Total: 11 Credits

**Term III**
- ACC 311 - Computer Accounting - Credits: 3.00
- ADM 123 - Document Formatting - Credits: 3.00
- ADM 221 - Career Development Skills - Credits: 2.00
- BCA 167 - Comprehensive Databases - Credits: 3.00
- ENG 101 - Elements of Writing - Credits: 3.00

Total: 14 Credits

**Notes**
*Refer to General Education Course Requirements (A.A.S.) for approved courses.

*Optional Course(s)*
- BUS 128 - Foundation to Entrepreneurship - Credits: 3.00

**Computer Accounting, Diploma**
**Offered at Main Campus**

Computer Accounting is a six-month (two-term) program designed to prepare students for entry-level computer accounting positions in banks, insurance offices, manufacturing firms, wholesalers, retailers, government offices and educational institutions.
To enroll, complete an application and attend any required academic orientation and information session. Students may enter this program at the beginning of the Fall, Winter and Spring terms. Students meeting all program and graduation requirements receive a diploma.

**Program Total: 23 Credits**

**Term I**
- ACC 121 - Principles of Accounting I - Credits: 3.00
- ADM 131 - Office Calculators - Credits: 1.00
- BCA 142 - Spreadsheets - Credits: 3.00
- CSC 110 - Introduction to Computers - Credits: 3.00
- ADM 134 - Business Math - Credits: 2.00 OR
- XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 *

Total: 11 Credits

**Term II**
- ACC 150 - Financial Reports and Presentations - Credits: 2.00
- ACC 160 - Payroll Accounting - Credits: 2.00
- ACC 311 - Computer Accounting - Credits: 3.00
- ADM 221 - Career Development Skills - Credits: 2.00
- BCA 134 - Word Processing - Credits: 3.00

Total: 12 Credits

**Notes**
*Refer to General Education Course Requirements (A.A.S.) for approved courses.

*Optional Courses
- BUS 128 - Foundation to Entrepreneurship - Credits: 3.00

**Computer Networks and Security, A.A.S.**
**Offered at Main Campus**

Computer Networks and Security is a 21-month (seven-term) program. This specialty emphasizes the installation, operation, security and maintenance of computer systems and networks used in business and industry. Labs are equipped with modern computer equipment and networks.

Students meeting all program and graduation requirements receive an Associate of Applied Science degree. This major may be entered in the Fall or Spring terms.

A laptop computer is required for second-term students, preferred for first term students. Laptop computer requirements are available from the department office at (641) 683-5215.

**Program Total: 85 Credits**

**Term I**
- CSC 110 - Introduction to Computers - Credits: 3.00
- EIT 110 - Electronics - Credits: 2.00
- NET 122 - Computer Hardware Basics - Credits: 3.00
- XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 *

Total: 11 Credits

**Term II**
- BCA 185 - Beginning Webpage Development - Credits: 3.00
- NET 725 - Networking Essentials - Credits: 3.00
- NET 786 - Fundamentals of Desktop Support - Credits: 4.00
  XXX XXX - Approved Scientific Systems Course - Credits: 3.00 *

Total: 13 Credits

**Term III**
- NET 310 - Virtual Machines - Credits: 3.00
- NET 445 - Linux Operating System - Credits: 4.00
- NET 684 - TCP/IP for Networking - Credits: 4.00
Total: 11 Credits

**Term IV**
- NET 153 - Advanced Networking - Credits: 4.00
- NET 319 - Microsoft Server - Credits: 3.00
- NET 404 - Linux Network Administration - Credits: 4.00
- NET 478 - Information Storage and Management - Credits: 3.00
Total: 14 Credits

**Term V**
- NET 202 - Programming for Network Administrators - Credits: 3.00
- NET 343 - Windows Directory Services - Credits: 3.00
- NET 610 - Security Fundamentals - Credits: 2.00
- XXX XXX - Approved Culture Course - Credits: 3.00 *
Total: 11 Credits

**Term VI**
- CIS 351 - Introduction to Database Concepts - Credits: 3.00
- NET 626 - Network Security Audit - Credits: 3.00
- NET 671 - Microsoft Exchange Server - Credits: 2.00
- NET 782 - Computer Users Support - Credits: 3.00
Total: 11 Credits

**Term VII**
- ENG 111 - Technical Writing - Credits: 3.00
- NET 292 - Information Technology Capstone - Credits: 5.00
- NET 619 - Network Attacks: Detection, Analysis and Countermeasures - Credits: 3.00
- NET 845 - Security Field Projects - Credits: 2.00
  OR
- NET 932 - Internship - Credits: 3.00
Total: 13–14 Credits

**Notes:**
*Refer to General Education Course Requirements (A.A.S.) for approved courses.

*Optional Course(s)
- BUS 128 - Foundation to Entrepreneurship - Credits: 3.00

**Computer Software Development, A.A.S.**
**Offered at Main Campus**

The Computer Software Development program instructs students in the languages of the computer and the operation of the computer as the person analyzes and organizes information. The 21-month (seven-term) program covers preparation in computer languages, application testing and debugging, databases, business systems analysis and communication skills. Hands-on training is provided in areas of web development, mobile application development and mainframe programming. The program leads to jobs as computer programmers, programmer analysts and systems analysts.

To enroll, complete an application and attend any required academic orientation and information session. This program may be entered at the beginning of any term. Students meeting all program and graduation requirements receive an Associate of Applied Science degree.

A laptop computer is required for second term students, preferred for first term students. Laptop computer requirements are available from the department office at (641) 683-5215.

**Program Total: 83 Credits**

**Term I**
- ADM 218 - Initiating the Career Search - Credits: 1.00
- BCA 185 - Beginning Webpage Development - Credits: 3.00
- CIS 121 - Intro to Programming Logic - Credits: 3.00
- CSC 110 - Introduction to Computers - Credits: 3.00
- CIS 604 - Visual Basic - Credits: 3.00
OR
- CIS 453 - PLTW Computer Science (CSE) I - Credits: 3.00

**Total: 13 Credits**

**Term II**
- CIS 171 - Java - Credits: 3.00
- CIS 351 - Introduction to Database Concepts - Credits: 3.00
- CIS 402 - Cobol - Credits: 3.00
- CIS 845 - Quality Assurance - Credits: 2.00

**Total: 11 Credits**

**Term III**
- CIS 175 - Java II - Credits: 3.00
- CIS 338 - SQL/Oracle - Credits: 3.00
- XXX XXX - Emphasis Option - Credits: 3.00
- CIS 598 - Python - Credits: 3.00
OR
- CIS 455 - PLTW Computer Science (CSE) II - Credits: 3.00

**Total: 12 Credits**

**Term IV**
- XXX XXX - Approved Communications Course - Credits: 3.00 *
- XXX XXX - Approved Culture Course - Credits: 3.00 *
AND EITHER
- CIS 932 - Internship - Credits: 4.00
OR
- CIS 181 - Java III - Credits: 3.00 AND
- XXX XXX - Emphasis Option - Credits: 3.00

**Total: 10-12 Credits**

**Term V**
- CIS 169 - C# - Credits: 3.00
- CIS 501 - Intro to Business Analysis - Credits: 3.00
- XXX XXX - Emphasis Option - Credits: 3.00
- XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 *

**Total: 12 Credits**

**Term VI**
- ADM 219 - Managing the Career Search - Credits: 1.00
- CIS 174 - Advanced C# Programming - Credits: 3.00
- XXX XXX - Emphasis Option - Credits: 2.00
- XXX XXX - Emphasis Option - Credits: 3.00
AND EITHER
- CIS 850 - Programming Field Project I - Credits: 2.00
OR
- CIS 181 - Java III - Credits: 3.00

**Total: 11-12 Credits**

**Term VII**
- CIS 618 - Advanced .Net Programming - Credits: 3.00
- XXX XXX - Emphasis Option - Credits: 2.00
- XXX XXX - Approved Scientific Reasoning Course - Credits: 3.00 *
- CIS 851 - Programming Field Project II - Credits: 2.00
OR
- XXX XXX - Emphasis Option - Credits: 3.00

**Total: 10-11 Credits**
Mobile Development Emphasis Option Required Courses

- CIS 281 - Mobile Development - Credits: 3.00
- CIS 284 - Advanced Mobile Development - Credits: 3.00
- CIS 456 - PLTW Computer Science (CSA) I - Credits: 3.00
- CIS 457 - PLTW Computer Science (CSA) II - Credits: 3.00
- XXX XXX - Approved Emphasis Electives - Credits: 4.00 - 6.00

Webpage Development Emphasis Option Required Courses

- CIS 198 - JavaScript - Credits: 3.00
- CIS 206 - Web Scripting - Credits: 3.00
- CIS 216 - Web Design and Management - Credits: 2.00
- CIS 226 - Advanced Web Design - Credits: 2.00
- CIS 334 - PHP/APACHE/MYSQL - Credits: 3.00
- XXX XXX - Approved Emphasis Electives - Credits: 3.00

Mainframe Programming Emphasis Option Required Courses

- CIS 344 - Database Programming With DB2 - Credits: 3.00
- CIS 412 - Cobol II - Credits: 3.00
- CIS 421 - Cobol III - Credits: 3.00
- CIS 486 - Introduction to 4GL Programming - Credits: 3.00
- XXX XXX - Approved Emphasis Electives - Credits: 4.00 - 6.00

Approved Emphasis Option Elective Courses

- ACC 121 - Principles of Accounting I - Credits: 3.00
- ACC 122 - Principles of Accounting II - Credits: 3.00
- BUS 104 - Business Essentials - Credits: 3.00
- BUS 128 - Foundation to Entrepreneurship - Credits: 3.00
- CIS 183 - Oracle Academy: Database Design - Credits: 3.00
- CIS 750 - Project Management - Credits: 3.00

Notes:
In order to complete an Emphasis Option area, 16-18 Emphasis Course Credits are required and 12 of the credits must be from the same Emphasis Option area.

* Refer to General Education Course Requirements (A.A.S.) for approved courses.

Geospatial Technology, A.A.S. Offered at Main Campus

The Geospatial Technology program instructs students to work with, interrelate and analyze virtually all forms of spatial data (mapping, surveying and geography).

This 18-month (six-term) program teaches the students to oversee the collection and interpretation of photographic and geographic data gathered from technological tools, such as Global Positioning Systems, Geographic Information Systems (GIS), databases, surveys, censuses, satellite and ground-based remote sensing imagery.

The program is designed to prepare students for jobs in most industries including agriculture, forestry, environmental, health, transportation and urban planning.

To enroll, complete an application and attend any required academic orientation and information session. The program may be entered at the beginning of the Fall term. Students meeting all program requirements receive an Associate of Applied Science degree.

Students are required to have a handheld GPS unit in the first term. A laptop computer is preferred for first-term students and required for second-term students. Laptop computer and GPS unit requirements are available from the department office by calling (641) 683-5215.

Program Total: 68 Credits

Term I

- CSC 110 - Introduction to Computers - Credits: 3.00
- ENG 101 - Elements of Writing - Credits: 3.00
• GIS 100 - Introduction to Geospatial Technologies - Credits: 3.00
• GIS 140 - Global Positioning Systems - Credits: 2.00
Total: 11 Credits

Term II
• BUS 128 - Foundation to Entrepreneurship - Credits: 3.00
• GIS 111 - Introduction to Geographic Information Systems - Credits: 3.00
• GIS 200 - Introduction to Cartography - Credits: 3.00
• XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 *
Total: 12 Credits

Term III
• GIS 121 - Introduction to Data Bases - Credits: 3.00
• GIS 230 - GIS Applications - Credits: 3.00
• SPC 101 - Fundamentals of Oral Communication - Credits: 3.00 OR
• SPC 112 - Public Speaking - Credits: 3.00
• XXX XXX - Approved Scientific Systems Course - Credits: 3.00 *
Total: 12 Credits

Term IV
• GIS 170 - Introduction to Raster Based GIS - Credits: 3.00
• GIS 180 - GIS Tools and Methods - Credits: 3.00
• GIS 205 - GIS Data Acquisition and Analysis - Credits: 3.00
• GIS 900 - Internship - Credits: 4.00
Total: 13 Credits

Term V
• ADM 221 - Career Development Skills - Credits: 2.00
• GIS 800 - GIS Field Project I - Credits: 2.00
• CAD 105 - CAD I - Credits: 2.00
• GIS 949 - Special Topics in GIS - Credits: 3.00
Total: 9 Credits

Term VI
• GIS 130 - Remote Sensing - Credits: 3.00
• GIS 190 - GIS Programming - Credits: 3.00
• GIS 801 - GIS Field Project II - Credits: 2.00
• XXX XXX Approved Culture Course - Credits: 3 *
Total: 11 Credits

Notes:
*Refer to General Education Course Requirements (A.A.S.) for approved courses.

Completing a dual major in this program is an option, see Academic Policies for more information.

Interactive Media Technology, A.A.S.
Offered at Main Campus

The Interactive Media Technology program is designed for students who want to combine graphic communication skills in both print and digital formats with marketing and web design skills. Students learn the fundamentals and best practices in graphic design, web design and social media. There are two emphasis areas built into the program: Interactive Web and Internet Marketing. This is a 21-month (seven-term) program.

To enroll, complete an application and attend any required academic orientation and information session. The program may be entered at the beginning of the Fall term.

Students meeting all program requirements receive an Associate of Applied Science degree.

A laptop computer and associated software is required for this program. Laptop computer and software requirements are available from the department office at (641) 683-5215.
Program Total: 83 Credits

Term I
- ART 133 - Drawing - Credits: 3.00
- CSC 110 - Introduction to Computers - Credits: 3.00
- GRD 105 - Design Basics - Credits: 3.00
- GRD 110 - Introduction to Computer Graphics - Credits: 3.00
Total: 12 Credits

Term II
- ART 184 - Photography - Credits: 3.00
- BCA 185 - Beginning Webpage Development - Credits: 3.00
- ENG 101 - Elements of Writing - Credits: 3.00
- SMM 100 - Introduction to Social Media - Credits: 3.00
Total: 12 Credits

Term III
- CIS 216 - Web Design and Management - Credits: 2.00
- GRD 210 - Computer Graphics II - Credits: 3.00
- MMS 241 - Public Relations and Marketing - Credits: 3.00
- SMM 115 - Introduction to Internet Marketing - Credits: 3.00
- XXX XXX - Approved Culture Course - Credits: 3.00 *
Total: 14 Credits

Term IV
- BUS 128 - Foundation to Entrepreneurship - Credits: 3.00
- CIS 226 - Advanced Web Design - Credits: 2.00
- CIS 351 - Introduction to Database Concepts - Credits: 3.00
- GRA 280 - Audio/Video Production Basics - Credits: 3.00
- SMM 110 - Writing for the Web - Credits: 2.00
Total: 13 Credits

Term V
- GRA 281 - Audio/Video Production Basics II - Credits: 3.00
- XXX XXX - Approved Mathematical Reasoning Course - Credits 3.00 *
- GRD 220 - Web Animation - Credits: 3.00
- SMM 170 - Social Media Campaigns - Credits: 3.00
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00
Total: 12 Credits

Term VI
- CIS 334 - PHP/APACHE/MYSQL - Credits: 3.00
- SMM 130 - Electronic Advertising - Credits: 3.00
- SMM 200 - Emerging Media Technologies - Credits: 3.00
- SMM 210 - Web Analytics - Credits: 3.00
- XXX XXX - Approved Scientific Systems Course - Credits: 3.00 *
Total: 12 Credits

Term VII
- GRD 910 - Portfolio Development - Credits: 2.00
- CIS 198 - JavaScript - Credits: 3.00
- SMM 180 - Mobile Marketing - Credits: 3.00
- SMM 910 - Internship - Credits: 3.00
Total: 12 Credits
Internet Marketing Emphasis Option Courses
- SMM 130 - Electronic Advertising - Credits: 3.00
- SMM 170 - Social Media Campaigns - Credits: 3.00
- SMM 180 - Mobile Marketing - Credits: 3.00

Interactive Web Emphasis Option Courses
- CIS 198 - JavaScript - Credits: 3.00
- CIS 334 - PHP/APACHE/MYSQL - Credits: 3.00
- GRD 220 - Web Animation - Credits: 3.00

Dual Major Option
Students who wish to complete an Associate of Arts degree along with this program can do so by taking these additional courses.
The Cultural elective should be a three-credit Literature. The Math elective should be Mat 110 or higher and the Science course should have a lab component.
- Composition I & II - Credits: 6.00
- Humanities and/or Fine Arts - Credits: 1.00
- Math or Science Electives - Credits: 2.00
- U.S. History or Western Civilization - Credits: 3.00
- Social Science Electives - Credits: 6.00
- The College Experience - Credits: 2.00
- Distributed Core Electives - Credits: 1.00

*Refer to General Education Course Requirements (A.A.S.) for approved courses.

Notes
*Optional Course(s)
- CIS 281 - Mobile Development - Credits: 3.00
- GRA 127 - Illustrator I - Credits: 3.00
- GRA 135 - InDesign - Credits: 2.00
- GRA 143 - Photoshop I - Credits: 2.00
- GRA 222 - Illustrator II - Credits: 2.00
- GRA 224 - InDesign II - Credits: 2.00
- GRA 226 - Photoshop II - Credits: 2.00
- GRA 250 - Dreamweaver - Credits: 2.00
- GRA 251 - Dreamweaver II - Credits: 2.00

Manufacturing Technology
Indian Hills Community College is recognized for preparing students interested in pursuing careers in industrial and manufacturing companies. IHCC offers programs in the fields of bioprocessing, electronics, industrial maintenance, lasers, machining, mechanical design, renewable energy, robotics and welding.

Students completing these programs are awarded Associate of Applied Science degrees or diplomas.

Agricultural / Biofuels Process Technology, A.A.S.
Offered at Main Campus

For more information, contact Kimberly Dreaden at Kimberly.Dreaden@indianhills.edu
Agricultural/Biofuels Process Technology is a 21-month (seven-term) program, which includes the Process Control diploma (three-term) and Bio-Manufacturing diploma (three-term) programs, in which students learn to apply scientific principles and technical skills in support of ethanol fermentation plant processes. Coursework is completed in the context of safety and compliance. Students study electrical and electronics theory, digital fundamentals, process control, instrumentation, high level equipment maintenance and analysis and bioprocess laboratory techniques. Theory courses are supplemented with practical, hands-on laboratory activities.
Some courses are held on the Ottumwa Campus and some meet at the Iowa Bioprocess Training Center in Eddyville.

Graduates of this program are skilled to work on equipment in the ethanol industry and other bio-renewable fuel production plants as well as power plants, food processing facilities, chemical plants and most other automatically-controlled production systems.

This program starts in the Fall and Spring terms. Students wanting to start this program any other term may take selected courses as available. Students meeting all graduation requirements earn an Associate of Applied Science degree.

**Program Total: 73 Credits**

**Term I**
- BPT 104 - Introduction to Biotechnology - Credits: 3.00
- BPT 204 - Biomanufacturing Systems - Credits: 1.00
- ELT 373 - DC Circuit Analysis - Credits: 4.00
- IND 110 - CPR, First Aid and Safety - Credits: 1.00
- MAT 742 - Technical Math - Credits: 2.00

Total: 11 Credits

**Term II**
- ELT 180 - Microcontroller Applications - Credits: 2.00
- ELT 375 - AC Fundamentals - Credits: 2.00
- ELT 736 - Instrumentation and Control - Credits: 2.00
- ENG 111 - Technical Writing - Credits: 3.00
- IND 200 - Mechanical Drives I - Credits: 2.00
- MAT 761 - Technical Math for Electronics - Credits: 2.00

Total: 13 Credits

**Term III**
- BPT 272 - Process Control Practicum - Credits: 3.00
- ELT 550 - Analog Devices - Credits: 4.00
- XXX XXX - Approved Mathematical Reasoning Course - 3.00 Credits*

Total: 10 Credits

**Term IV**
- BPT 932 - Internship - Credits: 4.00

Total: 4 Credits

**Term V**
- BPT 127 - Industrial Chemistry - Credits: 2.00
- BPT 135 - Applied Biochemistry - Credits: 2.00
- BPT 145 - Applied Microbiology - Credits: 4.00
- BPT 157 - Good Manufacturing Practices - Credits: 3.00
- CSC 110 - Introduction to Computers - Credits: 3.00

Total: 14 Credits

**Term VI**
- BPT 121 - Biodiesel Production - Credits: 2.00
- BPT 122 - Ethanol Fermentation - Credits: 2.00
- BPT 132 - Bacterial/Fungal Fermentation - Credits: 2.00
- CHM 121 - Introduction to General Chemistry - Credits: 3.00
- IND 142 - Industrial Maintenance Pumps - Credits: 1.00
- IND 162 - Equipment Maintenance - Credits: 2.00

Total: 12 Credits

**Term VII**
- BPT 281 - Bioprocess Technology Practicum - Credits: 2.00
- BPT 147 - Anaerobic Digestion - Credits: 2.00
- PHY 705 - Introduction to Physics - Credits: 2.00
- XXX XXX - Approved Culture Course - Credits: 3.00 *
Total: 9 Credits

Notes:
*Refer to General Education Course Requirements (A.A.S.) for approved courses.

**Bio-Manufacturing, Diploma**
**Offered at Main Campus**

This nine-month (three-term) program offers broad-based training on the science of bioenergy production. It includes study of the production of ethanol, biodiesel and biogas through anaerobic digestion technologies. It also includes general training on new technologies along with an introduction to systems and technologies typical of bio-manufacturing and other advanced manufacturing plants. This program may lead directly to employment or serve as the second three terms of the Agricultural/Biofuels Process Technology AAS degree program. Students meeting all program and graduation requirements receive a diploma.

Some courses are held on the Ottumwa Campus and some meet at the Iowa Bioprocess Training Center in Eddyville.

To enroll, students must complete an application and attend any required academic orientation and information session. Students may enter this program in the Fall and Spring terms.

**Program Total: 28 Credits**

**Term I**
- BPT 104 - Introduction to Biotechnology - Credits: 3.00
- BPT 135 - Applied Biochemistry - Credits: 2.00
- BPT 145 - Applied Microbiology - Credits: 4.00
- BPT 204 - Biomanufacturing Systems - Credits: 1.00
- MAT 742 - Technical Math - Credits: 2.00

**Total: 12 Credits**

**Term II**
- BPT 121 - Biodiesel Production - Credits: 2.00
- BPT 122 - Ethanol Fermentation - Credits: 2.00
- BPT 132 - Bacterial/Fungal Fermentation - Credits: 2.00
- ELT 736 - Instrumentation and Control - Credits: 2.00

**Total: 8 Credits**

**Term III**
- BPT 147 - Anaerobic Digestion - Credits: 2.00
- ENG 111 - Technical Writing - Credits: 3.00
- IND 110 - CPR, First Aid and Safety - Credits: 1.00
- IND 162 - Equipment Maintenance - Credits: 2.00

**Total: 8 Credits**

**Electrical & Renewable Energy Technology, A.A.S.**
**Offered at Main Campus**

Electrical & Renewable Energy Technology is a 24-month (eight-term) program that will give students conceptual as well as hands-on training in technology and practices used in the electrical and renewable energy fields. This program is designed to prepare electrical engineering technicians and electricians with the skill set to meet the growing demand for "green" sources of power. Students learn about the production and distribution of electrical energy from a variety of traditional and renewable energy sources.

Students may enter this program at the beginning of the Fall term. Students meeting all program and graduation requirements receive an Associate of Applied Science degree and certificates in six specialized areas -- Residential-Commercial Electrical, Industrial-Utility Electrical, Photovoltaic Technician, Energy Auditor, Solar Energy Management and Small Wind.
A laptop computer is required to participate in this program. Minimum laptop computer requirements are listed in the notes at the bottom of this page.

Students will be eligible to apply for an Iowa Unclassified Electrical License, and upon completion of all State of Iowa Electrical Examiner's Board requirements, program graduates will be sponsored by the State of Iowa Electrical Examiner's Board (pending EEB approval) to take the Journeyman Electrician's Examination.

**Program Total: 87 Credits**

**Term I**
- CSC 105 - Computer Essentials - Credits: 1.00
- ELE 349 - Electrical Equipment Tools & Safety - Credits: 3.00
- ELE 352 - Principles of Electronics - Credits: 3.00
- ELT 303 - Principles of Electricity - Credits: 3.00
- IND 110 - CPR, First Aid and Safety - Credits: 1.00

Total: 11 Credits

**Term II**
- EGT 304 - Electrical Engineering & Estimation - Credits: 3.00
- ELE 159 - Introduction to Codes and Standards - Credits: 2.00
- ELE 353 - Residential Electrical/Electronic System - Credits: 3.00
- ELE 354 - Commercial Electrical/Electronic Systems - Credits: 3.00

Total: 11 Credits

**Term III**
- EGT 305 - Engineering Math - Credits: 2.00
- ELE 355 - Intermediate Codes and Standards - Credits: 2.00
- ELE 357 - Industrial Electrical/Electronic Systems - Credits: 3.00
- ELE 358 - Utility Electrical/Electronic Systems - Credits: 3.00

Total: 10 Credits

**Term IV**
- ELE 356 - Advanced Codes and Standards - Credits: 2.00
- SER 100 - Introduction to Renewable Energy Applications - Credits: 2.00
- SER 122 - Photovoltaics I - Credits: 3.00
- SER 123 - Photovoltaics II - Credits: 3.00

Total: 10 Credits

**Term V**
- XXX XXX - Approved Communication Course - Credits: 3.00 *
- XXX XXX - Approved Culture Course - Credits: 3.00 *
- XXX XXX - Approved Mathematical Reasoning Course - Credits: 2.00 *
- XXX XXX - Approved Scientific Systems Course - Credits: 3.00 *

Total: 12 Credits

**Term VI**
- EGT 187 - Computer Aided Electrical Design - Credits: 3.00
- EGT 300 - Energy Efficiency & Auditing - Credits: 3.00
- SER 300 - Advanced Renewable Energy Systems - Credits: 3.00
- SER 301 - Smart Grid Technology - Credits: 2.00

Total: 11 Credits

**Term VII**
- SER 302 - Automated Energy Components - Credits: 3.00
- SER 303 - Automated Energy Systems - Credits: 3.00
- SER 304 - Solar Thermo-Electric Components - Credits: 3.00
- SER 305 - Solar Thermo-Electric Systems - Credits: 3.00

Total: 12 Credits

**Term VIII**
• SER 306 - Sustainable Engineering Capstone - Credits: 3.00 OR
• SER 805 - Sustainable Energy Internship - Credits: 2.00
• WTT 103 - Introduction to Wind Energy - Credits: 3.00
• WTT 202 - Advanced Wind Energy - Credits: 4.00

Total: 10 Credits

Notes:
*Refer to General Education Course Requirements (A.A.S.) for approved courses.
Certificates in this program may be awarded after successful completion of required coursework:

Residential-Commercial Electrical Certificate (Terms 1 and 2)
Industrial-Utility Electrical Certificate (Terms 1 and 3)
Photovoltaic Technician Certificate (Terms 1 and 4)
Energy Auditor Certificate (Terms 1 and 6)
Solar Energy Management Certificate (Terms 1 and 7)
Small Wind Certificate (Terms 1 and 8)

Students may also earn additional certifications from third-party affiliates:
OSHA 10-Hour Construction Safety
OSHA 30-Hour Construction Safety
NCRC Occupational Training
AHA First Aid and CPR Certification
NFPA70E Arc Flash Safety Certification
Minimum laptop computer requirements:
Processor Type: Intel Core i3-3227U
Processor Speed: 1.90 GHz
System RAM: 6 GB
Hard Drive Size: 500GB
Laptop Screen Size: 15.6 inch
Screen Resolution: 1366 x 768
Multi-Media Drive: DVD Drive
Network Connection: Wireless LAN

*Optional Course(s)
• TDT 140 - Driver Training CDL - Credits: 10.00
• BUS 128 - Foundation to Entrepreneurship - Credits: 3.00

Electronic Engineering Technology, A.A.S.
Offered at Main Campus

Electronic Engineering Technology is a 21-month (seven-term) program that focuses on preparing electronic engineering technicians for industry. The program includes the nine-month (three-term) Electronic Technician diploma program, plus 12 months (four terms) of additional concentration in the major. Students will learn electrical and electronic design software, engineering and design principles, fiber optics and advanced communications systems used in various applications and industries, including telecommunications, broadcasting, aeronautics, medicine, industrial control, information processing and networking. PLTW (Project Lead the Way) engineering technician courses are included in this program.

Students meeting all program and graduation requirements receive an Associate of Applied Science degree. This major may be entered at the beginning of the Fall and Spring terms.

Program Total: 79 Credits

Term I
• COM 723 - Workplace Communications - Credits: 3.00
• CSC 110 - Introduction to Computers - Credits: 3.00
• ELT 373 - DC Circuit Analysis - Credits: 4.00
• MAT 742 - Technical Math - Credits: 2.00

Total: 12 Credits

Term II
• BUS 104 - Business Essentials - Credits: 3.00
• EGR 420 - PLTW Digital Electronics - Credits: 3.00 OR
• EGT 420 - PLTW Digital Electronics - Credits: 3.00
• ELT 180 - Microcontroller Applications - Credits: 2.00
• ELT 375 - AC Fundamentals - Credits: 2.00
• MAT 761 - Technical Math for Electronics - Credits: 2.00

Total: 12 Credits

**Term III**

- ELT 505 - Power Transfer Technology - Credits: 2.00
- ELT 550 - Analog Devices - Credits: 4.00
- LEO 102 - Photonics Fundamentals - Credits: 3.00
- XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 *

Total: 12 Credits

**Term IV**

- ELT 579 - Micro Circuits - Credits: 3.00
  OR
- ELT 932 - Internship - Credits: 3.00
- XXX XXX - Approved Culture Course - Credits: 3.00 *
- XXX XXX - Approved Scientific Systems Course - Credits: 3.00 *

Total: 9 Credits

**Term V**

- ATR 266 - Automation Programming - Credits: 2.00
- EGT 400 - PLTW Introduction to Engineering Design - Credits: 3.00 OR
- EGR 400 - PLTW Introduction to Engineering Design - Credits: 3.00
- ELT 402 - Introduction to Communication Systems - Credits: 3.00
- ELT 540 - Linear Components - Credits: 3.00

Total: 11 Credits

**Term VI**

- EGR 410 - PLTW Principles of Engineering - Credits: 3.00 OR
- EGT 410 - PLTW Principles of Engineering - Credits: 3.00
- ELT 418 - Communication Systems I - Credits: 4.00
- ELT 858 - Circuit Design and Test - Credits: 3.00
- XXX XXX - Approved Communications Course - Credits: 3.00 *

Total: 13 Credits

**Term VII**

- ELT 437 - Communication Networks - Credits: 4.00
- ELT 460 - Fiber Optics - Credits: 3.00
- ELT 515 - Wireless Networks - Credits: 3.00

Total: 10 Credits

**Notes:**

*Refer to General Education Course Requirements (A.A.S.) for approved courses.

---

**Electronic Technician - Robotics**

**Offered at Main Campus**

This nine-month "core" program offers broad-based training in basic electricity and electronics, microcomputer applications, applied mathematics, communications and business. This program may lead directly to employment or serve as the first three terms of the Robotics/Automation Technology, Laser/Electro-Optics Technology or Electronics Engineering Technology AAS degree programs. Students meeting all program and graduation requirements will receive a diploma. Students may enter this program in the fall or spring term by completing an application and attending any required orientations. Students desiring to start this program in winter or summer term may take selected courses as available.

**Program Total: 36 Credits**

**Term I**
Electronic Technician - Lasers
Offered at Main Campus

This nine-month "core" program offers broad-based training in basic electricity and electronics, microcomputer applications, applied mathematics, communications and business. This program may lead directly to employment or serve as the first three terms of the Robotics/Automation Technology, Laser/Electro-Optics Technology or Electronics Engineering Technology AAS degree programs. Students meeting all program and graduation requirements will receive a diploma. Students may enter this program in the fall or spring term by completing an application and attending any required orientations. Students desiring to start this program in winter or summer term may take selected courses as available.

Program Total: 36 Credits

Term I
- COM 723 - Workplace Communications - Credits: 3.00
- CSC 110 - Introduction to Computers - Credits: 3.00
- ELT 373 - DC Circuit Analysis - Credits: 4.00
- MAT 742 - Technical Math - Credits: 2.00
Total: 12 Credits

Term II
- BUS 104 - Business Essentials - Credits: 3.00
- EGT 420 - PLTW Digital Electronics - Credits: 3.00 OR
- EGR 420 - PLTW Digital Electronics - Credits: 3.00
- ELT 180 - Microcontroller Applications - Credits: 2.00
- ELT 375 - AC Fundamentals - Credits: 2.00
- MAT 761 - Technical Math for Electronics - Credits: 2.00
Total: 12 Credits

Term III
- ELT 505 - Power Transfer Technology - Credits: 2.00
- ELT 550 - Analog Devices - Credits: 4.00
- LEO 102 - Photonics Fundamentals - Credits: 3.00
- XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 *
Total: 12 Credits

Notes:
*Refer to General Education Course Requirements (A.A.S.) for approved courses.
Total: 12 Credits

Notes:
*Refer to General Education Course Requirements (A.A.S.) for approved courses.

Electronic Technician Engineering, Diploma
Offered at Main Campus

This nine-month (three-term) "core" program offers broad-based training in basic electricity, basic electronics, microcomputer applications, applied mathematics and communication skills. This program may lead directly to employment or serve as the first three terms of one of the seven-term AAS degree programs in Electronic Engineering Technology, Laser/Electro-Optics Technology or Robotics/Automation Technology. Students meeting all program and graduation requirements receive a diploma. To enroll, students must complete an application and attend any required academic orientation and information session. Students may enter this program in the Fall and Spring terms.

Program Total: 36 Credits

Term I
- COM 723 - Workplace Communications - Credits: 3.00
- CSC 110 - Introduction to Computers - Credits: 3.00
- ELT 373 - DC Circuit Analysis - Credits: 4.00
- MAT 742 - Technical Math - Credits: 2.00
Total: 12 Credits

Term II
- BUS 104 - Business Essentials - Credits: 3.00
- EGR 420 - PLTW Digital Electronics - Credits: 3.00 OR
- EGT 420 - PLTW Digital Electronics - Credits: 3.00
- ELT 180 - Microcontroller Applications - Credits: 2.00
- ELT 375 - AC Fundamentals - Credits: 2.00
- MAT 761 - Technical Math for Electronics - Credits: 2.00
Total: 12 Credits

Term III
- ELT 505 - Power Transfer Technology - Credits: 2.00
- ELT 550 - Analog Devices - Credits: 4.00
- LEO 102 - Photonics Fundamentals - Credits: 3.00
- XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 *
Total: 12 Credits

Notes:
*Refer to General Education Course Requirements (A.A.S.) for approved courses.

Energy Auditor Certificate
Offered at Main Campus

Energy Auditor Certification is a 6 month program that will give students conceptual as well as hands-on training in technology, design, data acquisition, assessment and analysis in the energy efficiency segment of the distributive generation & building industries. Green Building Council, Energy Star, Uniform Building Code, National Electrical Code, North American Board of Certified Energy Practitioners, National Electrical Safety Code and State of Iowa Licensing requirements/practices are emphasized throughout the program.

Program Total: 22 Credits

Term I
- CSC 105 - Computer Essentials - Credits: 1.00
- ELE 349 - Electrical Equipment Tools & Safety - Credits: 3.00
- ELE 352 - Principles of Electronics - Credits: 3.00
- ELT 303 - Principles of Electricity - Credits: 3.00
- IND 110 - CPR, First Aid and Safety - Credits: 1.00

Total: 11 Credits

**Term II**
- EGT 187 - Computer Aided Electrical Design - Credits: 3.00
- EGT 300 - Energy Efficiency & Auditing - Credits: 3.00
- SER 300 - Advanced Renewable Energy Systems - Credits: 3.00
- SER 301 - Smart Grid Technology - Credits: 2.00

Total: 11 Credits

## HVAC and Refrigeration, Diploma

**Offered at Main Campus**

The two-term (6-month) HVAC and Refrigeration diploma program prepares the student for entry-level employment in the residential and/or light commercial heating and air-conditioning service industry. Students are trained to be HVAC technicians in a real-world, hands-on lab environment. The HVAC program can be entered in any Fall or Spring Term.

### HVAC Apprenticeship Program

Indian Hills also offers a HVAC Apprenticeship Program. If you are a student interested in exploring the Apprenticeship, or a business interested in volunteering to have Indian Hills students be an apprentice in your company, please read more here.

**Program Total: 25 Credits**

### Term I
- CSC 110 - Introduction to Computers - Credits: 3.00
- HCR 105 - Heating/Cooling Fundamentals - Credits: 2.00
- HCR 304 - Fundamentals of Refrigeration - Credits: 2.00
- MAT 762 - Technical Math for Industry - Credits: 2.00
- ELT 302 - Principles of Electricity - Credits: 2.00
  AND
- IND 110 - CPR, First Aid and Safety - Credits: 1.00
  OR
- ELT 151 - Industrial Electricity - Credits: 3.00

Total: 12 Credits

### Term II
- ADM 221 - Career Development Skills - Credits: 2.00
- HCR 108 - Heating and Air Conditioning Trade Codes - Credits: 2.00
- HCR 130 - Heating System Controls - Credits: 2.00
- HCR 230 - Cooling System Controls - Credits: 2.00
- HCR 390 - Refrigeration Certification - Credits: 1.00
- HCR 505 - Air Distribution - Credits: 3.00
- HCR 830 - Systems Analysis - Credits: 1.00

Total: 13 Credits

## Industrial Maintenance Technician, Diploma

**Offered at Main Campus**

The three-term (9-month) Industrial Maintenance Technician program is designed to provide knowledge, skills and abilities to successfully respond to a broad range of work requirements and duties within industrial, manufacturing, processing and building maintenance environments. Students learn skills in maintaining and troubleshooting
electrical and mechanical systems and machinery. This program includes training in electrical, hydraulics, pneumatics, print reading and mechanical drives.

**Program Total: 28 Credits**

**Term I**
- CSC 110 - Introduction to Computers - Credits: 3.00
- ELT 151 - Industrial Electricity - Credits: 3.00
- IND 200 - Mechanical Drives I - Credits: 2.00
- MAT 762 - Technical Math for Industry - Credits: 2.00

**Total: 10 Credits**

**Term II**
- ELE 196 - Motor Control Principles - Credits: 4.00
- IND 204 - Fluid Power I - Credits: 4.00

**Total: 8 Credits**

**Term III**
- ADM 221 - Career Development Skills - Credits: 2.00
- ELT 225 - Introduction to PLCs - Credits: 4.00
- IND 205 - Fluid Power II - Credits: 4.00

**Total: 10 Credits**

**Industrial Maintenance Elective Courses**
- ELT 165 - Industrial PLC Programming - Credits: 1.00
- ELT 731 - Industrial Instrumentation - Credits: 1.00
- IND 142 - Industrial Maintenance Pumps - Credits: 1.00
- WEL 274 - Shielded Metal Arc Welding I: SENSE 1 - Credits: 3.00
- WEL 244 - Gas Metal Arc Welding Short Circuit Transfer: SENSE 1 - Credits: 2.00
- WEL 251 - Gas Tungsten Arc Welding (GTAW) for Carbon Steel: SENSE 1 - Credits: 2.00

**Industrial Maintenance, A.A.S.**

**Offered at Main Campus**

The six-term (18-month) Industrial Maintenance program, which includes the 9-month (three-term) Industrial Maintenance Technician diploma program, is designed to provide the knowledge, skills and abilities to successfully respond to a broad range of work requirements and duties within industrial, manufacturing, processing and building maintenance environments. Students learn skills in maintaining and troubleshooting electrical and mechanical systems and machinery. This program includes training in electrical, hydraulics, pneumatics, print reading, mechanical drives, pumps and lubrication. In addition, students will take coursework to develop/enhance crucial skills in mathematics, critical thinking skills and basic computer skills. Specific courses may include fundamentals of fluid power, motor controls, industrial pump systems, industrial drives and programmable logic controllers. Upon graduation, students will be awarded Associate of Applied Science degrees.

**Program Total: 62 Credits**

**Term I**
- CSC 110 - Introduction to Computers - Credits: 3.00
- ELT 151 - Industrial Electricity - Credits: 3.00
- IND 109 - Equipment Safety and Operation - Credits: 3.00
- XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 *

**Total: 12 Credits**

**Term II**
- ELE 196 - Motor Control Principles - Credits: 4.00
- IND 134 - Print Reading - Credits: 2.00
- IND 204 - Fluid Power I - Credits: 4.00

**Credits: 10 Credits**
Term III
- ELT 225 - Introduction to PLCs - Credits: 4.00
- IND 162 - Equipment Maintenance - Credits: 2.00
- IND 205 - Fluid Power II - Credits: 4.00

Total: 10 Credits

Term IV
- AUT 143 - Machining for Automotive Mechanics - Credits: 2.00
- IND 161 - Lubrication Certification - Credits: 2.00
- IND 169 - Basic Plumbing and Pipework - Credits: 2.00
- XXX XXX - Approved Scientific Systems Course - Credits: 3.00 *

Total: 9 Credits

Term V
- IND 170 - Rigging Systems - Credits: 2.00
- IND 193 - Introduction to Pumps - Credits: 4.00
- IND 200 - Mechanical Drives I - Credits: 2.00
- IND 201 - Mechanical Drives II - Credits: 2.00

Total: 10 Credits

Term VI
- ADM 221 - Career Development Skills - Credits: 2.00
- XXX XXX - Approved Culture Course - Credits: 3.00 *
- IND 202 - Mechanical Drives III - Credits: 3.00
- XXX XXX - Approved Communication Course - Credits: 3.00 *

Total: 11 Credits

Notes:
*Refer to General Education Course Requirements (A.A.S.) for approved courses.

Industrial-Utility Electrical Certificate
Offered at Main Campus

Industrial-Utility Electrical Certification is a 6 month program that will give students fundamental conceptual & hands-on training with technology, estimating, design, codes, maintenance, repair and electrical installation practices in industrial and utility facilities. National Electrical Code, National Electrical Safety Code and State of Iowa Licensing requirements are emphasized throughout the program.

Program Total: 21 Credits

Term I
- CSC 105 - Computer Essentials - Credits: 1.00
- ELE 349 - Electrical Equipment Tools & Safety - Credits: 3.00
- ELE 352 - Principles of Electronics - Credits: 3.00
- ELT 303 - Principles of Electricity - Credits: 3.00
- IND 110 - CPR, First Aid and Safety - Credits: 1.00

Total: 11 Credits

Term II
- EGT 305 - Engineering Math - Credits: 2.00
- ELE 355 - Intermediate Codes and Standards - Credits: 2.00
- ELE 357 - Industrial Electrical/Electronic Systems - Credits: 3.00
- ELE 358 - Utility Electrical/Electronic Systems - Credits: 3.00

Total: 10 Credits

Laser and Optics Technology, A.A.S.
Offered at Main Campus

Laser and Optics Technology is a 21-month (seven-term) program which includes the nine-month (three-term) Electronic Technician diploma program, plus four terms (12 months) of additional concentration in the major. Students spend more than 40 percent of their time in the lab training on a variety of industrial laser and optical systems. Hands-on laboratory activities are included as an integral part of the program. Graduates will be prepared for a variety of careers in design and manufacturing, materials processing, communications, medical applications, semiconductor fabrication, optical systems, electronics, military applications, sales, education and displays. Excellent job opportunities exist throughout the United States.

Students meeting all program and graduation requirements receive an Associate of Applied Science degree. This major may be entered at the beginning of the Fall or Spring terms.

Program Total: 81 Credits

<table>
<thead>
<tr>
<th>Term</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Term I</td>
<td>COM 723</td>
<td>Workplace Communications</td>
<td>3.00</td>
</tr>
<tr>
<td></td>
<td>CSC 110</td>
<td>Introduction to Computers</td>
<td>3.00</td>
</tr>
<tr>
<td></td>
<td>ELT 373</td>
<td>DC Circuit Analysis</td>
<td>4.00</td>
</tr>
<tr>
<td></td>
<td>MAT 742</td>
<td>Technical Math</td>
<td>2.00</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>12 Credits</strong></td>
<td></td>
</tr>
<tr>
<td>Term II</td>
<td>BUS 104</td>
<td>Business Essentials</td>
<td>3.00</td>
</tr>
<tr>
<td></td>
<td>EGR 420</td>
<td>PLTW Digital Electronics</td>
<td>3.00 OR</td>
</tr>
<tr>
<td></td>
<td>EGT 420</td>
<td>PLTW Digital Electronics</td>
<td>3.00</td>
</tr>
<tr>
<td></td>
<td>ELT 180</td>
<td>Microcontroller Applications</td>
<td>2.00</td>
</tr>
<tr>
<td></td>
<td>ELT 375</td>
<td>AC Fundamentals</td>
<td>2.00</td>
</tr>
<tr>
<td></td>
<td>MAT 761</td>
<td>Technical Math for Electronics</td>
<td>2.00</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>12 Credits</strong></td>
<td></td>
</tr>
<tr>
<td>Term III</td>
<td>ELT 505</td>
<td>Power Transfer Technology</td>
<td>2.00</td>
</tr>
<tr>
<td></td>
<td>ELT 550</td>
<td>Analog Devices</td>
<td>4.00</td>
</tr>
<tr>
<td></td>
<td>LEO 102</td>
<td>Photonics Fundamentals</td>
<td>3.00</td>
</tr>
<tr>
<td></td>
<td>XXX XXX</td>
<td>Approved Mathematical Reasoning Course</td>
<td>3.00 *</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>12 Credits</strong></td>
<td></td>
</tr>
<tr>
<td>Term IV</td>
<td>LEO 242</td>
<td>Introduction to Photonics</td>
<td>4.00</td>
</tr>
<tr>
<td></td>
<td>LEO 257</td>
<td>Laser Components</td>
<td>2.00</td>
</tr>
<tr>
<td></td>
<td>XXX XXX</td>
<td>Approved Culture Course</td>
<td>3.00 *</td>
</tr>
<tr>
<td></td>
<td>XXX XXX</td>
<td>Approved Scientific Systems Course</td>
<td>3.00 *</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>12 Credits</strong></td>
<td></td>
</tr>
<tr>
<td>Term V</td>
<td>CAD 180</td>
<td>Intro to Solidworks</td>
<td>2.00</td>
</tr>
<tr>
<td></td>
<td>LEO 255</td>
<td>Geometric Optics</td>
<td>4.00</td>
</tr>
<tr>
<td></td>
<td>LEO 259</td>
<td>Optical Devices</td>
<td>3.00</td>
</tr>
<tr>
<td></td>
<td>LEO 262</td>
<td>Laser System Fundamentals</td>
<td>3.00</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>12 Credits</strong></td>
<td></td>
</tr>
<tr>
<td>Term VI</td>
<td>LEO 250</td>
<td>Automated Laser Processing</td>
<td>3.00</td>
</tr>
<tr>
<td></td>
<td>LEO 253</td>
<td>Physical Optics</td>
<td>2.00</td>
</tr>
<tr>
<td></td>
<td>LEO 268</td>
<td>Photonics Troubleshooting</td>
<td>3.00</td>
</tr>
<tr>
<td></td>
<td>XXX XXX</td>
<td>Approved Communications Course</td>
<td>3.00 *</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>11 Credits</strong></td>
<td></td>
</tr>
<tr>
<td>Term VII</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
• LEO 266 - Photonics Applications - Credits: 4.00
• LEO 275 - Optical Systems Analysis - Credits: 3.00
• LEO 277 - Photonic Systems Lab - Credits: 3.00

Total: 10 Credits

Notes:
*Refer to General Education Course Requirements (A.A.S.) for approved courses.

*Optional Course(s)
• BUS 128 - Foundation to Entrepreneurship - Credits: 3.00
• LEO 932 - Internship - Credits: 4.00
• LEO 251 - Laser Material Processing - Credits: 4.00

Machine Technology, A.A.S.
Offered at Main Campus

Machine Technology is an 18-month (six-term) program designed to give the student a thorough working knowledge of the machinist trade. The first four terms include a study of the five basic machine tools in both theory and shop applications. The final two terms focus on the technological aspects of computer controlled machines. The program also includes supplemental courses in mathematics, blueprint reading, computer-aided drafting, geometric tolerancing and communication skills. Students will use skills and training from manual machines, as well as new programming techniques, to program and set up tooling systems on the CNC lathe and mill. A CMM (Coordinate Measuring Machine) is utilized in conjunction with the CNC vertical mill. Job opportunities exist for machinists, CNC programmers, quality control technicians and tool and die makers.

The program is accredited through the National Institute for Metalworking Skills (NIMS) providing students the opportunity to achieve the following NIMS certifications:
Measurement, Material & Safety
Job Planning Benchwork & Layout
Lathe I
Mill I
CNC Turning Operator
CNC Mill Operator
CNC Turning: Setup, Programming & Operations
CNC Milling: Setup, Programming & Operations
To enroll, complete an application and attend any required academic orientation and information session. This program may be entered at the beginning of any term. Students meeting all program and graduation requirements receive an Associate of Applied Science degree. Students who complete the first four terms of this program, minus the scientific systems course, receive a diploma in Machine Operations.

Program Total: 74 Credits

Term I
• CSC 105 - Computer Essentials - Credits: 1.00
• MFG 121 - Machine Trade Printreading I - Credits: 2.00
• MFG 209 - Machine Shop Practices - Credits: 3.00
• MFG 222 - Machine Operations I - Credits: 4.00
• MAT 772 - Applied Math - Credits: 3.00
    OR
• XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 *

Total: 13 Credits

Term II
• MFG 131 - Machine Trade Printreading II - Credits: 2.00
• MFG 228 - Machine Operations II - Credits: 4.00
• MFG 507 - Lean Quality Manufacturing - Credits: 2.00
• XXX XXX - Approved Culture Course - Credits: 3.00 *

Total: 11 Credits

Term III
• CAD 180 - Intro to Solidworks - Credits: 2.00
• MFG 233 - Machine Operations III - Credits: 6.00
• MFG 349 - Introduction to CAM - Credits: 2.00
• MFG 262 - Mill Operations Theory - Credits: 3.00
Total: 13 Credits

**Term IV**
• AUT 140 - Welding for Automotive Mechanics - Credits: 2.00
• CAD 230 - Geometric Dimensioning and Tolerancing - Credits: 2.00
• MFG 234 - Machine Operations IV - Credits: 6.00
• MFG 254 - Engine Lathe Theory - Credits: 3.00
Total: 13 Credits

**Term V**
• MFG 235 - Machine Operations V - Credits: 6.00
• MFG 352 - CNC Lathe Fundamentals - Credits: 2.00
• MFG 421 - Jig and Fixtures - Credits: 2.00
• XXX XXX - Approved Communication Course - Credits: 3.00 *
Total: 13 Credits

**Term VI**
• MFG 333 - CNC Mill Fundamentals - Credits: 4.00
• MFG 236 - Machine Operations VI - Credits: 4.00 OR
• MFG 932 - Internship - Credits: 4.00
• XXX XXX - Approved Scientific Systems Course - Credits: 3.00 *
Total: 11 Credits

**Notes:**
*Refer to General Education Course Requirements (A.A.S.) for approved courses.

**Machining Technician**
**Offered at Main Campus**

Machine Technician is a 12-month program designed to give the student thorough working knowledge of the machinist trade. The first four terms include a study of the five basic machine tools in theory and laboratory applications. This program also includes courses in blueprint reading, computer-aided drafting, geometric tolerancing, lean quality manufacturing, applied mathematics, and communication skills. Students will learn skills on manual lathes, mills, drills, and grinders. Job opportunities exist for machinists, quality control technicians, and tool and die makers. Students successfully completing the technical courses in the first four terms of this program plus a general education math course will receive a diploma. Students may enter this program at the beginning of any term by completing an application and attending any required orientations.

**Program Total: 47 Credits**

**Term I**
• CSC 105 - Computer Essentials - Credits: 1.00
• MFG 121 - Machine Trade Printreading I - Credits: 2.00
• MFG 209 - Machine Shop Practices - Credits: 3.00
• MFG 222 - Machine Operations I - Credits: 4.00
Total: 10 Credits

**Term II**
• MFG 131 - Machine Trade Printreading II - Credits: 2.00
• MFG 228 - Machine Operations II - Credits: 4.00
• MFG 507 - Lean Quality Manufacturing - Credits: 2.00
• XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 *
Total: 11 Credits

**Term III**
• CAD 230 - Geometric Dimensioning and Tolerancing - Credits: 2.00
- MFG 233 - Machine Operations III - Credits: 6.00
- MFG 262 - Mill Operations Theory - Credits: 3.00
- MFG 349 - Introduction to CAM - Credits: 2.00

Total: 13 Credits

**Term IV**
- AUT 140 - Welding for Automotive Mechanics - Credits: 2.00
- CAD 180 - Intro to Solidworks - Credits: 2.00
- MFG 234 - Machine Operations IV - Credits: 6.00
- MFG 254 - Engine Lathe Theory - Credits: 3.00

Total: 13 Credits

**Notes:**
*Refer to General Education Course Requirements (A.A.S.) for approved courses.

### Photovoltaic Technician Certificate

**Offered at Main Campus**

Photovoltaic Technology Certification is a 6 month program that will give students fundamental conceptual & hands-on training with technology, estimating, design, codes, maintenance, repair and electrical installation practices in the photovoltaic segment of the distributive generation and electrical industries. National Electrical Code, North American Board of Certified Energy Practitioners, National Electrical Safety Code and State of Iowa Licensing requirements are emphasized throughout the program.

**Program Total: 21 Credits**

#### Term I
- CSC 105 - Computer Essentials - Credits: 1.00
- ELT 303 - Principles of Electricity - Credits: 3.00
- ELE 352 - Principles of Electronics - Credits: 3.00
- IND 110 - CPR, First Aid and Safety - Credits: 1.00
- ELE 349 - Electrical Equipment Tools & Safety - Credits: 3.00

Total: 11 Credits

#### Term II
- ELE 356 - Advanced Codes and Standards - Credits: 2.00
- SER 100 - Introduction to Renewable Energy Applications - Credits: 2.00
- SER 122 - Photovoltaics I - Credits: 3.00
- SER 123 - Photovoltaics II - Credits: 3.00

Total: 10 Credits

### Process Control, Diploma

**Offered at Main Campus**

This nine-month (three-term) program offers broad-based training on how processes are controlled in an advanced manufacturing environment. It includes study of process control fundamentals (electronics and instrumentation), industrial pumps, drives and general maintenance along with an introduction to systems and technologies typical of bio-manufacturing and other advanced manufacturing plants. This program may lead directly to employment or serve as the first three terms of the Agricultural/Biofuels Process Technology AAS degree program. Students meeting all program and graduation requirements receive a diploma.

Some courses are held on the Ottumwa Campus and some meet at the Iowa Bioprocess Training Center in Eddyville.

To enroll, students must complete an application and attend any required academic orientation and information session. Students may enter this program in the Fall and Spring terms.

**Program Total: 34 Credits**
Term I
- BPT 104 - Introduction to Biotechnology - Credits: 3.00
- BPT 204 - Biomanufacturing Systems - Credits: 1.00
- ELT 373 - DC Circuit Analysis - Credits: 4.00
- IND 110 - CPR, First Aid and Safety - Credits: 1.00
- MAT 742 - Technical Math - Credits: 2.00

Total: 11 Credits

Term II
- ELT 180 - Microcontroller Applications - Credits: 2.00
- ELT 375 - AC Fundamentals - Credits: 2.00
- ELT 736 - Instrumentation and Control - Credits: 2.00
- ENG 111 - Technical Writing - Credits: 3.00
- IND 200 - Mechanical Drives I - Credits: 2.00
- MAT 761 - Technical Math for Electronics - Credits: 2.00

Total: 13 Credits

Term III
- BPT 272 - Process Control Practicum - Credits: 3.00
- ELT 550 - Analog Devices - Credits: 4.00
- IND 142 - Industrial Maintenance Pumps - Credits: 1.00
- IND 162 - Equipment Maintenance - Credits: 2.00

Total: 10 Credits

Residential-Commercial Electrical Certificate
Offered at Main Campus

The Residential-Commercial Electrical Certification is a 6 month program that will give students fundamental conceptual & hands-on training with technology, estimating design, codes, maintenance, repair and electrical installation practices in residential and commercial facilities. National Electrical Code and State of Iowa Licensing requirements are emphasized throughout the program.

Program Total: 22 Credits

Term I
- CSC 105 - Computer Essentials - Credits: 1.00
- ELE 349 - Electrical Equipment Tools & Safety - Credits: 3.00
- ELE 352 - Principles of Electronics - Credits: 3.00
- ELE 303 - Principles of Electricity - Credits: 3.00
- IND 110 - CPR, First Aid and Safety - Credits: 1.00

Total: 11 Credits

Term II
- EGT 304 - Electrical Engineering & Estimation - Credits: 3.00
- ELE 159 - Introduction to Codes and Standards - Credits: 2.00
- ELE 353 - Residential Electrical/Electronic System - Credits: 3.00
- ELE 354 - Commercial Electrical/Electronic Systems - Credits: 3.00

Total: 11 Credits

Robotics / Automation Technology, A.A.S.
Offered at Main Campus

Robotics/Automation is a 21-month (seven-term) program, which includes the nine-month (three-term) Electronic Technician diploma program, plus four terms (12 months) of additional concentration in the major. This program prepares graduates to troubleshoot and repair industrial robots and integrated manufacturing work cells as used in
industry. Approximately 45 percent of the training is received through actual problem solving in industrial labs. Hands-on laboratory activities are emphasized as an integral part of the program. Students learn to program automated equipment such as robots and programmable logic controllers. Teamwork, effective communication, and documentation skills are also emphasized. Graduates are employed in industry as field service engineers, control technicians, programmers, application engineers, and electrical maintenance technicians. Students meeting all program and graduation requirements receive an Associate of Applied Science degree. The program is a certified training and education site for Fanuc robotics material handling program software. Upon meeting all the requirements, students can also earn a certificate for Fanuc Handling Tool Operation and Programming. This major may be entered at the beginning of the Fall or Spring terms.

Program Total: 78 Credits

Term I
- COM 723 - Workplace Communications - Credits: 3.00
- CSC 110 - Introduction to Computers - Credits: 3.00
- ELT 373 - DC Circuit Analysis - Credits: 4.00
- MAT 742 - Technical Math - Credits: 2.00
Total: 12 Credits

Term II
- BUS 104 - Business Essentials - Credits: 3.00
- EGR 420 - PLTW Digital Electronics - Credits: 3.00 OR
- EGT 420 - PLTW Digital Electronics - Credits: 3.00
- ELT 180 - Microcontroller Applications - Credits: 2.00
- ELT 375 - AC Fundamentals - Credits: 2.00
- MAT 761 - Technical Math for Electronics - Credits: 2.00
Total: 12 Credits

Term III
- ELT 505 - Power Transfer Technology - Credits: 2.00
- ELT 550 - Analog Devices - Credits: 4.00
- LEO 102 - Photonics Fundamentals - Credits: 3.00
- XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 *
Total: 12 Credits

Term IV
- ATR 251 - Robot Programming I - Credits: 2.00
  AND
- ELT 126 - Industrial Electronics - Credits: 2.00  OR
- MFG 932 - Internship - Credits: 4.00
- XXX XXX - Approved Scientific Systems Course - Credits: 3.00 *
- XXX XXX - Approved Culture Course - Credits: 3.00 *
Total: 10 Credits

Term V
- ATR 110 - Manufacturing Fundamentals - Credits: 2.00
- CAD 180 - Intro to Solidworks - Credits: 2.00
- ELT 130 - Control Systems - Credits: 3.00
- EGT 450 - PLTW Computer Integrated Manufacturing - Credits: 3.00
Total: 10 Credits

Term VI
- ATR 252 - Robot Programming II - Credits: 2.00
- ATR 261 - Robot Controllers I - Credits: 2.00
- ATR 267 - Industrial Systems - Credits: 3.00
- ATR 350 - Robot Offline Programming - Credits: 2.00
- XXX XXX - Approved Communications Course - Credits: 3.00 *
Total: 12 Credits

Term VII
- ATR 262 - Robot Controllers II - Credits: 2.00
Small Wind Certificate
Offered at Main Campus

Small Wind Certification is a 6 month program that will give students conceptual as well as hands-on training in technology, site assessment, and electrical installation practices in the wind energy segment of the Distributive Generation and Electrical Industries. Uniform Building Code, National Electrical Code, North American Board of Certified Energy Practitioners, National Electrical Safety Code and State of Iowa Licensing requirements are emphasized throughout the program.

Program Total: 21 Credits

Term I
- CSC 105 - Computer Essentials - Credits: 1.00
- ELE 349 - Electrical Equipment Tools & Safety - Credits: 3.00
- ELE 352 - Principles of Electronics - Credits: 3.00
- ELT 303 - Principles of Electricity - Credits: 3.00
- IND 110 - CPR, First Aid and Safety - Credits: 1.00
Total: 11 Credits

Term II
- SER 306 - Sustainable Engineering Capstone - Credits: 3.00
- SER 805 - Sustainable Energy Internship - Credits: 2.00
- WTT 103 - Introduction to Wind Energy - Credits: 3.00
- WTT 202 - Advanced Wind Energy - Credits: 4.00
Total: 10 Credits

Solar Energy Management Certificate
Offered at Main Campus

Solar Energy Management Certification is a 6 month program that will give students conceptual as well as hands-on training in technology, site assessment, and electrical installation practices in the solar energy segment of the Distributive Generation and Electrical Industries. Uniform Building Code, National Electrical Code, North American Board of Certified Energy Practitioners, National Electrical Safety Code and State of Iowa Licensing requirements are emphasized throughout the program.

Program Total: 23 Credits

Term I
- CSC 105 - Computer Essentials - Credits: 1.00
- ELE 349 - Electrical Equipment Tools & Safety - Credits: 3.00
- ELE 352 - Principles of Electronics - Credits: 3.00
- ELT 303 - Principles of Electricity - Credits: 3.00
- IND 110 - CPR, First Aid and Safety - Credits: 1.00
Total: 11 Credits

Term II
- SER 302 - Automated Energy Components - Credits: 3.00
- SER 303 - Automated Energy Systems - Credits: 3.00

Notes:
*Refer to General Education Course Requirements (A.A.S.) for approved courses.
Welding Technician, Diploma

This 12-month (four-term) program is available for students interested in welding as an occupation. Welding is essential to the expansion and productivity of a vast array of industries. Welding is considered to be the principal means of fabricating and repairing all metal products. It is difficult to imagine an industry today, large or small, which does not involve some type of welding. Skilled welders often work independently and can utilize their skills anywhere in the world.

The Welding Technology program is a 37-credit diploma program. Term five (pipe welding) is an optional term. Students work on projects in the lab learning to perform all types of welding processes such as GMAW, GTAW, SMAW and Oxy-Acetylene. The lab projects include welds required for AWS certifications and since the program is an American Welding Society (AWS) Accredited Test Facility, students have the opportunity to earn AWS certifications in GMAW, SMAW, GTAW and FCAW. This program can be completed during day and evening hours using facilitated, competency-based instruction. Program completion may vary to accommodate individual needs.

To enroll, complete an application and attend any required academic orientation and information session. Students may enter this program at the beginning of either Fall or Spring terms.

Program Total: 37 Credits

**Term I**
- IND 110 - CPR, First Aid and Safety - Credits: 1.00
- MAT 762 - Technical Math for Industry - Credits: 2.00
- WEL 228 - Introduction to Welding, Safety & Health of Welders: SENSE 1 - Credits: 1.00
- WEL 254 - Welding Inspection and Testing Principles: SENSE 1 - Credits: 1.00
- WEL 262 - Thermal Cutting Process I-Manual and Mechanized OxyFuel Cutting: SENSE 1 - Credits: 2.00
- WEL 274 - Shielded Metal Arc Welding I: SENSE 1 - Credits: 3.00

Total: 10 Credits

**Term II**
- WEL 201 - Procedures and Qualifications - Credits: 1.00
- WEL 233 - Print Reading and Welding Symbol Interpretation: SENSE 1 - Credits: 3.00
- WEL 244 - Gas Metal Arc Welding Short Circuit Transfer: SENSE 1 - Credits: 2.00
- WEL 251 - Gas Tungsten Arc Welding (GTAW) for Carbon Steel: SENSE 1 - Credits: 2.00
- WEL 253 - Gas Tungsten Arc Welding (GTAW) for Austenitic Stainless Steel: SENSE 1 - Credits: 1.00

Total: 9 Credits

**Term III**
- WEL 174 - Advanced Welding Procedures II - Credits: 3.00
- WEL 182 - FCAW - Credits: 2.00
- WEL 275 - Shielded Metal Arc Welding II: SENSE 1 - Credits: 3.00

Total: 8 Credits

**Term IV**
- ADM 221 - Career Development Skills - Credits: 2.00
- WEL 200 - Metallurgy Fundamentals - Credits: 2.00
- WEL 245 - Gas Metal Arc Welding Spray Transfer: SENSE 1 - Credits: 2.00
- WEL 211 - Production Welding Procedures - Credits: 4.00
  OR
- WEL 932 - Internship - Credits: 4.00

Total: 10 Credits

**Term V (Optional)**
- WEL 308 - Pipe Welding/Uphill SMAW - Credits: 4.00
- WEL 309 - Pipe Welding/Downhill SMAW - Credits: 4.00
Welding Technology, A.A.S.  
Offered at North Campus

This 18-month (six-term) program is a continuation of the college's four-term Welding Technology diploma program. Completing the A.A.S. degree will enhance the graduate's opportunities for career upward mobility. Welding is essential to the expansion and productivity of a vast array of industries. Welding is considered to be the principal means of fabricating and repairing all metal products. It is difficult to imagine an industry today, large or small, which does not involve some type of welding. Skilled welders often work independently and can utilize their skills anywhere in the world.

During the first year of the program, students work on projects in the lab learning to perform all types of welding processes such as GMAW, GTAW, SMAW, FCAW and Oxy-Acetylene. The lab projects include welds required for AWS certifications and since the program is an American Welding Society (AWS) Accredited Test Facility, students have the opportunity to earn AWS certifications in GMAW, SMAW, GTAW and FCAW. In the final three terms, students learn machining skills, quality assurance procedures, Lean concepts and basic robotic welding programming. Many of the courses in this program can be completed during day and evening hours using facilitated, competency-based instruction. Program completion may vary to accommodate individual needs.

To enroll, complete an application and attend any required academic orientation and information session. Students may enter this program at the beginning of either Fall or Spring terms. The A.A.S. degree option is pending state approval.

Program Total: 67 Credits

**Term I**
- IND 110 - CPR, First Aid and Safety - Credits: 1.00
- MAT 762 - Technical Math for Industry - Credits: 2.00
- WEL 228 - Introduction to Welding, Safety & Health of Welders: SENSE 1 - Credits: 1.00
- WEL 254 - Welding Inspection and Testing Principles: SENSE 1 - Credits: 1.00
- WEL 262 - Thermal Cutting Process I-Manual and Mechanized OxyFuel Cutting: SENSE 1 - Credits: 2.00
- WEL 274 - Shielded Metal Arc Welding I: SENSE 1 - Credits: 3.00

Total: 10 Credits

**Term II**
- MAT 772 - Applied Math - Credits: 3.00
- XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 *
- WEL 201 - Procedures and Qualifications - Credits: 1.00
- WEL 233 - Print Reading and Welding Symbol Interpretation: SENSE 1 - Credits: 3.00
- WEL 244 - Gas Metal Arc Welding Short Circuit Transfer: SENSE 1 - Credits: 2.00
- WEL 251 - Gas Tungsten Arc Welding (GTAW) for Carbon Steel: SENSE 1 - Credits: 2.00
- WEL 253 - Gas Tungsten Arc Welding (GTAW) for Austenitic Stainless Steel: SENSE 1 - Credits: 1.00

Total: 12 Credits

**Term III**
- CSC 105 - Computer Essentials - Credits: 1.00
- WEL 174 - Advanced Welding Procedures II - Credits: 3.00
- WEL 182 - FCAW - Credits: 2.00
- WEL 275 - Shielded Metal Arc Welding II: SENSE 1 - Credits: 3.00
- XXX XXX - Approved Communications Course - Credits: 3.00 *

Total: 12 Credits

**Term IV**
- ADM 221 - Career Development Skills - Credits: 2.00
- WEL 200 - Metallurgy Fundamentals - Credits: 2.00
- WEL 211 - Production Welding Procedures - Credits: 4.00 OR
- WEL 932 - Internship - Credits: 4.00
- WEL 245 - Gas Metal Arc Welding Spray Transfer: SENSE 1 - Credits: 2.00

Total: 10 Credits
Term V
- AUT 143 - Machining for Automotive Mechanics - Credits: 2.00
- CRR 310 - Adapters, Tools and Measurements - Credits: 1.00
- MFG 203 - Manufacturing Processes - Credits: 3.00
- WEL 710 - Robotic Welding - Credits: 3.00
- XXX XXX - Approved Scientific Systems Course - Credits: 3.00 *

Total: 12 Credits

Term VI
- BUS 104 - Business Essentials - Credits: 3.00 OR
- BUS 102 - Introduction to Business - Credits: 3.00
- MFG 507 - Lean Quality Manufacturing - Credits: 2.00
- WEL 230 - Welding Quality Assurance - Credits: 3.00
- XXX XXX - Approved Culture Course - Credits: 3.00 *

Total: 11 Credits

Term VII (Optional)
- WEL 308 - Pipe Welding/Uphill SMAW - Credits: 4.00
- WEL 309 - Pipe Welding/Downhill SMAW - Credits: 4.00

Notes:
*Refer to General Education Course Requirements (A.A.S.) for approved courses.

Transportation Technology
Indian Hills offers state-of-the-art training in a number of transportation technology programs that support the agriculture, automotive, aviation, construction, rail and trucking industries.

Students completing these programs are awarded Associate of Applied Science degrees, diplomas or certificates.

Auto Technology, A.A.S.
Offered at Main Campus

The Automotive Technology program is a 21-month (seven-term) program. The program provides students with the skills necessary to diagnose and repair the various components of today's complex automobiles. Training includes transmissions, drive lines, engine systems, electronic/electrical systems, air conditioning, brakes, steering/suspension, electronic ignition and fuel injection systems. Employment can be found servicing and repairing automobiles and components in dealerships, private repair facilities, service stations and various store repair centers.

To enroll, complete an application and attend any required academic orientation and information session. Students may enter this major at the beginning of Fall and Spring terms. Students meeting all program and graduation requirements receive an Associate of Applied Science degree.

Program Total: 84 Credits

Term I
- AUT 114 - Shop Fund & Minor Service - Credits: 4.00
- AUT 130 - Automotive Maintenance and Inspection Procedures - Credits: 2.00
- AUT 502 - Automotive Brake Systems - Credits: 2.00
- AUT 701 - Basic Automotive Air Conditioning - Credits: 1.00
- CRR 310 - Adapters, Tools and Measurements - Credits: 1.00

Total: 10 Credits

Term II
- AUT 290 - NVH and Aftermarket - Credits: 2.00
- AUT 402 - Automotive Suspension and Steering - Credits: 2.00
- AUT 540 - Automotive Vehicle Alignment - Credits: 3.00
- AUT 702 - Automotive Heating and Air Conditioning - Credits: 2.00
- MAT 772 - Applied Math - Credits: 3.00

OR
XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 *
Total: 12 Credits

Term III
- AUT 607 - Basic Auto Electricity/Electronics - Credits: 4.00
- AUT 881 - Automotive Lab I - Credits: 3.00
- XXX XXX - Approved Culture Course - Credits 3.00*
Total: 10 Credits

Term IV
- AUT 222 - Basic Automotive Drive Lines - Credits: 2.00
- AUT 224 - Automotive Drive Lines and Repair Procedures - Credits: 2.00
- AUT 303 - Automotive Manual Drive Train and Axles - Credits: 3.00
- AUT 882 - Automotive Lab II - Credits: 3.00
- XXX XXX - Approved Scientific Systems Course - Credits: 3.00 *
Total: 13 Credits

Term V
- AUT 204 - Automotive Automatic Transmissions/Transaxles - Credits: 4.00
- AUT 218 - Automotive Automatic Transmissions/Transaxle Service - Credits: 5.00
- AUT 883 - Automotive Lab III - Credits: 3.00
- CSC 110 - Introduction to Computers - Credits: 3.00
Total: 15 Credits

Term VI
- ADM 218 - Initiating the Career Search - Credits: 1.00
- AUT 155 - Automotive Engine Design and Systems - Credits: 2.00
- AUT 172 - Advanced Automotive Engine Repair - Credits: 2.00
- AUT 833 - Automotive Fuel Systems - Credits: 3.00
- AUT 884 - Automotive Lab IV - Credits: 2.00
- XXX XXX - Approved Communications Course - Credits: 3.00 *
Total: 13 Credits

Term VII
- AUT 848 - Automotive Engine Drivability Diagnosis - Credits: 4.00
- AUT 851 - Automotive Engine Performance Diagnosis - Credits: 3.00
- AUT 862 - Automotive Engine Performance Testing - Credits: 2.00
- AUT 885 - Automotive Lab V - Credits: 2.00
Total: 11 Credits

Notes:
* Refer to General Education Course Requirements (A.A.S.) for approved courses.
Certificates in this program may be awarded after successful completion of required coursework:
Automotive Maintenance Certificate (Terms 1 and 2)
Automotive Electronics Certificate (Term 3)
Automotive Drive Train Certificate (Terms 4 and 5)
Automotive Power Train Certificate (Terms 6 and 7)

*Optional Courses
- BUS 128 - Foundation to Entrepreneurship - Credits: 3.00

Automotive Collision Technology, A.A.S. Offered at North Campus

Automotive Collision Technology is an 18-month (six-term) program. Students receive the skills and knowledge necessary to perform all major and minor repairs to vehicles involved in collisions. Instruction includes body shaping, using a laser beam alignment machine, finishing and repair/replacement of damaged components, upholstery and trim. Students also are required to complete selected automotive courses that are pertinent to the auto collision technician.
To enroll, complete an application and attend any required academic orientation and information session. Students may enter the program at the beginning of any term. Students meeting all program and graduation requirements receive an Associate of Applied Science degree.

**Program Total: 73 Credits**

**Term I**
- CRR 105 - Intro to Specialty Tools - Credits: 3.00
- CRR 302 - Intro to Collision Repair - Credits: 2.00
- CRR 743 - Estimating - Credits: 3.00
- XXX XXX - Approved Communications Course - Credits: 3.00

Total: 11 Credits

**Term II**
- AUT 140 - Welding for Automotive Mechanics - Credits: 2.00
- CRR 201 - Plastic Repair - Credits: 2.00
- CRR 340 - Metal Straightening - Credits: 3.00
- CRR 450 - Glass Service - Credits: 2.00
- CRR 452 - Trim & Component Panel Service - Credits: 2.00
- MAT 772 - Applied Math - Credits: 3.00
- OR
- XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00

Total: 14 Credits

**Term III**
- CRR 507 - Structural Panel Repair and Replacement - Credits: 5.00
- CRR 533 - Structural Repair - Credits: 3.00
- WEL 333 - Auto Collision Welding - Credits: 2.00

Total: 10 Credits

**Term IV**
- CRR 415 - Restraint Systems - Credits: 3.00
- CRR 620 - Electrical Mechanical Systems - Credits: 3.00
- CRR 674 - Electrical Service - Credits: 4.00
- CSC 110 - Introduction to Computers - Credits: 3.00

Total: 13 Credits

**Term V**
- ADM 218 - Initiating the Career Search - Credits: 1.00
- CRR 803 - Introduction to Refinishing - Credits: 3.00
- CRR 875 - Advanced Refinishing Methods - Credits: 6.00
- XXX XXX - Approved Scientific Systems Course - Credits: 3.00

Total: 13 Credits

**Term VI**
- CRR 603 - Mechanical Repairs - Credits: 3.00
- CRR 605 - Mechanical Service - Credits: 3.00
- CRR 612 - Steering and Suspension - Credits: 3.00
- XXX XXX - Approved Culture Course - Credits: 3.00

Total: 12 Credits

**Notes:**
* Refer to General Education Course Requirements (A.A.S.) for approved courses.

*Optional Course(s)*
- BUS 128 Foundation to Entrepreneurship
  - BUS 128 - Foundation to Entrepreneurship - Credits: 3.00

**Automotive Drive Train Certificate**
**Offered at Main Campus**
The automotive Drive Train certificate includes training and theory in: automatic and manual transmissions and transaxles, four wheel drive systems, drive shafts and electronic systems. Students earning this certificate will be able to be employed as Axle and Driveline Technicians.

**Program Total: 22 Credits**

**Term I**
- AUT 222 - Basic Automotive Drive Lines - Credits: 2.00
- AUT 224 - Automotive Drive Lines and Repair Procedures - Credits: 2.00
- AUT 303 - Automotive Manual Drive Train and Axles - Credits: 3.00
- AUT 882 - Automotive Lab II - Credits: 3.00

Total: 10 Credits

**Term II**
- AUT 204 - Automotive Automatic Transmissions/Transaxles - Credits: 4.00
- AUT 218 - Automotive Automatic Transmissions/Transaxle Service - Credits: 5.00
- AUT 883 - Automotive Lab III - Credits: 3.00
- BUS 128 - Foundation to Entrepreneurship - Credits: 3.00 Optional

Total: 12 Credits

**Automotive Electronics Certificate**

Offered at Main Campus

The automotive vehicle performance and engine diagnosis certificate includes training and theory in: engine operation, diagnosis, repair of all internal components. This certificate also includes all fuel, emissions, ignition, and computerized testing and repair.

**Program Total: 7 Credits**

**Term I**
- AUT 607 - Basic Auto Electricity/Electronics - Credits: 4.00
- AUT 881 - Automotive Lab I - Credits: 3.00
- BUS 128 - Foundation to Entrepreneurship - Credits: 3.00 Optional

Total: 7 Credits

**Automotive Maintenance Certificate**

Offered at Main Campus

Automotive Maintenance certificate includes training and theory in: normal engine and vehicle operation. Maintenance and inspection of powertrain, drivetrain, air conditioning and braking systems. Students earning this certificate will be able to be employed as entry level maintenance technicians.

**Program Total: 20 Credits**

**Term I**
- AUT 114 - Shop Fund & Minor Service - Credits: 4.00
- AUT 130 - Automotive Maintenance and Inspection Procedures - Credits: 2.00
- AUT 502 - Automotive Brake Systems - Credits: 2.00
- AUT 701 - Basic Automotive Air Conditioning - Credits: 1.00
- CRR 310 - Adapters, Tools and Measurements - Credits: 1.00

Total: 10 Credits

**Term II**
- AUT 289 - NVH and Accessory Installation - Credits: 3.00
- AUT 402 - Automotive Suspension and Steering - Credits: 2.00
- AUT 540 - Automotive Vehicle Alignment - Credits: 3.00
- AUT 702 - Automotive Heating and Air Conditioning - Credits: 2.00
- BUS 128 - Foundation to Entrepreneurship - Credits: 3.00 Optional

Total: 10 Credits

Automotive Power Train Certificate
Offered at Main Campus

Automotive Power Train certificate includes training and theory in engine design and associated systems. Drivability concerns and electronic engine control diagnostics will be emphasized. Students earning this certificate will be able to be employed as entry level drivability technicians.

Program Total: 20 Credits

Term I
- AUT 155 - Automotive Engine Design and Systems - Credits: 2.00
- AUT 172 - Advanced Automotive Engine Repair - Credits: 2.00
- AUT 833 - Automotive Fuel Systems - Credits: 3.00
- AUT 884 - Automotive Lab IV - Credits: 2.00

Total: 9 Credits

Term II
- AUT 848 - Automotive Engine Drivability Diagnosis - Credits: 4.00
- AUT 851 - Automotive Engine Performance Diagnosis - Credits: 3.00
- AUT 862 - Automotive Engine Performance Testing - Credits: 2.00
- AUT 885 - Automotive Lab V - Credits: 2.00
- BUS 128 - Foundation to Entrepreneurship - Credits: 3.00 Optional

Total: 11 Credits

Aviation Maintenance Technology, A.A.S.
Offered at North Campus

This 21-month (seven-term) both FAA-approved Part 147 and VA-approved program is designed to include training in the latest methods in the aircraft maintenance technology industry. Students have an unusually large number of aircraft (10) and modern turbojet engines to train on, including the huge General Electric CF6-6 and Pratt & Whitney JT8-D. At the completion of the program, students are prepared to take the Federal Aviation Administration examination for licensing as an “airframe and power plant technician/mechanic." Completion leads to employment in the aviation industry with fixed base operations, commuter airlines, major airlines, overhaul and repair stations and aircraft manufacturers.

The program has been approved by the State Department of Veterans' Affairs to receive education benefits from the U.S. Department of Veterans' Affairs.

Students meeting all program and graduation requirements receive an Associate of Applied Science degree. This program may transfer for further study toward a four-year baccalaureate degree. Students may also transfer into IHCC's Avionics Electronic Technician diploma program. Students can enter this major at the beginning of the Fall term.

Program Total: 76 Credits

Term I
- AVM 105 - Regulations and Publications - Credits: 3.00
- AVM 107 - Weight and Balance - Credits: 1.00
- AVM 109 - Basic Electricity - Credits: 4.00
- AVM 111 - Ground Operations and Servicing - Credits: 1.00
Total: 9 Credits

Term II
- AVM 101 - Cleaning/Corrosion Control - Credits: 2.00
- AVM 103 - Aircraft Materials and Processes - Credits: 2.00
- AVM 113 - Airframe Electrical Systems - Credits: 3.00
- AVM 119 - Fundamentals of Physics - Credits: 1.00
- AVM 121 - Weather and Warning Systems - Credits: 1.00
- MAT 772 - Applied Math - Credits: 3.00
OR
- XXX XXX - Approved Mathematical Reasoning Course - Credits 3.00*

Total: 12 Credits

Term III
- AVM 126 - Airframe Structure/Repair - Credits: 4.00
- AVM 127 - Aircraft Wood/Fabric/Finishes - Credits: 2.00
- AVM 141 - Control Systems - Credits: 1.00
- AVM 145 - Aircraft Welding - Credits: 1.00
- XXX XXX - Approved Scientific Systems Course - Credits: 3.00 *

Total: 11 Credits

Term IV
- AVM 117 - Avionics/Fire Protection AF - Credits: 1.00
- AVM 123 - Aircraft Assembly and Rigging - Credits: 2.00
- AVM 129 - Landing Gear and Brake Systems - Credits: 2.00
- AVM 131 - Airframe Inspections - Credits: 1.00
- AVM 134 - Aircraft Hydraulics/Pneumatics - Credits: 2.00
- AVM 137 - Aircraft Instruments - Credits: 1.00
- XXX XXX - Approved Communications Course - Credits: 3.00 *

Total: 12 Credits

Term V
- AVM 143 - Aircraft Gas Turbines - Credits: 4.00
- AVM 147 - Airframe Fuel Systems - Credits: 2.00
- AVM 151 - Engine Fuel/Metering - Credits: 2.00
- CSC 110 - Introduction to Computers - Credits: 3.00

Total: 11 Credits

Term VI
- AVM 139 - Instruments/Fire Protection-PP - Credits: 1.00
- AVM 149 - Engine Lubrication Systems - Credits: 2.00
- AVM 157 - Induction/Cooling/Exhaust - Credits: 1.00
- AVM 159 - Engine Electrical Systems - Credits: 2.00
- AVM 161 - Aircraft Ignition Systems - Credits: 3.00
- XXX XXX - Approved Culture Course - Credits: 3.00 *

Total: 12 Credits

Term VII
- AVM 135 - Powerplant Inspection - Credits: 1.00
- AVM 153 - Powerplant Piston - Credits: 5.00
- AVM 155 - Aircraft Propeller Systems - Credits: 3.00

Total: 9 Credits

Notes:
* Refer to General Education Course Requirements (A.A.S.) for approved courses.
*Optional Course(s)
- AVM 110 - Human Factors in Aviation Maintenance - Credits: 1.00
- AVM 122 - Rotorcraft Technology - Credits: 1.00
- BUS 128 - Foundation to Entrepreneurship - Credits: 3.00
Aviation Pilot Training, A.A.S.
Offered at North Campus

Students with or without pilot certification can efficiently prepare for a career as a professional pilot and/or as an employee in a flight operations business other than in the cockpit by completing one or more of the concentrations in this 21-month (seven-term) program.

Flight training includes advanced full-motion experience and visual flight simulation of traditional and glass cockpit airplanes, visual and instrument flying and multi-engine flying in addition to actual flight in training aircraft. Program ground courses blend traditional face-to-face lectures and class discussions with student self-directed multimedia learning activities, individualized instruction and online tools. Many of the APT ground courses are also available online allowing students to complete much of the degree in their hometown before or after completing flight training at Indian Hills' North Campus. Go to www.indianhills.edu/aviationpilot for more information.

To be accepted into the Aviation Pilot Training program, students must have at least a 2.0 high school or college grade point average. Prospective students need to: (1) complete an application form, which can be obtained from the Admissions Office, the Aviation Department, a high school counselor, or online at www.indianhills.edu; (2) provide the college with a high school transcript or high school equivalency diploma certification, and transcript(s) from any other college(s) attended. In the case of a high school, also send any applicable signed high school articulation agreements; (3) submit a copy of their first- or second-class medical certificate; (4) complete a pre-admission informational conference with the Aviation Department staff (contact the Aviation Department for details); (5) provide proof of U.S. citizenship (valid U.S. passport, original birth certificate, etc.) or in the case of non-citizenship meet the validation requirements of the Transportation Security Administration (TSA). Original positive identification documents described above must be presented to the Aviation Department Office before the first flight at the IHCC Aviation Center. Please contact the Aviation Department at (641) 683-5214 for further information.

Students presenting documentation of a current private pilot certificate prior to enrollment will receive credit for Introduction to Aviation (AVI 105), Private Basic Ground I (AVI 135), Private Basic Ground II (AVI 136), Private Flight I (AVI 175), Private Flight II (AVI 176) and Private Pilot Certification (AVI 187).

Students should be prepared to fly five days per week in order to complete this program on schedule. Additional time or terms may be needed to complete the flight portion due to factors such as adverse weather conditions, aircraft availability, and student aptitude.

Students meeting all program and graduation requirements receive an Associate of Applied Science degree. This program may transfer for further study towards a four-year baccalaureate degree.

Concentrations
- Flight Education Concentration
- Commercial Pilot Concentration
- Flight Crew Technology Concentration
- Private Pilot Certificate Concentration

Flight Education Concentration
Students are prepared for immediate employment as certified basic and instrument flight instructors in single-engine airplanes. With additional experience, graduates can qualify for future positions as professional flight training specialists for the airlines and general aviation companies or flight school managers. Students will complete the required flight and ground courses for Commercial Instrument Pilot Single-Engine Airplane certification. Students will complete ground school on flight education theory, a thorough review of commercial/instrument pilot topics, and practice teaching in flight. Students are encouraged to begin with the Commercial Pilot Concentration to earn an A.A.S. degree and to then complete the Flight Education option with only nine additional credits of coursework.

Program Total: 72 Credits

Term I
- AVI 105 - Introduction to Aviation - Credits: 3.00 *
- AVI 135 - Private Basic Ground I - Credits: 3.00 *
- AVI 175 - Private Flight I - Credits: 1.00
  OR
- AVI 178 - ACT Private Pilot Flight I - Credits: 2.00
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVI XXX</td>
<td>Program Elective - Credits 3.00 *</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total: 10 Credits</td>
<td></td>
</tr>
<tr>
<td>Term II</td>
<td>AVI 123 - Maintenance Responsibilities - Credits: 3.00 *</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI 136 - Private Basic Ground II - Credits: 3.00 *</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI 150 - Aerodynamics - Credits: 3.00 *</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI 176 - Private Flight II - Credits: 1.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI 179 - ACT Private Pilot Flight II - Credits: 1.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total: 10 Credits</td>
<td></td>
</tr>
<tr>
<td>Term III</td>
<td>AVI 187 - Private Pilot Certification - Credits: 1.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI 179 - ACT Private Pilot Flight II - Credits: 1.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI 200 - Instrument Pilot Ground I - Credits: 3.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI 220 - Aviation Meteorology - Credits: 3.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI 230 - Instrument Flight Stage 1 - Credits: 1.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AND</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI 231 - Instrument Flight Stage 2 - Credits: 1.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI 236 - ACT Instrument Flight I - Credits: 2.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 **</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total: 12 Credits</td>
<td></td>
</tr>
<tr>
<td>Term IV</td>
<td>AVI 201 - Instrument Pilot Ground II - Credits: 2.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI 232 - Instrument Flight Stage 3 - Credits: 1.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI 237 - ACT Instrument Flight II - Credits: 1.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI 249 - General Aviation Operations Management - Credits: 3.00 *</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI 262 - Commercial Pilot Ground I - Credits: 2.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI 280 - Commercial Night Flight Stage 4A - Credits: 1.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI 289 - ACT Commercial Flight I - Credits: 3.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total: 9 Credits</td>
<td></td>
</tr>
<tr>
<td>Term V</td>
<td>AVI 263 - Commercial Pilot Ground II - Credits: 2.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI 281 - Commercial X-C Stage 4B - Credits: 2.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI 289 - ACT Commercial Flight I - Credits: 3.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI XXX - Program Elective - Credits 2.00 *</td>
<td></td>
</tr>
<tr>
<td></td>
<td>XXX XXX - Approved Culture Course - Credits 3.00 **</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total: 9 Credits</td>
<td></td>
</tr>
<tr>
<td>Term VI</td>
<td>AVI 282 - Commercial Flight Stage 5 - Credits: 2.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI 291 - ACT Commercial Flight II - Credits: 2.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI 290 - Fundamentals of Ground Instruction - Credits: 3.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI 300 - Flight Instructor Ground School - Credits: 3.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>XXX XXX - Approved Scientific Systems Course - Credits 3.00 **</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total: 11 Credits</td>
<td></td>
</tr>
<tr>
<td>Term VII</td>
<td>AVI 283 - Commercial Certification - Credits: 2.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI 292 - ACT Commercial Flight III - Credits: 2.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI 285 - Glass Cockpit Systems - Credits: 1.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AVI 351 - Flight Instructor Basic - Credits: 1.00</td>
<td></td>
</tr>
</tbody>
</table>
Commercial Pilot Concentration

Students are prepared for entry-level employment as pilot flight crew members building time in activities such as flying parachute jumpers, conducting aerial photography, banner towing, airplane sales demonstrations, conducting airplane rides, performing basic aerial application operations and serving as copilots with small scheduled and non-scheduled air service operations. After graduation, pilots need to accumulate approximately 1,500 total hours to advance to positions such as airline or corporate pilot crew members. The curriculum includes aviation program elective coursework that better prepares pilots for careers in flying large commercial aircraft. Aircraft and engine systems technology, crew communication procedures, aviation business operations and aircraft maintenance requirements are stressed in this concentration.

Program Total: 72 Credits

Term I
- AVI 105 - Introduction to Aviation - Credits: 3.00 *
- AVI 135 - Private Basic Ground I - Credits: 3.00 *
- AVI 175 - Private Flight I - Credits: 1.00
- AVI XXX Program Elective - Credits - 3.00 *
Total: 10 Credits

Term II
- AVI 123 - Maintenance Responsibilities - Credits: 3.00 *
- AVI 136 - Private Basic Ground II - Credits: 3.00 *
- AVI 150 - Aerodynamics - Credits: 3.00 *
- AVI 176 - Private Flight II - Credits: 1.00
Total: 10 Credits

Term III
- AVI 187 - Private Pilot Certification - Credits: 1.00
- AVI 200 - Instrument Pilot Ground I - Credits: 3.00
- AVI 230 - Instrument Flight Stage 1 - Credits: 1.00
- AVI 231 - Instrument Flight Stage 2 - Credits: 1.00
- AVI XXX - Program Elective - Credits 2.00 *
- XXX XXX - Approved Mathematical Reasoning Course - 3.00 **
Total: 11 Credits

Term IV
- AVI 201 - Instrument Pilot Ground II - Credits: 2.00
- AVI 232 - Instrument Flight Stage 3 - Credits: 1.00
- AVI 249 - General Aviation Operations Management - Credits: 3.00 *
- AVI 262 - Commercial Pilot Ground I - Credits: 2.00
- AVI 280 - Commercial Night Flight Stage 4A - Credits: 1.00
- AVI XXX - Program Elective - Credits 2.00 *
Total: 11 Credits

Term V
- AVI 263 - Commercial Pilot Ground II - Credits: 2.00
- AVI 281 - Commercial X-C Stage 4B - Credits: 2.00
- XXX XXX - Approved Scientific Systems Course - Credits 3.00 **
- XXX XXX - Approved Culture Course - Credits: 3.00 **
Total: 10 Credits

Term VI
- AVI 220 - Aviation Meteorology - Credits: 3.00
Flight Crew Technology Concentration

This option is designed for those who want to work in a flight operations business in positions other than a pilot/copilot or for experienced pilots interested in enhancing their qualifications by earning a college degree and acquiring an understanding of the technical and business aspects of flight operations. The coursework provides a foundation for flight operations and airport administrators, administrative assistants, aeronautical engineering students or private aviation business owners/entrepreneurs. Aircraft and avionics maintenance and engineering technicians will benefit by learning how to test and troubleshoot complex cockpit instrument, system monitoring and communications systems used by flight crews. To complete this concentration, students must earn their Private Pilot Certificate and complete Instrument Ground School I and II. They also must complete an additional 14 credit hours of Arts and Sciences transferable electives that will best complement their future career paths.

Program Total: 77 Credits

Term I
- AVI 105 - Introduction to Aviation - Credits: 3.00 *
- AVI 135 - Private Basic Ground I - Credits: 3.00 *
- AVI 175 - Private Flight I - Credits: 1.00
- AVI XXX Program Elective - Credits 3.00 *
Total: 10 Credits

Term II
- AVI 123 - Maintenance Responsibilities - Credits: 3.00 *
- AVI 136 - Private Basic Ground II - Credits: 3.00 *
- AVI 150 - Aerodynamics - Credits: 3.00 *
- AVI 176 - Private Flight II - Credits: 1.00
Total: 10 Credits

Term III
- AVI 187 - Private Pilot Certification - Credits: 1.00 *
- AVI 200 - Instrument Pilot Ground I - Credits: 3.00
- AVI 220 - Aviation Meteorology - Credits: 3.00 *
- XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 **
Total: 10 Credits

Term IV
- AVI 201 - Instrument Pilot Ground II - Credits: 2.00
- AVI 249 - General Aviation Operations Management - Credits: 3.00 *
- AVI XXX - Program Elective - Credits: 2.00 *
- XXX XXX - Approved Culture Course - Credits: 3.00 **
Total: 10 Credits

Term V
- AVI XXX - Program Elective - Credits: 2.00
- AVI XXX - Program Elective - Credits: 2.00
- AVI XXX - Program Elective - Credits 3.00
- XXX XXX - Approved Communications Course - Credits: 3.00 **
- XXX XXX - Approved Scientific Reasoning Course - Credits: 3.00 **
Total: 13 Credits

Term VI
- AVI XXX - Program Elective - Credits 3.00 *

Total: 11 Credits

Term VII
- CSC 110 - Introduction to Computers - Credits: 3.00 **
- XXX XXX - Approved Communications Course - Credits: 3.00 **
- AVI 283 - Commercial Certification - Credits: 2.00
- AVI XXX - Program Elective - Credits: 1.00 *
Total: 9 Credits
CSC 110 - Introduction to Computers - Credits: 3.00 **
XXX XXX - Approved Mathematical Reasoning Course - Credits 3.00 **
XXX XXX - Approved Scientific Systems Course - Credits 3.00 **
Total: 12 Credits

Term VII
- AVI XXX - Program Elective - Credits 3.00 *
- XXX XXX - Approved Communications Course - Credits 3.00 **
- XXX XXX - Approved Scientific Systems Course - Credits 3.00 **
- XXX XXX - Approved Culture Course - Credits 3.00 **
Total: 12 Credits

Private Pilot Certificate Concentration
This concentration combines ground and flight courses for students who have little or no flight time and wish to obtain a Private Pilot Certificate. A Private Pilot Certificate allows persons to fly passengers and to share operating expenses with passengers, but prohibits the pilot from conducting flights for compensation or hire.
The course provides ground training and flight training as required by Federal Aviation Regulations.
The ground training subjects will include the pilot training system, airplane systems, aerodynamics of flight, the flight environment, weather, aircraft performance, navigation, human factors and cross-country flying. Students will be fully prepared to take the FAA Private Pilot written knowledge test at the conclusion of the ground course.
The flight training subjects will include basic flight maneuvers, takeoffs and landings, the first solo flight, local day and night flight operations as well as day and night cross-country flights. Students will be fully prepared to take the FAA Private Pilot practical test at the conclusion of the flight training course.

Program Total: 9 Credits

Term I
- AVI 135 - Private Basic Ground I - Credits: 3.00 *
- AVI 175 - Private Flight I - Credits: 1.00
- AVI 136 - Private Basic Ground II - Credits: 3.00
- AVI 176 - Private Flight II - Credits: 1.00
- AVI 187 - Private Pilot Certification - Credits: 1.00
Total: 4 Credits

Term II
- AVI 136 - Private Basic Ground II - Credits: 3.00 *
- AVI 176 - Private Flight II - Credits: 1.00
Total: 4 Credits

Term III
- AVI 187 - Private Pilot Certification - Credits: 1.00
Total: 1 Credit

Aviation Pilot Training Program Electives
- AVI 110 - History of Aviation - Credits: 3.00
- AVI 127 - Engines Systems Theory - Credits: 3.00
- AVI 129 - Employment Prep for Aviation Careers - Credits: 1.00
- AVI 155 - Airframe Systems Theory - Credits: 3.00
- AVI 188 - Currency and Refresher - Credits: 1.00
- AVI 190 - VFR Communications - Credits: 2.00
- AVI 195 - IFR Communications - Credits: 2.00
- AVI 285 - Glass Cockpit Systems - Credits: 1.00
- AVI 286 - Glass Cockpit Flight Checkout - Credits: 1.00
- AVI 399 - Multi-Engine Primer - Credits: 1.00
- AVI 400 - Multi-Engine Rating - Credits: 1.00
- AVI 410 - Multi-Engine Instructor - Credits: 1.00

Notes:
*Students have the option of taking these courses online.
**Refer to General Education Course Requirements (A.A.S.) for approved courses.
*Optional Courses
- AVI 189 - Private Pilot Proficiency I - Credits: 1.00
- AVI 191 - Private Pilot Proficiency II - Credits: 2.00
- AVI 233 - Instrument Pilot Proficiency I - Credits: 1.00
- AVI 234 - Instrument Pilot Proficiency II - Credits: 2.00
- AVI 287 - Commercial Pilot Proficiency I - Credits: 1.00
- AVI 288 - Commercial Pilot Proficiency II - Credits: 2.00
- AVI 353 - Instructor Pilot Proficiency I - Credits: 1.00
- AVI 354 - Instructor Pilot Proficiency II - Credits: 2.00
- BUS 128 - Foundation to Entrepreneurship - Credits: 3.00

**Additional Notes:**

**Aviation Pilot Training Flight and Ground Training Cost - Ottumwa, Iowa, Location**

- Aircraft Rental $109.00/Hour
- Complex Aircraft $159.00/Hour
- Flight Simulator/Instructor $51.00/Hour
- Primary Instruction $30.00/Hour
- Advanced Instruction $31.00/Hour
- Pre/Post Briefing $22.00/Hour

<table>
<thead>
<tr>
<th>Course</th>
<th>Aircraft Flight Hours</th>
<th>Flight Sim Hours</th>
<th>Flight Instruction Hours</th>
<th>Briefing Hours</th>
<th>Course Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVI 175</td>
<td>25</td>
<td>2</td>
<td>27</td>
<td>10</td>
<td>$3,822</td>
</tr>
<tr>
<td>AVI 176</td>
<td>18</td>
<td>1</td>
<td>13</td>
<td>5</td>
<td>$2,531</td>
</tr>
<tr>
<td>AVI 187</td>
<td>17</td>
<td>0</td>
<td>5</td>
<td>2</td>
<td>$2,064</td>
</tr>
<tr>
<td>AVI 189</td>
<td>10</td>
<td>0</td>
<td>7</td>
<td>5</td>
<td>$1,420</td>
</tr>
<tr>
<td>AVI 191</td>
<td>20</td>
<td>0</td>
<td>14</td>
<td>5</td>
<td>$2,730</td>
</tr>
<tr>
<td>AVI 230</td>
<td>7</td>
<td>7</td>
<td>14</td>
<td>5.5</td>
<td>$1,682</td>
</tr>
<tr>
<td>AVI 231</td>
<td>9</td>
<td>5</td>
<td>14</td>
<td>5.5</td>
<td>$1,800</td>
</tr>
<tr>
<td>AVI 232</td>
<td>18.5</td>
<td>3</td>
<td>18</td>
<td>7.5</td>
<td>$2,911</td>
</tr>
<tr>
<td>AVI 233</td>
<td>7</td>
<td>3</td>
<td>10</td>
<td>5</td>
<td>$1,343</td>
</tr>
<tr>
<td>AVI 234</td>
<td>14</td>
<td>6</td>
<td>20</td>
<td>5</td>
<td>$2,573</td>
</tr>
<tr>
<td>AVI 280</td>
<td>14</td>
<td>0</td>
<td>9</td>
<td>3.5</td>
<td>$2,508</td>
</tr>
<tr>
<td>AVI 281</td>
<td>30</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>$5,048</td>
</tr>
<tr>
<td>AVI 282</td>
<td>21 - 7 Complex</td>
<td>0</td>
<td>12</td>
<td>5</td>
<td>$3,991</td>
</tr>
<tr>
<td>AVI 283</td>
<td>27 - 5 Complex</td>
<td>0</td>
<td>15</td>
<td>6</td>
<td>$4,173</td>
</tr>
<tr>
<td>AVI 287</td>
<td>10 - 2 Complex</td>
<td>0</td>
<td>8</td>
<td>5</td>
<td>$1,556</td>
</tr>
<tr>
<td>AVI 288</td>
<td>20 - 4 Complex</td>
<td>0</td>
<td>16</td>
<td>5</td>
<td>$3,002</td>
</tr>
<tr>
<td>AVI 351</td>
<td>35 - 6 Complex</td>
<td>0</td>
<td>20</td>
<td>6</td>
<td>$4,896</td>
</tr>
<tr>
<td>AVI 352</td>
<td>13</td>
<td>4</td>
<td>14</td>
<td>6.5</td>
<td>$2,211</td>
</tr>
<tr>
<td>AVI 353</td>
<td>10 - 2 Complex</td>
<td>0</td>
<td>8</td>
<td>5</td>
<td>$1,556</td>
</tr>
<tr>
<td>AVI 354</td>
<td>20 - 4 Complex</td>
<td>0</td>
<td>16</td>
<td>5</td>
<td>$3,002</td>
</tr>
</tbody>
</table>

**Aviation Pilot Training Flight and Ground Training Cost - San Diego, California, Location**

- Aircraft Rental (Piper Archer) $175.00/Hour
- Aircraft Rental (Piper Arrow) $185.00/Hour
- Aircraft Rental Multi-Engine (Piper Seminole) $322.00/Hour
- Flight Simulator $85.00/Hour
- Ground Instruction $70.00/Hour
- Flight Instruction $70.00/Hour

<table>
<thead>
<tr>
<th>Course</th>
<th>Aircraft Flight Hours</th>
<th>Flight Sim Hours</th>
<th>Flight Instruction Hours</th>
<th>Briefing Hours</th>
<th>Course Fee</th>
<th>Course Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVI 178</td>
<td>21</td>
<td>4</td>
<td>25</td>
<td>18.5</td>
<td>$290</td>
<td>$9,475</td>
</tr>
<tr>
<td>AVI 179</td>
<td>35</td>
<td>0</td>
<td>30</td>
<td>16.5</td>
<td>$1,205</td>
<td>$9,925</td>
</tr>
<tr>
<td>AVI 236</td>
<td>11</td>
<td>10</td>
<td>21</td>
<td>13.4</td>
<td>$308</td>
<td>$7,666</td>
</tr>
<tr>
<td>AVI 237</td>
<td>19</td>
<td>10</td>
<td>29</td>
<td>21.6</td>
<td>$1,205</td>
<td>$9,125</td>
</tr>
<tr>
<td>AVI 289</td>
<td>25</td>
<td>0</td>
<td>15</td>
<td>10</td>
<td>$254</td>
<td>$6,414</td>
</tr>
<tr>
<td>AVI 291</td>
<td>55</td>
<td>6</td>
<td>16</td>
<td>9.5</td>
<td>$75</td>
<td>$12,090</td>
</tr>
<tr>
<td>AVI 292</td>
<td>30 - 16 Complex</td>
<td>4</td>
<td>24</td>
<td>15.5</td>
<td>$1,225</td>
<td>$9,485</td>
</tr>
<tr>
<td>AVI 355</td>
<td>25 - 15 Complex</td>
<td>0</td>
<td>25</td>
<td>40</td>
<td>$1,225</td>
<td>$11,373</td>
</tr>
</tbody>
</table>
Avionics Electronic Technician, Diploma
Offered at North Campus

The Avionics Electronic Technician program is a three-term (nine-month) program that will help develop in-depth knowledge of aircraft avionic systems down to the printed circuit board component level. This program prepares students for a career as an aircraft avionics technician, aircraft electrician, aircraft avionic component repairmen, electrical/avionics installer and troubleshooter. Students will build their troubleshooting skills by removing faulty components and repairing them using the latest test equipment. Successful completion of this program will meet the requirement and supply the knowledge needed to test and obtain the Federal Communications Commission (FCC) General Radio Telephone Operator license.

To enroll, complete an application and attend any required academic orientation and information session. Students may enroll in this program at the beginning of the Summer term.

Students meeting all program and graduation requirements receive a diploma.

Program Total: 35 Credits

Term I
- AVM 200 - Avionics Systems I - Credits: 3.00
- ELT 373 - DC Circuit Analysis - Credits: 4.00
- ELT 550 - Analog Devices - Credits: 4.00
Total: 11 Credits

Term II
- AVM 202 - Avionics Systems II - Credits: 3.00
- AVM 208 - Airframe Platform Integration - Credits: 3.00
- ELT 402 - Introduction to Communication Systems - Credits: 3.00
- XXX XXX - Approved General Education Course - Credits: 3.00 *
Total: 12 Credits

Term III
- AVM 204 - Avionics Systems III - Credits: 3.00
- AVM 207 - FCC Review and Preparation - Credits: 2.00
- AVM 209 - Aircraft Platform Integration II - Credits: 3.00
- ELT 418 - Communication Systems I - Credits: 4.00
Total: 12 Credits

Notes:
*Refer to General Education Course Requirements (A.A.S.) for approved courses.
*Optional Course(s)
- BUS 128 - Foundation to Entrepreneurship - Credits: 3.00

Diesel Technology, A.A.S.
Offered at Main Campus

This is a 21-month (seven-term) program. Students will acquire skills in a variety of mechanical, electrical and computer systems necessary to diagnose, repair and maintain agricultural equipment, trucks, locomotive engines and other types of heavy construction equipment. Students will study diesel engines, transmissions, hydraulics, drivelines, power dividers, brakes, air conditioning and automated guidance systems (GPS).

To enroll, complete an application and attend any required academic orientation and information session. Students may enter this major at the beginning of the Fall and Spring terms. Students meeting all program and graduation requirements receive an Associate of Applied Science degree.
Program Total: 77 Credits

Term I
- AUT 607 - Basic Auto Electricity/Electronics - Credits: 4.00
- AUT 701 - Basic Automotive Air Conditioning - Credits: 1.00
- CRR 310 - Adapters, Tools and Measurements - Credits: 1.00
- DSL 602 - Principles of Hydraulics - Credits: 2.00
- DSL 848 - Diesel Guidance Systems - Credits: 3.00
Total: 11 Credits

Term II
- AUT 143 - Machining for Automotive Mechanics - Credits: 2.00
- AUT 172 - Advanced Automotive Engine Repair - Credits: 2.00
- AUT 222 - Basic Automotive Drive Lines - Credits: 2.00
- AUT 642 - Automotive Charging, Starting and Electrical Systems - Credits: 2.00
- DSL 325 - Introduction to Diesel - Credits: 2.00
- MAT 772 - Applied Math - Credits: 3.00
  OR
  XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 *
Total: 13 Credits

Term III
- DSL 534 - Drive Trains - Credits: 4.00
- DSL 599 - Brakes, Tires and Alignment - Credits: 3.00
- XXX XXX - Approved Culture Course - Credits: 3.00 *
Total: 9 Credits

Term IV
- CSC 110 - Introduction to Computers - Credits: 3.00
- DSL 421 - Electronic Engine Controls - Credits: 4.00
- DSL 742 - Air Conditioning/Refrigeration - Credits: 2.00
Total: 9 Credits

Term V
- ADM 218 - Initiating the Career Search - Credits: 1.00
- XXX XXX - Approved Communications Course - Credits: 3.00 *
- DSL 373 - Locomotive Engine Disassembly - Credits: 3.00
  AND
- DSL 319 - Intro. To Locomotive Engines - Credits: 2.00
  AND
- DSL 146 - Intro. To Locomotive Electrical - Credits: 2.00
  OR
- DSL 343 - Diesel Engine Overhaul - Credits: 5.00
  AND
- DSL 375 - Assembly of Diesel Engines - Credits: 5.00
Total: 11 Credits

Term VI
- DSL 655 - Technical Power Hydraulics - Credits: 5.00
- XXX XXX - Approved Scientific Systems Course - Credits: 3.00 *
- DSL 153 - Vehicle Engine Diagnosis - Credits: 3.00
  OR
- DSL 386 - Intro to Locomotive Tune-ups - Credits: 2.00
  AND
- DSL 147 - Advanced Locomotive Electrical - Credits: 2.00
  AND
- DSL 374 - Locomotive Engine Assembly - Credits: 3.00
Total: 11 Credits

Term VII
- DSL 384 - Engine Application and Tune-Ups - Credits: 4.00
- DSL 412 - Diesel Engine Electronics II - Credits: 2.00
- DSL 831 - Preventative Maintenance - Credits: 4.00
- DSL 852 - Diesel Guidance Systems Diagnostics - Credits: 3.00

**Total: 13 Credits**

**Notes:**
*Refer to General Education Course Requirements (A.A.S.) for approved courses.

**Optional Course(s)**
- BUS 128 - Foundation to Entrepreneurship - Credits: 3.00

**Instrument Rating Certificate**
**Program Total: 8 Credits**

**Term I**
- AVI 200 - Instrument Pilot Ground I - Credits: 3.00
- AVI 201 - Instrument Pilot Ground II - Credits: 2.00
- AVI 230 - Instrument Flight Stage 1 - Credits: 1.00
- AVI 231 - Instrument Flight Stage 2 - Credits: 1.00
- AVI 232 - Instrument Flight Stage 3 - Credits: 1.00

**Total: 8 Credits**

**Other Career and Technical Programs**

Indian Hills Community College offers instruction in numerous other career and technical programs. These programs include the areas of commercial driving, building construction, culinary arts, landscaping and agriculture.

Students completing these programs are awarded Associate of Applied Science degrees, diplomas or certificates.

**Construction Management, A.A.S.**
**Offered at Main and Centerville Campuses**

Construction Management Technology is a seven-term (21-month) Associate of Applied Science (A.A.S.) degree program. Students who complete the one-year Construction Technology diploma program at the Centerville campus can obtain their A.A.S. degree by completing an additional three terms (nine months) of coursework in general education and management on the Ottumwa or Centerville campuses or at any Indian Hills County Service Center. Students may enter this major at the beginning of any term upon completion of the Construction Technology program.

This program is designed to prepare students for management/supervisory positions in the building, manufacturing, and maintenance industries. The graduates of this program will be trained to plan, organize, direct, control and coordinate activities concerned with the construction/maintenance of structure facilities and related systems.

Students who have completed an apprenticeship program approved by the Bureau of Apprenticeship and Training and the Iowa Department of Education will be allowed to articulate up to 30 hours of college credit into the Construction Management Technology A.A.S. program. Students will need to complete an additional 30 hours of credit in general education and management courses to earn the A.A.S. degree. For more information, contact the Dean of the Centerville Campus at (800) 670-3641, ext. 2224.

To enroll, complete an application and attend any required academic orientation.

**Program Total: 72 Credits**

**Term I**
• CON 197 - Construction Lab I - Credits: 6.00
• CON 276 - Construction Technology I - Credits: 3.00
• CSC 105 - Computer Essentials - Credits: 1.00
Total: 10 Credits

**Term II**
• CON 198 - Construction Lab II - Credits: 6.00
• CON 277 - Construction Technology II - Credits: 3.00
• MAT 762 - Technical Math for Industry - Credits: 2.00
Total: 11 Credits

**Term III**
• CON 199 - Construction Lab III - Credits: 6.00
• CON 278 - Construction Technology III - Credits: 3.00
• ENG 111 - Technical Writing - Credits: 3.00
  OR
• ENG 105 - Composition I - Credits: 3.00
Total: 12 Credits

**Term IV**
• CON 200 - Construction Lab IV - Credits: 6.00
• CON 279 - Construction Technology IV - Credits: 3.00
Total: 9 Credits

**Term V**
• ACC 121 - Principles of Accounting I - Credits: 3.00 OR
• BUS 102 - Introduction to Business - Credits: 3.00 OR
• BUS 104 - Business Essentials - Credits: 3.00
• ENG 105 - Composition I - Credits: 3.00 OR
• ENG 106 - Composition II - Credits: 3.00 OR
• SPC 112 - Public Speaking - Credits: 3.00
  GES XXX General Education Science 3.00 Credits
Total: 9 Credits

**Term VI**
• ACC 122 - Principles of Accounting II - Credits: 3.00 OR
  OR
• ECN 120 - Principles of Macroeconomics - Credits: 3.00 OR
  OR
• ECN 130 - Principles of Microeconomics - Credits: 3.00
• BUS 128 - Foundation to Entrepreneurship - Credits: 3.00 OR
  OR
• BUS 130 - Introduction to Entrepreneurship - Credits: 3.00 OR
  OR
• MKT 110 - Principles of Marketing - Credits: 3.00 OR
  OR
• MGT 101 - Principles of Management - Credits: 3.00
• PSY 111 - Introduction to Psychology - Credits: 3.00 OR
  OR
• PSY 112 - Psychology of Human Relations - Credits: 3.00 OR
  OR
• SOC 110 - Introduction to Sociology - Credits: 3.00
  XXX XXX - General Education: Mathematics - Credits: 3.00*
Total: 12 Credits

**Term VII**
• ACC 221 - Cost Accounting - Credits: 3.00 OR
• BUS 188 - Legal Environment of Business - Credits: 3.00 OR
• MGT 170 - Human Resource Management - Credits: 3.00
• CSC 110 - Introduction to Computers - Credits: 3.00
• Approved General Education Course - Credits: 3.00

Total: 9 Credits

Students must take a minimum of 15 semester hours from the following categories.

Students must select at least one course from the culture, mathematical reasoning and scientific systems categories in order to complete the general education requirements of the program.

• XXX XXX - Approved Culture Course - Credits: 3.00 *
• XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 *
• XXX XXX - Approved Scientific Systems Course - Credits: 3.00 *
• XXX XXX - Arts and Sciences Elective - Credits: 3.00
• XXX XXX - Arts and Sciences Elective - Credits: 3.00

Students must take a minimum of 15 semester hours of Management courses from the following list:

• ACC 121 - Principles of Accounting I - Credits: 3.00
• ACC 122 - Principles of Accounting II - Credits: 3.00
• ACC 221 - Cost Accounting - Credits: 3.00
• BUS 102 - Introduction to Business - Credits: 3.00
• BUS 188 - Legal Environment of Business - Credits: 3.00
• CSC 110 - Introduction to Computers - Credits: 3.00
• ECN 120 - Principles of Macroeconomics - Credits: 3.00
• ECN 130 - Principles of Microeconomics - Credits: 3.00
• MGT 101 - Principles of Management - Credits: 3.00
• MGT 170 - Human Resource Management - Credits: 3.00
• MKT 110 - Principles of Marketing - Credits: 3.00

Notes:
*Refer to General Education Course Requirements (A.A.S.) for approved courses.

Construction Technology, A.A.S.
Offered at Centerville Campus

Construction Technology is a dual-track program offering a four-term (12-month) diploma and an eight-term (24-month) Associate of Applied Science degree. Students completing the one-year diploma program will receive training and practical experience in safety, blueprint reading, framing, drywall installation and finishing, cabinet installation, trim and interior finish, basic stair building, window and door installation, insulation systems and building materials.

Opportunities for students graduating with a diploma including apprenticeships in the union and merit shop programs, maintenance departments, self-employment and work in various specialty trades.

In addition, students can earn an Associate of Applied Science (AAS) degree by completing the second year of the Construction Technology program. Second-year students will focus on estimating, residential wiring, heating and air conditioning design, plumbing, concrete and masonry installation, advanced framing and stair building, and building science.

Students will combine classroom instruction with lab assignments that will challenge students to make leadership decisions and accept leadership roles in the construction of IHCC building projects.

Students must also complete all college general education requirements for an AAS degree.
Students earning their AAS degree will be prepared for supervisory positions in construction, manufacturing and maintenance industries.

To enroll, complete an application and attend any required academic orientation and information session. This program may be entered at the beginning of any term.

Program Total: 81 Credits

Term I

• CON 197 - Construction Lab I - Credits: 6.00
<table>
<thead>
<tr>
<th>Term</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>II</td>
<td>CON 198 - Construction Lab II</td>
<td>6.00</td>
</tr>
<tr>
<td></td>
<td>CON 277 - Construction Technology II</td>
<td>3.00</td>
</tr>
<tr>
<td></td>
<td>MAT 762 - Technical Math for Industry</td>
<td>2.00</td>
</tr>
<tr>
<td>Total:</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>III</td>
<td>CON 199 - Construction Lab III</td>
<td>6.00</td>
</tr>
<tr>
<td></td>
<td>CON 278 - Construction Technology III</td>
<td>3.00</td>
</tr>
<tr>
<td></td>
<td>ENG 111 - Technical Writing</td>
<td>3.00</td>
</tr>
<tr>
<td>OR</td>
<td>ENG 105 - Composition I</td>
<td>3.00</td>
</tr>
<tr>
<td>Total:</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>IV</td>
<td>CON 200 - Construction Lab IV</td>
<td>6.00</td>
</tr>
<tr>
<td></td>
<td>CON 279 - Construction Technology IV</td>
<td>3.00</td>
</tr>
<tr>
<td>Total:</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>V</td>
<td>CON 124 - Construction Estimating I</td>
<td>3.00</td>
</tr>
<tr>
<td></td>
<td>CON 245 - Residential Wiring</td>
<td>2.00</td>
</tr>
<tr>
<td></td>
<td>CON 295 - Construction Lab V</td>
<td>2.00</td>
</tr>
<tr>
<td></td>
<td>XXX XXX - Approved General Education Course</td>
<td>3.00 *</td>
</tr>
<tr>
<td>Total:</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>VI</td>
<td>CON 125 - Construction Estimating II</td>
<td>3.00</td>
</tr>
<tr>
<td></td>
<td>CON 296 - Construction Lab VI</td>
<td>2.00</td>
</tr>
<tr>
<td></td>
<td>CON 304 - Introduction to Building Science</td>
<td>3.00</td>
</tr>
<tr>
<td>Total:</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>VII</td>
<td>CON 248 - Heating, Plumbing and Air Conditioning</td>
<td>2.00</td>
</tr>
<tr>
<td></td>
<td>CON 297 - Construction Lab VII</td>
<td>2.00</td>
</tr>
<tr>
<td></td>
<td>CON 299 - Advanced Construction Technology</td>
<td>3.00</td>
</tr>
<tr>
<td></td>
<td>XXX XXX - Approved General Education Course</td>
<td>3.00 *</td>
</tr>
<tr>
<td>Total:</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>VIII</td>
<td>CON 271 - Concrete &amp; Masonry Technology</td>
<td>3.00</td>
</tr>
<tr>
<td></td>
<td>CON 298 - Construction Lab VIII</td>
<td>2.00</td>
</tr>
<tr>
<td></td>
<td>XXX XXX - Approved General Education Course</td>
<td>3.00 *</td>
</tr>
<tr>
<td>Total:</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Notes:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>*Optional Course</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CON 310 - Architectural Design Fundamentals</td>
<td>3.00</td>
</tr>
</tbody>
</table>

**Students must complete at least 12 credit hours of Approved General Education courses and must complete at least one course in each of the areas of communication, computer/information literacy, culture, mathematical reasoning and scientific systems to earn the A.A.S. degree. Refer to General Education Course Requirements (A.A.S.) for approved courses.**

### Construction Trades, Diploma

Offered at Centerville Campus
Construction Trades is a 12-month (four-term) diploma program where students receive training and practical experience in basic building skills such as blueprint reading, framing, drywall work and window and door installation. Students learn to use the most up-to-date building techniques including energy efficiency, insulated foundations and modular plumbing.

Students can also take an additional year of courses to earn their Associate of Applied Science degree. Those continuing will learn to perform estimating, wiring, plumbing, heating and air conditioning design, concrete and masonry installation and finishing work.

Students may enroll in this program at the beginning of any term. To enroll, complete an application and attend any required orientation and information session.

**Program Total: 42 Credits**

**Term I**
- CON 197 - Construction Lab I - Credits: 6.00
- CON 276 - Construction Technology I - Credits: 3.00
- CSC 105 - Computer Essentials - Credits: 1.00

Total: 10 Credits

**Term II**
- CON 198 - Construction Lab II - Credits: 6.00
- CON 277 - Construction Technology II - Credits: 3.00

Total: 11 Credits

**Term III**
- CON 199 - Construction Lab III - Credits: 6.00
- CON 278 - Construction Technology III - Credits: 3.00
- ENG 111 - Technical Writing - Credits: 3.00

Total: 12 Credits

**Term IV**
- CON 200 - Construction Lab IV - Credits: 6.00
- CON 279 - Construction Technology IV - Credits: 3.00

Total: 9 Credits

**Criminal Justice, A.A.S.**
**Offered Only at Main Campus**
The 21-month (seven-term) Criminal Justice program prepares students for careers in the area of public safety. The program focuses on major issues concerning criminal justice as a profession. The program director and instructors have the responsibility to the community and the public to carefully screen and advise those persons choosing criminal justice as a profession.

All applicants to this program will undergo a criminal background check. This program is closed to all applicants with a felony record. It would be unfair for Indian Hills to allow a student to complete the entire criminal justice program only to be refused employment because of a felony or serious misdemeanor conviction. This program also demands completion of a firearms qualification course. Federal law prohibits individuals convicted of domestic abuse from possessing a firearm. Students enrolled in this program will experience unique pre-employment qualifications, which may include passing extensive criminal and character background checks, physical requirements, polygraph testing, oral boards, drug screening and/or other requirements pertinent to current hiring practices.

Students will enter this major at the beginning of the Fall term. The following sequence of courses is based upon a Fall entry. To enroll, complete an application and attend any required academic orientation and information session. Students meeting all program and graduation requirements receive an Associate of Applied Science degree.

**Program Total: 80 Credits**

**Term I**
- CRJ 100 - Intro to Criminal Justice - Credits: 3.00
- CRJ 101 - Ethics in Criminal Justice - Credits: 3.00
• ENG 105 - Composition I - Credits: 3.00
• SPC 112 - Public Speaking - Credits: 3.00
Total: 12 Credits

Term II
• ENG 106 - Composition II - Credits: 3.00
• SOC 147 - Foreign and Domestic Terrorism - Credits: 3.00
• SOC 242 - Introduction to Corrections - Credits: 3.00
• SOC 244 - Criminal Procedures - Credits: 3.00
Total: 12 Credits

Term III
• CRJ 110 - Patrol Procedures - Credits: 3.00
• CRJ 141 - Criminal Investigation - Credits: 3.00
• PSY 111 - Introduction to Psychology - Credits: 3.00
• SOC 245 - Criminal Law - Credits: 3.00
Total: 12 Credits

Term IV
• CRJ 248 - Firearms - Credits: 2.00
• CSC 105 - Computer Essentials - Credits: 1.00
• GES General Education: Science Credits 3.00
• MAT 110 - Math for Liberal Arts - Credits: 3.00
• GEB General Education: Behavioral/Social Science OR
GEH General Education: Humanities Credits 3.00
Total: 12 Credits

Term V
• CRJ 106 - Interviewing & Writing Strategies - Credits: 3.00
• CRJ 242 - Applied Criminalistics - Credits: 3.00
• PSY 241 - Abnormal Psychology - Credits: 3.00
• CRJ 263 - Criminal Justice Careers Seminar - Credits: 3.00
Total: 12 Credits

Term VI
• CRJ 210 - Law Enforcement Management - Credits: 3.00
• POL 111 - American National Government - Credits: 3.00
• SOC 230 - Juvenile Delinquency - Credits: 3.00
• SOC 244 - Criminal Procedures - Credits: 3.00
Total: 12 Credits

Term VII
• CRJ 150 - Defensive Tactics - Credits: 1.00
• CRJ 932 - Internship - Credits: 7.00
Total: 8 Credits

Culinary Arts, A.A.S.
Offered at Main Campus

Culinary Arts is a 21-month (seven-term) program preparing students with the culinary skills and knowledge necessary to pursue a variety of food-related careers. Experiences are provided in all aspects of cooking and baking. Areas of study include terminology, equipment, food handling and storage, food preparation, sanitation, menu planning, nutrition, decorating, garnishing, merchandising and supervisory skills. Students are required to wear chef uniforms consisting of coat, hat, scarf and pants.

The Culinary Arts program is accredited by the American Culinary Federation.

To enroll, complete an application and attend any required academic orientation and information session. The Culinary Arts program may only be entered at the beginning of the Fall Term. Students meeting all program and graduation requirements receive an Associate of Applied Science degree. A diploma option is available.
Program Total: 84 Credits

Term I
- CSC 105 - Computer Essentials - Credits: 1.00
- HCM 101 - Safety/Sanitation - Credits: 1.00
- HCM 102 - Food Service Technology - Credits: 1.00
- HCM 163 - Culinary Skills(lab) - Credits: 3.00
- HCM 202 - Food Service Lab 1 - Credits: 2.00
- HCM 261 - Math Principles - Credits: 1.00
- XXX XXX - Approved Culture Course - Credits: 3.00 *
Total: 12 Credits

Term II
- HCM 145 - Garde Manger(lab) - Credits: 3.00
- HCM 146 - Cold Food Principles(lec) - Credits: 1.00
- HCM 203 - Food Service Lab 2 - Credits: 2.00
- HCM 232 - Culinary Nutrition(lec/lab) - Credits: 2.00
- XXX XXX - Approved Culture Course - Credits: 2.00 *
Total: 10 Credits

Term III
- BUS 102 - Introduction to Business - Credits: 3.00
- HCM 149 - Principles of Cooking (lab) - Credits: 4.00
- HCM 150 - Shellfish, Poultry, Meats(lec) - Credits: 1.00
- HCM 151 - Stocks, Soups, Sauces - Credits: 1.00
- HCM 200 - Dining Service - Credits: 2.00
- XXX XXX - Approved Communication Course - Credits: 3.00 *
Total: 14 Credits

Term IV
- HCM 114 - Basic Baking (lec) - Credits: 2.00
- HCM 115 - Basic Baking (lab) - Credits: 4.00
- HCM 201 - Fine Dining Experience (lab) - Credits: 1.00
- HCM 264 - Culinary Computer Apps. - Credits: 2.00
- XXX XXX - Approved Scientific Systems Course - Credits: 3.00 *
Total: 12 Credits

Term V
- ECN 110 - Introduction to Economics - Credits: 3.00
- MGT 101 - Principles of Management - Credits: 3.00
- HCM 118 - Advanced Baking (lec) - Credits: 2.00
- HCM 119 - Advanced Baking (lab) - Credits: 4.00
- XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 *
Total: 15 Credits

Term VI
- MKT 110 - Principles of Marketing - Credits: 3.00
- HCM 174 - International Cuisine (lab) - Credits: 4.00 for students who have not taken HCM 184 or HCM 185
- HCM 184 - International Cuisine Excursion I - Credits: 6.00 OR
- HCM 185 - International Cuisine Excursion II - Credits: 6.00
- HCM 211 - Culinary Management - Credits: 4.00
- HCM 341 - Catering and Banqueting (lec/lab) - Credits: 2.00
Total: 9-13 Credits

Term VII
- HCM 400 - Food Service Entreprenuership (lec) - Credits: 3.00
- HCM 401 - Culinary Industry - Credits: 3.00
- HCM 512 - Culinary Internship - Credits: 2.00
Total: 8 Credits

Notes:
*Refer to General Education Course Requirements (A.A.S.) for approved courses.
**Completing a dual major in this program is an option, see Academic Policies for more information.

Entrepreneurship
The Entrepreneurship certificate program is designed to be added on to any other program of study at the college to prepare students to become business owners and leaders in their respective fields. This twelve credit program consists of four courses designed to give students a deep understanding of what is required to become a successful entrepreneur and how to overcome the struggles that most new businesses face. Indian Hills Entrepreneurship graduates will recognize problems as potential opportunities, and be able to turn solutions into new businesses.

Program Total: 11 Credits

Term I
- BUS 128 - Foundation to Entrepreneurship - Credits: 3.00
  OR
- BUS 130 - Introduction to Entrepreneurship - Credits: 3.00
- BUS 149 - Small Business Financial Management - Credits: 3.00
- BUS 155 - Customer Discovery and Development - Credits: 3.00
- BUS 910 - Leading and Growing Entrepreneurial Companies - Credits: 3.00
Total: 11 Credits

Grounds Equipment Technician, Certificate Offered at Main Campus
The Grounds Equipment Technician (three-term) program is designed for students interested in pursuing a career as a golf course or parks and grounds mechanic. Those currently working in the field may also benefit from the courses that are offered. This program is uniquely designed to provide a well-rounded technical education of specialty equipment involved in turfgrass and landscape maintenance. It also provides practical hands-on learning experiences with specialty equipment such as reel mowers, hydraulics, diesel and gas small engines and irrigation system equipment.

Students may enter this program at the beginning of any term. Each student successfully completing the program will receive a certificate.

Program Total: 25 Credits

Term I
- AGH 112 - Introduction to Turfgrass Management - Credits: 3.00
- CSC 105 - Computer Essentials - Credits: 1.00
- DSL 602 - Principles of Hydraulics - Credits: 2.00
Total: 6 Credits

Term II
- AGH 431 - Maintaining Turf and Landscape Equipment - Credits: 3.00
- AGH 941 - Horticulture Practicum - Credits: 1.00
- DSL 325 - Introduction to Diesel - Credits: 2.00
Total: 6 Credits

Term III
- AGH 211 - Advanced Turfgrass Management - Credits: 3.00 OR
- AUT 140 - Welding for Automotive Mechanics - Credits: 2.00
- AGH 432 - Outdoor Power Equipment for Small Engines - Credits: 3.00
- AUT 607 - Basic Auto Electricity/Electronics - Credits: 4.00
- TDT 136 - Class B Driver Training - Credits: 3.00

Total: 12-13 Credits

Notes
*Optional Course(s)
- BUS 128 - Foundation to Entrepreneurship - Credits: 3.00

Hotel & Restaurant Management, A.A.S.
Offered at Main Campus

This 21-month program will provide students with opportunities to reach management-level positions upon graduation as well as provide staff training and recruitment for Iowa’s expanding hotel and lodging industry. Students will attend both online and on-campus classes as well as learn in real time with on-site practicums through sponsoring food service affiliates. The program will provide opportunities for students to earn certification from the American Hotel and Lodging Association as well as the National Restaurant Association’s Management First Program. Students may enter this program at the beginning of the Fall term. Upon successful completion of the program, students will be awarded an Associate of Applied Science Degree.

Program Total: 74 Credits

Term I
- HCM 101 - Safety/Sanitation - Credits: 1.00
- HCM 102 - Food Service Technology - Credits: 1.00
- HCM 163 - Culinary Skills(lab) - Credits: 3.00
- HCM 202 - Food Service Lab 1 - Credits: 2.00
- HCM 261 - Math Principles - Credits: 1.00
- HCM 346 - Culinary Seminar - Credits: 1.00
- HCM 608 - Introduction to Hospitality - Credits: 3.00

Total: 12 Credits

Term II
- CSC 110 - Introduction to Computers - Credits: 3.00
- HCM 203 - Food Service Lab 2 - Credits: 2.00
- HCM 232 - Culinary Nutrition(lec/lab) - Credits: 2.00
- HCM 312 - Facilities Management - Credits: 3.00

Total: 10 Credits

Term III
- BUS 102 - Introduction to Business - Credits: 3.00
- HCM 333 - Management of Guest Services - Credits: 3.00
- HCM 200 - Dining Service - Credits: 2.00
- GEP-General Education: Speech Credits-3.00 OR
- GEW-General Education: Writing

Total: 11 Credits

Term IV
- HCM 114 - Basic Baking (lec) - Credits: 2.00
- HCM 115 - Basic Baking (lab) - Credits: 4.00
- HCM 201 - Fine Dining Experience (lab) - Credits: 1.00
- HCM 264 - Culinary Computer Apps. - Credits: 2.00
- GES-General Education: Science Credits-3.00

Total: 12 Credits

Term V
- HCM 348 - Managing Food Service Operations - Credits: 3.00
- MGT 101 - Principles of Management - Credits: 3.00
- GEM-General Education: Mathematics Credits-3.00

Total: 9 Credits
Term VI
- HCM 211 - Culinary Management - Credits: 4.00
- HCM 327 - Convention & Meeting Management - Credits: 3.00
- HCM 341 - Catering and Banqueting (lec/lab) - Credits: 2.00
- MKT 110 - Principles of Marketing - Credits: 3.00
Total: 12 Credits

VII
- HCM 334 - Managing Hospitality Human Resources - Credits: 3.00
- HCM 512 - Culinary Internship - Credits: 2.00
- GEH - General Education: Humanities Credits - 3.00 OR
- GEB - General Education: Behavioral/Social Science Credits - 3.00
Total: 8 Credits

Landscape and Turfgrass Technology, A.A.S.
Offered at Main Campus

Landscape and Turfgrass Technology is a 21-month (seven-term) program designed for students interested in working outdoors to provide quality recreational and working environments. The program’s diverse training gives students knowledge of plants that range from flowers to turfgrass to trees and shrubs. Students will also develop the skills to maintain these plants properly. The student will learn entrepreneurial skills to operate a business as well as how to purchase and maintain the equipment they will be using.

Students meeting all program and graduation requirements receive an Associate of Applied Science degree. This major may be entered at the beginning of any term.

Program Total: 76 Credits

Term I
- AGA 154 - Fundamentals of Soil Science - Credits: 3.00
- AGH 112 - Introduction to Turfgrass Management - Credits: 3.00
- AGH 221 - Principles of Horticulture - Credits: 3.00
- BIO 101 - Introductory Biology - Credits: 2.00
- BIO 103 - Introductory Biology Lab - Credits: 1.00
- CSC 110 - Introduction to Computers - Credits: 3.00
Total: 15 Credits

Term II
- AGH 151 - Landscape Design Techniques - Credits: 2.00
- AGH 430 - Turf and Landscape Equipment - Credits: 3.00
- AGH 941 - Horticulture Practicum - Credits: 1.00 OR
- ART 137 - Freehand Drawing - Credits: 1.00
- CHM 121 - Introduction to General Chemistry - Credits: 3.00
- ENG 105 - Composition I - Credits: 3.00
Total: 12 Credits

Term III
- AGH 123 - Woody Plants Materials - Credits: 3.00
- AGH 283 - Pesticide Application Certification - Credits: 2.00 OR
- TDT 136 - Class B Driver Training - Credits: 3.00
- AGH 248 - Identifying Plant and Landscape Problems - Credits: 3.00
- MAT 120 - College Algebra - Credits: 3.00 OR
- MAT 156 - Statistics - Credits: 3.00
Total: 11 Credits

Term IV
- AGH 805 - Horticulture Internship - Credits: 2.00
OR

- AGB 802 - Agribusiness Internship I - Credits: 2.00

Total: 2 Credits

Term V

- ACC 121 - Principles of Accounting I - Credits: 3.00 OR
- ACC 311 - Computer Accounting - Credits: 3.00
- AGH 120 - Herbaceous Plant Materials - Credits: 3.00
- AGH 166 - Turf and Landscape Irrigation - Credits: 3.00
- XXX XXX - Approved Culture Course - Credits: 3.00 *

Total: 12 Credits

Term VI

- AGH 131 - Greenhouse Management - Credits: 3 OR
- AGH 431 - Maintaining Turf and Landscape Equipment - Credits: 3.00
- AGN 130 - Soil and Water Conservation - Credits: 3.00
- BUS 102 - Introduction to Business - Credits: 3.00
- AGP 450 - Fundamentals of GIS - Credits: 3.00 OR
- EGT 400 - PLTW Introduction to Engineering Design - Credits: 3.00 OR
- GIS 100 - Introduction to Geospatial Technologies - Credits: 3.00

Total: 12 Credits

Term VII

- AGH 154 - Residential Landscape Design - Credits: 3 OR
- AGH 211 - Advanced Turfgrass Management - Credits: 3.00
- AGH 432 - Outdoor Power Equipment for Small Engines - Credits: 3.00
- BUS 128 - Foundation to Entrepreneurship - Credits: 3.00
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00 OR
- SPC 112 - Public Speaking - Credits: 3.00

Total: 12 Credits

Dual Credit Option:

Students who wish to complete an Associate of Arts degree along with this program can do so by taking these additional courses. The Cultural elective should be a three credit Literature course. If the student does not take the Freehand Drawing option within the program, they need to add another credit to the additional Humanities or Fine Arts credits.

- Composition II - Credits: 3.00
- Humanities & Fine Arts Electives - Credits: 4.00
- U.S. History or Western Civilization - Credits: 3.00
- Social Science Electives - Credits: 9.00
- How to be Successful in College - Credits 3.00
- Distributed Core Electives - Credits: 4.00

*Refer to General Education Course Requirements (A.A.S.) for approved courses.

Sustainable Agriculture and Entrepreneurship, A.A.S.
Offered at Centerville Campus

The Sustainable Agriculture and Entrepreneurship program is designed to provide area landowners, farmers, and young adults with access to land, the entrepreneurial skills necessary to start a new or further develop an existing land-based business. Students can pursue an Associate of Applied Science degree or limit their coursework to particular areas of interest.

Many people who pursue the Associate of Applied Science degree or certificate in Sustainable Agriculture and Entrepreneurship plan to apply these skills to their own agriculture business or work for an agricultural-related business. Others will choose to continue their education by transferring to a four-year college or university.
Program Total: 82 Credits

Term I
- AGA 154 - Fundamentals of Soil Science - Credits: 3.00
- AGS 113 - Survey of the Animal Industry - Credits: 3.00
- BIO 120 - General Biology 1D - Credits: 4.00
  OR
- BIO 101 - Introductory Biology - Credits: 2.00
  AND
- BIO 103 - Introductory Biology Lab - Credits: 1.00
- CSC 105 - Computer Essentials - Credits: 1.00
- ENV 142 - Natural Resources - Credits: 3.00
Total: 13 or 14 Credits

Term II
- AGA 450 - Issues in Sustainable Agriculture - Credits: 3.00
- AGN 127 - Agrarian Systems and Ecology - Credits: 3.00
- AGN 130 - Soil and Water Conservation - Credits: 3.00
- AGP 450 - Fundamentals of GIS - Credits: 3.00
Total: 12 Credits

Term III
- AGA 114 - Principles of Agronomy - Credits: 3.00
- AGA 455 - Organic Crop Production - Credits: 3.00
- AGP 333 - Precision Farming Systems - Credits: 3.00
- MAT 156 - Statistics - Credits: 3.00
Total: 12 Credits

Term IV
- AGB 230 - Land Management Experiences - Credits: 6.00
- XXX XXX - Approved Culture Course - Credits: 3.00 *
Total: 9 Credits

Term V
- ACC 121 - Principles of Accounting I - Credits: 3.00
- AGN 115 - Integrated Agroforestry - Credits: 3.00
- AGN 120 - Wildlife and Agriculture - Credits: 3.00
- AGS 216 - Equine Science - Credits: 3.00
Total: 12 Credits

Term VI
- AGB 212 - Agriculture Law and Taxation - Credits: 3.00
- AGN 125 - Woodland Management - Credits: 3.00
- BUS 190 - Introduction to Entrepreneurship - Credits: 3.00
  OR
- BUS 128 - Foundation to Entrepreneurship - Credits: 3.00
- CHM 121 - Introduction to General Chemistry - Credits: 3.00
Total: 12 Credits

Term VII
- AGB 235 - Introduction to Agriculture Markets - Credits: 3.00
- AGB 949 - Special Topics - Credits: 1.00
- AGS 226 - Beef Cattle Science - Credits: 3.00
- ENG 105 - Composition I - Credits: 3.00
Total: 11 Credits

Dual Major Option
Students who wish to complete an Associate of Arts degree along with this program can do so by taking these additional courses.
The Cultural elective should be a three-credit Literature.
• Composition II - Credits: 3.00
• Public Speaking or Fundamentals of Oral Communication - Credits: 3.00
• Humanities & Fine Arts Electives - Credits: 5.00
• U.S. History or Western Civilization - Credits: 3.00
• Social Science Elective - Credits: 6.00
• How to be Successful in College - Credits: 3.00

*Refer to General Education Course Requirements (A.A.S.) for approved courses.

Transfer Option: A Transfer Option is available. Please refer to the Agriculture/Entrepreneurship Focus Area.

Truck Driving CDL, Certificate Offered at North Campus

Indian Hills Community College offers eight six-week programs and two weekend programs to train drivers each year. Students must have a valid driver’s license and a good driving record. Applicants must be at least 18 years old.

The day classes meet Monday through Thursday from 8 a.m. to 4 p.m. over a six-week period, for a total of 10 college credits. The weekend classes meet from 7 a.m. to 5:30 p.m. Saturday and Sunday for nine weekends, also for 10 college credits.

The North Campus driving range consists of several miles of hard-surface pavement. Over-the-road trips are conducted during the last four weeks of the program.

The training program emphasizes one-on-one instruction by professionals who have many years of experience. Students learn with modern trucks and trailers. Students successfully completing the program are awarded a certificate and will have the practical driving and operational skills necessary to safely and efficiently operate commercial motor vehicles as entry-level drivers. Under federal law, students under 21 years of age are restricted to drive in the state in which they reside.

Students must have completed a DOT physical/drug screen before the start of the course, or within the first two weeks of class.

To enroll, complete an application and attend any required academic orientation.

Program Total: 10 Credits

Term I
• TDT 140 - Driver Training CDL - Credits: 10.00
Total: 10 Credits
Health Sciences Programs

All prospective students in specific Health Sciences programs (Clinical Laboratory Sciences, Dental Assisting, Dental Hygiene, Early Childhood Education, Emergency Medical Services, Health Informatics, Medical Assistant, Nursing, Nutrition & Dietary Management, Occupational Therapy Assistant, Pharmacy Technology, Physical Therapist Assistant, Radiologic Technology, Respiratory Care and Surgical Technology) are required to take the ACT or ACCUPLACER test, submit high school transcripts or a High School Equivalency Diploma certificate and complete an IHCC application. To be considered for these programs, a prospective student must have at least a 2.0 high school or college grade point average. If no grade point average is applicable, a minimum standardized score on the High School Equivalency Diploma examination is required. An applicant must have a minimum score on the ACCUPLACER or ACT. Meeting minimum requirements does not guarantee acceptance into a program.

Students enrolled in Health Sciences programs are required to have criminal background and adult and child abuse record checks. Criminal convictions or a history of abuse may delay or prevent students from participating in clinical/practicum education. Students unable to participate in clinical/practicum courses will be unable to complete their program.

Clinical Laboratory Sciences

Indian Hills offers three programs that prepare students to work at different levels in medical laboratory settings. Students can earn a certificate in Phlebotomy Technician by completing two terms. The Clinical Laboratory Assistant program is a nine-month diploma program designed to prepare students for entry-level positions in clinical laboratory settings. Students can also complete the 21-month Medical Laboratory Technology program to earn an Associate of Applied Science degree.

Clinical Laboratory Assistant, Diploma

Offered at Main Campus

The Clinical Laboratory Assistant program is a nine-month (three-term) diploma program designed to prepare students for entry-level positions in clinical laboratory settings such as hospitals, clinics and outpatient laboratory facilities. Clinical laboratory assistants perform phlebotomy, specimen processing, quality control and laboratory orientation and regulation under the supervision of physicians, laboratory scientists or technologists. The program includes instruction in computer skills, laboratory billing practices and the performance of assistant-level testing according to the standard operating procedures.

To enroll, complete an IHCC application and submit high school transcripts or High School Equivalency Diploma scores and take one of the following: ACT, SAT, or ACCUPLACER test. Testing may be scheduled by calling the IHCC Testing Center at (641) 683-5142 or (800) 726-2585, ext. 5142. Admission to this program is based on GPA and test scores. This program may be entered only at the beginning of the Fall term.

Criminal background, drug screening, and dependent adult and child abuse record checks are required prior to the clinical lab practicum.

Upon successful completion of the program, students will be awarded a diploma for Clinical Laboratory Assistant and are eligible to take the ASCP Board of Certification exam.

The Clinical Laboratory Assistant program is approved by the National Accrediting Agency for Clinical Laboratory Sciences, 5600 N. River Road., Suite 720, Rosemont, IL 60018, (773) 714-8880.

Program Total: 28 Credits

Term I

- BIO 161 - Basic Anatomy and Physiology - Credits: 3.00
- CSC 105 - Computer Essentials - Credits: 1.00
- HSC 113 - Medical Terminology - Credits: 2.00
- MLT 135 - Clinical Laboratory Basics I - Credits: 3.00
  OR
- MLT 112 - Principles of Phlebotomy - Credits: 2.00 AND
- MLT 113 - CLA Basics Bridge - Credits: 1.00
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00 OR
- SPC 122 - Interpersonal Communication - Credits: 3.00

Total: 12 Credits
## Term II
- HSC 141 - Pharmaceutical Applications - Credits: 1.00
- HSC 212 - Pathophysiology - Credits: 3.00
- MLT 136 - Clinical Laboratory Basics II - Credits: 3.00
- MLT 175 - CLA Practicum I - Credits: 1.00

**Total: 8 Credits**

## Term III
- HSC 227 - CLA Administrative Procedures - Credits: 2.00
- HSC 230 - Employment Preparation - Credits: 1.00
- MLT 137 - Clinical Laboratory Basics III - Credits: 3.00
- MLT 176 - CLA Practicum II - Credits: 1.00
- MLT 295 - Topics in Clinical Laboratory Science I - Credits: 1.00

**Total: 8 Credits**

### Medical Laboratory Technology, A.A.S.

#### Offered at Main Campus

The Medical Laboratory Technology program is a 24-month program that begins in the Summer term. Students who have completed all Term I courses are considered Advanced Standing students and may begin in Fall term. Medical Laboratory Technicians are skilled professionals who assist the pathologist in examining for disease by using various chemical and microscopic procedures. The medical laboratory technician adjusts and operates diagnostic equipment, microscopes and computerized instruments used in the medical laboratory setting.

Clinical and laboratory experiences are available in the IHCC area. Upon successful completion of the program, students will be awarded an AAS degree in Medical Laboratory Technology and are eligible to take the ASCP Board of Certification Examination.

To apply for the Medical Laboratory Technology program, prospective students must complete an IHCC application and submit high school transcripts or High School Equivalency Diploma scores and take one of the following: ACT, SAT, or ACCUPLACER test. Testing may be scheduled by calling the IHCC Testing Center at (641) 683-5142 or (800) 726-2585, ext. 5142. Admission is based on GPA and test scores.

Criminal background, drug screening, and dependent adult and child abuse record checks are required prior to beginning any clinical courses.

The Medical Laboratory Technology program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences, 5600 N. River Rd., Suite 720, Rosemont, IL 60018, (773) 714-8880.

### Program Total: 77.5 Credits

#### Term I
- CHM 121 - Introduction to General Chemistry - Credits: 3.00
- GEM XXX General Education: Mathematics - Credits 3.00
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- OR
- SPC 122 - Interpersonal Communication - Credits: 3.00

**Credits: 9**

#### Term II
- BIO 161 - Basic Anatomy and Physiology - Credits: 3.00
- CSC 105 - Computer Essentials - Credits: 1.00
- HSC 113 - Medical Terminology - Credits: 2.00
- MLT 104 - Laboratory Math - Credits: 1.00
- MLT 115 - Clinical Lab Fundamentals - Credits: 3.00
- OR
- MLT 114 - MLT Fundamentals Bridge - Credits: 1.00
- AND
- MLT 135 - Clinical Laboratory Basics I - Credits: 3.00

198
OR

- MLT 112 - Principles of Phlebotomy - Credits: 2.00

Credits: 10

Term III

- HSC 212 - Pathophysiology - Credits: 3.00
- MLT 165 - Medical Lab. Principles and Techniques - Credits: 3.5
- MLT 166 - MLT Critical Analysis - Credits: 1.00
- MLT 180 - Clinical Lab Practicum I - Credits: 1.00
  OR
- PHB 270 - Phlebotomy Clinical - Credits: 1.00
  OR
- MLT 175 - CLA Practicum I - Credits: 1.00
  AND
- MLT 176 - CLA Practicum II - Credits: 1.00

Credits: 8.5

Term IV

- CHM 132 - Introduction to Organic and Biochemistry - Credits: 4.00
- MLT 232 - Advanced Hematology and Coagulation - Credits: 5.00
- MLT 270 - Immunology and Serology - Credits: 2.00

Credits: 11

Term V

- MLT 120 - Urinalysis - Credits: 3.00
- MLT 253 - Parasitology and Mycology - Credits: 2.00
- MLT 261 - Immunohematology - Credits: 5.00
- PSY 111 - Introduction to Psychology - Credits: 3.00

Credits: 13

Term VI

- MLT 245 - Clinical Chemistry - Credits: 5.00
- MLT 255 - Clinical Microbiology - Credits: 5.00

Credits: 10

Term VII

- HSC 230 - Employment Preparation - Credits: 1.00
- MLT 181 - Clinical Lab Practicum II - Credits: 6.00
- MLT 296 - Topics in Clinical Laboratory - Credits: 1.00

Credits: 8

Term VIII

- MLT 182 - Clinical Lab Practicum III - Credits: 6.00
- MLT 290 - Clinical Seminar and Review - Credits: 2.00

Credits: 8

Phlebotomy Technician, Certificate
Offered at Main Campus

The Phlebotomy Technician program is a two-term program that prepares the student to be a professional phlebotomy technician. Phlebotomy technicians perform various types of specimen collection and processing, applying critical thinking and problem-solving skills in various situations. Upon successful completion of the program, the student will be awarded a certificate in Phlebotomy Technician, and be eligible to take the National ASCP Phlebotomy Technician certification exam. Graduates may work in hospitals, clinics, physician office laboratories, donor collection facilities, public health laboratories, veterinary offices or industrial laboratories.

To enroll, complete an IHCC application and submit high school transcripts or High School Equivalency Diploma scores and take one of the following: ACT, SAT or ACCUPLACER test. Testing may be scheduled by calling the IHCC Testing Center at (641) 683-5142 or (800) 726-2585, ext. 5142. Admission to this program is based on GPA and test scores. This program may be entered only in the Winter term.
Criminal background, drug screening, and dependent adult and child abuse record checks are required prior to the clinical courses.

View Policy Manual

**Program Total: 9 Credits**

**Term I**
- BIO 161 - Basic Anatomy and Physiology - Credits: 3.00
- HSC 113 - Medical Terminology - Credits: 2.00
- HSC 230 - Employment Preparation - Credits: 1.00
- MLT 112 - Principles of Phlebotomy - Credits: 2.00

Total: 8 Credits

**Term II**
- PHB 270 - Phlebotomy Clinical - Credits: 1.00

Total: 1 Credit

**Early Childhood Education**
Students interested in careers in early childhood education have two options. They can seek a Child Care Technician diploma or can complete an Associate of Applied Science degree in Early Childhood Education. Those pursuing a diploma can complete the first three terms of the Early Childhood Associate daytime program or they can enroll in the Child Care Technician online/hybrid program.

**Child Care Technician - Online/Hybrid, Diploma**

**Offered at Main Campus and Online**
The Child Care Technician diploma option begins each Fall or Winter term. This program is designed to provide the flexibility needed for currently-employed early childhood professionals. All courses are available in online and face-to-face formats, making it convenient for the working student. This course schedule identifies terms courses are available online. Students must complete entry-level courses prior to enrolling in advanced courses. State and national criminal background, child abuse record checks are required prior to the field experiences.

To apply for the Child Care Technician diploma option, complete an IHCC application and submit high school transcripts or High School Equivalency Diploma scores and take one of the following: ACT, SAT or ACCUPLACER test. Testing may be scheduled by calling the IHCC Testing Center at (641) 683-5142 or (800) 726-2585, ext. 5142.

**Program Total: 38 Credits**

**Term I**
- CSC 105 - Computer Essentials - Credits: 1.00
- ECE 108 - ECE Fieldwork Certifications - Credits: 1.00
- ECE 133 - Child Health, Safety and Nutrition - Credits: 3.00
- ECE 170 - Child Growth and Development - Credits: 3.00

Total: 8 Credits

**Term II**
- ECE 103 - Introduction to Early Childhood Education - Credits: 3.00
- ECE 221 - Infant/Toddler Care and Education - Credits: 3.00
- ENG 105 - Composition I - Credits: 3.00

Total: 9 Credits

**Term III**
- ECE 158 - Early Childhood Curriculum I - Credits: 3.00
- ECE 243 - Early Childhood Guidance - Credits: 3.00
- ECE 263 - EC Field Experience I - Credits: 1.50
- EDU 235 - Children's Literature - Credits: 3.00

Total: 10.5 Credits
Term IV
- ECE 159 - Early Childhood Curriculum II - Credits: 3.00
- ECE 264 - EC Field Experience II - Credits: 1.50
- PSY 111 - Introduction to Psychology - Credits: 3.00
- SPC 112 - Public Speaking - Credits: 3.00
OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
Total: 10.5 Credits

Notes:
*Prior to enrolling in ECE 263 - EC Field Experience I or ECE 264 - EC Field Experience II, students must complete the following course or have documentation of completion of the specified components:

ECE 108 - ECE Fieldwork Certifications or documentation of 1) current CPR certification, 2) child abuse mandatory reporter certification, 3) bloodborne pathogen training and 4) current First Aid certification.

Early Childhood Associate, A.A.S.

Offered at Main Campus and Online

The Early Childhood Associate program is a 21-month (seven-term) program that prepares graduates to be associate/head teachers initiating educational activities in early childhood facilities such as preschools, Headstart, full-day programs and public school systems. Employment opportunities also include becoming an entrepreneur or a nanny. Upon completion of the first three terms, a student is awarded the Child Care Technician diploma. Students may then enter the workforce or take the final four terms of the Early Childhood Associate program to earn their Associate of Applied Science degree. To apply for the Early Childhood Associate program, complete an IHCC application and submit high school transcripts or High School Equivalency Diploma scores and take one of the following: ACT, SAT or ACCUPLACER test. Testing may be scheduled by calling the IHCC Testing Center at (641) 683-5142 or (800) 726-2585, ext. 5142. This program may be entered at the beginning of the Fall or Winter terms. Winter term applicants must enroll in entry-level courses in an online format. For the sequence of online course offerings, see the Child Care Technician program.

State and National criminal background and child abuse record checks are required in Term I.

This program is accredited by the National Association for Education of Young Children, 1313 L. Street, NW., Washington, D.C. 20005.

Program Total: 74 Credits

Term I
- CSC 105 - Computer Essentials - Credits: 1.00
- ECE 103 - Introduction to Early Childhood Education - Credits: 3.00
- ECE 108 - ECE Fieldwork Certifications - Credits: 1.00
- ECE 133 - Child Health, Safety and Nutrition - Credits: 3.00
- ECE 170 - Child Growth and Development - Credits: 3.00
Total: 11 Credits

Term II
- ECE 158 - Early Childhood Curriculum I - Credits: 3.00
- ECE 221 - Infant/Toddler Care and Education - Credits: 3.00
- ECE 263 - EC Field Experience I - Credits: 1.50
- PSY 111 - Introduction to Psychology - Credits: 3.00
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
OR
- SPC 112 - Public Speaking - Credits: 3.00
Total: 13.5 Credits

Term III
- ECE 159 - Early Childhood Curriculum II - Credits: 3.00
- ECE 243 - Early Childhood Guidance - Credits: 3.00
- ECE 264 - EC Field Experience II - Credits: 1.50
- EDU 235 - Children's Literature - Credits: 3.00
- ENG 105 - Composition I - Credits: 3.00

Total: 13.5 Credits

**Term IV**
- ECE 141 - Designing Curriculum - Credits: 3.00
- ENG 106 - Composition II - Credits: 3.00
- HIS 151 - U.S. History to 1877 - Credits: 3.00
  OR
- HIS 152 - U.S. History since 1877 - Credits: 3.00

Total: 9 Credits

**Term V**
- ECE 259 - Topics in Early Childhood Education - Credits: 3.00
- XXX XXX - Foreign Language, Religion or Philosophy Elective - Credits: 3.00
- XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 *

Total: 9 Credits

**Term VI**
- BIO 101 - Introductory Biology - Credits: 2.00
- BIO 103 - Introductory Biology Lab - Credits: 1.00
- ECE 276 - Classroom Teaching - Credits: 2.00
- ECE 287 - Exceptional Learner - Credits: 3.00
- HSC 230 - Employment Preparation - Credits: 1.00

Total: 9 Credits

**Term VII**
- ECE 290 - Early Childhood Program Administration - Credits: 3.00
- LIT 101 - Introduction to Literature - Credits: 3.00
- XXX XXX - Fine Arts Elective - Credits: 3.00

Total: 9 Credits

**Dual Major Option:**
Students who wish to complete an Associate of Arts degree along with this program can do so by taking these additional courses. The Math elective should be MAT 110 or higher. For A.A. degree required course options, see General Education Course Requirements (A.A., A.S.)
- Math or Science Elective - Credits: 2.00
- Social Science Elective - Credits: 3.00
- Distributed Core Electives - Credits: 6.00
- How to be Successful in College - Credit: 3.00

Students planning to enter a baccalaureate program in Early Childhood/Elementary Education should begin the process of selecting a school as freshmen. Each four-year institution has specific requirements that students need to be aware of early in the program. It may be to the student's advantage to add the necessary credits to earn an Associate of Arts degree (see Dual Major Option above) in addition to the Early Childhood Associate of Applied Science degree.

The IHCC Early Childhood Associate degree has articulation agreements with Buena Vista University and Iowa Wesleyan College. Students should meet with the Early Childhood Program Director to learn about specific articulation arrangements. Courses for the degree at Buena Vista are offered as an evening program. Students planning to attend Buena Vista are encouraged to take the Praxis I as freshmen. They are also advised to enroll in the following additional courses during their second year:

<table>
<thead>
<tr>
<th>Term VI</th>
<th>PSY 281 - Educational Psychology</th>
<th>3 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Term VII</td>
<td>POL 111 - American National Government</td>
<td>3 credits</td>
</tr>
</tbody>
</table>

**Notes:**
* Refer to General Education Course Requirements (A.A.S.) for approved courses.

**Emergency Medical Services**
Indian Hills offers five emergency medical services programs. All of the EMS courses comply with the National Emergency Medical Services Education Standards and prepare students to take the National Registry of Emergency Medical Technician practical and certification examinations. The EMT-Paramedic program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP).

The Emergency Medical Responder and Advanced Emergency Medical Technician programs are only offered every other year, or as interest dictates. If you have reached this page as a result of selecting to view Program Details on either of these programs, then they are not currently available. Contact Josh Hemminger for more details about program availability.

**Advanced Emergency Medical Technician, Certificate**

**Offered at Main Campus**

The Advanced Emergency Medical Technician program prepares the student to be an Advanced EMT. This two-term program is comprised of classroom, laboratory and clinical experiences that provide the student with the Advanced EMS knowledge and skills to function in a pre-hospital or hospital emergency situation. Students successfully completing the program will receive an Advanced Emergency Medical Technician certificate and be prepared to take the NREMT certification exam.

To apply, complete an application, provide IHCC with high school transcripts, High School Equivalency Diploma scores, any college transcripts and take the ACT or COMPASS test. Testing may be scheduled by calling (641) 683-5142 or (800) 726-2585, ext. 5142. This program may be entered in the Fall term. Current EMT certification is required for admission into this program.

Criminal background, drug screening, and dependent adult and child abuse record checks are required prior to the clinical courses.

**Program Total: 8 Credits**

**Term I**

- EMS 460 - Emergency Medical Technician Advanced 1 - Credits: 4.00

Total: 4 Credits

**Term II**

- EMS 470 - Emergency Medical Technician Advanced 2 - Credits: 2.00
- EMS 475 - Emergency Medical Technician Advanced 2 - Credits: 2.00

Total: 4 Credits

**Emergency Medical Technician, Certificate**

**Offered at Main Campus**

The Emergency Medical Technician program prepares the student to be an EMT. This two-term program is comprised of classroom, laboratory and clinical experiences that provide the student with the fundamental knowledge and skills to function in a pre-hospital or hospital emergency situation. Students successfully completing the program will receive an Emergency Medical Technician certificate and be prepared to take the NREMT certification exam.

Graduates are also eligible for advanced standing status in the Paramedic Associate of Applied Science degree program.

To apply, complete an IHCC application and submit high school transcripts or High School Equivalency Diploma scores and take one of the following: ACT, SAT, or ACCUPLACER test. Testing may be scheduled by calling the IHCC Testing Center at (641) 683-5142 or (800) 726-2585, ext. 5142. This program may be entered in the Fall or Spring terms.

Criminal background, drug screening, and dependent adult and child abuse record checks are required prior to beginning the program.

**Program Total: 9 Credits**

**Term I**

- EMS 260 - Emergency Medical Technician I - Credits: 4.00
Total: 4 Credits

Term II
- EMS 360 - Emergency Medical Technician 2 - Credits: 4.00
- EMS 365 - Emergency Medical Technician 2 Clinical - Credits: 1.00

Total: 5 Credits

**Paramedic Core, Diploma**  
**Offered at Main and Centerville Campuses**

The Paramedic core option offers an alternative format for completion of the core courses of the Paramedic AAS degree program. This seven-term, part-time program begins in the Summer or Winter term on the Main Campus. Students may enroll on the Centerville Campus in the Fall term of the even-numbered years. Upon successful completion of this program, students will be eligible to take National Registry certification testing.

To apply, complete an IHCC application and submit high school transcripts or High School Equivalency Diploma scores and take one of the following: ACT, SAT or ACCUPLACER test. Testing may be scheduled by calling the IHCC Testing Center at (641) 683-5142 or (800) 726-2585, ext. 5142. Current EMT certification is required for admission to this program.

Criminal background, drug screening, and dependent adult and child abuse record checks are required prior to the clinical courses.

The Paramedic Core program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.cahep.org) upon the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP).

**Program Total: 48 Credits**

Term I
- BIO 175 - Human Anatomy - Credits: 3.00
- BIO 176 - Human Anatomy Lab - Credits: 1.00

Total: 4 Credits

Term II
- BIO 178 - Human Physiology - Credits: 3.00
- BIO 179 - Human Physiology Lab - Credits: 1.00

Total: 4 Credits

Term III
- EMS 590 - Paramedic 1 - Credits: 5.00

Total: 5 Credits

Term IV
- EMS 690 - Paramedic 2 - Credits: 5.00
- EMS 695 - Paramedic 2 Clinical - Credits: 2.00

Total: 7 Credits

Term V
- EMS 781 - Paramedic 3 - Credits: 5.5
- EMS 785 - Paramedic 3 Clinical - Credits: 3.00

Total: 8.5 Credits

Term VI
- EMS 880 - Paramedic 4 - Credits: 5.50
- EMS 885 - Paramedic 4 Clinical - Credits: 4.00
- EMS 820 - Prehospital Trauma Life Support - Credits: 1.00

Total: 10.5 Credits

Term VII
- EMS 890 - Paramedic 5 - Credits: 5.00
- EMS 895 - Paramedic 5 Clinical - Credits: 4.00

Total: 9 Credits
Paramedic, A.A.S.

Offered at Main Campus

This 24-month (eight-term) program prepares the student to take the National Registry-certified Paramedic exam. Paramedics provide medical care in pre-hospital or emergency settings operating through orders or protocols from a medical control physician. Skills include cardiac monitor interpretation, IV initiation, drug administration, advanced airway maneuvers and trauma care. Students will complete hospital clinical time and ambulance ride time in area facilities. Students meeting all program and graduation requirements receive an Associate of Applied Science degree and will be eligible to take the National Registry certification testing.

Students with current EMS certification qualify for advanced standing in the program. This program may be entered in the Fall or Spring terms.

To apply, complete an IHCC application and submit high school transcripts or High School Equivalency Diploma scores and take one of the following: ACT, SAT or ACCUPLACER test. Testing may be scheduled by calling the IHCC Testing Center at (641) 683-5142 or (800) 726-2585, ext. 5142. This program begins in the Fall term of each year. Criminal background, drug screening, and dependent adult and child abuse record checks are required prior to the clinical courses.

The Paramedic program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP).

Program Total: 79 Credits

Term I
- EMS 260 - Emergency Medical Technician I - Credits: 4.00
- HSC 113 - Medical Terminology - Credits: 2.00
- GEP XXX General Education: Speech
Total: 9.0 Credits

Term II
- BIO 175 - Human Anatomy - Credits: 3.00
- BIO 176 - Human Anatomy Lab - Credits: 1.00
- EMS 360 - Emergency Medical Technician 2 - Credits: 4.00
- EMS 365 - Emergency Medical Technician 2 Clinical - Credits: 1.00
- HSC 230 - Employment Preparation - Credits: 1.00
Total: 10 Credits

Term III
- BIO 178 - Human Physiology - Credits: 3.00
- BIO 179 - Human Physiology Lab - Credits: 1.00
- CSC 105 - Computer Essentials - Credits: 1.00
- GEM XXX General Education: Mathematics
Total: 8 Credits

Term IV
- EMS 590 - Paramedic 1 - Credits: 5.00
- ENG 105 - Composition I - Credits: 3.00
- FLS 125 - Spanish for Health Professionals - Credits: 3.00
Total: 11 Credits

Term V
- EMS 690 - Paramedic 2 - Credits: 5.00
- EMS 695 - Paramedic 2 Clinical - Credits: 2.00
- PSY 111 - Introduction to Psychology - Credits: 3.00
Total: 10 Credits

Term VI
- EMS 781 - Paramedic 3 - Credits: 5.5
- EMS 785 - Paramedic 3 Clinical - Credits: 3.00
- PSY 121 - Developmental Psychology - Credits: 3.00
Total: 11.5 Credits

**Term VII**
- EMS 880 - Paramedic 4 - Credits: 5.50
- EMS 885 - Paramedic 4 Clinical - Credits: 4.00
- EMS 820 - Prehospital Trauma Life Support - Credits: 1.00
Total: 10.5 Credits

**Term VIII**
- EMS 890 - Paramedic 5 - Credits: 5.00
- EMS 895 - Paramedic 5 Clinical - Credits: 4.00
Total: 9 Credits

**Dual Major Option**
Students who wish to complete an Associate of Arts degree along with this program can do so by taking these additional courses.
- Composition II - Credits: 3.00
- Literature Elective - Credits: 3.00
- Humanities & Fine Arts Electives - Credits: 2.00
- U.S. History or Western Civilization - Credits: 3.00
- Distributed Core Electives - Credits: 4.00
- General Electives - Credits: 3.00
- How to be Successful in College - Credits: 3.00

**Health Informatics**
Indian Hills offers four health informatics programs: Health Unit Coordinator, Healthcare Documentation Specialist, Medical/Insurance Coding and Health Information Technology. The amount of time it takes to complete these programs ranges from six months to 21 months. Each program utilizes an online delivery format providing students with a great deal of flexibility in determining the time of day they are able to complete their coursework. Students completing three of the programs receive diplomas while graduates of the Health Information Technology program are awarded Associate of Applied Science degrees.

**Health Information Technology, A.A.S.**
**Offered Online Only**
This 21-month (seven-term) program prepares the student to become a health information technician, a specialist who is responsible for maintaining permanent health records. Students become familiar with health records, documentation standards and the equipment necessary to process health information through practical experience in the health information departments of health care facilities. Employment opportunities are available in hospital health information departments, outpatient clinics, health centers, insurance companies and government health agencies. Graduates of this program are eligible to take the Certification Examination of the American Health Information Management Association. Upon successful completion of the examination, the graduate becomes a Registered Health Information Technician (RHIT).

To apply, complete an IHCC application and submit high school transcripts or High School Equivalency Diploma scores and take one of the following: ACT, SAT, or ACCUPLACER test. Testing may be scheduled by calling the IHCC Testing Center at (641) 683-5142 or (800) 726-2585, ext. 5142. This program may be entered in the Fall or Spring terms, is offered online. Students meeting all program and graduation requirements receive an Associate of Applied Science degree.

Criminal background, drug screening, and dependent adult and child abuse record checks are required prior to the beginning of professional experience courses.

This program is accredited by the Commission on the Accreditation for Health Informatics and Information Management Education (CAHIIM), 233 N. Michigan Ave., Suite 2150, Chicago, IL 60601-5800, (312) 233-1100.

**Program Total: 81 Credits**

**Term I**
- BIO 161 - Basic Anatomy and Physiology - Credits: 3.00
• BIO 199 - Basic Anatomy and Physiology Lab I - Credits: 1.00
• CSC 105 - Computer Essentials - Credits: 1.00
• HIT 125 - Essentials of Health Records - Credits: 2.00
• HIT 126 - Health Records Laboratory - Credits: 1.00
• HSC 113 - Medical Terminology - Credits: 2.00
• HSC 141 - Pharmaceutical Applications - Credits: 1.00
Total: 11 Credits

Term II
• HIT 130 - Health Record Systems - Credits: 3.00
• HIT 260 - ICD-10 Diagnostic Coding - Credits: 2.00
• HIT 270 - ICD-10 Procedural Coding - Credits: 2.00
• HIT 530 - Professional Experience I - Credits: 1.00
• HIT 700 - Virtual Lab Exploration I - Credits: 1.00
• HSC 212 - Pathophysiology - Credits: 3.00
• MTR 156 - HDS Fundamentals - Credits: 2.00
Total: 14 Credits

Term III
• HIT 141 - Health Law and Ethics - Credits: 3.00
• HIT 290 - Reimbursement Methods - Credits: 3.00
• HIT 325 - CPT Coding - Credits: 3.00
• HIT 701 - Virtual Lab Exploration II - Credits: 1.00
Total: 10 Credits

Term IV
• HIT 161 - Health Information E-Systems - Credits: 3.00
• HIT 410 - Practical Coding Application - Credits: 3.00
• HIT 531 - Professional Experience II - Credits: 5.00
• HSC 230 - Employment Preparation - Credits: 1.00
Total: 12 Credits

Term V
• HIT 221 - Compliance/Risk Management - Credits: 3.00
• HIT 225 - Leadership and Organization - Credits: 3.00
• HIT 702 - Virtual Lab Exploration III - Credits: 1.00
• XXX XXX - Approved Culture Course - Credits: 3.00 *
• XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 *
Total: 13 Credits

Term VI
• ENG 105 - Composition I - Credits: 3.00
• HIT 227 - Health Statistics - Credits: 3.00
• HIT 440 - Quality Management - Credits: 3.00
• XXX XXX - Approved Communication Course - Credits: 3.00 *
Total: 12 Credits

Term VII
• ENG 106 - Composition II - Credits: 3.00
• HIT 532 - Professional Experience III - Credits: 5.00
• HIT 950 - HIT Seminar - Credits: 1.00
Total: 9 Credits

Notes:
* Refer to General Education Course Requirements (A.A.S.) for approved courses.
** Completing a dual major in this program is an option, see Academic Policies for more information.

Health Unit Coordinator, Diploma
Offered Online Only
The Health Unit Coordinator program is a six-month (two-term) program that begins in the Fall term of each year. This program is offered online. This program prepares the graduate to be employed in a nursing unit of a hospital, a skilled nursing facility, insurance company, clinic or a health maintenance organization. The health unit coordinator (unit clerk/secretary) works closely with health professionals providing communication support to nursing service and ancillary departments in the collection and dissemination of patient data. Students successfully completing program and graduation requirements will receive a Health Unit Coordinator diploma. To enroll, complete an IHCC application, submit high school transcripts or High School Equivalency Diploma scores and take one of the following: ACT, SAT, or ACCUPLACER test. Testing may be scheduled by calling the IHCC Testing Center at (641) 683-5142 or (800) 726-2585, ext. 5142.

Criminal background, drug screening, and dependent adult and child abuse record checks are required prior to the beginning of practicum courses.

**Program Total: 19 Credits**

**Term I**
- ADM 108 - Keyboarding Skill Development - Credits: 1.00
- CSC 105 - Computer Essentials - Credits: 1.00
- HIT 125 - Essentials of Health Records - Credits: 2.00
- HIT 126 - Health Records Laboratory - Credits: 1.00
- HSC 113 - Medical Terminology - Credits: 2.00
- HSC 141 - Pharmaceutical Applications - Credits: 1.00

Total: 8 Credits

**Term II**
- ENG 105 - Composition I - Credits: 3.00
- HSC 230 - Employment Preparation - Credits: 1.00
- HUC 121 - Health Unit Coordinator - Credits: 5.00
- HUC 122 - HUC Practicum - Credits: 2.00

Total: 11 Credits

**Notes**
*Optional Courses*
- PNN 147 Nursing Essentials I - Credits - 3.00

**Healthcare Documentation Specialist, Diploma**

**Offered Online Only**

This twelve-month (four-term) program prepares students to become medical language specialists. Healthcare documentation requires knowledge of medical terminology, healthcare standards, documentation requirements and organization of health records. The Healthcare Documentation Specialist translates, from oral to written form, information about patients dictated by healthcare professionals. This includes editing of provider documentation via speech recognition technology and the use of electronic health records.

After gaining experience, a qualified Healthcare Documentation Specialist may wish to become a Certified Healthcare Documentation Specialist (CHDS) by passing the certification examination administered by the Association for Healthcare Documentation Integrity (AHDI).

To enroll, complete an IHCC application, submit high school transcripts or High School Equivalency Diploma scores and take one of the following: ACT, SAT, or ACCUPLACER test. Testing may be scheduled by calling the IHCC Testing Center at (641) 683-5142 or (800) 726-2585, ext. 5142. This program may be entered only at the beginning of the Fall term. Students meeting all program and graduation requirements will receive a diploma.

**Program Total: 46 Credits**

**Term I**
- ADM 108 - Keyboarding Skill Development - Credits: 1.00
- BIO 161 - Basic Anatomy and Physiology - Credits: 3.00
- BIO 199 - Basic Anatomy and Physiology Lab I - Credits: 1.00
- HIT 125 - Essentials of Health Records - Credits: 2.00
- HIT 126 - Health Records Laboratory - Credits: 1.00
- HSC 113 - Medical Terminology - Credits: 2.00
- HSC 141 - Pharmaceutical Applications - Credits: 1.00

**Total: 11 Credits**

**Term II**
- BCA 134 - Word Processing - Credits: 3.00
- BUS 128 - Foundation to Entrepreneurship - Credits: 3.00
- ENG 105 - Composition I - Credits: 3.00
- HSC 212 - Pathophysiology - Credits: 3.00
- MTR 156 - HDS Fundamentals - Credits: 2.00

**Total: 14 Credits**

**Term III**
- ENG 106 - Composition II - Credits: 3.00
- HIT 141 - Health Law and Ethics - Credits: 3.00
- MTR 200 - HDS Technology - Credits: 3.00
- MTR 201 - Advanced HDS - Credits: 3.00

**Total: 12 Credits**

**Term IV**
- HSC 230 - Employment Preparation - Credits: 1.00
- MTR 300 - HDS Seminar - Credits: 3.00
- MTR 301 - HDS Practicum - Credits: 5.00

**Total: 9 Credits**

### Medical / Insurance Coding, Diploma

**Offered Online Only**

This 12-month (four-term) online program prepares the student for a position as a medical insurance coding technician at a medical office, hospital or medical facility. Upon successful completion of the program requirements, students graduate with a diploma in Medical/Insurance Coding. Graduates may wish to become a Certified Coding Associate (CCA) by passing the certification examination administered by the American Health Information Management Association (AHIMA).

This coding certificate program is approved by the Professional Certificate Approval Program (PCAP) Council. Prospective students must complete an application, complete an IHCC application and submit high school transcripts or High School Equivalency Diploma scores and take one of the following: ACT, SAT or ACCUPLACER test. Testing may be scheduled by calling (641) 683-5142 or (800) 726-2585, extension 5142. This program begins in the Fall term of each year.

Criminal background, drug screening, and dependent adult and child abuse record checks are required prior to the beginning of practicum courses.

**Program Total: 47 Credits**

**Term I**
- BIO 161 - Basic Anatomy and Physiology - Credits: 3.00
- BIO 199 - Basic Anatomy and Physiology Lab I - Credits: 1.00
- CSC 105 - Computer Essentials - Credits: 1.00
- HIT 125 - Essentials of Health Records - Credits: 2.00
- HIT 126 - Health Records Laboratory - Credits: 1.00
- HSC 113 - Medical Terminology - Credits: 2.00
- HSC 141 - Pharmaceutical Applications - Credits: 1.00

**Total: 11 Credits**

**Term II**
- HIT 130 - Health Record Systems - Credits: 3.00
- HIT 260 - ICD-10 Diagnostic Coding - Credits: 2.00
Nursing

The nursing program has two levels; Level I (Practical Nursing) is a one-year (four-term) program and Level I and II (Associate Degree Nursing) is a two-year (eight-term) program.

The Practical Nursing program prepares the student to function as a nurse who has the knowledge and skills to utilize the nursing process in the provision of care for individuals, families or communities with basic health care needs. Upon successful completion of the program and graduation requirements, the student will receive a diploma in Practical Nursing and be eligible to take the National Council Licensure Examination for Practical Nurses.

The Associate Degree Nursing program builds on the knowledge and skills gained during Level I and focuses on critical thinking, prioritization, leadership and advanced nursing skills required to manage an acute care clinical area and care for individuals, families or communities with complex health care needs. Upon successful completion of the program and graduation requirements, the student will receive an Associate of Applied Science Degree in Nursing (ADN) and be eligible to take the National Council Licensure Examination for Registered Nurses.

Advanced standing students (students completing Level I requirements) are eligible to start the Associate Degree Nursing program at the beginning of the fifth term. To qualify for advanced standing, a student must meet the following requirements:

1. Graduation from an approved school of practical nursing and/or successful completion of the National Council Licensure Exam for Practical Nurses.
2. Completion of Composition I, Introduction to Psychology, Computer Essentials, Human Anatomy, Human Anatomy Lab, Human Physiology and Human Physiology Lab. Grades from these classes must be "C" or above to be acceptable.

To be considered for the Practical or Associate Degree Nursing Program, prospective students 1) must complete an application; 2) submit a high school transcript or High School Equivalency Diploma scores and college transcripts; and 3) take one of the following tests: ACT, SAT or ACCUPLACER. 4) In addition you must take the ATI TEAS examination. 5) Submit an active Iowa Direct Care Workers Registry Card.

Criminal background and dependent adult and child abuse record checks are required prior to the clinical courses.

Previous licensure: Clinical participation is not allowed by persons who have been denied licensure by the Iowa Board of Nursing or whose license is currently suspended, surrendered or revoked in any country or U.S. jurisdiction due to disciplinary action.

These programs are approved by the Iowa Board of Nursing, Riverpoint Business Park, 400 SW Eighth St. Suite B, Des Moines, IA 50309-4685, (515) 281-3255. The Associate Degree Nursing program has been validated for participation in the Iowa Articulation Plan by the Iowa Board of Nursing.

NOTE: Students completing any course with a prefix of ADN, BIO and PNN must receive a "C" or higher to progress to the next term of classes. If needed, students may retake these courses once to receive a satisfactory grade and remain eligible for the program. PSY 111 Introduction to Psychology must be taken before enrolling in Term III of the student's first year.
Associate Degree Nursing - Online / Hybrid Completion, A.A.S.  
Offered at Main Campus

This is a 21-month (seven-term), part-time program designed for the student already licensed as a practical nurse. Educational and clinical experiences at area hospitals and health care agencies are provided in a day or evening format. Graduates receive an Associate of Applied Science degree and are eligible to take the National Council Licensure Examination for Registered Nurses.

This program begins annually and may be entered only in the Winter term.

Prior to entering the Associate Degree-Onlne/Hybrid program, students must complete Composition I (3 semester credits), Introduction to Psychology (3 semester credits) and Computer Essentials (1 semester credit), Human Anatomy (3 semester credits), Human Anatomy Lab (1 semester credit), Human Physiology (3 semester credits) & Human Physiology Lab (1 semester credit).

To qualify for admission to the Associate Degree Nursing-Onnline/Hybrid Completion program, students must be a graduate of an approved school of practical nursing and have successfully completed the National Council Licensure Examination for Practical Nursing.

To be considered for admission to the Associate Degree Nursing-Onnline/Hybrid Completion program, prospective students must: 1) complete an application; 2) submit a high school transcript or High School Equivalency Diploma scores and college transcripts; and 3) take one of the following tests: ACT, SAT or ACCUPLACER. 4) take the ATI TEAS examination. 5) submit an active LPN license.

Criminal background, drug screening, and dependent adult and child abuse record checks are required prior to beginning any clinical courses.

Previous licensure: Clinical participation is not allowed by persons who have been denied licensure by the Iowa Board of Nursing or whose license is currently suspended, surrendered, or revoked in any country or U.S. jurisdiction due to disciplinary action.

This program is approved by the Iowa Board of Nursing, Riverpoint Business Park, 400 SW Eighth St. Suite B, Des Moines, IA 50309-4685, (515) 281-3255. The Associate Degree Nursing program also has been validated for participation in the Iowa Articulation Plan by the Iowa Board of Nursing.

NOTE: Students completing any course with a prefix of ADN or BIO must receive a "C" or higher to progress to the next term of classes. If needed, students may retake these courses once to receive a satisfactory grade and remain eligible for the program.

**Program Total: 38 Credits**

**Term I**
- ADN 311 - RN Issues and Trends - Credits: 1.00
- SOC 110 - Introduction to Sociology - Credits: 3.00

Total: 4 Credits

**Term II**
- ADN 231 - Advanced Pharmacology - Credits: 2.00
- BIO 187 - Microbiology w/lab - Credits: 4.00

Total: 6 Credits

**Term III**
- ADN 142 - Advanced Nursing Concepts - Credits: 2.00
- GEP - General Education: Speech Credits-3.00

Total: 5 Credits

**Term IV**
- ADN 578 - Assessment and Pathophysiology - Credits: 3.00
- ADN 711 - Nursing Clinical IV - Credits: 2.00

Total: 5 Credits
Term V
- ADN 421 - Maternal Child Nursing II - Credits: 3.00
- ADN 714 - Nursing Clinical V - Credits: 2.00
- MAT 120 - College Algebra - Credits: 3.00 OR
- MAT 156 - Statistics - Credits: 3.00
Total: 8 Credits

Term VI
- ADN 492 - Advanced Mental Health Nursing - Credits: 2.00
- ADN 717 - Nursing Clinical VI - Credits: 2.00
Total: 4 Credits

Term VII
- ADN 579 - Management of Patients With Complex Health Conditions - Credits: 3.00
- ADN 720 - Nursing Clinical VII - Credits: 2.00
- ADN 841 - Nursing Seminar II - Credits: 1.00
Total: 6 Credits

**Associate Degree Nursing, A.A.S.**
**Offered at Main and Centerville Campuses**

This is a 24-month (eight-term), full-time program. This program begins annually and may be entered in the Summer term on both the Ottumwa and Centerville Campuses and in the Winter term on the Ottumwa Campus.

Educational and clinical experiences at area hospitals and health care agencies are provided in a Monday through Thursday day format. Graduates receive an Associate of Applied Science degree and are eligible to take the National Council Licensure Examination for Registered Nurses.

To be considered for admission to the Associate Degree Nursing program, prospective students must: 1) complete an application; 2) submit a high school transcript or High School Equivalency Diploma scores and college transcripts; and 3) take one of the following tests: ACT, SAT or ACCUPLACER. 4) take the TEAS examination and; 5) submit and active Iowa Direct Care Registry card. If you are applying for the Advanced Standing Program and there has been a gap in time since graduating from the PN year, you must also submit an active LPN license.

Criminal background, drug screening, and dependent adult and child abuse record checks are required prior to beginning any clinical courses.

This program is approved by the Iowa Board of Nursing, Riverpoint Business Park, 400 SW Eighth St. Suite B, Des Moines, IA 50309-4685, (515) 281-3255. The Associate Degree Nursing program also has been validated for participation in the Iowa Articulation Plan by the Iowa Board of Nursing.

NOTE: Students completing any course with a prefix of ADN, BIO and PNN must receive a "C" or higher to progress to the next term of classes. If needed, students may retake these courses once to receive a satisfactory grade and remain eligible for the program. PSY 111 Introduction to Psychology must be taken before enrolling in Term III of the student's first year.

**Program Total: 83 Credits**

**Term I**
- BIO 175 - Human Anatomy - Credits: 3.00
- BIO 176 - Human Anatomy Lab - Credits: 1.00
- PNN 108 - Beginning Principles of Nursing - Credits: 2.00
- PNN 265 - Nutrition - Credits: 3.00
- PSY 111 - Introduction to Psychology - Credits: 3.00
Total: 12 Credits

**Term II**
- BIO 178 - Human Physiology - Credits: 3.00
- BIO 179 - Human Physiology Lab - Credits: 1.00
- PNN 148 - Nursing Essentials II - Credits: 2.00
- PNN 231 - Pharmacology - Credits: 3.00
- PNN 501 - Nursing of Adults I - Credits: 3.00
- PNN 725 - Clinical Experience I - Credits: 2.00
Total: 14 Credits

Term III
- CSC 105 - Computer Essentials - Credits: 1.00
- PNN 401 - Mental Health Nursing I - Credits: 1.00
- PNN 431 - Maternal Child Nursing I - Credits: 2.00
- PNN 714 - Nursing Clinical II - Credits: 2.00
- PSY 121 - Developmental Psychology - Credits: 3.00
Total: 9 Credits

Term IV
- ENG 105 - Composition I - Credits: 3.00
- PNN 311 - PN Issues and Trends - Credits: 1.00
- PNN 331 - Nursing Seminar I - Credits: 1.00
- PNN 504 - Nursing of Adults II - Credits: 3.00
- PNN 717 - Nursing Clinical III - Credits: 2.00
Total: 10 Credits

Term V
- ADN 142 - Advanced Nursing Concepts - Credits: 2.00
- ADN 231 - Advanced Pharmacology - Credits: 2.00
- ADN 578 - Assessment and Pathophysiology - Credits: 3.00
- ADN 711 - Nursing Clinical IV - Credits: 2.00
Total: 9 Credits

Term VI
- ADN 421 - Maternal Child Nursing II - Credits: 3.00
- ADN 714 - Nursing Clinical V - Credits: 2.00
- BIO 187 - Microbiology w/lab - Credits: 4.00
Total: 9 Credits

Term VII
- ADN 492 - Advanced Mental Health Nursing - Credits: 2.00
- ADN 717 - Nursing Clinical VI - Credits: 2.00
- SPC 112 - Public Speaking - Credits: 3.00
  OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
- MAT 120 - College Algebra - Credits: 3.00
  OR
- MAT 156 - Statistics - Credits: 3.00
Total: 10 Credits

Term VIII
- ADN 311 - RN Issues and Trends - Credits: 1.00
- ADN 579 - Management of Patients With Complex Health Conditions - Credits: 3.00
- ADN 720 - Nursing Clinical VII - Credits: 2.00
- ADN 841 - Nursing Seminar II - Credits: 1.00
- SOC 110 - Introduction to Sociology - Credits: 3.00
Total: 10 Credits

Dual Major Option
Students who wish to complete an Associate of Arts degree along with this program can do so by taking these additional courses. For A.A. degree required course options, see General Education Course Requirements (A.A., A.S.)
- Composition II - Credits: 3.00
- Literature - Credits: 3.00
- Humanities or Fine Arts Electives - Credits: 5.00
- U.S. History or Western Civilization - Credits: 3.00
- The College Experience - Credits: 2:00
Practical Nursing, Diploma
Offered at Main and Centerville Campuses

The full-time Practical Nursing program is a 12-month (four-term) program that begins in the Summer term on both the Ottumwa and Centerville Campuses and in the Winter term on the Ottumwa Campus. Courses and clinical experiences will be offered in a Monday through Thursday format. This program is designed to prepare the student to function as a practical nurse in a variety of health care settings. Practical nurses are responsible for providing nursing care to stable patients under the direct supervision of a registered nurse. Classes are scheduled on two days each week at the Ottumwa or Centerville Campus. Required clinical experiences are offered two days each week at area hospitals and long term care facilities.

To be considered for admission to the Practical Nursing program, prospective students must: 1) complete an application; 2) submit a high school transcript or High School Equivalency Diploma scores and college transcripts; and 3) take one of the following tests: ACT, SAT, ACCUPLACER. 4) take the ATI TEAS examination; and 5) submit an active Iowa Direct Care Worker Registry card.

Criminal background, drug screening, and dependent adult and child abuse record checks are required prior to beginning any clinical courses.

Graduates receive a diploma in Practical Nursing upon successful completion of this program and are eligible to take the National Council Licensure Examination for Practical Nurses.

The Practical Nursing program is approved by the Iowa Board of Nursing, Riverpoint Business Park, 400 SW Eighth Street, Suite B, Des Moines, IA 50309-4685, (515) 281-3255.

NOTE: Students completing any course with a prefix of ADN, BIO and PNN must receive a "C" or higher to progress to the next term of classes. If needed, students may retake these courses once to receive a satisfactory grade and remain eligible for the program. PSY 111 Introduction to Psychology must be taken before enrolling in Term III of the student's first year.

Program Total: 45 Credits

Term I
- BIO 175 - Human Anatomy - Credits: 3.00
- BIO 176 - Human Anatomy Lab - Credits: 1.00
- PNN 265 - Nutrition - Credits: 3.00
- PSY 111 - Introduction to Psychology - Credits: 3.00
- PNN 108 - Beginning Principles of Nursing - Credits: 2.00

Total: 12 Credits

Term II
- BIO 178 - Human Physiology - Credits: 3.00
- BIO 179 - Human Physiology Lab - Credits: 1.00
- PNN 148 - Nursing Essentials II - Credits: 2.00
- PNN 231 - Pharmacology - Credits: 3.00
- PNN 501 - Nursing of Adults I - Credits: 3.00
- PNN 725 - Clinical Experience I - Credits: 2.00

Total: 14 Credits

Term III
- CSC 105 - Computer Essentials - Credits: 1.00
- PNN 401 - Mental Health Nursing I - Credits: 1.00
- PNN 431 - Maternal Child Nursing I - Credits: 2.00
- PNN 714 - Nursing Clinical II - Credits: 2.00
- PSY 121 - Developmental Psychology - Credits: 3.00

Total: 9 Credits

Term IV
- ENG 105 - Composition I - Credits: 3.00
- PNN 311 - PN Issues and Trends - Credits: 1.00
- PNN 331 - Nursing Seminar I - Credits: 1.00

214
Other Health Sciences Program
Indian Hills offers a variety of other programs to complete its comprehensive group of Health Sciences instructional programs. These programs prepare students for entry-level positions in the healthcare industry.

Graduates of these programs are awarded Associate of Applied Science degrees or diplomas.

Certified Dietary Manager
Certified Dietary Manager (CDM), is an entry-level certificate program to gain skills to support registered dietitians in community settings. Graduates will be prepared to work with individuals in their home focusing on nutrition and health promotion, assisting in monitoring plans of care, collecting basic assessment data, demonstrating food preparation and food label reading skills and helping build relationships in the community under the supervision of a dietitian.

Program Total: 12 Credits

Term I
- DTM 110 - Medical Nutrition Therapy - Credits: 3.00
- HCM 101 - Safety/Sanitation - Credits: 1.00
Total: 4 Credits

Term II
- DTM 111 - Foodservice Management and Leadership - Credits: 3.00
- DTM 112 - Foodservice Systems and Production - Credits: 3.00
Total: 6 Credits

Term III
- DTM 113 - CDM Field Experience - Credits: 2.00
Total: 2 Credits

Computed Tomography
To provide a program of computed tomography for registered radiologic technologists that builds on previous educational experiences and affords the student the opportunity to acquire attitudes, knowledge and skills necessary to become effective members of the health care team and serve the health needs of society.

This is an Advanced Standing certificate program for a Registered Radiologic Technologist or a graduate from an accredited radiography program that completes their boards within the first term of the CT Certificate Program.

Program Total: 29 Credits

Term I
- RAD 900 - RT Sectional - Credits: 3.00
- RAD 905 - CT Procedures for RTs - Credits: 3.00
- RAD 910 - CT Clinical I-A - Credits: 7.00

Term II
- RAD 920 - CT Patient Care and Safety - Credits: 1.00
- RAD 925 - CT Principles and Instrumentation - Credits: 3.00
- RAD 915 - CT Clinical I-B - Credits: 12.00

Dental Assisting, Diploma
Offered at Main Campus
The Dental Assisting program is a 12-month (four-term) program designed to prepare individuals to assist the dentist with patient care, expose and process dental radiographs, prepare procedural setups for dental treatment, maintain
infection control and hazardous waste protocols and perform office administrative functions. Students meeting all
program and graduation requirements will earn an IHCC diploma.

The program in Dental Assisting is accredited by the Commission on Dental Accreditation. The Commission is a
specialized accrediting body recognized by the United States Department of Education. The Commission on Dental
Accreditation can be contacted at (312) 440-4653 or at 211 East Chicago Avenue, Chicago, IL 60611. The
Commission’s web address is: http://www.ada.org/en/coda.

Dental Assistants who meet the eligibility and exam requirements can sit for the Dental Assisting National Board
Examination and earn the credential of “Certified Dental Assistant” (CDA). State examination and registration with
the Iowa Dental Board are required to practice in the State of Iowa and are separate from the DANB. The state
requirements for “Registered Dental Assistant” (RDA) are structured within the program.

To apply, complete an IHCC application and submit high school transcripts or High School Equivalency Diploma
scores and take one of the following: ACT, SAT or ACCUPLACER test. Testing may be scheduled by calling the IHCC
Testing Center at (641) 683-5142 or (800) 726-2585, ext. 5142. This program begins in the Fall term of each year.

Criminal background, drug screening, and dependent adult and child abuse record checks are required prior to
beginning the program.

**Program Total: 45.5 Credits**

**Term I**
- BIO 175 - Human Anatomy - Credits: 3.00
- BIO 176 - Human Anatomy Lab - Credits: 1.00
- CSC 105 - Computer Essentials - Credits: 1.00
- DEA 293 - Microbiology and Infection Control for the Dental Assistant - Credits: 2.00
- DEA 256 - Dental Anatomy - Credits: 2.00
- DEA 517 - Dental Assisting I - Credits: 3.5
- HSC 113 - Medical Terminology - Credits: 2.00

Total: 14.5 Credits

**Term II**
- DEA 268 - Pharmacology and Emergency Procedures for Dental Assisting - Credits: 2.00
- DEA 312 - Dental Radiography - Credits: 3.00
- DEA 403 - Dental Materials - Credits: 3.00
- DEA 518 - Dental Assisting II - Credits: 1.50

Total: 9.5 Credits

**Term III**
- DEA 211 - Nutrition for Dental Assistants - Credits: 1.00
- DEA 321 - Dental Radiography II - Credits: 2.00
- DEA 519 - Dental Assisting III - Credits: 1.50
- DEA 573 - Assisting Clinical I - Credits: 4.00
- DEA 702 - Dental Office Procedures - Credits: 2.00

Total: 10.5 Credits

**Term IV**
- DEA 574 - Assisting Clinical II - Credits: 4.00
- DEA 592 - Seminar for Dental Assisting - Credits: 1.00
- DEA 603 - Dental Specialties - Credits: 2.00
- HSC 230 - Employment Preparation - Credits: 1.00
- SPC 122 - Interpersonal Communication - Credits: 3.00

Total: 11 Credits

**Dental Hygiene, A.A.S.**

**Offered at Main Campus**

The Dental Hygiene program is a 24-month (eight term) program that prepares the student to be an oral health
professional. The curriculum is comprised of Dental Hygiene and general education courses as required by the
Commission on Dental Accreditation. The Dental Hygiene program contains didactic, laboratory and clinical experiences.

The program in Dental Hygiene is accredited by the Commission on Dental Accreditation (CODA). The Commission is a specialized accrediting body recognized by the United States Department of Education. The Commission on Dental Accreditation can be contacted at (312) 440-4653 or at 211 East Chicago Avenue, Chicago, IL 60611. The Commission’s web address is: http://www.ada.org/prof/ed/programs/search_index.asp.

Graduates will become employed in private dentist’s offices, public health agencies, community health offices, hospitals and schools. Upon successful completion, students are awarded Associate of Applied Science degrees in Dental Hygiene. Graduates of the program will be eligible to sit for the National Board Dental Hygiene (NBDHE) and clinical board exam CRDTS.

To apply, complete an IHCC application and submit high school transcripts or High School Equivalency Diploma scores and take one of the following: ACT, SAT or ACCUPLACER test. Testing may be scheduled by calling the IHCC Testing Center at (641) 683-5142 or (800) 726-2585, ext. 5142. This program will begin in the Fall term of each year. Criminal background, drug screening, and dependent adult and child abuse record checks are required prior to beginning the program.

Note: Indian Hills Community College would like to inform all students that may enter the dental hygiene program, that they will have exposure to infectious diseases. However, infection control procedures are mandated to prevent the contamination and spread of diseases.

**Program Total: 86 Credits**

**Term I**
- BIO 175 - Human Anatomy - Credits: 3.00
- BIO 176 - Human Anatomy Lab - Credits: 1.00
- DEA 256 - Dental Anatomy - Credits: 2.00
- ENG 105 - Composition I - Credits: 3.00
- XXX XXX General Education: Mathematics - Credits 3.00

Total: 12 Credits

**Term II**
- CHM 121 - Introduction to General Chemistry - Credits: 3.00
- DEA 312 - Dental Radiography - Credits: 3.00
- DEA 403 - Dental Materials - Credits: 3.00

Total: 9 Credits

**Term III**
- BIO 187 - Microbiology w/lab - Credits: 4.00
- CHM 132 - Introduction to Organic and Biochemistry - Credits: 4.00
- CSC 105 - Computer Essentials - Credits: 1.00
- DEA 321 - Dental Radiography II - Credits: 2.00

Total: 11 Credits

**Term IV**
- BIO 178 - Human Physiology - Credits: 3.00
- BIO 179 - Human Physiology Lab - Credits: 1.00
- PSY 111 - Introduction to Psychology - Credits: 3.00
- SOC 110 - Introduction to Sociology - Credits: 3.00

Total: 10 Credits

**Term V**
- DHY 117 - Advanced Dental Anatomy - Credits: 2.00
- DHY 165 - Advanced Dental Radiography - Credits: 2.00
- DHY 176 - Clinical Procedures - Credits: 3.00
- DHY 235 - Nutrition for Dental Hygiene - Credits: 2.00

Total: 9 Credits

**Term VI**
- DHY 123 - Oral Histology and Embryology - Credits: 2.00
- DHY 143 - Oral Pathology - Credits: 2.00
• DHY 154 - Dental Emergency Management - Credits: 1.00
• DHY 185 - Advanced Clinical Procedures - Credits: 3.00
• DHY 229 - Dental Preventative Health - Credits: 2.00
• SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
  OR
• SPC 112 - Public Speaking - Credits: 3.00
  OR
• SPC 122 - Interpersonal Communication - Credits: 3.00
• DHY 263 - Intro to Dental Hygiene Practicum - Credits: 1.00

Total: 14 Credits

**Term VII**

• DHY 135 - Pharmacology and Pain Control - Credits: 3.00
• DHY 208 - Periodontology - Credits: 2.00
• DHY 245 - Ethics and Jurisprudence - Credits: 2.00
• DHY 300 - Dental Hygiene Practicum - Credits: 5.50

Total: 12.5 Credits

**Term VIII**

• DHY 258 - Community Health Concepts - Credits: 2.00
• DHY 315 - Seminar for Dental Hygiene - Credits: 1.00
• DHY 320 - Advanced Dental Hygiene Practicum - Credits: 5.50

Total: 8.5 Credits

**Medical Assistant**

The Medical Assistant Program prepares students for employment in a private physician’s office, clinic, hospital, and health related agencies. This program is three semesters in length and is conducted over a period of 11 months. Educational development of each student is directed toward the application of accurate knowledge in practical situations, making judgments, applying reason, thinking independently and engaging in problem solving. The program normally begins in the fall and continues through the summer months when students gain supervised clinical experience in a physician’s office. Upon completion of the Medical Assistant Program, graduates are eligible to write the national certification examination for Certified Medical Assistants administered by the American Association of Medical Assistants.

This is a shared program between IHCC and SCC. Students will complete core courses through SCC, and general education courses through IHCC. SCC will coordinate clinical rotations for these students, in the IHCC region. SCC holds the accreditation and grants the award.

**Program Total: 48 Credits**

**Term I**

• BIO 161 - Basic Anatomy and Physiology - Credits: 3.00
• BIO 199 - Basic Anatomy and Physiology Lab I - Credits: 1.00
• HIT 125 - Essentials of Health Records - Credits: 2.00
• HSC 114 - Medical Terminology - Credits: 3.00
  OR
• HSC 113 - Medical Terminology - Credits: 2.00
• MAP 121 - Administrative Procedures I - Medical Office - Credits: 4.00
• MAP 364 - Clinical Procedures for Medical Office I - Credits: 7.00
• MAP 431 - Human Relations - Credits: 1.00

Total: 21 Credits

**Term II**

• HIT 211 - Basic Medical Insurance and Coding - Credits: 3.00
• MAP 122 - Administrative Procedures II - Medical Office - Credits: 3.00
• MAP 369 - Clinical Procedures for Medical Office II - Credits: 7.00
• MAP 370 - Specialty Procedures - Credits: 4.00
• MAP 401 - Medical Law and Ethics - Credits: 1.00
  OR
• HIT 141 - Health Law and Ethics - Credits: 3.00
Nutrition and Dietary Management

The Nutrition and Dietary Management program is a six-term program that begins in the Fall term. The program is offered in an online format with traditional clinical settings. Graduates are prepared to function as allied health professionals under the direction of a registered dietitian and in institutional food service operations in hospitals, long term care facilities or school districts. Certified Dietary Managers are responsible for daily operations within institutional food service departments, in addition to working with dietitians to implement nutrition care plans and monitor medical nutrition therapy. Upon successful completion of the Nutrition and Dietary Management program, students are awarded an Associate of Applied Science degree and are eligible to take the Certified Dietary Manager credentialing exam.

To apply for the Nutrition and Dietary Management program, prospective students must complete an IHCC application, submit high school transcripts or High School Equivalency Diploma scores and take the ACCUPLACER or ACT. The ACCUPLACER test can be scheduled by calling (641) 683-5142 or (800) 726-2585, ext. 5142. Criminal background and dependent adult and child abuse record checks are required prior to the field experience course.

Program Total: 66 Credits

Term I
- BIO 175 - Human Anatomy - Credits: 3.00
- BIO 176 - Human Anatomy Lab - Credits: 1.00
- DTM 100 - Nutrition for Foodservice - Credits: 3.00
- ENG 105 - Composition I - Credits: 3.00
- SDV 101 - How to be Successful in College - Credits: 3.00
Total: 13 Credits

Term II
- BIO 178 - Human Physiology - Credits: 3.00
- BIO 179 - Human Physiology Lab - Credits: 1.00
- CSC 105 - Computer Essentials - Credits: 1.00
- DTM 110 - Medical Nutrition Therapy - Credits: 3.00
- HCM 101 - Safety/Sanitation - Credits: 1.00
- HSC 113 - Medical Terminology - Credits: 2.00
Total: 11 Credits

Term III
- DTM 111 - Foodservice Management and Leadership - Credits: 3.00
- DTM 112 - Foodservice Systems and Production - Credits: 3.00
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
Total: 9 Credits

Term IV
- DTM 113 - CDM Field Experience - Credits: 2.00
- HSC 212 - Pathophysiology - Credits: 3.00
- MAT 120 - College Algebra - Credits: 3.00
- PSY 111 - Introduction to Psychology - Credits: 3.00
Total: 11 Credits

Term V
- BUS 102 - Introduction to Business - Credits: 3.00
- DTM 201 - Food and Culinary Science - Credits: 3.00
The Occupational Therapy Assistant Program is a 21-month (seven-term) program that prepares the student to become an Occupational Therapy Assistant (OTA). The occupational therapy assistant works with, and under the supervision of an occupational therapist, to improve and support functional performance in daily activities. OTAs, within their scope of practice, assist with the process of client evaluation, goal setting, implementation of care and documentation of occupational therapy services. Upon completion of the program, the associate degree graduate will be educationally-prepared to provide service throughout the lifespan to individuals who have difficulties due to developmental, physical, cognitive and emotional impairments.

To apply, complete an IHCC application and submit high school transcripts or High School Equivalency Diploma scores and take one of the following: ACT, SAT, or ACCUPLACER test. Testing may be scheduled by calling the IHCC Testing Center at (641) 683-5142 or (800) 726-2585, ext. 5142. Following acceptance, applicants are required to complete a minimum of 40 hours of observation in more than one clinical site and a written paper about Occupational Therapy. Accepted students must attend the required mandatory orientations. This program may be entered only at the beginning of the Fall term. Students meeting all program and graduation requirements receive an Associate of Applied Science degree and are eligible to take the certification examination given by the National Board for Certification in Occupational Therapy (NBCOT) to become a certified occupational therapy assistant (COTA). Licensure for occupational therapy assistants is required in most states, including Iowa.

Criminal background, drug screening, and dependent adult and child abuse record checks are required prior to the clinical courses.

This program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery Lane, Suite 200, Bethesda, MD 20814-3449. ACOTE's telephone number is (301) 652-AOTA and their website is www.acoteonline.org. Graduates are eligible to sit for the national certification examination for the occupational therapy assistant administered by the National Board for Certification in Occupational Therapy (NBCOT), www.nbcot.org. After successful completion of this exam, the individual will be a Certified Occupational Therapy Assistant (COTA). In addition, most states require licensure in order to practice; and state licenses are usually based on the results of the NBCOT Certification Examination. Note that a felony conviction may affect a graduate’s ability to sit for the NBCOT certification examination or attain state licensure.

Program Total: 80 Credits

Term I
- BIO 175 - Human Anatomy - Credits: 3.00
- BIO 176 - Human Anatomy Lab - Credits: 1.00
- CSC 105 - Computer Essentials - Credits: 1.00
- HSC 113 - Medical Terminology - Credits: 2.00
- OTA 106 - Trends in OTA - Credits: 3.00
- PST 111 - Introduction to Psychology - Credits: 3.00
Total: 13 Credits

Term II
- BIO 178 - Human Physiology - Credits: 3.00
- BIO 179 - Human Physiology Lab - Credits: 1.00
• ENG 105 - Composition I - Credits: 3.00
• OTA 121 - Principles of OT - Credits: 4.00
• PSY 121 - Developmental Psychology - Credits: 3.00

Total: 14 Credits

Term III
• OTA 131 - Pediatric Practice for the OTA - Credits: 4.00
• OTA 141 - Therapeutic Media in OT - Credits: 3.00
• OTA 212 - Functional Kinesiology - Credits: 3.00
• OTA 801 - OTA Level IA Fieldwork - Credits: 1.00

Total: 11 Credits

Term IV
• HSC 212 - Pathophysiology - Credits: 3.00
• OTA 151 - Adult Physical Disability Practice for the OTA - Credits: 4.00
• OTA 161 - Traditional and Emerging Practice in OT - Credits: 2.00
• OTA 811 - OTA Level IB Fieldwork - Credits: 1.00
• SPC 122 - Interpersonal Communication - Credits: 3.00

Total: 13 Credits

Term V
• HSC 226 - Health Society and Aging - Credits: 3.00
• OTA 171 - Psychosocial Practice for the OTA - Credits: 3.00
• OTA 821 - OTA Level IC Fieldwork - Credits: 1.00
• SOC 110 - Introduction to Sociology - Credits: 3.00
• XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 *

Total: 13 Credits

Term VI
• OTA 210 - Professional Issues in OT - Credits: 2.00
• OTA 831 - OTA Level IIA Fieldwork - Credits: 6.00

Total: 8 Credits

Term VII
• OTA 220 - Clinical Reasoning for OTA - Credits: 2.00
• OTA 841 - OTA Level IIB Fieldwork - Credits: 6.00

Total: 8 Credits

Dual Credit Option
Students who wish to complete an Associate of Arts degree along with this program can do so by taking these additional courses. The Math elective should be MAT 110 or higher.
• Composition II - Credits: 3.00
• Public Speaking or Fundamentals of Oral Communication - Credits: 3.00
• Literature - Credits: 3.00
• Humanities & Fine Arts - Credits: 5.00
• U.S. History or Western Civilization - Credits: 3.00
• How to be Successful in College - Credits: 3.00

* Refer to General Education Course Requirements (A.A.S.) for approved courses.

Pharmacy Technology, Diploma
Offered at Main Campus and Online

The Pharmacy Technology program is a nine-month (three-term) program that begins in the Winter term each year. The program is offered in an online/hybrid format with traditional practicum, laboratory and simulation settings. Graduates are prepared to function as allied health professionals under the direction of a registered pharmacist in a hospital or retail pharmacy. Pharmacy Technicians are responsible for measuring, mixing, counting, labeling and recording amounts and dosages of medications; verifying prescriptions from physicians; and maintaining patient records and insurance information. Students will complete a required practicum experience in a hospital and/or retail pharmacy. Upon successful completion of the Pharmacy Technology program, students are awarded a diploma and are eligible to take the Pharmacy Technician Certification Examination.
To apply for the Pharmacy Technology program, prospective students must complete an IHCC application and submit high school transcripts or High School Equivalency Diploma scores and take one of the following: ACT, SAT or ACCUPLACER test. Testing may be scheduled by calling the IHCC Testing Center at (641) 683-5142 or (800) 726-2585, ext. 5142.

Criminal background, drug screening, and dependent adult and child abuse record checks are required prior to the clinical courses.

**Program Total: 25 Credits**

**Term I**
- BIO 161 - Basic Anatomy and Physiology - Credits: 3.00
- HSC 113 - Medical Terminology - Credits: 2.00
- PHR 100 - Intro To Pharmacy Technician - Credits: 3.00
- PHR 110 - Pharmacy Technician I - Credits: 3.00
- PHR 145 - Pharmacy Simulation I - Credits: 1.00

Total: 12 Credits

**Term II**
- PHR 115 - Pharmacy Technician II - Credits: 5.00
- PHR 130 - Pharmaceutical Calculations - Credits: 1.00
- PHR 141 - Pharmacy Operations - Credits: 3.00
- PHR 148 - Pharmacy Simulation II - Credits: 1.00

Total: 10 Credits

**Term III**
- HSC 230 - Employment Preparation - Credits: 1.00
- PHR 150 - Pharmacy Technician Practicum - Credits: 2.00

Total: 3 Credits

**Physical Therapist Assistant, A.A.S.**

**Offered at Main Campus**

This 21-month (seven-term) program prepares the student to be a Physical Therapist Assistant (PTA). The PTA is a health care worker who assists the Physical Therapist. PTAs administer treatments to patients working under the supervision of and as an assistant to a physical therapist. Treatments may include administering active and passive manual exercises and modalities such as massage, heat, light, ultrasound and electrical stimulation to patients with relatively stable conditions. Other duties include assisting patients in improving their function, collecting data on patient progress and documenting treatment.

To apply, complete an IHCC application and submit high school transcripts or High School Equivalency Diploma scores and take one of the following: ACT, SAT, or ACCUPLACER test. Testing may be scheduled by calling the IHCC Testing Center at (641) 683-5142 or (800) 726-2585, ext. 5142. Following acceptance, applicants are required to complete 40 hours of observation in a clinical site. Accepted students must attend the required mandatory orientations. This program may be entered only at the beginning of the Fall term. Students meeting all program and graduation requirements receive an Associate of Applied Science degree, and are eligible to take the National Physical Therapist Assistant Examination.

Criminal background, drug screening, CPR & First aid, physical examination with documentation of immunizations and dependent adult and child abuse record checks are required prior to the clinical courses.

The Physical Therapist Assistant (PTA) Program at Indian Hills Community College is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE), 1111 North Fairfax Street, Alexandria, Virginia 22314; telephone: 703-769-3045; email: accreditation@apta.org; website: [http://www.capteonline.org](http://www.capteonline.org).

**Program Total: 82.5 Credits**

**Term I**
- BIO 175 - Human Anatomy - Credits: 3.00
- BIO 176 - Human Anatomy Lab - Credits: 1.00
- CSC 105 - Computer Essentials - Credits: 1.00
- HSC 113 - Medical Terminology - Credits: 2.00
- PTA 109 - PTA Trends - Credits: 2.50
- PTA 111 - PTA Fundamentals - Credits: 4.00

Total: 13.5 Credits

**Term II**
- BIO 178 - Human Physiology - Credits: 3.00
- BIO 179 - Human Physiology Lab - Credits: 1.00
- PTA 118 - Functional Human Anatomy - Credits: 4.00
- PTA 310 - PTA Clinical I - Credits: 1.00
- XXX XXX - Approved Mathematical Reasoning Course - Credits: 3.00 *

Total: 12 Credits

**Term III**
- ENG 105 - Composition I - Credits: 3.00
- PSY 111 - Introduction to Psychology - Credits: 3.00
- PTA 121 - PTA Kinesiology - Credits: 3.00
- PTA 191 - PTA Modalities - Credits: 4.00

Total: 13 Credits

**Term IV**
- PSY 121 - Developmental Psychology - Credits: 3.00
- PTA 202 - Cardiopulmonary and Integumentary Rehab - Credits: 2.00
- PTA 203 - PTA Therapeutic Exercise - Credits: 2.00
- PTA 311 - PTA Clinical II - Credits: 1.00
- SPC 112 - Public Speaking - Credits: 3.00
  OR
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
  OR
- SPC 122 - Interpersonal Communication - Credits: 3.00
- GEH - General Education: Humanities - Credits: 2.00

Total: 13 Credits

**Term V**
- HSC 141 - Pharmaceutical Applications - Credits: 1.00
- HSC 226 - Health Society and Aging - Credits: 3.00
- PTA 410 - PTA Clinical III - Credits: 2.00
- PTA 216 - PTA Orthopedics - Credits: 4.00

Total: 10 Credits

**Term VI**
- ENG 106 - Composition II - Credits: 3.00
- HSC 212 - Pathophysiology - Credits: 3.00
- PTA 248 - PTA Neurology - Credits: 4.00
- PTA 252 - Professional Issues - Credits: 3.00

Total: 13 Credits

**Term VII**
- PTA 290 - PTA Capstone - Credits: 3.00
- PTA 416 - Clinical Experience IV - Credits: 5.00

Total: 8 Credits

**Dual Major Option**
Students who wish to complete an Associate of Arts degree along with this program can do so by taking these additional courses.
The Cultural electives should be one three-credit Literature course and a three-credit Humanities or Fine Arts course. The Math elective should be Mat 110 or higher and the Speech elective should be SPC 112 or SPC 101.

- Humanities and/or Fine Arts elective - Credits: 2.00
- U.S. History or Western Civilization - Credits: 3.00
- Distributed Core Electives - Credits: 4.00
- General Electives - Credits: 3.00
• How to be Successful in College - Credits: 3.00
* Refer to General Education Course Requirements (A.A.S.) for approved courses.

**Radiologic Technology, A.A.S.**
**Offered at Main Campus**

The Radiologic Technology program is a two-year (eight-term) comprehensive program consisting of general studies, radiologic courses and clinical experiences. The classroom courses are taught at the IHCC Ottumwa campus and clinical experience is obtained at various approved clinical sites. The second year of the program is offered in an online/hybrid format, allowing greater schedule flexibility as the student participates in the advanced clinical setting. More than 60 percent of the student’s education will be provided in hospital or clinic radiology departments to assure hands-on experience. Activities include producing diagnostic radiographs, assisting physicians with procedures and providing physical and emotional care for patients.

Prospective students must complete an IHCC application and submit high school transcripts or High School Equivalency Diploma scores and take one of the following: ACT, SAT or ACCUPLACER test. Testing may be scheduled by calling the IHCC Testing Center at (641) 683-5142 or (800) 726-2585, ext. 5142. This program may be entered only at the beginning of the Fall term.

Criminal background, drug screening, dependent adult and child abuse record checks and American Heart BLS for Healthcare Provider CPR are required prior to beginning any clinical courses.

Upon successful completion of all program and graduation requirements, the student will receive an Associate of Applied Science degree and will be eligible to take the American Registry of Radiologic Technology Examination. This program is accredited by the Joint Review Committee on Education in Radiologic Technology, 20 N. Wacker Drive Suite 2850, Chicago, IL 60606-3182, (312) 704-5300.

**Program Total: 83 Credits**

**Term I**
- BIO 175 - Human Anatomy - Credits: 3.00
- BIO 176 - Human Anatomy Lab - Credits: 1.00
- HSC 113 - Medical Terminology - Credits: 2.00
- RAD 108 - Radiology and Medical Imaging - Credits: 2.50
- RAD 125 - RT Position I - Credits: 2.00
- RAD 126 - Position and Film Critique Lab I - Credits: 1.50

Total: 12 Credits

**Term II**
- BIO 178 - Human Physiology - Credits: 3.00
- BIO 179 - Human Physiology Lab - Credits: 1.00
- ENG 105 - Composition I - Credits: 3.00
- RAD 127 - RT Positioning II - Credits: 2.00
- RAD 128 - Positioning and Film Critique Lab II - Credits: 1.00
- RAD 205 - RT Clinical I - Credits: 2.00
- RAD 325 - RT Imaging I - Credits: 3.00

Total: 15 Credits

**Term III**
- PSY 111 - Introduction to Psychology - Credits: 3.00
- RAD 129 - RT Positioning III - Credits: 2.00
- RAD 130 - Positioning and Film Critique Lab III - Credits: 1.00
- RAD 225 - RT Clinical II - Credits: 2.00
- RAD 335 - RT Imaging II - Credits: 1.50
- MAT XXX - Approved Mathematical Reasoning Course - Credits: 3.00 *

Total: 12.5 Credits

**Term IV**
- RAD 131 - RT Positioning IV - Credits: 2.00
- RAD 132 - Positioning and Film Critique Lab IV - Credits: 1.50
• RAD 265 - RT Clinical III - Credits: 3.50
• RAD 875 - Diagnostic Imaging Protection - Credits: 1.50
Total: 8.5 Credits

**Term V**
• RAD 525 - RT Clinical IV - Credits: 3.50
• RAD 785 - Radiographic Legal and Ethical Aspects - Credits: 1.50
• RAD 816 - Physics in Medical Imaging I - Credits: 1.00
• RAD 885 - RT Biology - Credits: 1.00
• XXX XXX - Approved Culture Course - Credits: 3.00 *
Total: 10 Credits

**Term VI**
• CSC 105 - Computer Essentials - Credits: 1.00
• RAD 545 - RT Clinical V - Credits: 3.50
• RAD 738 - Radiologic Pathology - Credits: 2.00
• RAD 826 - Physics in Medical Imaging II - Credits: 1.50
Total: 8 Credits

**Term VII**
• RAD 133 - Advanced Radiographic Procedures - Credits: 2.00
• RAD 595 - RT Clinical VI - Credits: 3.50
• RAD 715 - Digital Imaging - Credits: 3.00
Total: 8.5 Credits

**Term VIII**
• RAD 635 - RT Clinical VII - Credits: 3.50
• RAD 685 - RT Seminar - Credits: 5.00
Total: 8.5 Credits

**Notes:**
* Refer to General Education Course Requirements (A.A.S.) for approved courses.

*Optional Courses*
• RAD 886 - Introduction to Mammography - Credits: 2.00
• RAD 887 - Introduction to CT - Credits: 2.00
• RAD 888 - Introduction to MRI - Credits: 2.00

**Respiratory Care**
This is a shared program between IHCC and SCC. Students will complete core courses through SCC, and general education courses through IHCC. SCC will coordinate clinical rotations for these students, in the IHCC region. SCC hold the accreditation and grants the award.

SCC's Respiratory Care program was created to meet the need for respiratory care professionals locally and in the surrounding communities.

Respiratory Care is a specialty field in the health occupation career field. Simply stated, "It deals with everything to do with the heart and lungs from babies through adulthood." This field is growing rapidly and has a great demand for graduates with an associate degree in respiratory care. Respiratory care ranks among the Top 20 fastest growing occupations for the 21st century.

**Program Total: 81 Credits**

**Term 0**
• BIO 187 - Microbiology w/lab - Credits: 4.00
• HSC 114 - Medical Terminology - Credits: 3.00
  OR
• HSC 113 - Medical Terminology - Credits: 2.00
• CHM 122 - Introduction to General Chemistry - Credits: 4.00
  OR
• CHM 121 - Introduction to General Chemistry - Credits: 3.00
Surgical Technology, Diploma
Offered at Main Campus

The Surgical Technology program is offered at Indian Hills Community College through a distance education agreement with Kirkwood Community College, Cedar Rapids, Iowa. Students take the Surgical Technology courses on the Iowa Communications Network (ICN) in Ottumwa and the Arts and Sciences courses are taken at IHCC. Labs are provided at Ottumwa Regional Hospital and clinic sites are assigned in eastern/central Iowa, etc. This 12-month program, which begins each fall, prepares students to provide care to patients during surgery and assist the surgical team in the operating room. Upon successful completion of the program, graduates are awarded a diploma in Surgical Technology from Kirkwood Community College. An additional sequence of Arts and Sciences courses taken during the second year will allow the student to earn an Associate of Applied Science degree. This option provides students with a range of professional opportunities throughout their career. Diploma and AAS graduates are eligible to take the national certification exam for surgical technologists.

Surgical technologists are allied health professionals who are an integral part of the team of medical practitioners providing surgical care to patients in a variety of settings. The surgical technologist works under medical supervision to facilitate the safe and effective conduct of invasive surgical procedures. This individual works under the supervision of a surgeon to ensure that the operating room or environment is safe, that equipment functions properly, and that the operative procedure is conducted under conditions that maximize patient safety.

To apply to the Surgical Technology program students must: 1) complete a Kirkwood College Application (online at www.kirkwood.edu); 2) complete an IHCC application to take the Arts and Sciences courses; 3) send high school
transcripts or High School Equivalency Diploma scores, plus any additional transcripts, to Kirkwood Community College and Indian Hills Community College; 4) take the ACT or ACCUPLACER test. This may be arranged through the IHCC Testing Center at (641) 683-5142 or (800) 726-2585, extension 5142; and 5) attend a scheduled Program Conference; 6) complete the prerequisite courses Human Anatomy, Human Anatomy Lab, and Medical Terminology. All of these requirements must be met prior to acceptance. Students are admitted on a first-come-first-serve basis. Notification of acceptance will be sent from Kirkwood Community College.

This program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) in collaboration with the American College of Surgeons (ACS) and the Association of Surgical Technologists (AST) based on the recommendations of the Accreditation Review Committee on Education in Surgical Technology and Surgical Assisting (ARC-STRA). CAAHEP may be contacted at 25400 U.S. Highway 19 North, Suite 158, Clearwater, FL 33763, or (712) 210-2350 or www.caahep.org. ARC-STSA can be contacted at 6 West Dry Creek Circle, Suite 110, Littleton, CO 80120 or www.arcst.org.

Criminal background, health physical, current immunizations, health insurance, mandatory reporting, HIPAA, OSHA, drug screening, dependent adult and child abuse record checks, and additional compliance items are required prior to beginning any clinical courses.

**Program Total: 62.5 Credits**

**Prerequisites (IHCC)**
- BIO 175 - Human Anatomy - Credits: 3.00
- BIO 176 - Human Anatomy Lab - Credits: 1.00
- HSC 113 - Medical Terminology - Credits: 2.00

Total: 6 Credits

**Fall Semester (Kirkwood)**
- HSC 107 - Professionals in Health - Credits: 2.00
- SUR 126 - Surgical Technology I - Credits: 4.50
- SUR 128 - Surgical Technology I Lab - Credits: 2.00
- SUR 182 - Microbiology for Surg. Techs - Credits: 1.00

Total: 9.5 Credits

**Fall Term (IHCC)**
- BIO 178 - Human Physiology - Credits: 3.00
- BIO 179 - Human Physiology Lab - Credits: 1.00
- SPC 101 - Fundamentals of Oral Communication - Credits: 3.00

*Total: 7 Credits

*Fall Semester (Kirkwood) and Fall Term (Indian Hills) are taken simultaneously so the student is taking a total of 16.5 credits.

**Spring Semester (Kirkwood)**
- SUR 322 - Surgical Technology II - Credits 3.00
- SUR 323 - Surgical Technology II Lab - Credits 1.00
- SUR 340 - Surgical Specialties I - Credits 1.00
- SUR 341 - Surgical Specialties II - Credits 3.00
- SUR 420 - Surgical Technology Pharmacology - Credits 2.00
- SUR 440 - Biomedical Science for Surgical Technology - Credits 2.00
- SUR 520 - Surgical Technology Practicum I - Credits 2.00

Total: 14 Credits

**Summer Semester (Kirkwood)**
- SUR 523 - Surgical Technology Practicum II - Credits 9.00

Total: 9 Credits

**Surgical Technology AAS Degree**
- ENG 106 - Composition I-Credits 3.00
- MGT 101 - Introduction to Management-Credits 3.00
- PSY 111 - Introduction to Psychology-Credits 3.00
- GEH XXX - Humanities Elective-Credits 3.00
- Electives - Credits: 5.00
Health Sciences-Related Programs

Customized Programs

Customized training can be developed for a variety of health care-related fields. Call the Rural Health Education Partnership office at (641) 683-5337 or (800) 726-2585, ext. 5337, to arrange individualized, customized courses/programs.

Short-Term Preparatory Certificate

Short-Term Preparatory Certificate programs offered at Indian Hills Community College are designed to prepare a student for employment in an entry-level health care position or expand the role of the health care provider. Courses are available at regularly scheduled intervals during the calendar year. To enroll in the courses or obtain additional information about the programs, contact the Health Sciences Division at (641) 683-5281 or (800) 726-2585, ext. 5281.

Short-Term Nursing and Related Programs

Activity Coordinator

The activity coordinator program prepares the student to develop, organize and coordinate available facility and community resources to provide ongoing activities for residents in health care facilities. The 75-hour course is comprised of lecture and activity design/preparation. This program meets the requirements of the state-approved curriculum. A certificate is awarded upon successful completion.

Credit Hours: 3

LPN Expanded IV Therapy

The Expanded IV Therapy program prepares the licensed practical nurse to perform procedures related to the expanded scope of intravenous therapy in health care facilities as identified in 655 IAC 6.5(3). This 45-hour course meets the requirements of the state-mandated curriculum. The course has a combination of classroom, laboratory and clinical experiences. A certificate is awarded upon successful completion of the course. The student must be a Licensed Practical Nurse in Iowa with an unrestricted license and the equivalent of one year full-time work experience.

Credit Hours: 2.5

LPN Supervision

The LPN Supervision program provides the licensed practical nurse with the knowledge and skills required to successfully manage resident care and personnel in the health care facility. This 45-hour course meets the requirements of the state-mandated curriculum as approved by the Iowa Board of Nursing through the Iowa Administrative Code. The student must be a Licensed Practical Nurse in Iowa with an unrestricted license and the equivalent of one year full-time work experience.

Credit Hours: 1.5

Medication Aide

This course prepares the Certified Nurse Aide employed in a nursing facility, residential or living facility, to safely administer non-parenteral medications under direct supervision of a registered nurse. This 65-hour course is comprised of 45 hours of lecture and 20 hours of clinical experience in a long-term care facility. This program meets the requirements of the state-approved curriculum. A certificate is awarded upon successful completion of the course. To be eligible for this program, the student must be a certified nurse aide (CNA) on the state registry or a resident assistant (RA). The facility employing the student must write a letter of sponsorship. The CNA/RA must be employed by the sponsoring facility for six (6) months or longer.

Credit Hours: 2.5

Medication Manager

The Medication Manager program prepares the student to administer eye, ear, oral or topical medications to individuals in facilities housing 15 or fewer residents. This 15-hour course is comprised of 10 hours of lecture and five hours laboratory skills and testing. A certificate is awarded upon successful completion of written and skills state-mandated testing. This course meets the requirements of the state approved curriculum.

Credit Hour: 1

LPN Supervision
The LPN Supervision program provides the licensed practical nurse with the knowledge and skills required to successfully manage resident care and personnel in the health care facility. This 42-hour course meets the requirements of the state-mandated curriculum as approved by the Iowa Board of Nursing through the Iowa Administrative Code. The student must be a Licensed Practical Nurse in Iowa.
Credit Hours: 1.5

**Nurse Aide (Nursing Essentials I)**
This program provides the student with the knowledge, skills and attitudes to function as a Nurse's Aide in a health care facility. To qualify for employment in a long-term care facility, students must meet the requirements of this 75-hour course. This course is comprised of 30 hours of lecture, 15 hours of laboratory and 30 hours of supervised clinical experience in a long-term care facility. In addition to course requirements, the student must successfully complete the written and skills state-mandated examination. A certificate is awarded upon completion of these requirements. This course meets the requirements of the Iowa Department of Health, Inspections and Appeal Division.
Credit Hours: 3

**Nurse Aide (Advanced)**
This course is designed as an optional unit of instruction to follow the approved 75-hour Nurse Aide course. Course theory builds on the content introduced in the Nurse Aide course and emphasizes the knowledge, attitude and skills necessary for providing patient care in the acute setting. Prerequisite is Nursing Essentials I.
Credit Hours: 3

**Rehabilitation/Restorative Aide**
This program prepares the certified nurse aide (CNA) to carry out rehabilitative plans of care written by a licensed physical therapist. This 65-hour course is comprised of lecture and laboratory experiences. This program meets the requirements of the state-approved curriculum. A certificate is awarded upon successful completion of the course. To be eligible for this program, the student must be a certified nurse aide (CNA) on the state registry. The facility employing the student must write a letter of sponsorship. The CNA must be employed by the sponsoring facility for six months or longer.
Credit Hours: 2.5

**Resident Attendant**
This course introduces the essential knowledge, technical skills and communication techniques to function as a resident attendant. Classroom and clinical experience will be incorporated to prepare the student to address the biopsychosocial and spiritual needs of individuals with mental illness, mental retardation/disabilities or with dual diagnosis.
Credit Hours: 3

**Fire Service Outreach Programs**
Fire Service Training Programs are offered through the Health Sciences Division. The following continuing education courses are available to be scheduled for volunteer fire departments within the IHCC service area. For information concerning Fire Fighter Course options or to request fire fighter continuing education courses, call (641) 683-5337 or (800) 726-2585, ext. 5337, or email lreeves@indianhills.edu

**Essentials of Fire Fighter I**
Essentials of Fire Fighter I is a 84-contact hour course available only to members of Iowa volunteer fire departments. Through both classroom and hands-on instruction, this course teaches modules on fire fighter safety, fire characteristics, fire suppression techniques, equipment usage, fire prevention and public safety strategies. Certification testing is available through the Iowa Fire Service Training Bureau. Fire fighters are eligible to test following successful course completion.

**Essentials of Fire Fighter II**
Essentials of Fire Fighter II is a 33-contact hour course available only to members of Iowa volunteer fire departments who have completed Fire Fighter I. Through both classroom and hands-on instruction, this course teaches modules on the Incident Management System, alarms and suppression systems, building collapse, rescue and extrication, hose tools and hydrants, foam fire stream systems, ignitable liquids and gases, communication and documentation. Certification testing is available through the Iowa Fire Service Training Bureau. Fire fighters are eligible to test following successful course completion.
Driver/Operator: Pumping Operations
This program presents general principles of pump operations, along with the application of those principles wherever feasible. It will guide driver/operators in the proper operation and care of apparatus. An overview of the qualities and skills needed by a driver/operator, safe driving techniques, types of pumping apparatus, positioning apparatus to maximize efficiency and water supply, fire pump theory and operation, hydraulic calculations, water supply considerations, relay pumping principles, water shuttle procedures, foam system operation and apparatus maintenance is covered.

Specialty Certification Programs

ACLS Prep
This program is designed to prepare the participant with minimal or no previous ACLS knowledge to successfully complete an ACLS course. Included is a thorough ECG dysrhythmia review, emergency drug pharmacology, ACLS science, electrical therapy, treatment algorithms and an introduction to the ACLS team concept.

ACLS Provider & Update
This course is designed to provide the student with advanced emergency cardiovascular knowledge and skills. Treatment protocols will be based on the current American Heart Association guidelines.

PALS Provider & Update
This course is designed to provide the student with the knowledge and skills necessary to care for newborn and pediatric patients in emergency medical situations. This course is based on current American Heart Association guidelines.

PEARS Provider & Update
This course is designed for healthcare providers who less frequently see critically ill children. The course is designed to prepare the learner to initiate and manage the first few minutes of a pediatric arrest or prevent the arrest of a pediatric victim at risk of cardiopulmonary distress. Treatment protocols will be based on the current American Heart Association guidelines.

Neonatal Resuscitation
This course is designed to teach an evidence-based approach to newborn resuscitation. The causes, prevention and management of mild to severe neonatal asphyxia are explained so that health professionals may develop optimal knowledge and skill in resuscitation. This course is based on American Academy of Pediatrics and American Heart Association guidelines.

AMLS & AMLS Refresher
This course is designed to provide the student with the knowledge and skills necessary to care for patients with emergency medical conditions. The course is based on the current National Association of Emergency Medical Technician’s Advanced Medical Life Support (AMLS) curriculum.

PHTLS & PHTLS Refresher
This course is designed to provide the student with the knowledge and skills necessary to care for patients in emergency trauma situations. The course is based on the current National Association of Emergency Medical Technician’s PreHospital Trauma Life Support (PHTLS) curriculum.

GEMS
This course was developed by the American Geriatrics Society and the National Council of State EMS Training Coordinators, and is designed to prepare emergency medical providers to deliver state-of-the-art care to the older adult. Health care providers will be instructed on the use of the GEMS diamond to assess and manage ill, injured or disabled older adults. Physical assessment, environmental issues and social aspects affecting the older adult will be discussed.

Emergency Vehicle Operations
This course is designed to provide the student with the knowledge and skills necessary to safely operate an emergency vehicle. Driving skills and the moral, ethical and legal consequences of emergency vehicle operation will be presented.
TNCC
This course is intended for RN's who work in the Emergency Room setting (at least six months of experience is recommended). Other health care professionals may audit the course on a space available basis. The course covers nursing care of the trauma patient in the ER setting.

Mandatory Reporter Dependent Adult Abuse Course
This program meets the Iowa Code 235.B.16(5) requirements for dependent adult abuse reporting for foster parents, social workers and other healthcare providers as mandatory reporters of abuse.

Mandatory Reporter Child Abuse Course
This program meets the Iowa Code 235.B.16(5) requirements for child abuse reporting for foster parents, social workers and other healthcare providers as mandatory reporters of abuse.

AHA Training Center
Indian Hills Community College is an approved Training Center for the American Heart Association and is eligible to provide Healthcare Provider and Lay Rescuer courses.

Health Care Provider Courses

AHA First Aid
This course provides an introduction to the basic concepts of first aid. Identification and treatment of medical, environmental and injury emergencies will be discussed. This course meets the standards established by the American Heart Association.

Heartsaver Pediatric First Aid
Heartsaver Pediatric First Aid teaches management of pediatric illnesses and injuries in the first few minutes until professional help arrives. This course includes first aid basics, medical and injury emergencies and environmental emergencies. The course is designed for anyone involved in childcare who might need to respond to first aid emergencies with credentialed training.

Healthcare Basic Life Support (BLS for Healthcare Providers)
This course is designed to provide the student with the knowledge and skills necessary to provide basic life support and cardiopulmonary resuscitation (CPR) at the healthcare provider-level based upon current American Heart Association guidelines.

Lay Rescuer Courses

Heartsaver CPR with AED - Adult
This course covers the basic techniques of adult CPR and use of an AED. Students also gain experience in the use of barrier devices in CPR and give first aid for choking in the responsive victim. The four major emergencies (heart attack, stroke, cardiac arrest and foreign body airway obstruction) are discussed.

Heartsaver AED with Pediatric CPR
This course introduces the basic techniques of adult CPR and use of an AED. Pediatric CPR skills may be taught if students live or work in a setting where children are present. The use of barrier devices in CPR and the provision of first aid for choking in the responsive adult, child and infant victims are discussed. The four major emergencies (heart attack, stroke, cardiac arrest and foreign body airway obstruction) are discussed.

Heartsaver First Aid/CPR/AED
This course prepares rescuers to effectively recognize and treat adult emergencies in the critical first minutes until emergency medical services personnel arrives. A complete health and safety training solution for first aid, adult CPR and AED is presented.

**Heartsaver CPR with AED - Adult/Child/Infant**
This course prepares lay rescuers to recognize and treat life-threatening emergencies, including cardiac arrest and choking for adult, child and infant victims and use of an AED for adult cardiac arrest victims. The warning signs of a heart attack and stroke in adults and breathing difficulties in children are discussed.

**CPR for Family and Friends**
This modular course prepares lay rescuers with skills in CPR and relief of foreign body obstruction in the responsive victim. Information about the AHA adult and pediatric Chain of Survival, signs of heart attack, cardiac arrest, stroke and choking in adults is presented. Signs of choking in infants and children, prevention of the most common causes of fatal pediatric injuries and the reduction of risk of sudden infant death syndrome are addressed.

**Instructor Courses**
Courses are also available for Heartsaver First Aid Instructor, BLS Instructor, ACLS Instructor and PALS Instructor. For information concerning course options, registration or to schedule a course, contact Diana Harness at (641) 683-5205 or (800) 726-2585, ext. 5205, or email her at dharness@indianhills.edu.
Articulation Agreements  
High School Level  

Aviation Maintenance Program  
Students who can submit a transcript of courses from an approved Federal Aviation Administration (FAA) 147 school showing successful completion of either the airframe or power plant rating, and can produce the actual FAA mechanic's certificate with either the airframe or power plant rating, are eligible for articulation into this program. Indian Hills will articulate the transcript subject by subject. Students will be eligible to receive up to a maximum of 30 semester hours of credit toward an Associate of Applied Science degree in the Aviation Maintenance Technology program. Students must then enroll for a minimum of three terms to obtain the other rating and qualify for graduation. For information, contact either the Indian Hills Marketing/Recruiting Office at (641) 683-5153 or the Aviation Department at (641) 683-5214. Indian Hills can be contacted toll-free at (800) 726-2585.

Statewide Articulation  
A statewide agreement has been established by which students at any Iowa high school can transfer some courses to similar technical course offerings at any Iowa community college. Indian Hills participates in this agreement and will articulate these courses into areas where like courses are offered. For additional information, students should contact their high school counselor or an Indian Hills Community College representative.

High School Articulation Agreements  
Indian Hills Community College maintains secondary-to-postsecondary articulation agreements with all Area XV high schools and many other schools in Iowa and Missouri. These agreements are by course and are based upon mutually established competencies which include, but are not restricted to, the state-mandated minimums. These articulated courses are accepted by Indian Hills on the basis of a signed agreement which indicates the satisfactory completion of the high school level course(s) by the applicant. Indian Hills does not require acceptance testing and does not charge for the community college credits granted under these agreements.

To take advantage of these agreements, students should contact their high school counselor. All agreements must be accepted by Indian Hills Community College prior to the term in which the credits apply.

Baccalaureate Level  

Associate in Arts and Associate in Science Articulation  
The IHCC Arts and Sciences Division maintains transfer agreements with many public and private institutions in Iowa and the surrounding states. Articulation agreements are those made between Indian Hills and other colleges, which allow for the smooth transfer of IHCC students into four-year programs awarding the baccalaureate degree. Articulation agreements are based upon the assumption that transferring students have completed their Associate of Arts or Associate of Science degree. Students without A.A. or A.S. degrees may still transfer; however, credits at the transferring institution will be accepted on a course-by-course basis only.

An agreement with the state universities in Iowa allows students to transfer completed Associate of Arts degrees. The agreement requires that transferring students maintain a minimum grade point average of 2.0 in all courses. Students must also meet the following requirements:
1. Communications - 8 semester hours
2. Humanities - 8 semester hours
3. Math and Science - 8 semester hours
4. Social Sciences - 8 semester hours
5. Distributed electives - 8 semester hours will be taken from the above four divisions

An agreement with the state universities in Iowa allows students to transfer completed Associate of Science degrees. The agreement requires that transferring students maintain a minimum of 2.0 in all courses. Students must also meet the following requirements:
1. Communications -- 8 semester hours
2. Humanities and Social Sciences -- 8 semester hours
3. Math and Science -20 semester hours (at least one course in each)
4. Distributed electives - 4 semester hours taken from the above divisions

It is understood that where a foreign language is required, the student can meet this requirement either at IHCC or at the transfer institution. All students should work out their transfer programs as early as possible through the academic counseling office.
Although all colleges will accept transfer credit from IHCC, the following colleges have committed to admitting the IHCC student with an A.A. degree at a junior-level standing:

- Buena Vista University
- Central College
- Clarke College
- Drake University
- Graceland University
- Iowa State University
- Iowa Wesleyan College
- Kaplan University
- Missouri Western State College
- Northwestern College
- Palmer College of Chiropractic
- Simpson College
- Truman State University
- University of Iowa
- University of Nebraska at Kearney
- University of Northern Iowa
- University of Phoenix
- Upper Iowa University
- Waldorf College
- William Penn University
- Storm Lake/Ottumwa, Iowa
- Pella, Iowa
- Dubuque, Iowa
- Des Moines, Iowa
- Lamoni, Iowa
- Ames, Iowa
- Mount Pleasant, Iowa
- Des Moines, Iowa
- St. Joseph, Mo.
- Orange City, Iowa
- Maryville, Mo.

**Iowa State University**

Iowa State University's "Admissions Partnership Program" is a partnership between participating community colleges and ISU designed to provide an advantage to community college students planning to earn a bachelor's degree at Iowa State. Students should contact an Indian Hills advisor at (641) 683-5112 for details.

**University of Iowa**

Iowa community college students in select majors can use the "2 Plus 2 Guaranteed Graduation Plan" to supplement their AA degree with a bachelor's degree from the University of Iowa after just two additional years of study. Students should contact an Indian Hills advisor at (641) 683-5112 for details.

**University of Northern Iowa**

The University of Northern Iowa's "Admissions Partnership Program" is a partnership between participating community colleges and UNI designed to provide an advantage to community college students planning to earn a bachelor's degree at UNI. Students should contact an Indian Hills advisor at (641) 683-5112 for details.

**University of Northern Iowa**

Indian Hills, UNI and several area high schools maintain a two + two + two curriculum articulation in the industrial technology area of study.


Additional Arts and Sciences credits taken at IHCC in the general education area also can be transferred under this agreement for a combined total of 65 semester credits. For more information on this agreement, contact the IHCC Advanced Technology Center counselor at (641) 683-5215, or (800) 726-2585, ext. 5215.

**Iowa Articulation Plan for Nursing Education: RN to Baccalaureate**

The Associate Degree Nursing Program at Indian Hills has been approved for participation in the Iowa Articulation Plan since January 1991. In conjunction with the Iowa Board of Nursing, nursing leaders in Iowa collaboratively developed the Iowa Articulation Plan for Nursing: RN to Baccalaureate. The plan is designed to facilitate the access of registered nurses to baccalaureate nursing education. The student may choose from four mutually exclusive options offered at participating baccalaureate programs. For a list of participating baccalaureate nursing programs in Iowa go to: [www.iowa.gov/nursing/nursing_ed/articulation_plan.html](http://www.iowa.gov/nursing/nursing_ed/articulation_plan.html).

**Buena Vista University**
Students completing most A.A.S. degrees may articulate at the junior level at Buena Vista University. See the Indian Hills or Buena Vista counselors for details. Students completing selected A.A.S. degrees may articulate at the junior level in the Buena Vista Technology Management program.

**Southern Illinois University**

Students who complete the A.A.S. degree at Indian Hills in either the Aviation Pilot Training or the Aviation Maintenance Technology programs will receive preferential admission status into the Southern Illinois University Carbondale Bachelor of Science in Aviation Management program. For more information, contact the IHCC Aviation Department at (641) 683-5232 or (800) 726-2585, extension 5232.

**William Penn University**

Two options are available for students with Associate of Applied Science degrees in selected programs to transfer to William Penn University.

**Option 1** is for those A.A.S. students who wish to complete a Baccalaureate degree but do not wish to continue to focus on the same area of study as that completed at Indian Hills Community College.

The Bachelor of Arts with a major in Technical Studies (BATS) is for students with A.A.S. degrees in selected programs who wish to pursue studies in a different area at William Penn University. Transferred courses will be used to fulfill general education requirements based on applicable policies. BATS transfer students will complete a minimum of 64 additional hours at WPU, including the remaining leadership core courses, and a minor area that includes at least 15 hours of courses taken at William Penn. BATS students will complete all other applicable graduation requirements, such as 124 hours, 2.0 GPA, and six hours of 300 level courses in the minor. BATS students will be able to complete a major in a discipline if they desire without affecting the transfer of A.A.S. credits. If the student has not completed the A.A.S. degree, transfer credits will be evaluated according to existing policies. Students may not duplicate any courses for which college credit has been assigned.

Students from the following IHCC programs are eligible for the BATS degree at William Penn University:
- Associate Degree Nursing
- Aviation Maintenance Technology
- Bioprocess Technology
- Computer Networks and Security
- Computer Software Development
- Construction Management Technology
- Early Childhood Associate
- Electronic Engineering Technology
- Emergency Medical Technician
- Health Information Technology
- Laser/Electro-Optics Technology
- Machine Technology
- Mechanical Design Technology
- Physical Therapist Assistant
- Radiologic Technology
- Robotics/Automation Technology

**Option 2** is for those A.A.S. students who wish to complete a major at William Penn University in an area substantially similar to the area studied at IHCC. The application of specific A.A.S. courses to requirements in a major will be based on articulation agreements and departmental requirements as specified in the formal articulation agreement. Students should see academic counselors for this information.

**Minnesota Office of Higher Education**

Indian Hills Community College is a registered private institution with the Minnesota Office of Higher Education pursuant to Minnesota Statutes, sections 136A.61 to 136A.71. Registration is not an endorsement of the institution. Credits earned at the institution may not transfer to all other institutions.
Continuing Education & Workforce Solutions

The Continuing Education and Workforce Solutions (CEWS) Department coordinates non-credit programming at Indian Hills Community College. The department facilitates courses in a variety of areas, including: Career Supplementary, General Interest, Professional Relicensure, Short-Term Certificates and State and Court Mandated.

In addition, customized training is offered for businesses and organizations throughout Indian Hills’ 10-county region. Courses can be customized in most content areas. Call (641) 683-5249 for more details.

Enrollment/Tuition

Tuition for CEWS courses varies based on length and content. Go to www.indianhills.edu/docs/cutomized_learning_schedule.pdf to view the college’s most current course listing. Persons can register for a course be calling (641) 683-5249 or online through the IHCC WebAdvisor system.

Preregistration is required for most courses. Students are encouraged to register at least one week prior to the start of the course. Courses may be cancelled if there are insufficient registrations. Refunds will be given if a student cancels a registration at least three business days prior to the start of the course. Refunds will be automatically distributed if Indian Hills cancels a course for any reason.

Career Supplementary Courses

Changing technology and best practices in business and industry require that both employers and employees upgrade their skills regularly. Indian Hills Community College offers a wide variety of short courses to meet this need.

Examples of course topics include:

- 21st Century Skills
  - Appropriate Communication
  - Critical Thinking
  - Positive Attitude
  - Working in Teams
- Blueprint and Precision Reading
- Clerical
- CNC (Computer Numerical Control)
- Computer
  - Access
  - Excel
  - PowerPoint
  - QuickBooks
  - Web Programming
  - Work
- Electrical Maintenance
- Hydraulics and Fluid Power
- Human Resources (SHRM)
- Leadership
- Lean
- Management
- Mechanical Maintenance
- Mediation
- OSHA Seminars
- Small Business/Entrepreneurial
- Social Media
- Welding

Indian Hills also works with online content provider Ed2Go on a variety of relevant workplace topics. Go to www.ed2go.com/ihcc/ to search their online course database.
General Interest Courses

Persons are encouraged to take a course “just for fun.” A variety of courses are offered designed to let students explore areas of interest outside of their primary career. Indian Hills also facilitates a variety of exploratory workshops for kids.

Examples of general interest topic areas include:
- Art
- Auto Maintenance
- Baking/Cake Decorating
- Computer
- Dog Training
- Exercise/Dance
- Firearms Safety
- Foreign Language
- Jewelry Making
- Personal Finance
- Photography
- Quilting/Sewing
- Wine Pairing/Tasting
- Woodworking

Professional Relicensure Courses

Some professionals are required by Iowa law to complete continuing education courses in order to renew professional licenses. Indian Hills offers relicensure courses for the following professions:
- Childcare
- Cosmetology
- Electrical/Mechanical/Plumbing/Safety
- Funeral Director
- Health
- Insurance
- Lead Safe Renovator
- Real Estate

Short-Term Certificates

Certificates that are industry recognized can be earned through Indian Hills in the following subject areas:
- Activity Coordinator
- Advanced Cardiac Life Support (ACLS)
- AWS Welding
- Certified Nurse Aide
- CPR/AED
- Coaching
- Lifeguard
- LPN Supervision
- Medication Manager
- OSHA
- Paralegal
- Pediatric Advanced Life Support (PALS)
- Serv-Safe
- Water Safety Instructor

Indian Hills Community College also offers a locally-developed Industry Readiness Certificate that incorporates the following subject areas:
- Lean Principles and Tools
- Manufacturing Math
• Mapping of Manufacturing Processes
• Computer Skills
• Measurement
• Communication Skills and Etiquette
• Problem Solving
• 5S Workplace Organization
• Putting It All Together
• 10-Hour Construction OSHA

**State- and Court-Mandated Courses**

These courses are required by state law to receive certain permits or court mandated:

• Anger Management
• Children in the Middle
• Drinking Driver (DUI)
• Driver Improvement
• Handgun Safety (Concealed Weapon Permit)
• Mandatory Reporting
• Motorcycle Safety
• PS/MAPP (Foster Parent/Adoption)
• School Bus Driver In-Service

**Regional Entrepreneurship Center**

The mission of the Regional Entrepreneurship Center is to have a measurable, positive impact on economic growth in the 10-county Indian Hills region by incubating start-up and early-stage companies, both in the REC and in community-based centers.

The REC provides a variety of services to start-up businesses throughout our region. These include: business training programs, assistance identifying financing, connections to college/corporate partners and networking activities, just to name a few. In the physical center, space is provided at an inexpensive rate and tenant companies have access to high speed internet, 3-phase power, and conference and training rooms. The Small Business Development Center is also housed within the REC.

**Small Business Development Center**

The Small Business Development Center provides confidential and free management assistance to business owners and those starting a business. The center can provide assistance on financing sources, business plan preparation, financial analysis, accounting system design, general management, marketing/sales plans and inventions/new product development. The center offers confidential, one-on-one consulting at no cost, schedules entrepreneurial and small business management training programs and assists with manufacturer buy-outs, expansions or start-ups.

As far as I know IowaWorks and Bio pieces are still OK. I would delete: Advanced Technologies (covered in another spot), customized learning and training, RELI, and the New Jobs and Workforce Training Resources.

**IowaWORKS**

The purpose of IowaWORKS is to respond to the regional economy’s need for worker preparation and help Iowans to sustain gainful employment. IowaWORKS operates the Workforce Investment Act and Promise Jobs programs. These programs offer services to individuals (youth and adults) who are experiencing difficulty securing employment as well as assistance to those who have lost their jobs due to a business closing or lay-off. Upon completion of assessment, individual need determines the support and services offered, which may include career counseling, job search assistance, vocational assessment, labor market information, resume writing, child care assistance, transportation assistance and, in some situations, assistance with work- or school-related expenses. On-the-job training programs are offered as well as workshops and seminars for program participants, employers and school systems.

**Iowa BioDevelopment**
Iowa BioDevelopment is an outreach program dedicated to providing biotechnology and value-added agriculture companies with affordable access to effective, customized training programs, including workshops, classes and laboratory sessions. College and/or university faculty, equipment manufacturers and industrial experts provide training on-site, on any IHCC campus, via the Iowa Communications Network and at the Iowa Bioprocess Training Center in Eddyville.
Course Descriptions

Accounting
ACC 121 - Principles of Accounting I - Credits: 3.00
This course will include basic principles and practices of accounting including debits and credits, journals and ledgers and accounting for merchandising operations and for liquid assets.

ACC 122 - Principles of Accounting II - Credits: 3.00
This course is a continuation of Accounting I. Topics include the theory and application of accounting for plant assets, current and long-term liabilities and corporations. In addition, cash flow statements will be discussed.
Prerequisite(s): ACC 121

ACC 150 - Financial Reports and Presentations - Credits: 2.00
This course is designed to help the student gain an understanding of designing reports and presentations with hands-on experience. The course will progress from basic to more advanced concepts of reports and presentations using the appropriate software.

ACC 160 - Payroll Accounting - Credits: 2.00
This course is a study of payroll from payroll laws to journalizing payroll transactions. Emphasis is on computing wages, social security taxes, income tax withholding, unemployment taxes and journalizing payroll transactions with hands-on experience in preparing all the necessary monthly, quarterly and annual reports. An accounting payroll project will provide hands-on experience in preparing a payroll on the computer.
Prerequisite(s): ACC 121

ACC 191 - Financial Analysis - Credits: 3.00
This course covers the analysis of accounting data used by management in the decision making process. Data will be extracted and relationships analyzed from the main financial statements including the income statement, statement of owners’ equity, balance sheet and statement of cash flows.
Prerequisite(s): ACC 122

ACC 211 - Intermediate Accounting - Credits: 3.00
This course expands on the principles learned in Principles of Accounting I and II. Revenue recognition along with comprehensive income will be introduced as well as the timing of transactions. The principle of valuation will be explained with the time value of money concepts and how they apply to the valuation of long term accounting items.
Prerequisite(s): ACC 122

ACC 221 - Cost Accounting - Credits: 3.00
This course covers the nature, measurements, and analysis of accounting data for product costing and management decision making. Topics include job order costing, process costing, standard cost systems, cost behavior, cost, volume, profit analysis, budgeting and differential analysis.
Prerequisite(s): ACC 122

ACC 261 - Income Tax Accounting - Credits: 3.00
This course examines the proper reporting of tax issues and the legal requirements for completing the tax forms for individual, business and payroll taxes. The student will be introduced to standard IRS tax forms, giving the students the opportunity to understand the principles of tax applied to both individual and partnership situations.
Prerequisite(s): ACC 122

ACC 311 - Computer Accounting - Credits: 3.00
This course is designed to provide students with hands-on accounting on the computer using the popular accounting software and will incorporate the fundamentals of accounting and how it relates to computers.

ACC 340 - QuickBooks for Individuals - Credits: 2.00
This course is designed to provide students with hands-on accounting on the computer using the popular QuickBooks Pro software and will incorporate the fundamentals of accounting for sole proprietorships.

ACC 929 - Individual Projects - Credits: 4.00
Students will complete an accounting simulation, integrating accounting assistant skills in a simulated accounting environment. Completion of this capstone course will give the student an overview of transactions and reporting in an accounting setting, using fundamental concepts gained from previously completed courses.

ACC 931 - Accounting Internship - Credits: 1.00
This course provides the opportunity to enhance academic preparation and professional growth through hands-on work experience in accounting. Students gain valuable real world experience. Students must have a cumulative GPA of 2.5 or higher and have completed 30 semester credit hours toward an Associate Degree.
Prerequisite(s): Permission of Instructor.

ACC 932 – Internship - Credits: 4.00
Students enrolled in this course will work in an industry accounting department. Emphasis will be on the integration of academic skills with practical work experience.
Prerequisite(s): Permission of Instructor.

Administrative Assistant
ADM 106 - Introduction to Keyboarding - Credits: 2.00
This is a beginning course for students who have no previous keyboarding instruction. Students learn fundamentals of alphabetic and numeric keyboarding and proper formatting of letters, reports, memos and simple tables using basic word processing techniques. All keyboarding is taught on personal computers.

ADM 108 - Keyboarding Skill Development - Credits: 1.00
This course covers the development of keyboarding techniques using the touch method on the computer keyboard to learn/review the alphabetic, numeric, and symbol keys. The keyboarding goal is a minimum rate of 35 words a minute with three or fewer errors on a three-minute timing. This course has been designated as a pass/no pass course.

ADM 123 - Document Formatting - Credits: 3.00  
This course covers the continued development of speed and accuracy on the alphabetic, numeric, and symbol keys. Students develop skills in formatting, producing, and proofreading documents: memos, letters, envelopes, tables, reports, and other miscellaneous business documents. (30-30)

ADM 131 - Office Calculators - Credits: 1.00  
This course will introduce a student to the functions of the electronic calculator from basic math functions to hands-on business applications.

ADM 134 - Business Math - Credits: 2.00  
The students will learn basic math skills and apply them to practical and real business-related problems in the areas of retailing, insurance, financial statements, depreciation, other business expenses, interest and banking services.

ADM 136 - Secretarial Lab - Credits: 1.00  
A student will enhance keyboarding skills by utilizing computer software packages. He or she will learn the touch method of using a ten-key calculator.

ADM 148 – Transcription - Credits: 2.00  
This course builds and strengthens skills in machine transcription. Students are provided instruction for using transcription equipment with emphasis on language skills, including spelling, capitalization, punctuation, and word usage. Emphasis will be on editing, proofreading and mailability of documents.

ADM 159 - Proofreading and Editing - Credits: 3.00  
This course emphasizes the applications designed to sharpen skills in detecting and correcting errors in written communications including memos, letters, reports, databases, presentation slides, advertisements and spreadsheets.

ADM 162 - Office Procedures - Credits: 3.00  
Office procedures are studied and knowledge and techniques are applied to practical business applications. Special attention is focused on mailing procedures, filing, office communications, travel arrangements, office ethics and stress management.

ADM 180 - Administrative Management - Credits: 3.00  
Administrative Management deals with concepts relevant to resolving issues in business, emphasizing the use of reasoning and analytical skills, team concepts and diversity, and their application to business decisions. Case studies are used.

ADM 198 - Legal Terminology - Credits: 2.00  
This course is a study of the basic terminology used in a legal office. Emphasis will be placed on legal terminology definitions, and on a study of court cases that pertain to the topics being covered.

ADM 218 - Initiating the Career Search - Credits: 1.00  
This course introduces students to the process of preparing written, oral and electronic communications for professional audiences and job seeking purposes. Instruction will be specific to student’s career field and may include generating and revising career documents, preparing and rehearsing for in-person or on the telephone employment interviews and generating and classifying materials for a career marketing tool such as a portfolio.

ADM 219 - Managing the Career Search - Credits: 1.00  
This course advances students' skills, knowledge, and products introduced in ADM218 - Initiating the Career Search. Instruction will be specific to the student’s career field and may include refining written career search documents, interview techniques and strategies and a career portfolio. Attention may be paid to the initial phases of assuming a new position including negotiating a salary, establishing work duties and surviving the first year on the job.  
Prerequisite(s): ADM 218

ADM 221 - Career Development Skills - Credits: 2.00  
This course teaches the student the skills required to locate prospective employers and to obtain a position in the chosen field. Topics covered include company and job research, application forms, resumes, letters, telephone techniques and interviews.

ADM 900 - Internship - Credits: 4.00  
Students enrolled in this course will work in an office setting. Emphasis will be on the integration of academic skills with practical work experience.  
Prerequisite(s): Instructor and/or Program Chair approval.

ADM 929 - Individual Projects - Credits: 4.00  
Students will complete an office simulation, integrating administrative assistant skills in a simulated office environment. Completion of this capstone course will give the student an overview of tasks in an office setting, using fundamental concepts gained from previously-completed courses.

Agriculture - Agronomy

AGA 114 - Principles of Agronomy - Credits: 3.00  
This course covers basic concepts, terminology and applications of agronomy. Topics include crop production theories, techniques and technology, evolution of crop production, biological, chemical, geological, environmental and economic aspects of farming. Laboratory exercises correspond to lecture topics.

AGA 116 - Agricultural Issues - Credits: 1.00  
This course will explore current issues facing production agriculture as well as examine production practices in various regions of the U.S. All or part of this course will include travel.
AGA 154 - Fundamentals of Soil Science - Credits: 3.00
This course covers basic concepts, terminology and applications of soil science. Soil ecosystems will be studied at both microscopic and macroscopic levels. Current soil management practices will be examined. Laboratory topics include soil types, soil mapping, land use and data collection techniques. This course requires three hours of lecture and two hours of lab work per week.

AGA 450 - Issues in Sustainable Agriculture - Credits: 3.00
This course provides a clear perspective on the principles, history, and practices of sustainable agriculture in our local and global communities. Students will be introduced to the economic, environmental and social impacts of agriculture. Students will identify and apply the principles of sustainable agriculture as they relate to basic production. Lab work required.

AGA 455 - Organic Crop Production - Credits: 3.00
A variety of organic crop production issues will be discussed. Topics will include: capital outlay, production methods, biological pest management and record keeping procedures. Organic certification practices will be emphasized. Lab work required.

AGM 336 - Agriculture Electronic Devices & Sys - Credits: 3.00
This course offers instruction on control and instrument systems including sensor and actuator principles, interface electronics, system identification, installation and set-up. Applications within the context of precision agriculture to include GPS, auto-steer, auto-guidance system, spray controller systems, and optical sensors applications will be stressed.

Agriculture - Animal Science

AGA 211 - Grain and Forage Crops - Credits: 3.00
This course examines production management practices for corn, soybean, small grain, and forage crops common to Midwestern U.S. agriculture. Emphasis will be placed on growth and development, plant characteristics, management practices, variety selection, and problem solving.

AGA 283 - Pesticide Application Certification - Credits: 3.00
Application equipment will be analyzed and emphasis given to proper calibration, safety, proper application, and qualifying conditions. Utilization of spraying systems guidebooks will be stressed. Students will be required to pass the Certified Pesticide Applicator License core exam. Course will show how to prepare equipment for the season and how to maintain it for error-free operation.

AGM 330 - Fundamentals of Electricity - Credits: 3.00
This course offers instruction in basic concepts associated with agriculture electronic devices. Skills regarding the uses of electronic diagnostic instruments, repair tools and other basic electronic skills necessary to troubleshoot, repair and install agriculture electronic and mechanical control devices associated with applications of Precision Agriculture will be emphasized.

AGS 113 - Survey of the Animal Industry - Credits: 3.00
This course discusses the integration of livestock in a sustainable farming system including small-scale production for niche markets. Topics include appropriate breed selection, nutrition, reproduction, diseases, processing, and land management for hogs, poultry, cattle, sheep and goats. Lab work required.

AGS 216 - Equine Science - Credits: 3.00
This course is an introduction to concepts, practices and decisions necessary when managing horses through stages of their lives. Lab work required.

AGS 226 - Beef Cattle Science - Credits: 3.00
This course is an introduction to principles, practices and decisions necessary when managing beef cattle in all stages of the production cycle. Lab work required.

AGS 242 - Animal Health - Credits: 3.00
This course examines health issues affecting major livestock species. Course will focus on disease identification, prevention of disease, herd health planning, responsible drug use, and use of veterinary expertise.

AGS 319 - Animal Nutrition - Credits: 3.00
The identification and study of feed ingredients, nutrients, and additives. Focus on feed requirements of various livestock classes, ration balancing, and feed formulations.

AGS 331 - Animal Reproduction - Credits: 3.00
Increases understanding of animal genetics, breeding systems, and male and female reproductive organs. Breeding information analysis, heat detection, and keeping reproduction records are skills covered in this course.

Agriculture - Farm Management-Business

AGB 212 - Agriculture Law and Taxation - Credits: 3.00
Students will work toward developing positions and solutions to current and future agricultural issues by investigating the scientific, technical, economic, environmental and social ramifications of agriculture and agricultural policy. The class will investigate the political process in relation to agricultural issues.

AGB 230 - Land Management Experiences - Credits: 6.00
This course will be planned with the instructor before the students may begin. These experiences will require a completed written proposal to include the project outline, location and anticipated outcomes. Projects may take place on private land or in conjunction with a private or public entity. Upon completion of the project a conclusive statement paper will be submitted.
AGB 235 - Introduction to Agriculture Markets - Credits: 3.00
Basic marketing principles will be researched, studied, and discussed. Topics include buying, selling, processing, standardizing, grading, storing and marketing of agriculture commodities. Students will develop a marketing plan.

AGB 802 - Agribusiness Internship I - Credits: 2.00
Students are placed on-the-job in agribusiness firms which most nearly fit their career goals with the purpose of giving experiences and developing skills and knowledge which cannot be furnished in the classroom.

AGB 949 - Special Topics - Credits: 1.00
This course is designed to give students the opportunity to explore a specific interest in sustainable agriculture. Emphasis is placed on subject matter and appropriate research.

Agriculture - Horticulture

AGH 112 - Introduction to Turfgrass Management - Credits: 3.00
This course is designed to provide the student with fundamental exposure to turfgrass management. Grass, weed, insect, and disease identification are a main component of the course. Management strategies for multiple turfgrass applications will be explored and demonstrated.

AGH 120 - Herbaceous Plant Materials - Credits: 3.00
This course will cover the identification, botanical characteristics, origins, propagation, uses and general culture of herbaceous plants, woody vines and groundcovers.

AGH 123 - Woody Plants Materials - Credits: 3.00
This course covers the identification, morphology, landscape use and culture of native and non-native woody trees and shrubs of the Upper Midwest.

AGH 131 - Greenhouse Management - Credits: 3.00
This course covers all major aspects of planting, management and maintenance of the controlled environment. Monitoring and environmental manipulation of temperature, media, light, fertility and irrigation as it relates to production of greenhouse crops.

AGH 151 - Landscape Design Techniques - Credits: 2.00
This course will cover basic landscape design principles and will provide an introduction to landscaping applications.

AGH 154 - Residential Landscape Design - Credits: 3.00
Residential Landscape Design explores the basic principles and skills of designing a landscape emphasizing on the proper plans, hardscapes, scales, balance and many other principles to complete and sell a landscape design. Students in this class will examine the basic elements of residential and small commercial landscape design and will have the opportunity to prepare a number of designs using various formats.

AGH 166 - Turf and Landscape Irrigation - Credits: 3.00
This course will introduce irrigation systems and related principles for turf and landscape environments. Emphasis will be placed on irrigation design and maintenance. Fundamental principles of irrigation design including design capacity, sprinkler selection and placement, hydraulics, friction losses, system layout and pipe sizing will be discussed in detail. Topics including irrigation scheduling, maintenance, repair, and water issues relating to the green industry will also be covered.

AGH 211 - Advanced Turfgrass Management - Credits: 3.00
This course covers turfgrass management practices on golf and recreational areas with practical experience in maintaining turf on outdoor campus grounds.

AGH 221 - Principles of Horticulture - Credits: 3.00
This course will provide students essential knowledge and skills necessary for a solid orientation on the horticulture field. Areas of study include climate and plant growth, botanical nomenclature, anatomy, propagation, plant nutrition and an introduction to the diverse career field involved with the horticulture industry.

AGH 241 - Sports Turf - Credits: 2.00
This course will cover a variety of sports played on athletic fields. Student will study the sport, site selection and preparation, turfgrass species selection, establishment, and maintenance of the field.

AGH 248 - Identifying Plant and Landscape Problems - Credits: 3.00
This course will cover common insect, disease, and weed identification in various landscape applications along with environmental problems. Techniques for problem identification and finding the tools needed to reach a solution will be a major focus. Strategies such as integrated pest management and chemical treatment will be covered.

AGH 252 - Horticulture Pest Management - Credits: 3.00
This course will cover identifying and controlling insects, weeds, and diseases pertaining to trees, shrubs, greenhouse crops, turf, fruits, vegetables and herbaceous plants.

AGH 283 - Pesticide Application Certification - Credits: 2.00
This course will familiarize the student with the different laws and regulations that must be followed when applying various chemicals. Subjects covered will include material in the Iowa Core Manual as well as the Category 3 Commercial Applicator Manual. Successful completion of the course will prepare the student for taking the Iowa Pesticide Applicator certification exam.
AGH 430 - Turf and Landscape Equipment - Credits: 3.00
This course provides an introduction to the types of equipment used in the turfgrass and landscape industry such as tractors, sprayers, mowers, etc. Students will learn to operate equipment safely and gain the concepts of proper maintenance techniques. Tools used to maintain this equipment will also be covered along with a basic parts introduction.

AGH 431 - Maintaining Turf and Landscape Equipment - Credits: 3.00
This course covers the fundamentals of turfgrass and equipment maintenance including shop layout and maintenance scheduling. Practical applications will be covered involving routine and scheduled maintenance of specialty equipment along with practices such as bearing replacement and reel grinding.

AGH 432 - Outdoor Power Equipment for Small Engines - Credits: 3.00
This course examines the uses of small engines in the turf and landscape industry. Selection, maintenance, and repair are the main foci of this course. Both 2-cycle and 4-cycle operation and repair will be discussed and examined in detail.

AGH 805 - Horticulture Internship - Credits: 2.00
This course is structured work experience in the horticulture industry related to the student's career objectives.

AGH 941 - Horticulture Practicum - Credits: 1.00
This course will provide the student with both theoretical background, hands-on-learning, as well as current information regarding horticultural knowledge, techniques and accepted procedures.

Agriculture - Natural Resources/Forestry
AGN 115 - Integrated Agroforestry - Credits: 3.00
This course will introduce students to a highly flexible, intensively managed system of sustainable agriculture. This system combines several different agroforestry practices including forest farming, alley cropping, riparian buffer strips, shelter belts, silvopasture and others. Lab work required.

AGN 120 - Wildlife and Agriculture - Credits: 3.00
The focus of this course will be on wildlife conservation and management practices for agricultural lands. Commercial usages will be studied along with protective usages for land. Lab work required.

AGN 125 - Woodland Management - Credits: 3.00
This course focuses on planning and using managerial, economic and wildlife techniques to meet the objectives of land use. Economic topics will include investment of financial resources, marketing and time issues. Lab work required.

AGN 127 - Agrarian Systems and Ecology - Credits: 3.00
The ecological and economical, management of sustainable resources as they relate to agricultural practices will be the focus of this course. Students will be able to put into perspective the historical evolution of agrarian practices and how they relate to future practices in agriculture, forestry, wildlife and water and soil management.

AGN 130 - Soil and Water Conservation - Credits: 3.00
Emphasis will be on environmental practices as they relate to conservation management of our natural resources. Students will discuss soil erosion, water quality and soil and water management. Lab work required.

Agriculture - Precision Agriculture
AGP 333 - Precision Farming Systems - Credits: 3.00
This course covers the basics of precision farming including GPS, GIS, VRT, and integration with agricultural equipment. Students will gain hands-on experience with both software and on-the-farm use of precision farming tools.

AGP 450 - Fundamentals of GIS - Credits: 3.00
Class focus will be on fundamental processes of Geographic Information Systems with emphasis on its application to agriculture. File formats, data base management, spatial analysis and manipulation of data will be covered. This class will concentrate on creating maps using geo referenced data from mapping and yield monitoring. Lab work required.

Anthropology
ANT 105 - Cultural Anthropology - Credits: 3.00
This course is designed to give students a comprehensive introduction to cultural anthropology and provide students with an overview of the principles and processes of cultural anthropology. Students will be introduced to the complexity and breadth of human behavior and the human condition.

Applied Music
MUA 101 - Applied Voice - Credits: 1.00
This course covers the foundations of vocal technique and breath support as well as proper diction. Through the study of classical art songs and other vocal literature, the student will improve his or her vocal performance.
Prerequisite(s): Permission of Instructor.

MUA 102 - Applied Voice II - Credits: 1.00
This course continues in the foundations of vocal technique, breath control and diction. Through the study of classical art songs and other vocal literature, the student will improve his or her vocal performance.
Prerequisite(s): MUA 101

MUA 103 - Applied Voice III - Credits: 1.00
This course continues in the foundations of vocal technique, breath support, and diction. Through the study of classical art songs and other vocal literature, the student will improve his or her vocal performance.
**Prerequisite(s):** MUA 102. Permission of Instructor.

MUA 119 - Class Piano - Credits: 1.00
This course is designed for the student with no background in piano. It is especially recommended for the music student without piano experience, as well as the student who wishes to learn something of the piano for enjoyment. The student will begin to learn to read musical notation, develop the rudiments of technique, and become familiar with the keyboard. A minimum of three (3) hours of practice per week is essential.

MUA 120 - Applied Piano - Credits: 1.00
This course entails private piano instruction with an emphasis on improving technical skills and musical interpretation of piano literature. The level of difficulty is determined by the student’s prior piano training. A minimum of six (6) hours of practice per week is essential.

**Prerequisite(s):** Permission of Instructor.

MUA 140 - Applied Music: Jazz Improv I - Credits: 1.00
This course focuses on private instruction in jazz improvisation. Level of difficulty will be determined by the student’s background and ability.

**Prerequisite(s):** MUA 140
MUA 141 - Applied Music: Jazz Improv II - Credits: 1.00
This course focuses on private instruction in jazz improvisation. Level of difficulty will be determined by the student’s background and ability.

**Prerequisite(s):** MUA 141
MUA 142 - Applied Music: Jazz Improv III - Credits: 1.00
This course focuses on private instruction in jazz improvisation. Level of difficulty will be determined by the student’s background and ability.

**Prerequisite(s):** MUA 140
MUA 143 - Applied Brass - Credits: 1.00
This course focuses on private instruction. Beginning and intermediate techniques may be covered. Level of difficulty will be determined by the student's prior piano training. A minimum of six (6) hours of practice per week is essential.

**Prerequisite(s):** MUA 143
MUA 144 - Applied Brass II - Credits: 1.00
This course focuses on private instruction. Beginning and intermediate techniques may be covered. Level of difficulty will be determined by the student's background and ability.

**Prerequisite(s):** MUA 144
MUA 170 - Applied Woodwinds - Credits: 1.00
This course focuses on private instruction. Beginning and intermediate techniques may be covered. Level of difficulty will be determined by the student's background and ability.

**Prerequisite(s):** Permission of Instructor.

MUA 171 - Applied Woodwinds II - Credits: 1.00
This course focuses on private instruction. Beginning and intermediate techniques may be covered. Level of difficulty will be determined by the student's background and ability.

**Prerequisite(s):** MUA 171
MUA 172 - Applied Woodwinds III - Credits: 1.00
This course focuses on private instruction. Beginning and intermediate techniques may be covered. Level of difficulty will be determined by the student's background and ability.

**Prerequisite(s):** MUA 170
MUA 180 - Applied Percussion - Credits: 1.00
This course focuses on private instruction. Beginning and intermediate techniques may be covered. Level of difficulty will be determined by the student's background and ability.

**Prerequisite(s):** MUA 180
MUA 181 - Applied Percussion II - Credits: 1.00
This course focuses on private instruction. Beginning and intermediate techniques may be covered. Level of difficulty will be determined by the student's background and ability.

**Prerequisite(s):** MUA 180
MUA 182 - Applied Percussion III - Credits: 1.00
This course focuses on private instruction. Beginning and intermediate techniques may be covered. Level of difficulty will be determined by the student's background and ability.

**Prerequisite(s):** MUA 180
MUA 201 - Applied Voice IV - Credits: 1.00
This course covers the foundations of vocal technique and breath support as well as proper diction. Through the study of classical art songs and other vocal literature, the student will improve his or her vocal performance.

**Prerequisite(s):** MUA 103
MUA 202 - Applied Voice V - Credits: 1.00
This course covers the foundations of vocal technique and breath support as well as proper diction. Through the study of classical art songs and other vocal literature, the student will improve his or her vocal performance.

MUA 203 - Applied Voice VI - Credits: 1.00
This course covers the foundations of vocal technique and breath support as well as proper diction. Through the study of classical art songs and other vocal literature, the student will improve his or her vocal performance.

**Prerequisite(s):** MUA 202
MUA 219 - Class Piano II - Credits: 1.00
This course is designed for the student who has completed Class Piano I or the student with a very limited piano background. Emphasis is placed on chords, rhythmic accuracy, and continued technical development. This course will provide a foundation for the Applied Music: Piano series of courses. A minimum of three (3) hours of practice per week is essential.

**Prerequisite(s):** MUA 119
MUA 220 - Applied Piano II - Credits: 1.00
This course covers private piano instruction with an emphasis on building technical skills and musical interpretation of piano literature. The level of difficulty is determined by the student’s prior piano training.
Prerequisite(s): MUA 219

MUA 221 - Applied Piano III - Credits: 1.00
This course covers private piano instruction with an emphasis on building technical skills and musical interpretation of piano literature. The level of difficulty is determined by the student’s prior piano training.
Prerequisite(s): MUA 220

MUA 222 - Applied Piano IV - Credits: 1.00
This course entails private piano instruction with an emphasis on improving technical skills and musical interpretation of piano literature. The level of difficulty is determined by the student’s prior piano training. A minimum of six (6) hours of practice per week is essential.
Prerequisite(s): MUA 221

MUA 223 - Applied Piano V - Credits: 1.00
This course entails private piano instruction with an emphasis on improving technical skills and musical interpretation of piano literature. The level of difficulty is determined by the student’s prior piano training. A minimum of six (6) hours of practice per week is essential.
Prerequisite(s): MUA 222

MUA 224 - Applied Piano VI - Credits: 1.00
This course entails private piano instruction with an emphasis on improving technical skills and musical interpretation of piano literature. The level of difficulty is determined by the student’s prior piano training. A minimum of six (6) hours of practice per week is essential.
Prerequisite(s): MUA 223

MUA 240 - Applied Music: Jazz Improv IV - Credits: 1.00
This course focuses on private instruction in jazz improvisation. Level of difficulty will be determined by the student’s background and ability.
Prerequisite(s): MUA 142

MUA 241 - Applied Music: Jazz Improv V - Credits: 1.00
This course focuses on private instruction in jazz improvisation. Level of difficulty will be determined by the student’s background and ability.
Prerequisite(s): MUA 240

MUA 242 - Applied Music: Jazz Improv VI - Credits: 1.00
This course focuses on private instruction in jazz improvisation. Level of difficulty will be determined by the student’s background and ability.
Prerequisite(s): MUA 241

MUA 243 - Applied Brass IV - Credits: 1.00
This course focuses on private instruction. Beginning and intermediate techniques may be covered. Level of difficulty will be determined by the student’s background and ability.
Prerequisite(s): MUA 145

MUA 244 - Applied Brass V - Credits: 1.00
This course focuses on private instruction. Beginning and intermediate techniques may be covered. Level of difficulty will be determined by the student’s background and ability.
Prerequisite(s): MUA 243

MUA 245 - Applied Brass VI - Credits: 1.00
This course focuses on private instruction. Beginning and intermediate techniques may be covered. Level of difficulty will be determined by the student’s background and ability.
Prerequisite(s): MUA 244

MUA 270 - Applied Woodwinds IV - Credits: 1.00
This course focuses on private instruction. Beginning and intermediate techniques may be covered. Level of difficulty will be determined by the student’s background and ability.
Prerequisite(s): MUA 172

MUA 271 - Applied Woodwinds V - Credits: 1.00
This course focuses on private instruction. Beginning and intermediate techniques may be covered. Level of difficulty will be determined by the student’s background and ability.
Prerequisite(s): MUA 270

MUA 272 - Applied Woodwinds VI - Credits: 1.00
This course focuses on private instruction. Beginning and intermediate techniques may be covered. Level of difficulty will be determined by the student’s background and ability.
Prerequisite(s): MUA 271

MUA 280 - Applied Percussion IV - Credits: 1.00
This course focuses on private instruction. Beginning and intermediate techniques may be covered. Level of difficulty will be determined by the student’s background and ability.
Prerequisite(s): MUA 182

MUA 281 - Applied Percussion V - Credits: 1.00
This course focuses on private instruction. Beginning and intermediate techniques may be covered. Level of difficulty will be determined by the student’s background and ability.
Prerequisite(s): MUA 280

MUA 282 - Applied Percussion VI - Credits: 1.00
This course focuses on private instruction. Beginning and intermediate techniques may be covered. Level of difficulty will be determined by the student’s background and ability.
Prerequisite(s): MUA 281

MUA 320 - Applied Voice VII - Credits: 1.00
The principal objectives of applied instruction are the development of performing competencies through regular practice, performance, research, and application of music knowledge, especially in the
fields of music history, music theory, and standard performance practice expected of various genres. In particular, this course pertains to the development of the singing voice, and should include consideration of acting and poetry interpretation as well as the above. **Prerequisite(s):** MUA 203

MUA 321 - Applied Voice VIII - Credits: 1.00
The principal objectives of applied instruction are the development of performing competencies through regular practice, performance, research, and application of music knowledge, especially in the fields of music history, music theory, and standard performance practice expected of various genres. In particular, this course pertains to the development of the singing voice, and should include consideration of acting and poetry interpretation as well as the above. **Prerequisite(s):** MUA 320

MUA 322 - Applied Voice IX - Credits: 1.00
The principal objectives of applied instruction are the development of performing competencies through regular practice, performance, research, and application of music knowledge, especially in the fields of music history, music theory, and standard performance practice expected of various genres. In particular, this course pertains to the development of the singing voice, and should include consideration of acting and poetry interpretation as well as the above. **Prerequisite(s):** MUA 321

**Art**

ART 100 - The Arts Today - Credits: 1.00
This course is an investigation into the creative and performing arts. The student will attend a variety of fine arts events and exhibits.

ART 101 - Art Appreciation - Credits: 3.00
Art appreciation is a general survey course in the visual arts. This course is designed to give the student an understanding and awareness of art in relationship to his/her environment.

ART 103 - Art Excursions I - Credits: 1.00
Enrollees will visit and study the art forms in a major American city. This will include major architecture and artwork housed in museums and institutions of the city. Class discussions and individual projects will be related to the visit.

ART 104 - Art Excursions II - Credits: 1.00
Enrollees will visit and study the art forms in a major American city. This will include major architecture and art work housed in museums and institutions of the city. Class discussions and individual projects will be related to the visit. **Prerequisite(s):** ART 103

ART 107 - Arts and Crafts - Credits: 3.00
This is a studio course that explores the areas of basic craft skills, techniques and materials.

ART 113 - Graphic Design - Credits: 3.00
This course is a study of graphic design as it relates to contemporary print media. The student will explore the creative, conceptual, and mechanical applications. A discerning sensitivity to effective visual communications through design is stressed. **Prerequisite(s):** Permission of Instructor.

ART 114 - Graphic Design II - Credits: 3.00
As an advanced course of study in graphic design, students continue to explore the conceptual and mechanical processes necessary in producing presentation quality graphics for commercial applications. Special consideration is given to developing methods of visual communication that effectively promote ideas, products and/or services. **Prerequisite(s):** ART 113

ART 118 - Design, Form and Function - Credits: 2.00
This is an introductory course emphasizing two-dimensional design as a fundamental framework to working with graphic media. Students directly apply traditional design concepts to resolving graphic design problems. While using type, line art, and photography students develop mechanical and aesthetic skills in producing camera-ready art for commercial applications.

ART 119 - 2-D Design - Credits: 2.00
This introductory course encourages students to explore and apply theories of visual organization frequently utilized by designers and artists. Students will creatively resolve a number of visual problems in two and three-dimensional media. Students are encouraged to develop creative and conceptual skills through the language of art.

ART 122 - 3-D Design - Credits: 2.00
Students will be prepared for and provided experiences in the use of the three dimensional design principles and elements. The skills of materials manipulation and the vocabulary of three dimensional design will also be emphasized.

ART 133 – Drawing - Credits: 3.00
Experience in the interpretation of visual form through drawing media will be stressed during this course. There will be an emphasis on the elements and principles of art.

ART 134 – Drawing II - Credits: 3.00
This is an advanced course in drawing. Experience in the interpretation of visual forms through drawing media will be stressed during this course. This course is a continuation of Drawing I. **Prerequisite(s):** ART 133

ART 137 - Freehand Drawing - Credits: 1.00
This course will expose the student to a variety of traditional freehand drawing techniques and materials. Accuracy observation and development of skills in the use of line, contrast, texture and proportion will be stressed.

ART 140 – Painting - Credits: 2.00
This course introduces the student to painting techniques in acrylic, oil and other media.

ART 141 - Painting II - Credits: 2.00
This course is a continuation of Painting I. The
student will explore advanced techniques in acrylic, oil or other painting media.  
**Prerequisite(s):** ART 140

ART 142 - Painting III - Credits: 2.00  
The student will be provided the opportunity to develop advanced painting skills in acrylic, oil, or other painting media.  
**Prerequisite(s):** ART 141

ART 145 - Water Color - Credits: 3.00  
This course provides experience painting with watercolors, including a study of techniques, materials and interpretations.

ART 146 - Pastels - Credits: 3.00  
This course is designed to acquaint the serious art student with the qualities and processes used in the pastel medium. Both historical and contemporary approaches will be briefly discussed. The course will emphasize composition, conceptual approaches and aesthetic issues. Methods of creative thinking and personal expression will also be explored.

ART 149 - Digital Design 2: PHOTOSHOP - Credits: 2.00  
This is a survey course exploring the essential elements of raster-based image editing, specifically PHOTOSHOP. Basic program navigation, image manipulation, scanning, topographic usage and artistic uses of digital imagery for graphic design production are emphasized. To succeed in this course, a student should have prior background in computer navigation.

ART 150 - Digital Design 3: INDESIGN - Credits: 2.00  
This survey course reviews the functions of a premiere page-layout program utilized in the graphic industry. The course will emphasize basic program navigation, combining typography and graphic art, and the essential elements of sound publication design. To succeed in this course, a student should have prior background in computer navigation.

ART 156 - Digital Design I: ILLUSTRATOR - Credits: 2.00  
This is a basic survey course that covers the essential elements of a vector-based program, specifically ADOBE ILLUSTRATOR, for various graphic applications. Basic program navigation, line drawing, typography, artistic and fundamental uses of the program for graphic illustration and design are emphasized. To succeed in this course, the student should have prior background in computer navigation.

ART 170 – Ceramics - Credits: 2.00  
This is an art studio course with emphasis on the fundamentals of hand forming and glazing clay objects. Slab, coil, pinch, and various other forming techniques will be introduced and practiced.

ART 171 - Ceramics II - Credits: 2.00  
This an art studio course with an emphasis on the use of the potter's wheel. Refinement of hand-forming skills, glaze preparation, glaze application and firing techniques are also included in this course.  
**Prerequisite(s):** ART 170

ART 172 - Ceramics III - Credits: 2.00  
The student will be provided the opportunity to develop advanced ceramic skills and to complete advanced individual explorations into complex ceramic materials and manipulation.  
**Prerequisite(s):** ART 171

ART 184 – Photography - Credits: 3.00  
This course is an introduction to the technical and aesthetic properties of digital photography with an emphasis on the use of a digital SLR camera as a tool for electronic photographic image making. Additionally, students will learn to create efficient digital workflow using basic image editing skills and software programs. Students will learn the technical aspects of photography as well as how to use the camera as a tool for creating art and idea expression.

ART 185 - Photography II - Credits: 3.00  
This course builds on the skills acquired in Photography. Photography II is designed for students who are seriously interested in the practical experience of digital photography. By exploring photographic and digital media with the camera and computer, students will be able to develop a body of work that reflects a range of problem solving and ideation, and develops versatility with techniques to demonstrate their abilities. Prerequisite: ART184 Photography.  
**Prerequisite(s):** ART 184

ART 190 - History of Photography - Credits: 3.00  
This course provides an introduction to the history of still photography as an art medium. The course will cover developments of the photographic image from 1839 to present. Emphasis will be placed on individual artists, artistic movements, and photography as a communication tool. Students will study basic aspects of photography, including but not limited to camera types and usage, traditional darkroom techniques using black and white film, lighting and composition. Students should own or have the use of a focusing camera.

ART 200 - Art History I - Credits: 2.00  
This course is a study of Western traditions in art history, starting with prehistoric art and continuing through the classical, medieval and early Renaissance periods.

ART 201 - Art History II - Credits: 2.00  
This course is a study of Western art history, starting with the High Renaissance and continuing through the Baroque and Romantic periods. The course will conclude with a study of Impressionism.

ART 202 - Art History III - Credits: 2.00  
This course is a study of Western traditions in art history covering Post Impressionism through the art of today.

ART 289 – Photojournalism - Credits: 3.00  
Photojournalism introduces students to the world of
photography and journalism. The law, ethics, and history of photography in journalism will complement the major units of study: operation and care of the camera, taking pictures of newsworthy people, places, sports, political, and community events, print processing, and digital management skills.

**Prerequisite(s):** ART 184

**ART 303 - Commercial Photography - Credits: 2.00**

Introduction to Commercial Photography. Includes basic techniques of lighting, camera work, and reproduction of commercial photography.

**Prerequisite(s):** ART 184

**ART 304 - Architecture and Landscape Photography - Credits: 2.00**

This course is designed for students that want to further enhance their photographic abilities in architecture and landscape photography. Students will learn how light alters the visual impact of architecture and landscape forms. Students will learn how to create images of interior architectural design, exterior architectural design, and outdoor environments.

**Prerequisite(s):** ART 184

**ART 305 - Wedding and Event Photography - Credits: 2.00**

This course is designed for students that want to further enhance their photographic abilities in wedding and event photography. Students will learn equipment, lighting and posing utilized for weddings and event photography. Methods, techniques and business practices for professional wedding and event photographers will be included.

**Prerequisite(s):** ART 184

**ART 306 - Photography Portfolio - Credits: 1.00**

Students will identify different types of photographs that represent the spectrum of photographic subjects and disciplines they have been educated in. Students will assemble and present a body of work in a professional portfolio of images appropriate to their professional, educational or personal goals. This course concludes with a public exhibition of the students work.

**Prerequisite(s):** ART 184

**ART 309 - Photography Practicum III - Credits: 1.00**

The purpose of this course it to collect images for your professional portfolio. Students will be assigned to an on campus or off campus organization to take images of events, people, architecture, or commercial projects. Students will be responsible for capturing images, editing images, and developing images.

**Prerequisite(s):** ART 308

**ART 310 - Photography Practicum IV - Credits: 1.00**

The purpose of this course it to collect images for your professional portfolio. Students will be assigned to an on campus or off campus organization to take images of events, people, architecture, or commercial projects. Students will be responsible for capturing images, editing images, and developing images.

**Prerequisite(s):** ART 309

**ART 350 - Art Seminar I - Credits: 1.00**

This course is designed for advanced intensive study for the student desiring development beyond or outside the formal art studio courses. Assignments by contract are required.

**Prerequisite(s):** Permission of the instructor.

**ART 352 - Art Seminar II - Credits: 2.00**

This course is designed for advanced intensive study for the student desiring development beyond or outside the formal art studio courses. Assignments by contract are required.

**Prerequisite(s):** Permission of the instructor.

**ART 354 - Art Seminar III - Credits: 3.00**

This course is designed for advanced intensive study for the student desiring development beyond or outside the formal art studio courses. Assignments by contract are required. Consent of the instructor is also required.

**Prerequisite(s):** Permission of the Instructor.

**ART 850 - Wilderness Art Workshop - Credits: 2.00**

Workshop members will travel and camp in a wilderness area. The experience will include demonstrations, instruction in drawing and painting in an outdoor setting, sketching from nature and the completion of finished artworks based upon backwoods, wilderness observations.

**Prerequisite(s):** Permission of Instructor.

**ART 924 - Honors Project - Credits: 1.00**

In this course, the student will work independently with a chosen Arts and Sciences fine arts instructor on a fine arts research project designed by the student and instructor. This course is restricted to members of the IHCC Academy or Phi Theta Kappa.

**Prerequisite(s):** Permission of Instructor.

**ART 928 - Independent Study - Credits: 1.00**

This course explores specialized topics in the field of fine arts. A contract between the student and an Arts and Sciences Fine Arts instructor outlining the educational project is required.

**Prerequisite(s):** Permission of Instructor.

**Associate Degree Nursing**

**ADN 142 - Advanced Nursing Concepts - Credits: 2.00**

This course provides advanced theory related to the nursing process. Principles of intravenous therapy, transfusion therapy, total parenteral nutrition (TPN), and central venous access are discussed. Community-based nursing care and disaster planning are explored. Advanced mental health concepts including therapeutic environment and communication are examined.

**Prerequisite(s):** Satisfactory completion of the practical nursing program or licensure as a practical nurse (LPN) and enrollment in the second year of the IHCC Associate Degree Nursing program.

**Corequisite(s):**

**ADN 231 - Advanced Pharmacology - Credits: 2.00**

This course examines advanced medication administration principles. Emphasis will be placed on
intravenous medication therapy, calculation of dosages, infusion rates and titrations. Nursing implications of medication administration in complex health conditions are explored.

**Prerequisite(s):** Satisfactory completion of the practical nursing program or licensure as a practical nurse (LPN) and enrolled in the second year of the IHCC Associate Degree Nursing program.

ADN 311 - RN Issues and Trends - Credits: 1.00
This course provides an overview of nursing trends and incorporates ethical and legal issues, nursing organizations and publications, leadership responsibilities, and preparation for licensure and employment.

**Prerequisite(s):** The student must be enrolled in the second year of the ADN Program.

ADN 421 - Maternal Child Nursing II - Credits: 3.00
This course provides a comprehensive perspective of family-centered maternal-infant nursing and an in-depth study of children with associated health deviations. The psychological adaptation of the child-bearing family and assisting the sick child and the family to cope with illness and hospitalization is discussed. Health promotion and health teaching are emphasized.

**Corequisite(s):** ADN 714

ADN 492 - Advanced Mental Health Nursing - Credits: 2.00
This course examines advanced psychiatric mental health nursing concepts. Students gain an understanding of their role in creating a therapeutic environment. Emphasis is placed on utilizing the nursing process to provide care for clients with psychiatric disorders.

**Prerequisite(s):** ADN 717ADN 421

ADN 578 - Assessment and Pathophysiology - Credits: 3.00
This course provides the student with advanced assessment knowledge and techniques essential for the management of nursing care for patients with complex medical-surgical conditions. Consideration is given to the assessment of special populations. In-depth pathophysiology of body system disorders is discussed. The concepts of fluid and electrolyte and acid-base balance are addressed. This course provides the foundation for nursing care management of complex patients.

**Corequisite(s):** ADN 711

ADN 579 - Management of Patients With Complex Health Conditions - Credits: 3.00
Complex medical-surgical conditions of the respiratory, cardiovascular, hematological, musculoskeletal, renal, reproductive, biliary/gastrointestinal, endocrine, integumentary and neurological systems are discussed. Emphasis is placed on the nursing management of patients with complex medical-surgical conditions which require prioritization of nursing diagnoses and interventions. The importance of collaboration and patient education is addressed.

**Prerequisite(s):** ADN 492ADN 578; ADN 717

ADN 711 - Nursing Clinical IV - Credits: 2.00
This course provides the student with an opportunity to observe and initiate therapeutic interactions with patients experiencing alterations in mental health. In addition, the student will assume an expanded role in the acute care and community setting. The use of advanced nursing skills will be emphasized.

**Corequisite(s):** ADN 578

ADN 714 - Nursing Clinical V - Credits: 2.00
This course provides the student with the opportunity to care for patients throughout the lifespan. A specialty experience may be provided. Application of the nursing process and implementation of patient teaching for patients with complex health care needs will be emphasized.

**Prerequisite(s):** ADN 711 ADN 142 ADN 231 ADN 578

ADN 717 - Nursing Clinical VI - Credits: 2.00
This course provides the student with the opportunity to care for patients throughout the lifespan. Specialty rotations may be assigned. These experiences allow the student to gain understanding of the role of a professional nurse.

**Prerequisite(s):** ADN 714

ADN 720 - Nursing Clinical VII - Credits: 2.00
This course provides the student with the opportunity to care for patients throughout the lifespan. Preceptor rotations will be provided. These experiences allow the student to gain knowledge of community resources and to enhance the student's understanding of the role of the professional nurse.

**Prerequisite(s):** ADN 717

ADN 841 - Nursing Seminar II - Credits: 1.00
This course provides a comprehensive review of the nursing knowledge and skills that an entry level registered nurse must possess. Emphasis will be placed on delegation, prioritization and complex nursing interventions. Patient scenarios and case studies will be utilized to foster critical thinking and decision making in the clinical setting.

**Corequisite(s):** ADN 720; ADN 579

ADN 900 - Trauma Nurse Core Course - Credits: 1.00
The standard curriculum of the Trauma Nursing Core Course (TNCC) was developed by the Emergency Nurses Association (ENA) to provide the learner with the necessary knowledge to function effectively in a written and psychomotor evaluation of trauma nursing skills for emergency resuscitation.

**Prerequisite(s):** This course is intended for licensed registered nurses with a recommended six (6) months of clinical nursing experience in an emergency setting. PNN 108 - Beginning Principles of Nursing - Credits: 2.00
This course provides a comprehensive perspective of professional qualities that are required within the nursing profession. Successful learning strategies for the beginning nursing student will be discussed for improving learning outcomes. The American Nursing Association Code of Ethics and QSEN competencies will be emphasized.

PNN 725 - Clinical Experience I - Credits: 2.00
The student will provide basic nursing care in a long term setting. The development of assessment techniques will be emphasized. Scientific nursing principles and basic nursing skills will be utilized to provide care to residents with identified self-care deficits. Documentation will be introduced. Students will complete required HIPPA, Infection Control and Mandatory Reporting for child/adult training for Health Care Providers.

Prerequisite(s): PNN 147
Corequisite(s): PNN 148 PNN 501

PNN 726 - Clinical Experience IA - Credits: 1.00
This clinical course affords students the opportunity to provide basic nursing care to residents in the long term care setting using scientific nursing principles. Emphasis is placed on assessment and documentation skills. Certification in American Heart Association Basic Life Support will be completed. Students will complete required HIPPA, Infection Control and Mandatory Reporting for child/adult training for Health Care Providers.

Prerequisite(s): PNN 147 PNN 148
Corequisite(s): PNN 502

Automation Technology & Robotics

ATR 110 - Manufacturing Fundamentals - Credits: 2.00
An introduction to robotics, including the historical perspective, components, tooling, applications, classification, justification and operating systems.

ATR 132 - Computer Aided Manufacturing - Credits: 2.00
This course is designed to introduce students to the basic concepts of Computer Numerical Control (CNC) programming. Practical hands-on laboratory activities on CNC lathes and mills are included.

ATR 150 - Introduction Display Animation - Credits: 2.00
Students in this course will learn the different methods of moving display components. They will learn about the different systems of movement including: belt, turning and chain-driven.

ATR 155 - Animation Components - Credits: 3.00
This course introduces students to the mechanical components needed to construct a basic display design. Students will gain a basic understanding of wiring and electricity, learn to read simple schematics and build frameworks for their designs.

ATR 160 - Display Design Animation - Credits: 3.00
Students in this course will build on the knowledge gained in Animation Components and Display Animation. In this course students will have the opportunity to design and build a complete small display.

ATR 251 - Robot Programming I - Credits: 2.00
This course covers various machine-specific robot programming languages. Positioning of coordinates in the work envelope will be stressed. Emphasis is on documenting and writing programs, understanding the robot’s coordinate system, and following written procedures.

ATR 252 - Robot Programming II - Credits: 2.00
This course covers concepts and applications of high-level industrial robot programming languages and PLC (programmable logic controller) software. A variety of robots will be utilized with vendor specific software. Programs will be written for robots and PLCs in a practical application laboratory environment.

Prerequisite(s): ATR 251; ELT 130

ATR 261 - Robot Controllers I - Credits: 2.00
This course covers an analysis of control circuits that are used with robots or are part of a feedback circuit that is used with robots. Emphasis will be on feedback sensors, servo theory, servo motor control and electronic control of power systems.

Prerequisite(s): ELT 580; ATR 251

ATR 262 - Robot Controllers II - Credits: 2.00
This course focuses on the advanced analysis of motion controllers. Components and circuitry utilized in robot control are emphasized. Interpretation of electrical, hydraulic, and pneumatic schematics are included. System troubleshooting is explored.

Prerequisite(s): ATR 261

ATR 266 - Automation Programming - Credits: 2.00
This course introduces the student to Visual Basic and LabView programming languages. The student will learn the basics of each language applying them to industrial applications.

ATR 267 - Industrial Systems - Credits: 3.00
Students study and work with industrial robots and automated systems emphasizing interfacing, safety, troubleshooting and preventative maintenance. Allen Bradley PLC’s will also be introduced.

Prerequisite(s): ELT 580; ATR 251

ATR 274 - Automated System Applications - Credits: 3.00
Students design and implement an automated manufacturing system in a laboratory environment. Robots, PLCs, machine vision systems, CNC machines, and lasers may be utilized. Students write programs and interface equipment into an automated manufacturing system. Project planning, teamwork, system integration, system operation and documentation are emphasized.

Prerequisite(s): ATR 252; ATR 261

ATR 275 - Industrial Networks - Credits: 2.00
This course details the current standards and practices of the various networking schemes used in automated systems.

ATR 350 - Robot Offline Programming - Credits: 2.00
An introductory course providing the basic framework for utilizing offline programming (simulation) for industrial robots. Laboratory work will include developing a program offline and transferring it to a physical robot for testing.

Prerequisite(s): ATR 251
**Automotive Technology**

**AUT 114 - Shop Fund & Minor Service** - Credits: 4.00  
Students will examine the organizational structure in a dealership/repair facility as it relates to the technician. Students use service manuals, electronic troubleshooting manuals, and service bulletins. The course will also develop competencies in entry-level tasks required when working in a dealership or repair facility.

**AUT 130 - Automotive Maintenance and Inspection Procedures** - Credits: 2.00  
This course covers the basic systems of the automobile and the process required to identify the maintenance components and perform the required maintenance services. This course also reviews various types of resource materials that are used in the automotive repair industry.

**AUT 140 - Welding for Automotive Mechanics** - Credits: 2.00  
This course covers the study of metals, metal properties, welding gases, pressures and the proper use of welding equipment. Safety procedures will be stressed. Students will be introduced to the theory and practice of basic welding, brazing and soldering techniques.

**AUT 143 - Machining for Automotive Mechanics** - Credits: 2.00  
This course covers the use of precision instruments. The reading of blueprints and basic machining operations. The course will also cover the basic operation of lathes, mills, grinders, and the drill press.

**AUT 155 - Automotive Engine Design and Systems** - Credits: 2.00  
This course covers the cooling, lubrication and engine intake and exhaust systems of modern automobiles and light trucks. Basic and advanced system diagnosis and troubleshooting will be included in this course.

**AUT 172 - Advanced Automotive Engine Repair** - Credits: 2.00  
This course covers the theory and operation of reciprocating engines. The student will be able to disassemble, inspect, qualify the component parts and rebuild the engine to meet manufacturer's specifications. The student will also be able to perform operational checks on a live engine to include troubleshooting and diagnostic procedures.

**AUT 204 - Automotive Automatic Transmissions/Transaxles** - Credits: 4.00  
This course covers the advanced study of automatic transmission theory and service. The student will review basic automatic transmission theory. The student will study diagnosis, disassembly, inspection and assembly of different types of automatic transmissions and transaxles.  
**Prerequisite(s):** AUT 222

**AUT 218 - Automotive Automatic Transmissions/Transaxle Service** - Credits: 5.00  
This course covers the service requirements needed when working with automatic transmissions and transaxles.

**AUT 222 - Basic Automotive Drive Lines** - Credits: 2.00  
This course covers the basic theory and parts identification of manual and automatic transmissions to include clutches and torque converters. The student will also disassemble, qualify the internal parts and assemble manual and automatic transmissions to include clutches.

**AUT 224 - Automotive Drive Lines and Repair Procedures** - Credits: 2.00  
This course will cover the theory and operation of drive trains and differential assemblies, as well as their removal and replacement. Students will also learn how to disassemble, evaluate parts, rebuild, set-up and troubleshoot these assemblies.

**AUT 289 - NVH and Accessory Installation** - Credits: 3.00  
This course is designed to supplement a technician's knowledge of noise, vibration and harshness symptoms within cars and light trucks. Technicians will also learn and practice the skills required to properly install aftermarket and factory accessories.

**AUT 290 - NVH and Aftermarket** - Credits: 2.00  
This course is designed to supplement a technician's knowledge of noise, vibration and harshness symptoms within cars and light trucks. Technicians will also learn and practice the skills required to properly install aftermarket and factory accessories.

**AUT 303 - Automotive Manual Drive Train and Axles** - Credits: 3.00  
This course will cover the operation of automotive front and rear drive manual transmissions, transaxles, and transfer cases. Students will learn how to diagnose, remove, evaluate, repair and replace manual transmissions, transaxles and transfer cases.

**AUT 402 - Automotive Suspension and Steering** - Credits: 2.00  
This course covers automotive steering and suspension components. This course also covers inspection, diagnostic and repair of steering and suspension systems.

**AUT 502 - Automotive Brake Systems** - Credits: 2.00  
This course covers the theory and operation of automotive braking systems including component replacement/familiarization, rebuilding of drum, disk and anti-lock braking system. Wheel bearing theory, service and adjustment will also be covered.

**AUT 540 - Automotive Vehicle Alignment** - Credits: 3.00  
This course covers the computerized alignment center and computerized wheel balancer. Proper wheel alignment and tires and wheel relationship will also be covered.

**AUT 607 - Basic Auto Electricity/Electronics** - Credits: 4.00
This course covers electrical and electronic theory and systems. Electrical safety, familiarization, with electrical circuits will be covered thru the use of specialized test equipment and students will perform voltage, current and resistance movements. Also covered will be sensors, electronic components and related symbols with the student learning to read, draw, construct, troubleshoot and analyze electronic circuits using proper test equipment.

AUT 642 - Automotive Charging, Starting and Electrical Systems - Credits: 2.00
This course covers the theory and operation of batteries, starting motors and alternators to include component part familiarization and identification. This course will also cover starting motor and alternator disassembly, rebuild and assembly to include complete system testing and troubleshooting.

AUT 701 - Basic Automotive Air Conditioning - Credits: 1.00
This course covers the study of proper safety procedures, the fundamentals of air conditioning, refrigerant, refrigerant oil and the use of special tools and diagnostic equipment. The student will also study theory of operation, parts identification, repair, service and troubleshooting procedures.

AUT 702 - Automotive Heating and Air Conditioning - Credits: 2.00
This course covers the passenger compartment heating and air conditioning systems found in automobiles and light trucks. The controls and components of manual and automatic systems will also be covered.

AUT 833 - Automotive Fuel Systems - Credits: 3.00
This course covers the fuel and ignition systems typically found in modern automobiles. It will include electronic and distributorless ignitions, carburetion and fuel injection systems. Techniques and practices used in the diagnosis and the troubleshooting of fuel and ignition systems will be integrated in this unit.

AUT 848 - Automotive Engine Drivability Diagnosis - Credits: 4.00
This course covers advanced vehicle tuning and troubleshooting. Techniques and practices used in diagnosing and troubleshooting engines and related systems are integrated in this unit.

AUT 851 - Automotive Engine Performance Diagnosis - Credits: 3.00
This course covers the different areas of vehicle diagnosis. The application of the computer diagnostic center, hand held monitors, oscilloscopes and other diagnostic tools will be covered.

AUT 862 - Automotive Engine Performance Testing - Credits: 2.00
This course covers the setup and operation of the computerized diagnostic center, hand held scan tools, exhaust gas analysis, On Board Diagnostic 2nd Generation (OBDII) and the use of hand held automotive digital storage oscilloscopes. Emphasis will be placed on the correct tool selection, setup and the interpretation of vehicle data and readings.

AUT 881 - Automotive Lab I - Credits: 3.00
This course provides a review and analysis of the many facets of the automotive industry. Content includes: established diagnostic procedures and routines; environmental concerns affecting the automotive industry; proper utilization of specialty tools, precision measuring tools, and shop equipment; utilization of service and shop manuals, and shop safety. This course will concentrate on reviewing the service areas in the automotive technology field to include operating in a simulated shop environment.

AUT 882 - Automotive Lab II - Credits: 3.00
This course allows the student time in the automotive lab to work on curriculum requirements and lab projects

AUT 883 - Automotive Lab III - Credits: 3.00
This course allows students time in the automotive lab to work on curriculum requirements and lab projects.

AUT 884 - Automotive Lab IV - Credits: 2.00
Automotive Lab IV allows students to build production skills, build confidence in their ability to diagnose and repair vehicles, and reinforce skills learned in other courses. Use of a “live lab” environment helps students achieve job entry competency levels. Students perform a wide variety of diagnostic tests, adjustments and overhaul/repairs on customer and college-owned units. (0/6-12).

AUT 885 - Automotive Lab V - Credits: 2.00
Automotive Lab V allows students to build production skills, build confidence in their ability to diagnose and repair vehicles and reinforce skills learned in other courses. Use of a “live lab” environment helps students achieve job entry competency levels. Students perform a wide variety of diagnostic tests, adjustments and overhaul/repairs on customer and college-owned units.

BCA 167 - Comprehensive Databases - Credits: 3.00
The student will learn to use a database software package by completing business-related applications, exercises, lab projects, and tests. Course focus will be on the student earning the Microsoft Office Specialist (MOS) Access certification.

Aviation

AVI 105 - Introduction to Aviation - Credits: 3.00
The student surveys the components of the aviation industry including: flight operations and related technologies, aviation/aerospace manufacturing, aviation maintenance, aviation electronics, flight meteorology and environmental information systems, communication systems, the air traffic control system, human factors related to flight, regulatory and governmental entities, flight education and research and development.

AVI 110 - History of Aviation - Credits: 3.00
This course covers the history of aviation including...
the early pioneers of the late 1700s, the development
of the airplane, wartime and peacetime aviation in the
1900s, and the development of space age aviation.
Also, the impact that aviation has on shaping the
world we live in will be discussed.

AVI 123 - Maintenance Responsibilities - Credits: 3.00
This course covers the maintenance practices and
responsibilities of the pilot and owner/operator in
determining the airworthiness status of aircraft and
maintaining aircraft in a safe and legal condition.
Students will learn how to access and use
authoritative aircraft maintenance data and
information online.

Prerequisite(s): AVI 105; AVI 135
AVI 127 - Engines Systems Theory - Credits: 3.00
This course covers reciprocating and turbine engine
design and operational theory and related fuel,
propeller, and supercharging systems.

Prerequisite(s): AVI 105
AVI 129 - Employment Prep for Aviation Careers -
Credits: 1.00
In this course students will customize resumes and
cover letters and develop interviewing skills. More
importantly, they will develop contacts, through
networking, which will help them apply for and
obtain a pilot position that accelerates them towards the
aviation career position of their dreams.

Prerequisite(s): AVI 105
AVI 135 - Private Basic Ground I - Credits: 3.00
This course covers the first half of the ground training
for private pilot certification or Stage I of the FAA
approved curriculum. Subjects include the pilot
training system, aviation opportunities, human
factors, airplane systems, aerodynamics of
maneuvering flight, and the flight environment.

Prerequisite(s): AVI 105
AVI 136 - Private Basic Ground II - Credits: 3.00
This course covers the Stages 1 and 2 of the FAA
Private Pilot curriculum. Subjects include weather,
performance, navigation, human factors, and cross
country flying. Students must complete and pass
Stages 2 and 3 and Finals A and B exams in order to
complete the course.

Prerequisite(s): AVI 135
AVI 150 - Aerodynamics - Credits: 3.00
This course covers basic aerodynamic theory, flight
mechanics, performance, stability and structural
limits of aircraft. Aircraft design considerations are
examined to help the pilot select those designs of
aircraft that are most suited to the flight mission.

Prerequisite(s): AVI 135
AVI 155 - Airframe Systems Theory - Credits: 3.00
This course covers cabin atmosphere, electrical
systems, hydraulic and pneumatic systems, structures
and control systems, and instrument systems. The
operation of each system is thoroughly covered to
enable the pilot to analyze system operation.

Prerequisite(s): AVI 135
AVI 175 - Private Flight I - Credits: 1.00
This course covers Stage 1 of the Private Pilot flight
curriculum. Included are basic flight maneuvers,
takeoff and landings, and the first solo flight.

Prerequisite(s): AVI 135. Completion of or
concurrent enrollment and progress in AVI 135 -
Private Basic Ground I is required. A valid first- or
second-class medical/student pilot certificate is
required.

Prerequisite(s): AVI 135
AVI 176 - Private Flight II - Credits: 1.00
This course covers Stage 2 of the Private Pilot flight
curriculum. Included are local day and night flight
operations as well as day and night cross-country
flights.

Prerequisite(s): AVI 175; AVI 136; A valid first or
second class medical/student pilot certificate is
required.

Prerequisite(s): AVI 175; AVI 136
AVI 177 - ACT Private Pilot Flight - Credits: 3.00
This Airline Career Training (ACT) course covers
Stage 1, 2, and 3 of the Private Pilot flight curriculum.
Included are basic flight maneuvers, takeoff and
landings, the first solo flight, local day and night flight
operations, night cross-country flights, flight
instruction, and solo practice in preparation for the
Private Pilot Practical Test.

Corequisite(s): AVI 135
AVI 178 - ACT Private Pilot Flight I - Credits: 2.00
This Airline Career Training (ACT) course covers
Stage 1 of the Private Pilot flight curriculum. Included
are basic flight maneuvers, takeoff and landings and
the first solo flight.

Prerequisite(s): AVI 135
AVI 179 - ACT Private Pilot Flight II - Credits: 1.00
This Airline Career Training (ACT) course covers
Stage 2 and 3 of the Private Pilot flight curriculum.
Included are local day and night flight operations as
well as day and night cross-country flights and also
includes flight instruction and solo practice in
preparation for the Private Pilot Practical Test.

Prerequisite(s): AVI 178
AVI 187 - Private Pilot Certification - Credits: 1.00
This course covers the completion of Stage 3 in the
Private Pilot flight curriculum and includes flight
instruction and solo practice in preparation for the
Private Pilot Practical Test.

Prerequisite(s): AVI 135; AVI 136; AVI 176; An
unexpired original Private Pilot Airplane Knowledge
Test Report showing a passing score is required to
complete this course. In addition, a valid first or
second-class medical and a properly certified Student
Pilot Certificate are required.

Corequisite(s): AVI 135; AVI 136
AVI 188 - Currency and Refresher - Credits: 1.00
This course provided refresher ground and flight
training to a holder of a valid pilot certificate for
single-engine land airplanes. Relevant procedures and
maneuvers will be reviewed and practiced at the
discretion of the flight instructor.

Prerequisite(s): Must hold a valid Airplane Single-
Engine Land pilot certificate and a current medical
certificate.

AVI 189 - Private Pilot Proficiency I - Credits: 1.00
This course provides a specialized dual/solo flight
instruction course permitting the student and flight
instructor to work on mutually agreed areas of
proficiency to meet FAA Private Pilot standards. The
course also provides additional ground instruction
and up to 10 hours of flight training.
**Prerequisite(s):** AVI 187  
**Corequisite(s):** AVI 135 AVI 136

AVI 190 - VFR Communications - Credits: 2.00  
This course covers Visual Flight Rules (VFR) communications procedures to help both experienced and inexperienced pilots to communicate more effectively during all phases of normal flight and in emergency situations. Students will utilize interactive computer-based training to sharpen radio transmission and reception skills.

AVI 191 - Private Pilot Proficiency II - Credits: 2.00  
This course provides a specialized dual/solo flight instruction course permitting the student and flight instructor to work on mutually agreed areas of proficiency to meet FAA Private Pilot standards. The course also provides additional ground instruction and up to 20 hours of flight training.  
**Prerequisite(s):** AVI 187  
**Corequisite(s):** AVI 135 AVI 136

AVI 195 - IFR Communications - Credits: 2.00  
This course covers the IFR communications used when flying under Instrument Flight Rules (IFR). Students will locate frequencies, file IFR flight plans and conduct simulated IFR communications for all phases of IFR flight. Unusual flight situations are also covered.  
**Prerequisite(s):** AVI 136

AVI 200 - Instrument Pilot Ground I - Credits: 3.00  
This course covers Stage 1 and 2 of the Instrument Ground Curriculum in preparation for the Instrument Pilot Knowledge Exam. Instrument flight principles and procedures are included.

AVI 201 - Instrument Pilot Ground II - Credits: 2.00  
This course covers Stage 3 of the Instrument curriculum in preparation for the Instrument Pilot Knowledge Exam. Included in the course are weather analysis, IFR emergencies, IFR flight planning, and IFR pilot decision making.  
**Corequisite(s):** AVI 200

AVI 220 - Aviation Meteorology - Credits: 3.00  
This course covers meteorology theory, weather hazard avoidance, aviation weather product access, and weather data analysis to make valid flight operation decisions consistent with safety.  
**Prerequisite(s):** AVI 136

AVI 230 - Instrument Flight Stage 1 - Credits: 1.00  
This course covers Stage 1 of the Instrument Flight curriculum. Included are basic instrument flight maneuvers including precision straight and level climb, turns, descents and combinations. Unusual flight attitude recoveries and electronic navigation are also covered to prepare the student for Stage II.  
**Prerequisite(s):** Must hold a valid and current Private Pilot Airplane or higher pilot certificate with Single-Engine Land class ratings and must hold a valid and current first or second class flight physical.  
**Corequisite(s):** AVI 200

AVI 231 - Instrument Flight Stage 2 - Credits: 1.00  
This course covers Stage 2 of the Instrument Flight curriculum. Included are holding procedures, partial panel operations, and instrument approach procedures.  
**Prerequisite(s):** AVI 200; AVI 230; Must hold a valid and current Private Pilot Airplane or higher pilot certificate with Single-Engine Land class ratings and must hold a valid and current first- or second-class flight physical.  
**Corequisite(s):** AVI 200

AVI 232 - Instrument Flight Stage 3 - Credits: 1.00  
This course covers Stage 3 of the Instrument curriculum and includes departure, enroute and arrival procedures, enroute holding, emergency procedures and Instrument Flight Rules (IFR) cross-country flights for certification as an instrument rated pilot.  
**Prerequisite(s):** AVI 200; AVI 231; AVI 201; An unexpired original Instrument Rating Airplane Knowledge Test Report showing a passing score is required to complete this course. In addition a valid first- or second-class medical and a valid at least Private Pilot level pilot certificate are required.  
**Corequisite(s):** AVI 200; AVI 201

AVI 233 - Instrument Pilot Proficiency I - Credits: 1.00  
Provides a specialized dual/solo flight instruction course permitting the student and flight instructor to work on mutually agreed areas of proficiency to meet FAA Instrument Pilot standards. Provides additional ground instruction and up to 10 hours of flight training.  
**Prerequisite(s):** AVI 231  
**Corequisite(s):** AVI 200 AVI 201

AVI 234 - Instrument Pilot Proficiency II - Credits: 2.00  
Provides a specialized dual/solo flight instruction course permitting the student and flight instructor to work on mutually agreed areas of proficiency to meet FAA Instrument Pilot standards. Provides additional ground instruction and up to 20 hours of flight training.  
**Prerequisite(s):** AVI 231  
**Corequisite(s):** AVI 200 AVI 201

AVI 236 - ACT Instrument Flight I - Credits: 2.00  
This Airline Career Training (ACT)course covers Stage 1, 2 of the Instrument curriculum. Included are basic instrument flight maneuvers including precision straight and level, climbs, turns, descents and various combinations, holding procedures, partial panel operations and instrument approach procedures.  
**Corequisite(s):** AVI 200AVI 201

AVI 237 - ACT Instrument Flight II - Credits: 1.00  
This Airline Career Training (ACT) course covers Stage 3 of the Instrument curriculum and includes departure, enroute and arrival procedures, enroute holding, emergency procedures and Instrument Flight Rules (IFR) cross-country flights for certification as an instrument rated pilot.  
**Prerequisite(s):** AVI 236
AVI 249 - General Aviation Operations Management - Credits: 3.00
This course covers operational functions, marketing and finance, management concepts, information systems, line operations, flight operations, maintenance, safety and liability issues and physical facility management related to aviation fixed based operators (FBO).
Prerequisite(s): AVI 105

AVI 262 - Commercial Pilot Ground I - Credits: 2.00
This course covers Stage 4 of the Commercial Pilot curriculum. VFR cross-country flying, advanced human factor concepts, commercial pilot regulations, Airmen’s Information Manual procedures are included.
Prerequisite(s): AVI 201

AVI 263 - Commercial Pilot Ground II - Credits: 2.00
This course covers Stage 5, the final stage of the commercial curriculum, which contains advanced airplane systems. Students will be prepared to take the Commercial Pilot Knowledge Exam at the successful completion of the course.
Prerequisite(s): AVI 262

AVI 280 - Commercial Night Flight Stage 4A - Credits: 1.00
This course covers lessons 30 - 35 in Stage 4 of the Commercial curriculum and includes day and night VFR cross-country flights and operations at controlled and uncontrolled airports.
Prerequisite(s): AVI 232; AVI 262; In addition a valid first or second class medical and a private pilot certificate with an Instrument Rating-Airplane are required.
Corequisite(s): AVI 262

AVI 281 - Commercial X-C Stage 4B - Credits: 2.00
This course covers lessons 36-44 of the Stage 4 Commercial curriculum and includes additional practice in cross-country flying and operations at airports and review of all Stage 4 competencies.
Prerequisite(s): AVI 280; AVI 263; In addition, a valid first- or second class medical and a Private Pilot certificate with an instrument Rating-Airplane are required.
Corequisite(s): AVI 263

AVI 282 - Commercial Flight Stage 5 - Credits: 2.00
This course covers Stage 5 of the Commercial curriculum and includes complex airplane operations and commercial flight maneuvers.
Prerequisite(s): AVI 200; In addition a valid first or second class medical and a private pilot certificate with an Instrument Rating-Airplane are required.

AVI 283 - Commercial Certification - Credits: 2.00
This course covers Stage 6 of the Commercial curriculum and includes proficiency maneuvers and procedures in preparation for the Commercial Pilot Practical Test.
Prerequisite(s): AVI 282; AVI 281; A valid first or second class medical and a private pilot certificate with an Instrument Rating-Airplane are required. In addition, an unexpired original Commercial Pilot Airplane Knowledge Test Report showing a passing score is required to complete this course.

AVI 285 - Glass Cockpit Systems - Credits: 1.00
Students are introduced to technically advanced aircraft flight deck (glass cockpit) systems. Flight instrument and engine indication systems, audio panel, and Communications, Navigation, and Surveillance (CNS) systems are explained. VHF and GPS navigation and instrument procedures, hazard avoidance, and automatic flight control systems are explored.
Prerequisite(s): AVI 232

AVI 286 - Glass Cockpit Flight Checkout - Credits: 1.00
Students plan and fly VFR and IFR flight scenarios using full motion visual simulation of a Technically Advanced Aircraft (aircraft with a glass cockpit). Flight plan management and use of an integrated control system (autopilot) during instrument flight is emphasized.
Prerequisite(s): AVI 285

AVI 287 - Commercial Pilot Proficiency I] - Credits: 1.00
Provides a specialized dual/solo flight instruction course permitting the student and flight instructor to work on mutually agreed areas of proficiency to meet FAA Commercial Pilot standards. Provides additional ground instruction and up to 10 hours of flight training.
Prerequisite(s): AVI 281 AVI 282

AVI 288 - Commercial Pilot Proficiency II - Credits: 2.00
Provides a specialized dual/solo flight instruction course permitting the student and flight instructor to work on mutually agreed areas of proficiency to meet FAA Commercial Pilot standards. Provides additional ground instruction and up to 20 hours of flight training.
Prerequisite(s): AVI 281 AVI 282

AVI 289 - ACT Commercial Flight I - Credits: 3.00
This Airline Career Training (ACT) course covers Stage 4A, 4B of the Commercial curriculum and includes day and night VFR cross-country flights and operations at controlled and uncontrolled airports, and includes proficiency maneuvers and additional practice and review of all Stage 4 competencies.
Corequisite(s): AVI 262 AVI 263

AVI 290 - Fundamentals of Ground Instruction - Credits: 3.00
This course covers learning theory, the learning process, communication concepts, the teaching process, teaching methods, lesson planning, and human behavior applied to professional flight instruction. After completing the course the student should be prepared to take the Federal Aviation Administration Fundamentals of Instruction Knowledge Test.

AVI 291 - ACT Commercial Flight II - Credits: 2.00
This Airline Career Training (ACT) course covers
Stages 5 of the Commercial curriculum and includes complex airplane operations and commercial flight maneuvers.

**Corequisite(s):** AVI 262 AVI 263 AVI 289

AVI 292 - ACT Commercial Flight III - Credits: 2.00
This course covers Stage 6 of the Commercial curriculum and includes proficiency maneuvers and procedures in preparation for the Commercial Pilot Practical Test.

**Corequisite(s):** AVI 291 AVI 262 AVI 263

AVI 300 - Flight Instructor Ground School - Credits: 3.00
This course covers a review of private pilot, instrument, and commercial pilot knowledge subjects as well as basic, advanced, and instrument instruction in preparation for the Flight Instructor Airplane and Flight Instructor Instrument knowledge tests required for certification as a professional instructor.

**Prequisite(s):** AVI 263

AVI 351 - Flight Instructor Basic - Credits: 1.00
This course covers performance of private and commercial maneuvers in the right seat, practice flight instruction and spin maneuvers to be a Certified Flight Instructor of single-engine airplanes.

**Prequisite(s):** AVI 283 AVI 300; a valid Commercial Pilot Airplane-Single Engine Land-Instrument Rating Airplane certificate and a valid first- or second-class medical are required. In addition, unexpired original Flight Instructor Certificate, Airplane and Fundamentals of Instructing Flight and Ground Knowledge Test Reports showing a passing score are required to complete this course.

AVI 352 - Flight Instructor Instrument - Credits: 1.00
This course covers instrument flight maneuvers from the right seat and practice instruction as an instrument instructor in preparation for the Instrument flight Instructor rating.

**Prequisite(s):** Commercial Pilot Certificate-Airplane Category, a Third-Class or higher medical, an unexpired original Flight Instructor-Instrument Knowledge Test Report showing a passing score, and an unexpired original Fundamentals of Instrument Knowledge Test Report showing a passing score (or hold another ground or flight instructor certificate) are required to complete the course.

AVI 353 - Instructor Pilot Proficiency I - Credits: 1.00
Provides a specialized dual/solo flight instruction course permitting the student and flight instructor to work on mutually agreed areas of proficiency to meet FAA Flight Instructor Pilot standards. Provides additional ground instruction and up to 10 hours of flight training.

**Prequisite(s):** AVI 351

AVI 354 - Instructor Pilot Proficiency II - Credits: 2.00
This is a specialized dual/solo flight instruction course permitting the student and flight instructor to work on mutually agreed areas of proficiency to meet FAA Flight Instructor Pilot standards. Provides additional ground instruction and up to 20 hours of flight training.

**Prequisite(s):** AVI 283 AVI 300

AVI 355 - ACT Flight Instructor Basic - Credits: 1.00
This Airline Career Training (ACT) course covers performance of private and commercial maneuvers in the right seat, practice flight instruction and spin maneuvers to be a Certified Flight Instructor of single-engine airplanes.

**Prequisite(s):** AVI 283 AVI 300

AVI 356 - ACT Flight Instructor Instrument - Credits: 1.00
This Airline Career Training (ACT) course covers instrument flight maneuvers from the right seat and practice instruction as an instrument instructor in preparation for the Instrument Flight Instructor rating.

AVI 399 - Multi-Engine Primer - Credits: 1.00
Students master multi-engine airplane flying skills using full motion visual simulation including instrument flight in adverse weather, visual and instrument approaches at large airports, departure procedures, holding, and missed approach procedures operating on one or both engines greatly reducing actual multi-engine airplane flight time needed for the multi-engine class rating.

**Prequisite(s):** Private Pilot Certificate with Airplane Single Engine Land Class Rating and Instrument Airplane Rating.

AVI 400 - Multi-Engine Rating - Credits: 1.00
Students master multi-engine airplane flying skills to meet the requirements for an additional airplane multi-engine airplane class rating per FAA Part 61 regulations. Normal and single-engine procedures are mastered with an emphasis on safety. The demonstration of instrument airplane and commercial pilot competency in multi-engine airplanes is also required.

AVI 410 - Multi-Engine Instructor - Credits: 1.00
The purpose of this course is to acquire the knowledge and skill to be able to add the multi-engine airplane instructor rating to a Certified Flight Instructor Airplane Single-Engine certificate. The student will be able to competently operate multi-engine airplanes from the right seat and demonstrate and evaluate all normal and emergency procedures in a multi-engine airplane as a certified flight instructor.

**Aviation Maintenance**

AVM 101 - Cleaning/Corrosion Control - Credits: 2.00
This course covers acceptable materials used for cleaning of aircraft, methods of cleaning, inspection and corrective measures taken for corrosion control. This course includes the study of flexible and rigid fluid lines and fittings. Included is the installation and testing of these components.

AVM 103 - Aircraft Materials and Processes - Credits: 2.00
This course includes the study of the various materials which are used in aircraft construction, the processes
of fabrication, and the methods used in determining the airworthiness of aircraft. Basic principles of metals, heat treating and non-destructive testing are also included.

AVM 105 - Regulations and Publications - Credits: 3.00
This course covers information detailing what the licensed mechanic can or cannot do to an aircraft under FAA rules, and tells how to utilize the various publications in the performance of aircraft service. The forms and records required by the Federal Aviation Administration are explained to the student to make them familiar with the recordkeeping system utilized by the aviation industry.

AVM 107 - Weight and Balance - Credits: 1.00
This course covers the theory, necessity, practical application, and the record keeping, regarding the weight and balance requirements for fixed wing and rotary wing aircraft.

AVM 109 - Basic Electricity - Credits: 4.00
This is a course covering the basic theory and principles of both direct (DC) and alternating (AC) currents. This course includes emphasis on Ohm's Law and battery power.

AVM 110 - Human Factors in Aviation Maintenance - Credits: 1.00
This course will give students a working knowledge of what human factors are and how they cause aircraft accidents. Techniques will be discussed on how to mitigate their effects in aviation maintenance. Different models will be discussed including Dupont's Dirty Dozen, J. Reason's P.E.A.R. and S.H.E.L. and Boeing's M.E.D.A. Students will also discuss personal and professional standards of integrity and ethics.

AVM 111 - Ground Operations and Servicing - Credits: 1.00
This course covers the ground operation of aircraft to include standard aviation hand signals, typical servicing of the aircraft in preparation for flight, the operation of the engine and aircraft controls, securing of the aircraft on the ground and proper selection and identification of aircraft fuels.

AVM 113 - Airframe Electrical Systems - Credits: 3.00
This course develops skills and techniques in the theory of electricity. Major phases includes a review of fundamentals, magnetism, electromagnetism, capacitors, electric measuring instruments, AC and DC generators, electric motors, installations, electrical instruments, and FAA (Federal Aviation Administration) requirements.

AVM 117 - Avionics/Fire Protection AF - Credits: 1.00
This course will include inspection, checking, service, and installation of aircraft navigation and communication systems. In addition, students will study the fire detection and extinguishing systems, both portable and build-in, as it relates to airframe.

AVM 119 - Fundamentals of Physics - Credits: 1.00
This course will incorporate skills in solving problems using whole numbers, fractions, decimals, percents, measurement formulas, and ratio and proportion formulas. It also encompasses a course in basic principles and use of simple machines, sound, fluid and heat dynamics.

AVM 121 - Weather and Warning Systems - Credits: 1.00
Students will study the theory, operation, installation, inspection and servicing of aircraft positioning and warning systems. Included is the application and operation of various windshield wiper, anti-icing and deicing systems

AVM 122 - Rotorcraft Technology - Credits: 1.00
This course will cover the intricacies of rotorcraft/helicopter flight control, systems, maintenance, and servicing.

AVM 123 - Aircraft Assembly and Rigging - Credits: 2.00
This course covers the inspection, assembly and servicing of aircraft components, balancing of control surfaces and the rigging of the flight controls for proper operation, for both fixed-wing and rotary-wing aircraft.

AVM 126 - Airframe Structure/Repair - Credits: 4.00
This practicum includes materials and procedures for aircraft metal repair and maintenance and basic skills of repair coupled with maintenance and inspection of metal structures and components on airplanes.

AVM 127 - Aircraft Wood/Fabric/Finishes - Credits: 2.00
This course covers the fundamentals of aircraft structure and structural components - primarily the structure of wooden aircraft. Also included is the study of basic skills in both repair and maintenance of wood aircraft. Instruction is given in the development of aircraft covering skills, identification of fabrics, and fabric application. A practical application of removal and applying various aircraft finishes, trims and letters is provided.

AVM 129 - Landing Gear and Brake Systems - Credits: 2.00
This course covers the disassembly, inspection, repair, servicing, and testing of landing gear, wheels, brakes, tires, shock struts and steering systems and their related components. For both fixed wing and rotary wing aircraft.

AVM 131 - Airframe Inspections - Credits: 1.00
This course will include theory and practical instructions on airframe conformity and airworthiness inspections.

AVM 134 - Aircraft Hydraulics/Pneumatics - Credits: 2.00
This is a course in principles and application of hydraulics to aircraft systems. It also includes a review of hydraulic power systems in various aircraft and practice in their repair. Aircraft pneumatics is treated in the same manner relative to the comparable theory learned in hydraulics.
AVM 135 - Powerplant Inspection - Credits: 1.00
This course covers FAA and manufacturer’s requirements concerning engine inspection, conformity checks and operational requirements to meet certification requirements.

AVM 137 - Aircraft Instruments - Credits: 1.00
This course provides a study of flight operations theory as it relates to instruments used in aircraft. Included is the installation, inspection and servicing of these instruments by the technician.

AVM 139 - Instruments/Fire Protection-PP - Credits: 1.00
This course covers engine instruments, fire detection and protection devices. Students will troubleshoot and repair the various components and systems which pertain to powerplant monitoring.

AVM 141 - Control Systems - Credits: 1.00
Basic knowledge in troubleshooting, service and repair to heating, cooling, air conditioning and pressurization systems of the modern aircraft is provided.

AVM 143 - Aircraft Gas Turbines - Credits: 4.00
This course is an introduction to the principles of jet propulsion, gas turbine engines, turbo prop and turbo jet powerplants, including engine system troubleshooting, trimming and performing hot end inspection, removal, installation and operation of engine on test stand.

AVM 145 - Aircraft Welding - Credits: 1.00
This course includes the study of metals and their properties, welding gases, pressures and proper use of welding equipment. Safety procedures will be stressed. Students will be introduced to the theory and practice of basic welding, brazing, and soldering techniques.

AVM 147 - Airframe Fuel Systems - Credits: 2.00
Students are provided with course work including the FAR requirements for fuel systems, components of the fuel system and installation and repair of pumps, valves and selectors and their operation in the aircraft fuel system.

AVM 149 - Engine Lubrication Systems - Credits: 2.00
This course deals with the lubrication systems of reciprocating and turbine engines, including components, removal, installation and troubleshooting of the systems. Types of oils used and servicing of the system is also included.

AVM 151 - Engine Fuel/Metering - Credits: 2.00
Introduction to various types of carburation and the development of a high degree of skill in maintenance for various engine fuel systems, including troubleshooting, is covered. Theory and carburation studied includes basic principles and a detailed discussion of float type carburetors, pressure carburetors, fuel injection, and turbine engine fuel control units.

AVM 153 - Powerplant Piston - Credits: 5.00
This course covers the design of reciprocating aircraft powerplants, along with their disassembly/re-assembly, cleaning, inspection, repair and/or replacement of parts and components.

AVM 155 - Aircraft Propeller Systems - Credits: 3.00
Removal, installation, inspection, repair, and servicing of various types of modern airplane propellers is covered.

AVM 157 - Induction/Cooling/Exhaust - Credits: 1.00
This course covers the construction, operation, repair, maintenance, adjustment and inspection of aircraft induction, cooling and exhaust systems and their related components.

AVM 159 - Engine Electrical Systems - Credits: 2.00
This course provides a basic knowledge of the elements of electricity needed to assist the student in understanding the design, operation, servicing and limitations of electrical systems utilized with engines and accessories. Detailed work on generators, control panels and starters is included.

AVM 161 - Aircraft Ignition Systems - Credits: 3.00
This course covers information relating to turbine and reciprocating engine ignition and starting systems and their related components.

AVM 200 - Avionics Systems I - Credits: 3.00
The student will be introduced to the principles and in-depth knowledge about terrestrial radio navigation, terrestrial landing aids, satellite navigation, surveillance systems, airborne communications systems and onboard communications. Lab projects are integrated throughout the course to enhance the student’s learning.

AVM 202 - Avionics Systems II - Credits: 3.00
The student will be introduced to the principles and in-depth knowledge about aircraft indicators, air data computers, flight control systems and aircraft data bases. Lab projects are integrated throughout the course to enhance the student’s learning.

AVM 204 - Avionics Systems III - Credits: 3.00
The student will learn the proper procedure to install and troubleshoot avionics systems. The student will use test equipment to troubleshoot problems. Lab projects are integrated throughout the course to enhance the student’s learning.

AVM 207 - FCC Review and Preparation - Credits: 2.00
This course is designed to prepare the student to take the General Radiotelephone Operator’s License examination. The course will also prepare the student to take the Radar Endorsement examination. The student will be eligible to take the FCC examination elements during this course. The FCC exam elements that comprise the GROL and Radar Endorsement are: Element 1, 3, and 8.

AVM 208 - Airframe Platform Integration - Credits: 3.00
This course will take an in-depth look at a specific aircraft make, model and type’s avionics and electrical systems. Special interest will be given to how the avionic suites integrate with the aircraft’s other airframe and power plant systems. Systems included but not limited to: Flight management auto pilot, engine indicating and crew alerting and flight data. The use of the central maintenance computer system will be stressed and how to interpret faults in the various systems discussed.

AVM 209 - Aircraft Platform Integration II - Credits: 3.00
This course will continue from Avionics Platform Integration I by taking an in-depth look at various representative avionics systems as installed in specific airframes. Topics will include how the avionic suites integrate with other airframe systems as well as troubleshooting, testing, and maintenance. Special attention will be given to developing avionics installation wiring skills and discussing new and future trends in the avionics industry.

Prerequisite(s): AVM 208

Basic Academic Skills
SDV 020 - Study Skills - Credits: 1.00
This course is designed to help students develop study skills appropriate for college. Students will learn time management skills as well as strategies for effective textbook reading, note taking, and test taking.

SDV 040 - Strategies for Research - Credits: 1.00
This course is designed for students with little or no experience in writing research papers. Students will learn to locate and use library and Internet materials. They will also be introduced to other skills critical to writing a research paper, including evaluation information, writing a thesis, making an outline and documenting sources.

SDV 050 - Basic Thinking Skills - Credits: 1.00
This course is designed to help students become aware of their thinking strategies and develop new thinking skills. Students will learn to develop broader perceptions of situations and will learn to apply a variety of thinking strategies to solve problems.

SDV 126 - Library and Internet Research - Credits: 2.00
This course introduces the subject of information literacy. Students will learn how to locate, evaluate and synthesize information from library resources and the Internet in an effective and ethical manner. The course will also address common citation formats, plagiarism and copyright issues.

SDV 130 - Career Exploration - Credits: 1.00
This course assists students with career choices, taking into account their aptitudes, interests, abilities, personal values and goals. Career assessment instruments will be used to assist students with the process.

SDV 131 - Career Exploration - Credits: 2.00
This course begins with Career Planning Basics and proceeds to a diagnosis of skill upgrading, a study of personality styles related to career planning and career exploration via in-depth research and program exploration.

SDV 137 - Finding and Keeping a Job - Credits: 1.00
This course covers the skills of finding and keeping jobs. Students will research prospective employers and organize a job search plan to track and follow-up on job contacts. They will learn what is expected in most new jobs and how to get along with co-workers.

SDV 142 - Career Planning - Credits: 3.00
This course is designed to develop students’ career decision knowledge and skills. Students will develop self-awareness techniques related to interests, values, aptitudes, and personality styles. Students will participate in decision making process activities including career research, college program exploration, job shadowing and investigation of non-traditional and entrepreneurial opportunities.

SDV 145 - Resumes and Applications - Credits: 1.00
This course covers the job skills of writing resumes and completing applications for employment. Students will learn how to complete an assessment of employment history and skills. Students will develop an application resource guide, complete applications and write a resume.

SDV 147 - Letter Writing and Interviews - Credits: 1.00
This course covers the job skills of letter writing and interviewing. Students will write cover letters, follow-up letters, letters accepting or rejecting job offers and letters of resignation. Students will learn the basics of interviewing, including preparing for the interview and responding to and asking appropriate questions.

SDV 181 - STEM Discovery and Leadership - Credits: 3.00
The goal of this course is to discover views of Science, Technology, Engineering, and Mathematics (STEM) through a leadership lens. A learning cohort approach will be used to increase team building, critical thinking, and leadership styles. Leaders in the field of STEM will be explored to help develop the leaders of tomorrow. A focus on methods and forms of thought and expression, methods of interpretation, analysis, and argument as well as approaches to reading and forms of writing will be used to help students discover STEM and leadership styles.

SDV 183 - STEMinar I - Credits: 1.00
This course is an exploration of STEM careers and pathways. Using discussion, guest speakers, field trips, online exploration and lecture, the weekly sessions will develop communication skills, listening skills, critical thinking skills, and a start on a defined pathway towards a STEM career.

Biology
BIO 101 - Introductory Biology - Credits: 2.00
This course introduces: the role of science in everyday life, chemical and biological processes, structures and
processes of cells, heredity and evolution. This is a "non-majors level" biology course. It can be accompanied by the 1-credit hour BIO103 - Introductory Biology Lab or it can be taken alone. **Corequisite(s):** BIO 103

**BIO 103 - Introductory Biology Lab - Credits: 1.00**
This is a "non-majors level" biology course and is designed to accompany BIO101 - Introductory Biology. Laboratory work includes the use of laboratory tools for measurements using the metric system, use of the light microscope, and study of biological processes. The process of science and components of experiments are emphasized. **Corequisite(s):** BIO 101

**BIO 120 - General Biology 1D - Credits: 4.00**
This course includes an introduction to science, the characteristics of life, ecology, cell structure and function, chemistry of life, metabolism, cell division and reproduction, genetics and heredity and evolution by natural selection. Laboratory work includes the use of laboratory tools and metric system measurements, use of the light microscope, observations of cells, and studies of the scientific method, ecology, enzyme activity, cellular respiration, molecular biology and Mendelian genetics. This is a "majors-level" biology course and is part of the majors biology series. This course has three hours of lecture and four hours of laboratory work per week.

**BIO 121 - General Biology IID - Credits: 3.00**
This course includes plant cells, plant anatomy, plant morphology, and plant physiology including photosynthesis, the movement of water and solutes and growth regulation. A survey of the fungi, algae and plant kingdom includes classification, ecology, reproduction and evolutionary relationships. Laboratory work includes microscopic studies of fresh material and prepared slides and investigative study of several aspects of plant physiology. This is a "majors-level" biology course and is part of the majors biology series. This course has three hours of lecture and two hours of laboratory work per week. **Prerequisite(s):** BIO 120

**BIO 122 - General Biology IIID - Credits: 3.00**
This course is a study of animal form and function and answers the question, "What is an animal?"
Lecture topics include: animal nutrition, circulation and gas exchange, the body’s defenses, regulation of internal environment, chemical signals, reproduction, development, nervous systems and sensory and motor mechanisms. Laboratory includes a survey of the animal kingdom and dissection of a fetal pig. This is a "majors-level" biology course and is part of the majors biology series. This course has three hours of lecture and two hours of laboratory per week. **Prerequisite(s):** BIO 120

**BIO 127 - Field Botany - Credits: 3.00**
This course focuses on plant identification with emphasis on the native grasses, forbs, and trees of Iowa. Emphasis is placed on comparative morphology, systematics, and evolution. Ecological principles which affect the distribution and abundance of plants will be discussed. Plants are studied in urban and agricultural environments as well as natural ecosystems including prairie, upland forest, and bottomland forest. This course requires walking and working in the outdoors. There are three hours of lecture and two hours of laboratory work per week.

**BIO 161 - Basic Anatomy and Physiology - Credits: 3.00**
This course provides a basic study of the structure and function of the human body. Students should be able to demonstrate a basic understanding of the fundamental principles of anatomy and physiology and their interrelationships from the chemical and cellular levels through the organ systems. **Corequisite(s):** BIO 199

**BIO 175 - Human Anatomy - Credits: 3.00**
This course covers basic concepts in human anatomical structure in relation to simple body functions. All body systems are covered with emphasis on structure. This course is for students interested in pursuing health or science programs. To succeed in this course, a student should have a strong background in biology.

**BIO 176 - Human Anatomy Lab - Credits: 1.00**
Anatomy lab covers the lecture topics through the use of models, computer simulations and diagrams to confirm anatomical structure of tissues, bones and muscles. **Corequisite(s):** BIO 175

**BIO 177 - Human Physiology - Credits: 3.00**
This course offers a detailed look into the physiology of the nervous, respiratory, digestive, circulatory, urinary, reproductive and endocrine systems. This course is designed for the health occupations major. **Prerequisite(s):** BIO 175 **Corequisite(s):** BIO 179

**BIO 179 - Human Physiology Lab - Credits: 1.00**
Physiology Lab covers the lecture topics emphasizing the visual and simulated physiology of body systems and their accompanying organ anatomy. **Prerequisite(s):** BIO 175 **Corequisite(s):** BIO 178

**BIO 187 - Microbiology w/lab - Credits: 4.00**
This course in an investigation into the role of microorganism in nature with a particular emphasis on human/microbial interactions. The course includes a study of morphology, classification, biochemistry and growth characteristics with special emphasis on bacteria staining techniques and aseptic laboratory procedures are stressed. A strong background in biology is highly recommended. This course has three hours of lecture and four hours of laboratory work per week.

**BIO 199 - Basic Anatomy and Physiology Lab I - Credits: 1.00**
Lab covers the lecture topics to confirm anatomical structure of tissues, bones and muscles and the physiological processes of the cardiovascular,
respiratory, urinary, nervous and digestive systems. **Corequisite(s):** BIO 161

**BIO 222 - Marine Ecology - Credits: 3.00**
This introductory biology course focuses on fish and invertebrate identification, interactions of marine creatures, conservation of the reef environment, exposure to local cultures, and introductory level research. Daily itineraries include classroom lectures, student presentations and group snorkels. Lab work consists of research projects carried out on coral reefs. For this course you will need: Passport, proof of appropriate vaccinations, completion of medical and liability release, ability to swim and to hike in remote areas.

**Prerequisite(s):** Permission of Instructor.

**BIO 925 - Honors Research - Credits: 1.00**
In this course, the student will work independently with a chosen Arts and Sciences science instructor on a science research project designed by the student and instructor. This course is restricted to members of the IHCC Academy or Phi Theta Kappa.

**Prerequisite(s):** Permission of Instructor.

**BIO 949 - Special Topics - Credits: 1.00**
This course explores specialized topics in the field of science. A contract between the student and an Arts and Sciences science instructor outlining the educational project is required.

**Prerequisite(s):** Permission of Instructor.

**Bioprocess Technology**

**BPT 104 - Introduction to Biotechnology - Credits: 3.00**
A description of the history of biotechnology; trends relative to national, state, and local biotechnological industries; career options and skills needed; technologies used; industrial sectors affected; regulations and patents.

**BPT 121 - Biodiesel Production - Credits: 2.00**
This course will cover the production of biodiesel from various forms of oils, including but not limited to soybeans, corn and used fryer oil. Students will manufacture small batches of biodiesel and be familiar with the American Society of Testing and Materials (ASTM) and biodiesel testing standards.

**BPT 122 - Ethanol Fermentation - Credits: 2.00**
This course will introduce the student to principles and techniques used in the corn ethanol industry. Hands on applications include the production and extraction of ethanol.

**BPT 127 - Industrial Chemistry - Credits: 2.00**
This course is an introduction to the basic principles of inorganic chemistry and its application in the bioprocessing industry.

**BPT 132 - Bacterial/Fungal Fermentation - Credits: 2.00**
In this course students will grow, and later separate, bacterial and fungal cultures for the expressed production of agriculturally significant products.

**BPT 135 - Applied Biochemistry - Credits: 2.00**
This course is an introduction to the major chemical constituents of cells including proteins, carbohydrates, lipids and nucleic acids. The structure and kinetics of enzymes, reaction mechanisms and pathways will be covered.

**BPT 145 - Applied Microbiology - Credits: 4.00**
This survey course includes topics relating to the structure, function, ecology, nutrition, physiology and genetics of microorganisms. In addition, an introduction to standard techniques and procedures used in a microbiology laboratory are practiced.

**BPT 147 - Anaerobic Digestion - Credits: 2.00**
The course will focus on the biological processes involved in the production of energy through anaerobic digestion technologies.

**BPT 157 - Good Manufacturing Practices - Credits: 3.00**
This course will cover the regulatory role of the food and drug administration in the approval of pharmaceuticals, the concepts of Good Manufacturing Practices as associated with biotechnology derived products and the role of validation in biopharmaceutical manufacturing.

**BPT 204 - Biomanufacturing Systems - Credits: 1.00**
This course will introduce the student to the design and principles behind systems they will likely encounter in an industrial biomanufacturing plant, with an emphasis on the bioprocessing of agricultural commodities. The systems covered will include, but not be limited to evaporate systems, boilers, steam production and distribution, heat exchangers, distillation, fermentation, water/wastewater treatment, filtration and centrifugation.

**BPT 270 - Advanced Process Control - Credits: 2.00**
This course will include the detailed study of process control technology theory and applications. Industrial process control transducers will be examined and analyzed. PID control loops will be introduced.

**BPT 272 - Process Control Practicum - Credits: 3.00**
This course will include the laboratory application of process control technology. The transducers and a control system utilized in industrial processes will be applied in a practical laboratory environment.

**Prerequisite(s):** ELT 736

**BPT 281 - Bioprocess Technology Practicum - Credits: 2.00**
This course will be comprised of a research project that will encompass all previous coursework. The student, with direction from the instructor, will conduct a research project using any and all lab instrumentation and materials, record all data, compile a report and make a presentation to their peers.

**Prerequisite(s):** BPT 122; BPT 132

**BPT 932 - Internship - Credits: 4.00**
Students enrolled in this course will work in a bioprocessing industrial facility or in a
biotechnology/microbiology laboratory. Emphasis will be on the integration of academic skills with practical work experience.

**Prerequisite(s):** BPT 132

### Business

**BUS 102 - Introduction to Business** - Credits: 3.00

Introduction to Business is designed to meet the needs of students who are taking their first course in business. It provides clear-cut descriptions and analyses of our business system as a whole and of its variations with emphasis on social as well as economic topics.

**BUS 104 - Business Essentials** - Credits: 3.00

This is a basic business operations course designed to introduce the student to the main functions of a company/business. Topics include: management, marketing, manufacturing, human resources, sales, quality assurance and accounting.

**BUS 128 - Foundation to Entrepreneurship** - Credits: 3.00

This course is suitable for anyone who dreams of one day becoming his/her own boss. Students will learn how to identify and evaluate opportunities, analyze feasibility, and plan to create and grow successful businesses. The course provides an overview of entrepreneurship and its importance in society and inspires students to recognize entrepreneurial characteristics within themselves.

**BUS 130 - Introduction to Entrepreneurship** - Credits: 3.00

This course examines the process of preparing to open or purchase a business. Students will learn how to explore potential business opportunities and investigate how to prepare a business plan. An understanding of key aspects of a business operation will be emphasized. Successful businesses on both the national/international and local levels will be examined.

**BUS 188 - Legal Environment of Business** - Credits: 3.00

Legal Environment of Business is designed to provide students with fundamental knowledge concerning a series of critical legal and regulatory issues that affect business.

**BUS 204 - Professionalism in the Workplace** - Credits: 3.00

This course prepares students to enter the workplace with the attitudes and skills required in a professional setting. Designed as a course for students enrolled in career programs and for students preparing to transfer, the course includes the following topics: workplace behaviors, customer service etiquette, business protocol, business communication skills, confidentiality, career development skills. The course assumes a working knowledge of Microsoft Word or equivalent word processing programs.

**BUS 924 - Honors Project** - Credits: 1.00

In this course, the student will work independently with a chosen Arts and Sciences business instructor on a business research project designed by the student and the instructor. This course is restricted to members of the IHCC Academy or Phi Theta Kappa. **Prerequisite(s):** Permission of Instructor.

**BUS 932 - Internship** - Credits: 1.00

This course provides the opportunity to enhance academic preparation and professional growth through hands-on work experience. Students gain valuable real world experience. Students must have a cumulative GPA of 2.5 or higher and have completed 30 semester credit hours toward an Associate Degree. **Prerequisite(s):** Permission of Instructor.

**BUS 949 - Special Topics** - Credits: 1.00

This course explores specialized topics in the field of business. A contract between the student and an Arts and Sciences business instructor outlining the educational project is required. **Prerequisite(s):** Permission of Instructor.

### Business Computer Applications

**BCA 106 - Windows Operating System** - Credits: 1.00

This course covers the introduction to the Windows Operating System.

**BCA 114 - Internet Basics** - Credits: 1.00

This course covers an introduction to the Internet; topics include: World Wide Web (WWW), File Transfer Protocol (FTP), Gopher and Telnet.

**BCA 128 - Basic Word Processing** - Credits: 1.00

This course is designed to introduce the student to word processing using Microsoft Word. The student will be presented with the concepts of document creation and manipulation in a hands-on environment.

**BCA 134 - Word Processing** - Credits: 3.00

This course is designed to introduce the student to word processing terminology/concepts with hands-on experience on automated equipment and software. The student will learn the concepts of document creation and manipulation, gaining an understanding of how word processing fits into the business world.

**BCA 138 - Advanced Word Processing Applications** - Credits: 3.00

Provides further reinforcement of all word processing concepts. Covers mail merge, macros, styles, complex tables, desktop published documents, online forms and long reports. Includes keying specialized documents, such as agendas, news releases, itineraries and speeches. Guided drills are designed to increase speed to 60 words per minute with five or fewer errors on five-minute timed writings. Students learn to make effective document formatting decisions working independently. Course is geared toward student successfully earning the Microsoft Office Specialist Expert certification. **Prerequisite(s):** BCA 134 or BCA 123 AND BCA 125
BCA 142 – Spreadsheets - Credits: 3.00
This course covers the basic concepts of spreadsheets including creating a spreadsheet, creating queries, maintaining a database, and creating reports and forms.

BCA 150 - Basic Spreadsheets - Credits: 1
This course is designed to introduce the student to the fundamentals of Microsoft Excel worksheets. The student will learn to create worksheets and workbooks in order to track financial matters.

BCA 158 - Spreadsheet Applications - Credits: 2.00
In this course, the student will learn to use a spreadsheet software package by completing business-related applications, exercises, lab projects and tests.

BCA 159 - Database Applications - Credits: 2.00
The student will learn to use a database software package by completing business-related applications, exercises, lab projects and tests.

BCA 175 - Basic Presentation Software - Credits: 2.00
This course covers the detailed instructions on how to use PowerPoint 2000. Topics include: using design templates, using outline view, using embedded visuals, creating a self-running presentation and using Visual basic for Applications (VBA) with PowerPoint.

BCA 178 - Presentation Software - Credits: 3.00
The student will create presentations from scratch; working with text, fills, colors, outlines, hyperlinks, and objects; customizing templates and toolbars; advanced text and graphics features; animation and slide show effects; and creating charts, tables, flowcharts, organization charts, and diagrams. Course focus will be on the student earning the Microsoft Office Specialist (MOS) PowerPoint certification.

BCA 185 - Beginning Webpage Development - Credits: 3.00
This course will introduce the concepts of design and development of websites. Creating web sites will be discussed using XHTML and style sheets. These concepts will be applied in a variety of web-development exercises.

BCA 198 - Introduction to Microsoft Publisher - Credits: 2.00
This course covers Microsoft Publisher 2000 and desktop publishing. Students will create professional quality publications suitable for course work, professional purposes and personal use.

BCA 211 - Office Essentials - Credits: 1
This course introduces the student to Microsoft Office software, including Word, Excel, PowerPoint and Access. The student will create, save, edit, retrieve and print documents in each of the software packages.

**Chemistry**

CHM 121 - Introduction to General Chemistry - Credits: 3.00
This is a survey course in general chemistry covering the topics of measurement, atomic theory, bonding, thermodynamics, stoichiometry and gases. This course is designed for students entering the allied-health science areas or any student desiring a course in liberal arts chemistry. This course has three hours of lecture and two hours of laboratory work per week.

CHM 122 - Introduction to General Chemistry - Credits: 4.00
A one-semester college chemistry course which surveys important concepts and topics of chemistry. Among these are the metric system of measurement, matter and energy, atomic theory of matter, energy levels and atomic structure, the periodic table, ionic and molecular compounds, ionic and covalent bonding, chemical reactions, and reaction equations and calculations. High school chemistry is not a prerequisite. Laboratory work is an important part of this course.

CHM 123 - Introduction to Organic and Biochemistry - Credits: 4.00
This course will provide a survey of the nomenclature, reactions, and structure and bonding of the important classes of organic compounds. This course will also cover the structure and chemistry of the basic biologically important macromolecules in relation to organic chemistry. This course has three hours of lecture and four hours of laboratory work per week.

**Prerequisite(s):** CHM 121

CHM 157 - Principles of Chemistry I - Credits: 3.00
This course is an in-depth study of the principles, theory and methods of chemistry with an emphasis on quantitative problem solving. Topics include fundamental principles of measurement, matter and energy: thermodynamics, physical behavior of gases, kinetic molecular theory, atomic structure and periodicity. This course has three hours of lecture and two hours of laboratory work per week.

**Prerequisite(s):** CHM 121

CHM 158 - Principles of Chemistry II - Credits: 3.00
This course is a continuation of College Chemistry I. Topics include ionic and covalent bonding, nomenclature, stoichiometry, thermochemistry and thermodynamics, Lewis structures; VSEPR, hybridization, molecular orbital theory, molecular shape, the structure of solutions and the solid state. This course has three hours of lecture and two hours of laboratory work per week.

**Prerequisite(s):** CHM 157

CHM 159 - Principles of Chemistry III - Credits: 4.00
This course is a continuation of College Chemistry II with an increased emphasis on quantitative problem solving. Topics covered include the structure of crystals, dissolution and colligative properties of solution, thermodynamics, chemical equilibria with an emphasis on acid-base chemistry, chemical kinetics and electrochemistry. This course has three hours of lecture and two hours of laboratory work per week.

**Prerequisite(s):** CHM 158

CHM 166 - General Chemistry I - Credits: 5.00
This course provides an in-depth study of the
principles, theory and methods of chemistry with an emphasis on quantitative problem solving. Topics include fundamental principles of measurement, matter and energy; thermodynamics; physical behavior of gases; kinetic molecular theory; atomic structure; and periodicity. This course has four hours of lecture and three hours of laboratory work per week.

CHM 176 - General Chemistry II - Credits: 5.00
This course provides an in-depth study of the principles, theory and methods of chemistry with an emphasis on quantitative problem solving. Topics include fundamental principles of measurement, matter and energy; thermodynamics; physical behavior of gases; kinetic molecular theory; atomic structure; and periodicity. This course has four hours of lecture and three hours of laboratory work per week.  
Prerequisite(s): CHM 166; or CHM 157; CHM 158

CHM 251 - Organic Chemistry I - Credits: 3.00
This course covers the chemistry of carbon-containing compounds. Topics include a review of atomic structure and bonding as well as structure, nomenclature, physical properties, reactivity and synthesis of alkanes, alkyl halides and alcohols. A knowledge of reaction mechanisms is stressed. This course has three hours of lecture and two hours of laboratory work per week.  
Prerequisite(s): CHM 159; or CHM 176 or equivalent

CHM 252 - Organic Chemistry II - Credits: 3.00
This course is a continuation of Organic Chemistry I. Topics covered include the study of alkenes, stereoechemistry, nucleophilic substitution, alkynes and conjugated systems. A knowledge of reaction mechanisms is stressed. This course has three hours of lecture and two hours of laboratory per week.  
Prerequisite(s): CHM 251

CHM 253 - Organic Chemistry III - Credits: 3.00
This course covers arenes, aromaticity, electrophilic aromatic substitution, spectroscopy, organometallic compounds, ethers, epoxides, aldehydes, ketones and carboxylic acids. This course has three hours of lecture and two hours of laboratory work per week.  
Prerequisite(s): CHM 252

CHM 924 - Honors Project - Credits: 1.00
In this course, the student will work independently with a chosen Arts and Sciences science instructor on a science research project designed by the student and instructor. This course is restricted to members of the IHCC Academy or Phi Theta Kappa.  
Prerequisite(s): Permission of Instructor.

CHM 949 - Special Topics - Credits: 1.00
This course explores specialized topics in the field of chemistry. A contract between the student and an Arts and Sciences chemistry instructor outlining the educational project is required.  
Prerequisite(s): Permission of Instructor.

Coaching Officiating
PEC 112 - Theory of Coaching - Credits: 3.00
This course will introduce the student to various responsibilities of coaching sports. Course topics will include philosophy development, practice planning, fund raising, recruiting, legal issues and liability, game management, budgeting, scheduling and hiring officials.

PEC 113 - Coaching Ethics - Credits: 3.00
This course examines the principles of ethics as they apply to the coaching profession. Emphasis will be placed on such topics as moral reasoning; developing moral values and principles; intimidation, competition and sportsmanship; rules and violence; eligibility; ergogenic aids for sport performance; and gender equity in sport.

PEC 128 - Care and Prevention of Athletic Injuries - Credits: 2.00
The course will present an overview of the basic techniques of athletic training, including the care, prevention, management, treatment, and rehabilitation of athletic injuries. Students will be provided the opportunity to practice various taping techniques in a laboratory setting.

PEC 162 - Sports Officiating: Fall Sports - Credits: 2.00
This course introduces students to the rules, regulations, and mechanics required to properly officiate the traditional fall sports of football and volleyball. Iowa certification for officiating can be obtained by paying the state fee and passing IHSAA or IGHSAU exams.

PEC 163 - Sports Officiating: Winter Sports - Credits: 2.00
This course introduces students to the rules, regulations and mechanics required to properly officiate the traditional winter sports of basketball, wrestling and swimming. Iowa certification for officiating can be obtained by paying the state fee and passing IHSAA or IGHSAU exams.

PEC 164 - Sports Officiating: Spring Sports - Credits: 2.00
This course introduces students to the rules, regulations and mechanics required to properly officiate the traditional spring sports of baseball, softball and track and field. Iowa certification for officiating can be obtained by paying the state fee and passing IHSAA and IGHSAU exams.

Collision Repair & Refinish
CRR 105 - Intro to Specialty Tools - Credits: 3.00
This course will cover collision center shop layout and design, as well as lighting requirements, various compressed air systems and their components, and calculating cfm requirements for a collision center. This course will also cover major equipment found in a modern collision center, as well as equipment safety inspections, and equipment maintenance.

CRR 201 - Plastic Repair - Credits: 2.00
This course covers the familiarization, repair, reconstruction and replacement of different types of plastic and fiberglass. Both welding and adhesive plastic repair processes and how to identify the different types of plastics and their characteristics. Also covered are the considerations for refinishing plastic parts.

CRR 302 - Intro to Collision Repair - Credits: 2.00
The purpose of this course is to introduce and familiarize students with the automotive collision technology industry. Topics will include safety, automotive construction, hand and power tools, refinishing and career opportunities related to the automotive collision industry.

CRR 310 - Adapters, Tools and Measurements - Credits: 1.00
This course will cover safety procedures and identification of hand tools and measuring devices in the mechanical trades. The course will also include precision tools and measuring devices. Repair and maintenance of this equipment will be covered. The student will become familiar with fittings, connectors, pipe, hoses, tubing and their installation.

CRR 321 - Sheet Metal Damage - Credits: 2.00
This course covers the properties of metal and the diagnosis of damaged sheet metal. This course also covers repair procedures to include type and extent of damage and different methods of repair.

CRR 340 - Metal Straightening - Credits: 3.00
This course covers information on techniques to be applied for preparation and repair of damaged sheet metal. The course includes roughout, shrinking, cleaning and general preparation of damaged sheet metal. Also covered are the procedures and consideration for paintless dent repair (PDR).

CRR 352 - Trim & Component Panel Service - Credits: 2.00
This course covers the identification, removal, and replacement of fasteners, trim, and moldings used on vehicles. How to deal with damaged fasteners and ways of storing hardware during the disassembly process will also be covered.

CRR 415 - Restraint Systems - Credits: 3.00
This course covers active and passive restraint systems utilized in today’s automotive industry. Topics will include the construction, operation, testing, diagnosis and replacement of air bags, seat belts, pretensioners, electronic control modules, sensors, Occupant Classifications Systems, roll over protection systems, collision avoidance systems and other features of restraint systems. Also covered are pre and post collision diagnosis, repair and replacement of standards and procedures of restraint systems.

CRR 450 - Glass Service - Credits: 2.00
This course covers the terms and definitions associated with glass along with the proper identification of the different types of glass. This course will also cover proper safety procedures and the removal and replacement of both movable and stationary glass. Types of drive mechanisms for movable glass and the importance of adhesives for stationary glass will also be explained.

CRR 452 - Trim & Component Panel Service - Credits: 2.00
This course covers the identity and use of hardware and fasteners commonly found on automobiles. Topics include considerations for repair/replacement of trim and moldings, as well as pinstripes and decals. Identification of interior and exterior parts and how to remove and replace them will also be covered.

CRR 507 - Structural Panel Repair and Replacement - Credits: 5.00
In this course, the students will receive training in the proper methods for repairing unibody structural damage, specifically the repair and replacement of radiator supports, front and rear rails, floor pans and pillars. The importance of weld quality and corrosion protection is also included.

CRR 533 - Structural Repair - Credits: 3.00
This course covers the ability to restore a structurally damaged vehicle to a pre-accident condition. Three dimensional measuring will be explained and a computerized measuring system will be utilized to establish a systematic plan of repair. The use of frame straightening equipment and the methods of anchoring a vehicle to the frame machine will also be covered. This course is designed to familiarize students with vehicles having major physical damage.

CRR 603 - Mechanical Repairs - Credits: 3.00
This course covers the theory of operations, removal and replacement of various automotive subsystems, including the emission control, fuel, ignition, exhaust, lubrication, cooling, brakes and automotive drive train components.

CRR 605 - Mechanical Service - Credits: 3.00
This course covers automotive heating and air conditioning system operation, refrigerants and oils, types of coolants, related service tools and special equipment, troubleshooting system operations, HVAC systems and their controls and components, AC retrofitting, pre- and post-collision inspection procedures and repairing and replacing related components.

CRR 612 - Steering and Suspension - Credits: 3.00
This course covers traditional steering and suspension systems, as well as drive by wire steering and suspension systems, and component part familiarization. This will include the principles of vehicle alignment geometry and the relationship of tires and wheels to each other, operation of the computerized diagnostic alignment center and adjustment procedures.

CRR 620 - Electrical Mechanical Systems - Credits: 3.00
This course covers functions of automotive batteries and types of batteries found in vehicles. Consideration is given to battery ratings, inspection methods, and procedures for disconnection and removal. The course continues with an overview of starting systems and...
considerations for methods of removal and replacement. Topics also include repair considerations for headlamps, information on switches and lighting circuits, positions of lighting in vehicles and collision-related problems with lighting.

CRR 674 - Electrical Service - Credits: 4.00
This course covers electrical circuits and components. Topics include digital volt-ohm meters (DVOM), current, resistance, circuit value relationship, voltage drop, power supplies and circuit protection recommendations. Trouble shooting and diagnosing problems within circuits and components and completing related repairs are also covered.

CRR 743 – Estimating - Credits: 3.00
This course covers analyzing the extent of damage and justifying repair cost. It also covers vehicle construction, labor rates and public relations. Students will produce estimates on damaged vehicles. Students will become aware of the natural process toward opportunities in other automotive related fields.

CRR 803 - Introduction to Refinishing - Credits: 3.00
This course covers the proper use and maintenance of paint refinishing equipment such as HVLP and compliant paint guns and a downdraft paint booth. This course will also cover paint viscosity, atomization, spraying and refinishing techniques and the materials used to refinish a vehicle. Identification of VOC rules and regulations are also included in this course.

CRR 815 – Detailing - Credits: 2.00
This course covers the correction of painting defects and the final clean and detail of a vehicle for improved customer satisfaction. Students will learn how to professionally detail a vehicle.

CRR 872 - Advanced Refinishing - Credits: 2.00
This course covers the basic components to successfully refinish an automobile. Refinishing components such as solvents, primer surfaces, sealers, hardeners, clear coats and base makers will be discussed and their applications practiced.

CRR 875 - Advanced Refinishing Methods - Credits: 6.00
This course covers color mixing, formula retrieval, methods for tinting, blending and application recommendations, an explanation of color perception and removal of finish defects. Components such as solvents, primers, sealers, activators and clear coats will be discussed and their applications practiced. Also included in this course is an explanation and opportunity to apply waterborne refinishing materials, the characteristics of waterborne paint and how the preparation, mixing and application differ from solvent borne materials.

Communication

COM 149 - Mass Media Analysis - Credits: 3.00
This course generally analyzes the economic, social, functional and regulatory cultures of mass media industries. It also delves into media audience dynamics.

COM 723 - Workplace Communications - Credits: 3.00
This course covers relevant information and practical application of methods to improve the effectiveness of on-the-job communication. Subject matter covered includes reading, writing, speaking, and listening skills.

COM 725 - Workplace Communications - Credits: 2.00
This course covers relevant information and practical application of methods to improve the effectiveness of on-the-job communication. Subject matter covered includes reading, writing, speaking, and listening skills.

COM 948 - Special Topics - Credits: 1.00
This course explores specialized topics in the field of English and communication. A contract between the student and an Arts and Sciences English instructor outlining the educational project is required. **Prerequisite(s):** Permission of Instructor.

ENG 241 - Creative Writing Seminar I - Credits: 1.00
Under the supervision of an English instructor, this course is designed for advance study in creative writing beyond the formal classroom.

ENG 242 - Creative Writing Seminar II - Credits: 2.00
Under the supervision of an English instructor, this course is designed for advance study in creative writing beyond the formal classroom.

ENG 243 - Creative Writing Seminar III - Credits: 3.00
Under the supervision of an English instructor, this course is designed for advance study in creative writing beyond the formal classroom.

SDV 184 - STEMinar II - Credits: 1.00
This course is an exploration of STEM careers and pathways. Using discussion, guest speakers, field trips, online exploration and lecture the weekly sessions will develop communication skills, listening skills, critical thinking skills, and a start on a defined pathway towards a STEM career.

SDV 186 - STEMinar III - Credits: 1.00
This course is an exploration of STEM careers and pathways. Using discussion, guest speakers, field trips, online exploration and lecture the weekly sessions will develop communication skills, listening skills, critical thinking skills, and a start on a defined pathway towards a STEM career.

SDV 187 - STEMinar IV - Credits: 1.00
This course is an exploration of STEM careers and pathways. Using discussion, guest speakers, field trips, online exploration and lecture the weekly sessions will develop communication skills, listening skills, critical thinking skills, and a start on a defined pathway towards a STEM career.
SDV 189 - STEMinar V - Credits: 1.00
This course is an exploration of STEM careers and pathways. Using discussion, guest speakers, field trips, online exploration and lecture the weekly sessions will develop communication skills, listening skills, critical thinking skills, and a start on a defined pathway towards a STEM career.

Computer Aided Drafting
CAD 105 - CAD I - Credits: 2.00
This course is designed to give the student an introduction to computer-aided drafting with basic principles. Students will also develop knowledge of more sophisticated tasks working with CAD.

CAD 106 - CAD II - Credits: 3.00
This course is a continuation of CAD drafting with an emphasis on advanced drawing, construction and a 3-D environment.
Prerequisite(s): CAD 105

CAD 140 - Parametric Solid Modeling I - Credits: 3.00
This course covers the basics of creating parts, modeling utilities, creating engineering drawings and creating assemblies using solid modeling software.

CAD 141 - Parametric Solid Modeling II - Credits: 3.00
This course covers advanced features of Pro/ENGINEER solid modeling software. The following concepts are introduced: customizing the interface, advanced feature creation, utilities, advanced drawing techniques and advanced assembly techniques.
Prerequisite(s): CAD 140

CAD 142 - Parametric Solid Modeling III - Credits: 3.00
This course covers the design and modeling of sheet metal parts, surface techniques for modeling parts, and use of the Pro/ENGINEER cabling module.
Prerequisites: CAD141 - Parametric Solid Modeling II.
Prerequisite(s): CAD 141

CAD 165 - Rendering and Animation - Credits: 3.00
This course covers the basics of animation, lighting, textures, materials and modeling using commercially available animation software.

CAD 180 - Intro to Solidworks - Credits: 2.00
This is a combined collaborative learning and lab course. The student will be introduced to computer-aided drafting using SolidWorks software. The student will develop skills in SolidWorks basic commands and specific command sequence operations. Data entry will be by keyboard and pull down menus.

CAD 210 - Pipe Drafting - Credits: 1.00
This course is designed to provide the student with the basic knowledge to create process piping drawings. The student will be exposed to the fundamental concepts and techniques used within the process piping industry.
Prerequisite(s): CAD 105

Computer Forensics
CFR 100 - Introduction to Computer Forensics - Credits: 3.00
This course is an introduction to the recovery, analysis, and documentation of electronic evidence. Knowledge and practical experience will be gained by analyzing several case studies. Special computer skills and tools will be introduced. Legal concerns and ethical conduct will be emphasized.

CFR 140 - Data Recovery Methods I - Credits: 3.00
This course will introduce the student to data recovery methods. Various hardware and software issues will be discussed. Examination of computer storage devices will be performed. The student will utilize knowledge of computer hardware and software.
Discussion topics are reinforced through lab exercises.
Prerequisite(s): CFR 130

CFR 143 - Internet Forensics - Credits: 2.00
This course will cover Internet and networking concepts. The student will work with various Internet based services. Network forensic tools and techniques will be utilized in various scenarios. Discussion topics are reinforced through lab exercises.

CFR 160 - Digital Search and Seizure - Credits: 2.00
This course will explore various aspects of a lawful search and seizure process. This will focus on various types of electronic data evidence. The course will also cover the proper methods of data preservation.

CFR 180 - Data Recovery Methods II - Credits: 3.00
This course will cover advanced data recovery methods. Various hardware and software issues will be discussed. Examination and documentation of computer storage devices will be performed. Several scenarios that may be encountered by a computer forensic investigator will be used. Discussion topics are reinforced through lab exercises.
Prerequisite(s): CFR 140

CFR 265 - Video Analysis - Credits: 2.00
This course will introduce the student to video analysis and enhancement. Various hardware and software issues will be discussed. Topics include video recovery; media conversion; video processing, which will include image clarification; and video editing. Discussion topics are reinforced through lab exercises.

Computer Networking
CIS 338 - SQL/Oracle - Credits: 3.00
This course is designed to enable students to learn the fundamental aspects of Structured Query Language (SQL) in order to create and maintain Oracle database objects, as well as store, manipulate, and retrieve data from an Oracle database. Also, students will learn fundamental aspects of Oracle's Programming Language/Structured Query Language (PL/SQL) in order to create PL/SQL application code blocks that can be shared by Oracle forms, reports and data management applications.
Prerequisite(s): CIS 351
NET 122 - Computer Hardware Basics - Credits: 3.00
This course will cover information from the Computing Technology Industry Association (CompTIA) sponsored A+ Certification Exam, which is designed to certify computer technicians in PC software and hardware repair.

NET 153 - Advanced Networking - Credits: 4.00
This course introduces the student to various protocols and internetwork technologies used in wide area networks.
Prerequisite(s): NET 725NET 684

NET 202 - Programming for Network Administrators - Credits: 3.00
Basic programming techniques using the Python programming language to automate system administration tasks. Students will design, code, and test Python applications.
Prerequisite(s): NET 319NET 786

NET 292 - Information Technology Capstone - Credits: 5.00
This course is the capstone for all the courses that are taught for the Computer Networks and Security program. The student will design and implement a network based on provided project criteria as well as monitor and fix any issues that arise during the course. The student is responsible to ensure that the network developed is properly protected and remains functional for the duration of the term. If an issue arises, the student must troubleshoot the problem, develop a viable solution and implement the solution to get the network back into operation. The student will use an array of operating systems from Windows Server, Windows Workstation and Linux. The student will also work together with students from each term to provide help desk functions and provide user support for new students in the lab.
Prerequisite(s): NET 626NET 404NET 671

NET 310 - Virtual Machines - Credits: 3.00
This course will cover the concepts of virtual machines and virtualization software. Topics will include the ability to install and run multiple operating systems on one computer or server.
Prerequisite(s): NET 122NET 725

NET 319 - Microsoft Server - Credits: 3.00
This course will provide students with the knowledge and skills necessary to install and configure Microsoft Windows Server environment on individual servers and virtually in the lab.
Prerequisite(s): NET 122NET 310

NET 343 - Windows Directory Services - Credits: 3.00
This course provides the students with the knowledge and skills necessary to install, configure, and administer a current version of Windows Server with Active Directory Services including group policy tasks. Material taken directly from the Microsoft Official Academic Course Exam and will include administration of Windows Server on the lab network.
Prerequisite(s): NET 319NET 310

NET 404 - Linux Network Administration - Credits: 4.00
You will plan and implement a Unix style network utilizing Linux. In doing so you will assume the role of network administrator and apply the concepts of networking with Linux, planning the system, installing the network operating system, understand the history and structure of linux and the role of the system administrator, utilize shells, scripts, and editors, apply administrative tasks including adding users and groups, understand hardware redundancy and fault tolerance, track system usage, utilize system logging, create scripts and automated procedures, manage printing, and back up system data.
Prerequisite(s): NET 445NET 725NET 310

NET 445 - Linux Operating System - Credits: 4.00
This is an introductory, hands-on course that provides you with the skills to use the Linux operating system. Basic GUI operations and Linux commands for editing and manipulating files, managing programs, managing processes and interacting with the BASH shell are presented via lecture and lab exercises. It is intended for people with some computer experience but little or no experience with a Linux/UNIX system.

NET 478 - Information Storage and Management - Credits: 3.00
This course introduces the student to network storage technology including Storage Area Networks (SAN) running on the NetApp & EMS platforms. The student will learn about the architectures, features and benefits of intelligent storage systems. Topics include networked storage technologies and long-term archiving solutions, their selection and implementation, security and storage virtualization.
Prerequisite(s): NET 310

NET 610 - Security Fundamentals - Credits: 2.00
This course will provide an overview of the vulnerabilities that exist in most information systems. Students will learn how policies, user education, and software and hardware tools can help prevent those systems from being attacked.

NET 619 - Network Attacks: Detection, Analysis and Countermeasures - Credits: 3.00
Provides students the opportunity to attack computer networks to test their defenses and teaches them how to analyze attacks. Topics include attacks and attack analysis, intrusion detection and analysis and advanced defense countermeasure configuration using firewalls, routers and intrusion detection systems.
Prerequisite(s): NET 626

NET 626 - Network Security Audit - Credits: 3.00
This course will demonstrate the tools and techniques used by network security auditors to detect and document vulnerabilities in an information system. Hands-on familiarity with these tools will allow the student to determine which areas of the system are most in need of increased security measures.
Prerequisite(s): NET 610NET 153

NET 671 - Microsoft Exchange Server - Credits: 2.00
This course will cover information and skills needed
to update and support a reliable, secure messaging infrastructure. Topics will include creating, storing and sharing information using Microsoft Exchange Server in a medium to large-sized messaging environment.

**Prerequisite(s):** NET 343; NET 684

NET 684 - TCP/IP for Networking - Credits: 4.00
This course covers the implementation and administration of TCP/IP networks. Students will learn how data packets are sent between different networks and how to assign IP addresses to subnets. Other topics covered include IP routing protocols RIP and OSPF as well as host address resolution services using ARP, DHCP and DNS.

**Prerequisite(s):** NET 725

NET 725 - Networking Essentials - Credits: 3.00
This course will cover the information from the Microsoft Certification Exam #70-058 “Networking Essentials” which is one of the four core Microsoft Certified Systems Engineer (MCSE) exams.

NET 782 - Computer Users Support - Credits: 3.00
Introduces the concept of supporting personal computers as a career. Designed to help students target their customers and develop appropriate service skills. The course provides an introduction to end-user computing, computer user support, customer service skills, skills required to troubleshooting computer problems, common support problems, help desk operation user support management, product evaluation strategies and standards, user needs analysis and assessment, installing end-user computer systems, training computer users, technical writing skills, and computer facilities management.

**Prerequisite(s):** NET 786

NET 786 - Fundamentals of Desktop Support - Credits: 4.00
Troubleshooting computer operating systems and working with end users in a help desk supporting role. Students will use troubleshooting tools such as the Microsoft Knowledge Base, Safe Mode, Computer Management and other operation tools.

**Prerequisite(s):** NET 122

NET 844 - Network/Systems Capstone - Credits: 3.00
This course covers the analysis, configuration, and implementation of a computer network system. Students will properly configure a complete network system, including but not limited to, making the cables and properly terminating them to configuring routers, installing server software and configuring user accounts. A strong emphasis will be placed on configuring security at all levels. Microsoft Visio and other tools will be used to properly document the system and students will present and explain their design process and network layout.

**Prerequisite(s):** NET 626; NET 404; NET 671

NET 845 - Security Field Projects - Credits: 2.00
This course covers the creation and demonstration of a computerized and physical security system in a group environment. Knowledge and practical experience will be gained by analyzing the current system status and redesigning the system in an effort to improve security.

**Prerequisite(s):** NET 626

NET 932 - Internship - Credits: 3.00
Students enrolled in this course will work as an intern with a sponsoring organization in a position related to computer networking and security. Emphasis will be on the integration of academic skills with practical work experience.

### Computer Programming

**BCA 154 - VBA for EXCEL** - Credits: 2.00
The fundamentals of Visual Basic for Applications (VBA) will be covered and how VBA can make your Excel spreadsheets more powerful and useful. This course starts with the basics of VBA programming, and teaches you to use it beyond basic Macros. Designed for the beginner, no previous programming experience needed, but a solid understanding of Excel is required.

CIS 121 - Intro to Programming Logic - Credits: 3.00
This course covers an introduction to programming logic. Topics will include logic, development techniques, logic development tools, documentation, report layouts and program testing.

CIS 169 - C# - Credits: 3.00
This course introduces students to creating applications using the C# programming language. Students will create C# programs in the .NET environment.

**Prerequisite(s):** CIS 121

CIS 171 - Java - Credits: 3.00
This course will discuss the concepts of object oriented programming. These concepts will then be applied in a variety of programming exercises.

**Prerequisite(s):** CIS 121

CIS 175 - Java II - Credits: 3.00
This course is a continuation of Object-Oriented Programming. Additional concepts of object-oriented programming will be applied in a variety of programming exercises.

**Prerequisite(s):** CIS 171

CIS 181 - Java III - Credits: 3.00
This course is a continuation of Java II. Advanced topics for creating Java programs will be discussed. Object oriented programming concepts will be utilized by students in completing programming exercises.

**Prerequisite(s):** CIS 175

CIS 183 - Oracle Academy: Database Design - Credits: 3.00
This course covers data modeling, database design, entities and entity relationships and cardinality. Discussion topics are reinforced by the student participating in a group project designing a database and presenting the design.

CIS 198 - JavaScript - Credits: 3.00
This course covers the use of Scripting Languages
(JavaScript) to create dynamic web pages.

**Prerequisite(s):** BCA 185

CIS 199 - XML - Credits: 2.00
This course introduces students to the XML technology. Students will create valid and well-formed XML documents and DTDs. Other concepts include style sheets to format XML documents and developing programs that use XML documents.

**Prerequisite(s):** BCA 185

CIS 206 - Web Scripting - Credits: 3.00
This course introduces students to creating dynamic Web pages by using current web scripting languages/techniques. Students will create web pages that use client and server side scripts, as well as installing and using web servers. Web forms will also be used to display/modify database.

**Prerequisite(s):** BCA 185

CIS 216 - Web Design and Management - Credits: 2.00
In this course, students will use standard industry software to create websites from start to finish while developing and enhancing HTML, CSS and visual design skills.

**Prerequisite(s):** BCA 185

CIS 226 - Advanced Web Design - Credits: 2.00
This course is designed with many hands-on activities to enable students to become proficient in the advanced features of Microsoft FrontPage. Topics include: creating and using templates in a web site, integrating a database with a web site, using layout tables, and using office components.

**Prerequisite(s):** CIS 216

CIS 239 - Dynamic HTML - Credits: 2.00
This course covers the most important topics of DHTML, including working with dynamic layout and content, adding special effects, controlling mouse and keyboard events and creating new windows and frames.

**Prerequisite(s):** CIS 209; CIS 205; or BCA 185

CIS 281 - Mobile Development - Credits: 3.00
This course will cover design, development and deployment of mobile applications. Students will explore tools used to develop mobile applications for a variety of platforms.

CIS 281 - Mobile Development - Credits: 3.00
This course will cover design, development and deployment of mobile applications. Students will explore tools used to develop mobile applications for a variety of platforms.

CIS 284 - Advanced Mobile Development - Credits: 3.00
This course will cover advanced topics in the theory and design of mobile applications. Students will apply responsive design concepts to create applications for the latest mobile platforms, and the deployment to the mobile marketplace.

**Prerequisite(s):** CIS 281

CIS 334 - PHP/APACHE/MYSQL - Credits: 3.00
This course introduces students to creating applications using PHP, Apache Server and MySQL. Students will create HTML web pages to do form processing. Form processing will contain embedded PHP and MySQL commands to retrieve and display data from a database. Other concepts include using cookies and sessions to pass data from one web page to another.

**Prerequisite(s):** BCA 185

CIS 337 - SQL/oracle - Credits: 2.00
This course covers database concepts and utilization using an Oracle database environment. Structured Query Language (SQL) will be used to generate query statement and to define databases.

**Prerequisite(s):** CIS 351

CIS 344 - Database Programming With DB2 - Credits: 3.00
This course covers advanced concepts of relational database programming using a DB2 database environment. Students will write COBOL applications to maintain working data bases.

**Prerequisite(s):** CIS 351

CIS 402
CIS 351 - Introduction to Database Concepts - Credits: 3.00
This course covers an overview of database concepts and utilization. Topics include management considerations, data structures and access methods. Discussion topics are reinforced through lab exercises.

CIS 361 - Business Intelligence - Credits: 3.00
This course will introduce the concepts of business intelligence as used in business management to enhance decisions based on information in available data warehouses. The student will analyze case studies and utilize business intelligence tools.

**Prerequisite(s):** CIS 501

CIS 402 - Cobol - Credits: 3.00
This course will introduce the student to structured Cobol programming language. The student will be presented with the language syntax and design concepts pertaining to Cobol. The student will write several application programs to reinforce discussion topics.

**Prerequisite(s):** CIS 121

CIS 412 - Cobol II - Credits: 3.00
This course will introduce the student to advanced topics in structured Cobol. The student will be presented with language syntax and design concepts. The student will code several application programs to reinforce discussion topics.

**Prerequisite(s):** CIS 402

CIS 421 - Cobol III - Credits: 3.00
This course will further student studies with advanced topics and commands in structured Cobol. The student will be presented with language syntax and design concepts. The student will code several application programs to reinforce discussion topics.

**Prerequisite(s):** CIS 412
CIS 486 - Introduction to 4GL Programming - Credits: 3.00
This course will cover the design and implementation of software applications. Students will utilize a 4GL tool to develop these applications.

CIS 501 - Intro to Business Analysis - Credits: 3.00
This course covers the analysis, design and documentation of electronic data processing systems. Knowledge and practical experience will be gained by analyzing, designing, documenting and presenting a computerized system students have developed.

Corequisite(s): CIS 728

CIS 503 - Intro to Systems Analysis - Credits: 2.00
This course covers the analysis, design and documentation of electronic data processing systems. Knowledge and practical experience will be gained by analyzing, designing, documenting and presenting a computerized system students have developed.

Prerequisite(s): CIS 728

CIS 590 - Mainframe Environment - Credits: 3.00
This course introduces the student to architecture of today's mainframe including the hardware, systems software and the z/OS operating system. Students explore multiprogramming, data representation, memory management principles (including virtual), syntax and techniques of the Job Control Language. Students also learn about hardware interfaces, utilities, libraries, JCL procedures, access methods, virtual storage environments and VSAM files.

CIS 604 - Visual Basic - Credits: 3.00
This course will focus on developing applications using a visual programming language. The student will write programs that utilize graphical user interfaces.

CIS 618 - Advanced .Net Programming - Credits: 3.00
This course will focus on developing applications and components using advanced visual programming concepts. The student will create custom controls and write programs that utilize graphical user interfaces using the current .Net Framework.

Prerequisite(s):

CIS 728 - Programmer Communications - Credits: 2.00
This course will develop the student programmer's ability to communicate in the following areas: business letter and memo writing, progress report writing, program documentation, written systems presentations, and oral presentations. Assignments in other classes in which the student is enrolled will be coordinated with this course.

Prerequisite(s): ENG 101; SPC 112; ENG 105 or SPC 101

Corequisite(s): CIS 503

CIS 750 - Project Management - Credits: 3.00
This course provides the student with the conceptual framework and practical tools to effectively plan and manage the activities of small, medium and complex projects.

CIS 845 - Quality Assurance - Credits: 2.00
This course introduces methods of software quality assurance (SQA) for accurate and thorough verification and validation of software and improved control of software development and enhancement. It includes coverage of software quality factors, the systems development life cycle and SQA factors, the methods, tools and techniques for measurement of software quality and quality control, the costs associated with quality at each phase of the systems development life cycle and various effective SQA guidelines and standards.

CIS 850 - Programming Field Project I - Credits: 2.00
This course covers the analysis, design, documentation and presentation of a computerized business system in a group environment. Knowledge and practical experience will be gained by analyzing, designing, document and presenting the computerized system students have developed.

Prerequisite(s): CIS 503

CIS 851 - Programming Field Project II - Credits: 2.00
This course covers the creation, implementation and demonstration of a computerized business system in a group environment. Knowledge and practical experience will be gained by coding, implementing and demonstrating the computerized system students have created.

Prerequisite(s): CIS 337; CIS 850

CIS 932 – Internship - Credits: 4.00
Students enrolled in this course will work in an industry computer programming and/or systems analysis department. Emphasis will be on the integration of academic skills with practical work experience.

Computer Science

CIS 174 - Advanced C# Programming - Credits: 3.00
Students will learn ASP.NET development with C# and relational databases. Students will build dynamic websites using both ASP.NET and ASP.NET Core concepts. The course includes topics such as MVC, Web Services, Entity-Framework and Cloud development.

Prerequisite(s): CIS 169

CIS 453 - PLTW Computer Science (CSE) - Credits: 3.00
This course is the first of two Computer Sciences classes that when combined equal the Project Lead The Way class "Computer Science Principles". Both classes aim to develop computational thinking, to generate excitement about the field of computing, and to introduce computational tools that foster creativity. This class will introduce the students to programming and the various tools used to develop software.

CIS 455 - PLTW Computer Science (CSE) II - Credits: 3.00
This course is the second of two Computer Sciences classes that when combined equal the Project Lead The Way class "Computer Science Principles". This course will continue to aim to develop computational
thinking, to generate excitement about the field of computing, and to introduce computational tools that foster creativity. This class will emphasis the need for large-scale data collection and analyze and explore the emergence of intelligent behavior.

**Prerequisite(s):** CIS 453

CIS 456 - PLTW Computer Science (CSA) I - Credits: 3.00
This course is the first of two Computer Sciences classes that when combined equal the Project Lead The Way class "Computer Science A". Both classes aim to integrate technologies across multiple platforms and networks, including the Internet. Students collaborate to produce programs that integrate mobile devices and leverage those devices for distributed collection and data processing. Students analyze, adapt and improve each other’s programs while working primarily in Java and other industry-standard tools.

**Prerequisite(s):** CIS 455

CIS 457 - PLTW Computer Science (CSA) II - Credits: 3.00
This course is the second of two Computer Sciences classes that when combined equal the Project Lead The Way class "Computer Science A". This course will continue to integrate technologies across multiple platforms and networks, including the Internet. Students will collaborate to produce mobile applications. Students will also analyze, adapt and improve each other’s programs while working primarily in Java and other industry-standard tools.

**Prerequisite(s):** CIS 456

CIS 480 - Agile Development - Credits: 3.00
This course will cover the design and implementation of software applications using an agile-based development approach. Students will utilize a 4GL tool to develop these applications.

CIS 598 - Python - Credits: 3.00
This course will focus on developing applications using the Python programming language. The student will write programs that demonstrate the use of variable definitions, selection and loop structures, collections, user-input, and file handling.

CSC 105 - Computer Essentials - Credits: 1.00
The basics of the Windows operating system, electronic communications, and Internet research will be covered. Students will use basic features of word processing and presentation software. This course is intended for students with limited computer skills.

CSC 110 - Introduction to Computers - Credits: 3.00
This course is an introduction to business computer software and hardware. Students will use basic and intermediate features of word processing and spreadsheet software, and basic features of database and presentation software. General computer concepts and the Internet will also be covered.

CSC 130 - Business Computer Software - Credits: 3.00
This course uses projects to focus on business use of computer systems and application software. Topics include the Internet as a business resource, Web page design and creation, desktop publishing, presentation software and software integration.

**Prerequisite(s):** CSC 110

### Construction

**Construction**

CON 111 - Basic Drafting - Credits: 2.00
This course is built around work normally required of a drafter in a work setting. The student will be introduced to the methods of home design.

CON 124 - Construction Estimating I - Credits: 3.00
This course is designed to familiarize students with concepts and terminology necessary to read, interpret and draw basic architectural drawings.

CON 125 - Construction Estimating II - Credits: 3.00
This course is designed to familiarize students with the concepts and terminology necessary to read, interpret and draw basic architectural drawings. The concepts of specifications, basic contract language, and unit pricing will be incorporated with computer-generated estimating processes.

**Prerequisite(s):** CON 124

CON 167 - Principles of Carpentry I - Credits: 2.00
This is the introductory theory course in carpentry. It includes teaching units in areas such as the trade, tools, woods, fasteners and materials. Also included is a unit on job safety.

CON 168 - Principles of Carpentry II - Credits: 2.00
Studied is the theory covering millwork selection and installation, concrete floors and interiors.

CON 169 - Principles of Carpentry III - Credits: 2.00
This course covers areas of building codes, selection of site, excavation, footings and foundation. Also included are units in water proofing, floor framing and back filling.

CON 173 - Principles of Carpentry IV - Credits: 2.00
Wall framing and sheathing, ceiling and roof framing, stressing methods and applications of the various materials are covered. Teaching units include solving common problems on the installation and construction of stairs.

CON 197 - Construction Lab I - Credits: 6.00
Students will apply knowledge gained in classroom studies to practical applications on a construction project. Daily participation using hand and power tools and personal safety equipment will be required.

**Corequisite(s):** CON 276

CON 198 - Construction Lab II - Credits: 6.00
Students will apply knowledge gained in classroom studies to practical applications on a construction project. Daily participation using hand and power tools and personal safety equipment will be required.

**Corequisite(s):** CON 277

CON 199 - Construction Lab III - Credits: 6.00
Students will apply knowledge gained in classroom studies to practical applications on a construction
project. Daily participation using hand and power
tools and personal safety equipment will be required. **Corequisite(s):** CON 278

CON 200 - Construction Lab IV - Credits: 6.00
Students will apply knowledge gained in classroom studies to practical applications on a construction project. Daily participation using hand and power tools and personal safety equipment will be required. **Corequisite(s):** CON 279

CON 245 - Residential Wiring - Credits: 2.00
This course introduces students to terminology, vocabulary and electrical symbols. The concepts will then be used to study branch circuits, wiring devices, service entrance requirement and safe installation practices in accordance with the current National Electrical Code and local authority having jurisdiction.

CON 248 - Heating, Plumbing and Air Conditioning - Credits: 2.00
This course introduces students to history, terms, and safety concepts of modern sanitation systems. Emphasis will be placed on design and installation of residential drain waste and vent potable water systems in compliance with state a local codes.

CON 271 - Concrete & Masonry Technology - Credits: 3.00
Students will learn basic concepts of concrete design and placement and masonry design and bricklaying. Emphasis will be placed on safety and technique.

CON 276 - Construction Technology I - Credits: 3.00
This course is designed to introduce students to the fundamental vocabulary, terms, and concepts to begin a career in carpentry. Beginning with tools and plan reading, this course will then study framing fundamentals with some attention given to concrete and reinforcement, fasteners, adhesives and engineering products.

CON 277 - Construction Technology II - Credits: 3.00
This course is designed to familiarize students with fundamental vocabulary terms and concepts to begin a career in carpentry. This course covers the principles of wall and ceiling framing, roof framing and basic stair construction. Installation and design factors for windows and doors will also be studied.

CON 278 - Construction Technology III - Credits: 3.00
This course is designed to familiarize students with fundamental vocabulary, terms and concepts to begin a career in carpentry. Primary concentration will be exterior finishing systems, roofing materials and installation, thermal and moisture technology and metal stud systems.

CON 279 - Construction Technology IV - Credits: 3.00
This course is designed to familiarize students with fundamental vocabulary, terms and concepts to begin a career in carpentry. Primary areas of study are drywall installation and finishing, installation and identification of interior doors, and cabinets and identification and installation of trim materials.

CON 295 - Construction Lab V - Credits: 2.00
Students will apply knowledge gained in classroom studies to practical applications on a construction project. Daily participation using hand and power tools and personal safety equipment will be required.

CON 296 - Construction Lab VI - Credits: 2.00
Students will apply knowledge gained in classroom studies to practical applications on a construction project. Daily participation using hand and power tools and personal safety equipment will be required.

CON 297 - Construction Lab VII - Credits: 2.00
Students will apply knowledge gained in classroom studies to practical applications on a construction project. Daily participation using hand and power tools and personal safety equipment will be required.

CON 298 - Construction Lab VIII - Credits: 2.00
Students will apply knowledge gained in classroom studies to practical applications on a construction project. Daily participation using hand and power tools and personal safety equipment will be required.

CON 299 - Advanced Construction Technology - Credits: 3.00
This course is designed to provide students with experience in construction situations. Subjects include, but not limited to, irregular roof framing, stair building, alternative energy products and universal design.

CON 304 - Introduction to Building Science - Credits: 3.00
This course is designed to acquaint students with design principles of insulation, ventilation, moisture control and air quality. Using the principles, students will study effective ways to accomplish energy efficiency using sustainable materials and green building practices.

CON 310 - Architectural Design Fundamentals - Credits: 3.00
This course provides students with skills required of a drafter in a work setting. The student will be introduced to the methods of home design.

CON 450 - Construction Lab IA - Credits: 3.00
Students will apply knowledge gained in classroom studies to practical applications on a construction project. Daily participation using hand and power tools and personal safety equipment will be required.

CON 451 - Construction Lab IB - Credits: 3.00
Students will apply knowledge gained in classroom studies to practical applications on a construction project. Daily participation using hand and power tools and personal safety equipment will be required.

CON 452 - Construction Lab IIA - Credits: 3.00
Students will apply knowledge gained in classroom studies to practical applications on a construction project.
project. Daily participation using hand and power tools and personal safety equipment will be required.

**CON 453 - Construction Lab IIB - Credits: 3.00**
Students will apply knowledge gained in classroom studies to practical applications on a construction project. Daily participation using hand and power tools and personal safety equipment will be required.

**CON 454 - Construction Lab IIIA - Credits: 3.00**
Students will apply knowledge gained in classroom studies to practical applications on a construction project. Daily participation using hand and power tools and personal safety equipment will be required.

**CON 455 - Construction Lab IIIB - Credits: 3.00**
Students will apply knowledge gained in classroom studies to practical applications on a construction project. Daily participation using hand and power tools and personal safety equipment will be required.

**CON 456 - Construction Lab IVA - Credits: 3.00**
Students will apply knowledge gained in classroom studies to practical applications on a construction project. Daily participation using hand and power tools and personal safety equipment will be required.

**CON 457 - Construction Lab IVB - Credits: 3.00**
Students will apply knowledge gained in classroom studies to practical applications on a construction project. Daily participation using hand and power tools and personal safety equipment will be required.

**Cultural Studies**

**CLS 106 - Popular Culture - Credits: 1.00**
This course is designed as an introduction to the concept of popular culture. Students will learn the history of popular culture, the economic influences on popular culture, and the effect that popular culture has on their lives.

**CLS 150 - Latin American History and Culture - Credits: 3.00**
This course provides an overview of the geographical, historical, political, economic and cultural forces that have shaped Latin America.

**CLS 155 - Brazilian History and Culture - Credits: 3.00**
This course provides an overview of the geographical, historical, political, economic and cultural forces that have shaped contemporary Brazil. The course also examines the relationship between Brazil and the United States.

**CLS 175 - Native American Studies - Credits: 3.00**
This course takes a multidisciplinary approach to the study of Native American culture. Native American history, art, literature, religion and social and political organization will be investigated.

**CLS 185 - Cultural History of Iowa - Credits: 3.00**
This course provides a survey of the art forms Iowa has to offer. The poems, plays, novels, short stories, essays, and art of Iowa subjects, Iowa ideas and Iowa people will be studied.

**CLS 215 - Cultural Excursions I - Credits: 1**
This course is designed to increase students’ awareness and knowledge of cultures different from their own. Students will travel to selected regions within the US or to selected international locations in order to study and experience the cultural and linguistic milieu of the region. Class lectures, discussion and/or projects will be related to the visit.

**CLS 216 - Cultural Excursions II - Credits: 2**
This course is designed to increase students’ awareness and knowledge of cultures different from their own. Students will travel to selected regions within the US or to selected international locations in order to study and experience the cultural and linguistic milieu of the region. Class lectures, discussion, and/or projects will be related to the visit.

**CLS 217 - Cultural Excursions III - Credits: 3**
This course is designed to increase students’ awareness and knowledge of cultures different from their own. Students will travel to selected regions within the US or to selected international locations in order to study and experience the cultural and linguistic milieu of the region. Class lectures, discussions, and/or projects will be related to the visit.

**CLS 222 - Survey of Latino Literature U.S./Mexico - Credits: 3.00**
This course will increase understanding of cultural, political, social, historic and economic factors related to the Chicano, Mexican-American, Mexican experience.

**CLS 930 - Diversity Experience - Credits: 1.0**
This course is designed to increase students’ awareness and knowledge around them. Students will attend at least six hours of approved diversity events. Class discussions and assignments will be related to the experiences of each student.

**Dental Assisting**

**DEA 211 - Nutrition for Dental Assistants - Credits: 1.00**
This course provides information on nutrition and dental health as well as overall health, healthy eating habits, eating disorders, and functions of major nutrients. 

**Prerequisite(s):** DEA 518

**DEA 256 - Dental Anatomy - Credits: 2.00**
This course introduces the student to the anatomy of the head and neck with emphasis on the hard and soft tissues of the oral cavity, tooth development and morphology, and their purposes in masticatory function.

**DEA 268 - Pharmacology and Emergency Procedures for Dental Assisting - Credits: 2.00**
This course will explain the purpose and uses of medications in the practice of dentistry and those
medications’ actions, effects and side effects, as well as local and general anesthesia and the rationale for antibiotic prophylaxis. Students will also be trained in their responsibilities should emergencies occur in the dental office.

Prerequisite(s): DEA 293

DEA 293 - Microbiology and Infection Control for the Dental Assistant - Credits: 2.00
This course presents information on pathogenic organisms and the diseases they produce, disease transmission in the dental office, principles of sterilization and infection control in compliance with OSHA and CDC guidelines and the importance of an exposure control plan.

DEA 312 - Dental Radiography - Credits: 3.00
This course introduces the history, characteristics and measurement of radiation and its effects on biological structures. The student will receive training in the use of X-ray equipment and processing techniques in the production of quality radiographs. The paralleling technique will be presented, as well as the importance of radiation protection and infection control.

Prerequisite(s): DEA 517

DEA 321 - Dental Radiography II - Credits: 2.00
This course introduces the bisecting angle technique, intra-oral and extra-oral procedures, and the use of imaging in the detection of dental caries and the diagnosis of periodontal disease. Recognition of radiographic errors and their correction is explained using digital radiography.

Prerequisite(s): DEA 312

DEA 403 - Dental Materials - Credits: 3.00
This course examines the properties and applications of the various materials used in a dental practice. The students will learn preparation and proficient manipulation of restorative materials and impression materials. Production of models, fabrication of custom trays, and the use of temporary restorations will be covered, as well as the utilization of cast metals and ceramics in the restorative process.

Prerequisite(s): DEA 517

DEA 517 - Dental Assisting I - Credits: 3.5
Students will learn the fundamentals of dentistry and the dental assistants responsibilities as an integral part of the team approach to dental care delivery. The importance of establishing patient rapport and maintaining confidentiality according to HIPAA guidelines. Preventative concepts are introduced.

DEA 518 - Dental Assisting II - Credits: 1.50
The student assistant will acquire skills in preparing the patient, moisture control, retraction and the simultaneous manipulation of the air/water syringe and HVE. Practical application of infection control concepts and an introduction to basic dental procedures will be applied.

Prerequisite(s): DEA 517

DEA 519 - Dental Assisting III - Credits: 1.50
This course presents the indications for and application of dental medicaments, cavity liners, retraction cords, bite registration materials and bonding agents. Expanded functions for dental assistants are also discussed.

Prerequisite(s): DEA 518

DEA 573 - Assisting Clinical I - Credits: 4.00
Clinical assignments in general and specialty dental practices and clinics provide advanced skill development in chairside assisting procedures, laboratory procedures, office procedures and staff/patient relations. Students will be evaluated through direct observation of clinical performance by IHCC faculty and impressions of trainee performance by professionals in the participating off-campus sites.

Prerequisite(s): DEA 312 and DEA 518

DEA 574 - Assisting Clinical II - Credits: 4.00
This course provides additional hands-on experience in a clinical setting with emphasis on operative dentistry, dental specialty assisting, reception and filing procedures and staff/patient relations.

Prerequisite(s): DEA 573

DEA 592 - Seminar for Dental Assisting - Credits: 1.00
This course is a seminar on experiences and procedures encountered during clinical experience. Questions students may have about different practitioners’ approaches to diagnosis and treatment planning will be discussed. The student will become acquainted with the makeup of local, state, and national dental organizations.

Corequisite(s): DEA 574

DEA 603 - Dental Specialties - Credits: 2.00
This course is an introduction to the specialty areas of dentistry – endodontics, orthodontics, periodontics, oral and maxillofacial surgery, pediatric dentistry, dental public health, oral and maxillofacial radiography and prosthodontics. The equipment and instruments used in the clinical practice of these specialties will be covered. Cosmetic dentistry, implant dentistry and trends in dental care will also be discussed.

Prerequisite(s): DEA 519; DEA 573

DEA 702 - Dental Office Procedures - Credits: 2.00
This course presents information on office communications, record keeping and filing, appointment scheduling, dental insurance, billing procedures, inventory management and recall programs.

Prerequisite(s): DEA 518

Dental Hygienist

DHY 117 - Advanced Dental Anatomy - Credits: 2.00
This course is a comprehensive study of oral landmarks, tooth morphology and significant structures of the periodontium as each relates to the practice of dental hygiene.

Prerequisite(s): DEA 256; BIO 175

DHY 123 - Oral Histology and Embryology - Credits: 2.00
This course is designed to provide students with an
embryological foundation regarding the growth and development of the oral facial structures. Topics include developmental timelines for dental structures and the factors influencing them. Emphasis on initiation, eruption and exfoliation will be covered.

**Prerequisite(s):** DEA 256; DHY 117

**DHY 135 - Pharmacology and Pain Control - Credits:** 3.00

This course will introduce the student to general pharmacology including drug classification, uses, actions, interactions, side effects, contraindications, and systemic and oral manifestations. Administration of local anesthesia as it relates to dental hygiene therapy will be addressed. Emphasis is placed on drugs commonly used in dentistry and those which modify dental care procedures. Laboratory sessions will include concepts and practice in the delivery of local anesthesia.

**Prerequisite(s):** DHY 117

**DHY 143 - Oral Pathology - Credits:** 2.00

This course is designed to provide knowledge in general pathology and specific pathologic processes, including inflammatory and immunologic defenses, as well as neoplastic, metabolic, inherited and developmental disturbances. The student will be able to develop useful differential diagnosis.

**Prerequisite(s):** DEA 256; DHY 117

**DHY 154 - Dental Emergency Management - Credits:** 1.00

This course is designed to prepare students to recognize and respond to an emergency in the dental office. The student will recognize the importance of developing a dental office emergency plan.

**Prerequisite(s):** DHY 176

**DHY 165 - Advanced Dental Radiography - Credits:** 2.00

The purpose of this course is to introduce the student to the interpretation and diagnosis of hard and soft tissue pathologies. Students will be able to recognize the stages of disease and health in the existing dental structures. Knowledge of radiology exposure and processing will be expanded.

**Prerequisite(s):** DEA 312

**DHY 176 - Clinical Procedures - Credits:** 3.00

The course will provide necessary instruction and supervised practice in the preparation and delivery of basic level patient care. Both theory and practice in infection control and delivery of dental hygiene care in the dental operatory will be reviewed. Topics and discussions include maintenance of equipment, instrument identification, processing of instruments, basic routines for operatory asepsis, patient charting, ergonomics and skill development. Competency is achieved on manikins and peers.

**Prerequisite(s):** DEA 321

**DHY 185 - Advanced Clinical Procedures - Credits:** 3.00

The course will provide necessary instruction and supervised practice in advanced dental hygiene instrumentation. Students will acquire advanced skills in developing treatment plans for advanced cases. Clinical sessions in the laboratory setting would require students to demonstrate competency in utilizing dental hygiene instruments, detection and removal of subgingival deposits, ultrasonic scaling and air polishers. Competency is achieved on manikins and peers.

**Prerequisite(s):** DHY 176

**DHY 208 – Periodontology - Credits:** 2.00

This course is a study of the basic etiology and current classification of periodontal disease. Emphasis will be placed on clinical and histological characteristics of periodontal disease processes, including discussion of contemporary periodontal practices.

**Prerequisite(s):** DHY 229

**DHY 229 - Dental Preventative Health - Credits:** 2.00

This course is designed to provide concepts of health and wellness, theories of teaching and motivation and a thorough knowledge of life stage changes. Students will identify and research contemporary treatment modalities.

**Prerequisite(s):** DHY 235

**DHY 235 - Nutrition for Dental Hygiene - Credits:** 2.00

This course provides a comprehensive overview of nutritional biochemistry. Emphasis will be placed on the effects of nutrition on oral health and the application of counseling strategies to assist the patient in attaining and maintaining optimum oral health.

**Prerequisite(s):** DEA 256

**DHY 245 - Ethics and Jurisprudence - Credits:** 2.00

This course will include resources and processes for board application and licensure requirements, qualifications for practice, and standards of practice. Other topics will include cultural diversity, legal and ethical responsibilities and sexual harassment.

**Prerequisite(s):** DHY 229

**DHY 258 - Community Health Concepts - Credits:** 2.00

This course will emphasize the principles, theories and concepts of community oral health as well as the methods for determining community oral health status, identifying barriers to optimum health and selecting appropriate interventions. Student will work in teams to develop and implement a series of programs to present to community organizations and public schools.

**Prerequisite(s):** DHY 245

**DHY 263 - Intro to Dental Hygiene Practicum - Credits:** 1.00

This course will provide introduction to the necessary instructional supervised practice in the IHCC Dental Hygiene Clinic. The course will prepare the student to assume the role as preventative care provider. Emphasis will be placed on patient selection and treatment, clinical time management and office operations. Competency is achieved on clinic patients.

**Corequisite(s):** DHY 185
The course will provide necessary instruction and supervised practice in our on-campus dental clinic. This course is designed to prepare the student to assume the role as preventative care provider. Emphasis will be placed on patient selection and treatment, clinical time management and office operations. Competency is achieved on manikins and clinic patients.

**Prerequisite(s):** DHY 185

This course will provide necessary instructional supervised practice in the IHCC Dental Hygiene Clinic. This course is designed for the student to assume the role of preventative care provider. Emphasis will be placed on patient selection and treatment, clinical time management and office operations. Competency is achieved on clinic patients.

**Prerequisite(s):** DHY 290

The course will provide necessary instruction and supervised practice in our on-campus dental clinic. This course is designed to prepare the student to assume the role of preventative care provider. Emphasis will be placed on planning treatment for patient with special needs, complex periodontal cases, disease management and initial periodontal therapy. Competency is achieved on clinic patients.

**Prerequisite(s):** DHY 245

This course will provide advanced instructional supervised practice in the IHCC Dental Hygiene Clinic. This course is designed to allow the student to assume the role as preventative care provider. Emphasis will be placed on patient selection and treatment, clinical time management and office operations. Competency is achieved on clinic patients.

**Prerequisite(s):** DTM 100; DTM 112

This course examines the basic concepts and science of nutrition for foodservice professionals. Students will learn to use nutritional principles to evaluate and modify menus and recipes, and to accommodate basic dietary needs.

**Prerequisite(s):** DTM 201

This course provides an introduction of chemical and physical properties of food, and explores how ingredients, processing, packing, distribution and storage influence food quality and safety.

**Prerequisite(s):** DTM 100

This course examines nutrition throughout the lifecycle including growth, development, and normal functioning through each stage of life, in addition to age related nutrition ailments.

**Prerequisite(s):** DTM 203

This course introduces the various components of community nutrition programing, including program planning, policies, resources, and community nutrition issues. The course also explores creating and implementing nutrition programs for various populations.
documentation, parts qualification and parts reusability and documentation of diesel locomotive engines will also be taught.

DSL 374 - Locomotive Engine Assembly - Credits: 3.00
This course covers the complete rebuilding and assembly of the locomotive style diesel engine to include all the sub-assemblies and peripheral equipment. Parts certification documentation as well as locomotive diesel complete engine certification will also be taught.

DSL 375 - Assembly of Diesel Engines - Credits: 5.00
This course covers the complete rebuilding and assembly of the diesel engine to include the sub-assemblies and peripheral equipment.

DSL 384 - Engine Application and Tune-Ups - Credits: 4.00
This course covers the tune-up and load testing of the diesel engine to include both mechanical and electronic governing systems. This course also covers governor operation, engine data calculations and troubleshooting.

DSL 386 - Intro to Locomotive Tune-ups - Credits: 2.00
This course covers the tune-up and load testing of the locomotive diesel engines to include both mechanical and electronic governing systems. This course also covers governor operation, engine data calculations, tune up procedures and locomotive diesel engine troubleshooting.

DSL 412 - Diesel Engine Electronics II - Credits: 2.00
This course is an advanced study of electronic principles and electronic components used on diesel equipment. This course will use computerized OEM and generic test equipment for testing all types of electronics systems used by diesel equipment. Lab exercises will be performed on both live and lab equipment.

**Prerequisite(s):** AUT 607

DSL 421 - Electronic Controls - Credits: 4.00
This course covers computerized engine and system management, which will include fundamentals of electricity, electronics, computer communications, electronic input circuits, electronic output circuits, electronic service tools, wiring techniques and current truck management systems.

DSL 442 - Fuel Systems - Credits: 2.00
This course covers diesel fuel subsystem, injection nozzles, distributor type injection pumps, inline injection pumps, unit injector fuel systems and Cummins PT fuel systems.

DSL 534 - Drive Trains - Credits: 4.00
This course covers the drive train power distribution devices that include transmissions, clutches, power divider, drivelines and axles. Disassembly, inspection, component rebuild and assembly will also be taught.

DSL 599 - Brakes, Tires and Alignment - Credits: 3.00
This course covers the maintenance, inspection and repair of truck braking systems, tires and wheels. The
course also covers the operation, set-up and procedures required for wheel alignment utilizing the laser wheel alignment machine.

DSL 602 - Principles of Hydraulics - Credits: 2.00
This course covers the fundamentals of hydraulics, hydraulic circuitry, circuitry construction, fluids and pressure. The student will study pumps, valves, cylinders, motors and other related accessories. Hydraulic troubleshooting and circuit analysis will also be taught.

DSL 655 - Technical Power Hydraulics - Credits: 5.00
This course covers advanced technical hydraulics, with an emphasis on PLC computerized hydraulics. Circuitry design and troubleshooting along with principles, concepts and servicing of component parts will also be taught.

DSL 742 - Air Conditioning/Refrigeration - Credits: 2.00
This course covers the theory and application of heating and refrigerated reefer systems and their related controls. The service, repair, and troubleshooting of these systems will be extensively covered.

DSL 831 - Preventative Maintenance - Credits: 4.00
This course covers the goals and objectives necessary to perform heavy-duty truck, state and federal DOT inspections. Course content includes the wet, dry, routine, and extended vehicle maintenance. The course will also cover information on general preventative checks and performing random repairs to vehicles.

DSL 848 - Diesel Guidance Systems - Credits: 3.00
This course covers the essentials of diesel equipment autonomous guidance systems as utilized in various industries. The student will learn the fundamentals of diesel autonomous guidance including the mechanical (steering, braking and speed control), hardware and software concepts and subsystems. The exploration of how different approaches are used in various applications in agriculture, trucking, construction, railroad and other related diesel industries are covered.

DSL 852 - Diesel Guidance Systems Diagnostics - Credits: 3.00
The course develops the student’s practical troubleshooting skills of autonomous guided diesel equipment used in the agriculture, construction, trucking, and railroad industries. Students will learn how to differentiate between hardware, software and mechanical systems, and operator issues versus signal attainment difficulties in practical troubleshooting laboratory projects.

Prerequisite(s): DSL 848

Early Childhood Education
ECE 103 - Introduction to Early Childhood Education - Credits: 3.00
This course gives students an historical and philosophical foundation of the field of early childhood education. An overview of assessment and evidence-based practices is included. The influences of family centered practice, inclusion, culture and language are addressed. Early childhood careers are explored.

ECE 108 - ECE Fieldwork Certifications - Credits: 1.00
This course provides the Early Childhood student with essential field experience knowledge related to Mandatory Reporting of Child Abuse and Universal Precautions. Students will become certified in American Heart Association Pediatric First Aid and CPR.

ECE 133 - Child Health, Safety and Nutrition - Credits: 3.00
This course focuses on evidence-based concepts in the fields of health, safety and nutrition and their relationship to the growth and development of the young child ages birth to eight. It also blends current theory with problem-solving, practical applications and assessments. This course also includes collaboration with families and assesses the role of culture, language and ability on health, safety and nutrition decisions in early childhood settings.

ECE 141 - Designing Curriculum - Credits: 3.00
Designing inclusive learning environments and developing curriculum plans will be discussed in conjunction with principles of selecting and evaluating materials to support unit topics. Scheduling and teaching strategies for typical and atypical children from infancy through 6 years of age are included.

Prerequisite(s): ECE 158; ECE 159; ECE 263; ECE 264

ECE 158 - Early Childhood Curriculum I - Credits: 3.00
This course focuses on the development, implementation and assessment of appropriate environments and curricula for young children ages three through eight. Students will prepare to utilize evidence-based, developmentally appropriate practices in the context of children’s family, culture, language and abilities. Emphasis is on understanding children’s developmental stages and developing appropriate learning opportunities, interactions and environments to support each child in the following areas: dramatic play, art, music, fine and gross motor play.

Prerequisite(s): ECE 170

ECE 159 - Early Childhood Curriculum II - Credits: 3.00
This course focuses on the development, implementation and assessment of appropriate environments and curricula for young children ages three through eight. Students prepare to utilize developmentally appropriate evidence-based practices in a context of children’s culture, language and abilities. Emphasis is on understanding children’s developmental stages and developing appropriate learning opportunities, interactions and environments in the following areas: emergent literacy, math,
science, technology and social studies.

**Prerequisite(s):** ECE 170

ECE 170 - Child Growth and Development - Credits: 3.00
This course reviews typical and atypical development of children from conception to adolescence in all developmental domains. Interactions between child, family and society within a variety of community and cultural contexts and how each impacts the developing child are examined. Theories and evidence-based practices associated with understanding and supporting young children are studied.

ECE 221 - Infant/Toddler Care and Education - Credits: 3.00
This course focuses on care, education, and assessment of children from birth to thirty-six months. Students are prepared to utilize developmentally appropriate evidenced-based practices including responsive caregiving, routines as curriculum, collaborative relationships with culturally, linguistically, and ability diverse children and families and a focus on the whole child in inclusive settings.

**Prerequisite(s):** ECE 170

ECE 243 - Early Childhood Guidance - Credits: 3.00
This course focuses on developmentally appropriate, evidence-based approaches and positive guidance strategies for supporting the development of each child. Supportive interactions and developmentally appropriate environments are emphasized. Assessment is used to analyze and guide behaviors. The impact of family, and each child’s culture, language and ability on child guidance is studied.

ECE 259 - Topics in Early Childhood Education - Credits: 3.00
This course explores current curriculum trends in Early Childhood Education. Classroom and teacher practices that comprise developmentally appropriate practice as defined by the profession are addressed. The most current strategies in creating learning environments to support physical, social/emotional, cognitive and language development are highlighted.

**Prerequisite(s):** ECE 170; ECE 158; ECE 159; ECE 221

ECE 263 - EC Field Experience I - Credits: 1.50
A supervised experience in selected early childhood settings serving children ages birth through eight. The experience includes integration of theory, and developmentally appropriate, evidence-based practice. An understanding of working with cultural, linguistic and ability-diverse young children and families is provided. Professional relationships and behavior, appropriate adult/child interactions, basic curriculum planning, and program routines is emphasized.

**Prerequisite(s):** ECE 170

ECE 264 - EC Field Experience II - Credits: 1.50
A supervised experience which is continued in selected early childhood settings serving children ages birth through eight. The experience includes integration of theory, and developmentally appropriate, evidence-based practice. An understanding of working with cultural, linguistic and ability-diverse young children and families is provided. Professional relationships and behavior, appropriate adult/child interactions, basic curriculum planning, and program routines is emphasized.

**Prerequisite(s):** ECE 170

ECE 276 - Classroom Teaching - Credits: 2.00
This course is a student teaching experience. Under the supervision of the instructor, the student will assume responsibility for the daily program through lesson planning, functioning as a lead teacher and communicating with parents.

**Prerequisite(s):** ECE 141; ECE 263; ECE 264

ECE 287 - Exceptional Learner - Credits: 3.00
Law requires special students to be integrated into regular classes whenever possible. This course will prepare teachers to serve the emotional, academic, and social needs of exceptional students by modifying teaching methods, classroom management, materials and curriculum.

ECE 290 - Early Childhood Program Administration - Credits: 3.00
This course covers methods for organizing and operating child care centers. Managerial functions, legal regulations and employment procedures will be discussed. Budgeting, record keeping and parent relations will also be explored.

**Prerequisite(s):** ECE 103; ECE 141;

### Economics

ECN 110 - Introduction to Economics - Credits: 3.00
This course examines the basic principles of both microeconomics and macroeconomics. It is designed to introduce basic concepts, institutions and key economic relationships. Focus includes the macroeconomy dealing with government stabilization as well as the microeconomy focusing on market behaviors.

ECN 120 - Principles of Macroeconomics - Credits: 3.00
This course examines the basic principles and forces governing capitalism and the mixed economy such as supply and demand and the price system. Other topics include macroeconomics concepts, national income accounting, the business cycles, money and banking, the Federal Reserve System, Keynesianism and Monetarism. A background in algebra is highly recommended.

ECN 130 - Principles of Microeconomics - Credits: 3.00
This course examines resource allocation, opportunity cost, elasticity of demand and supply, marginal analysis theories of production and consumption, pricing, the market system and perfect and imperfect competition.
**Education**

**EDU 120 - Communication, Ethics and - Credits: 2.00**
This is the first course in preparation for the Paraeducator Certificate. In this course, the student will develop skills and strategies to enhance communication and examine situations where professionalism, ethical standards and confidentiality will guide correct course of action when working with colleagues, students, parents, and others.

**EDU 121 - Behavior Improvement - Credits: 2.00**
This is the third course in the Paraeducator Certificate program. The student will gain knowledge, skills and strategies to assist, support, and maintain the positive social, emotional and behavioral development of children.

**Prerequisite(s):** EDU 120; EDU 122

**EDU 122 - Roles and Responsibilities - Credits: 2.00**
This is the second course in the Paraeducator Certificate program. The student will develop skills and strategies to assist, support and maintain safe environments, educational activities, team interventions and technology integration when working with colleagues, students, parents, and others.

**Prerequisite(s):** EDU 120

**EDU 213 - Introduction to Education - Credits: 3.00**
This course surveys the teaching profession and introduces the student to the basic concepts and principles of education, including teaching effectiveness, school models and reform, curriculum, diversity, law, administration, philosophies, and job options. Students will be required to complete ten hours of classroom observation.

**EDU 235 - Children's Literature - Credits: 3.00**
This course provides a survey of children's literature focusing on specific literary categories including poetry, fantasy, historical fiction, picture books, realistic fiction and informational books. Major writers are examined in each category. Additionally, the course explores evaluating and selecting children's literature for personal and professional use.

**EDU 260 - Art for the Elementary Educator - Credits: 3.00**
This course is intended for those students who desire to enhance their professional training through a pedagogical approach that promotes art instruction as a fundamental component to "basic" education in the elementary setting. Students will explore philosophic, theoretical, and practical approaches to organizing and implementing an art instruction program.

**EDU 925 - Honors Research - Credits: 1.00**
In this course, the student will work independently with a chosen Arts and Sciences education instructor on an education research project designed by the student and instructor. The course is restricted to members of the IHCC Academy or Phi Theta Kappa.

**Prerequisite(s):** Permission of Instructor.

**EDU 949 - Special Topics - Credits: 1.00**
This course explores specialized topics in the field of education. A contract between the student and an Arts and Sciences education instructor outlining the educational project is required.

**Prerequisite(s):** Permission of Instructor.

**Electrical Technology**

**ELE 159 - Introduction to Codes and Standards - Credits: 2.00**
This course teaches students how to read and interpret the codes and standards required in the electrical, automation and electronic fields. Standards are based on NFPA (National Fire Protection Association), ISA (International Society of Automation), OSHA (Occupational Safety and Health Administration) and the FCC (Federal Communication Commission). Students will learn about the latest NEC (National Electrical Code) changes and their impact on workers.

**ELE 349 - Electrical Equipment Tools & Safety - Credits: 3.00**
This course is primarily a laboratory class in which students become familiar with safety, soldering and electronic components. Arc Flash Safety and an interpretation of NFPA rules for electrical safety in the workplace will be examined. This class is required before any student can enter into the lab for work.

**ELE 352 - Principles of Electronics - Credits: 3.00**
This course teaches basic theory and principles for discrete (digital) and modulated (analog) signal manipulation and methods for troubleshooting circuits that use semiconductors and integrated chips. This course will develop the student's learning through practical application of knowledge as reinforced through the examination basic electronic systems.

**ELE 353 - Residential Electrical/Electronic System - Credits: 3.00**
This course teaches students the basics of residential power, control and communication wiring for home automation in both new and existing single-family and multi-family dwellings. Students will learn how to perform work in compliance with the current edition of the National Electrical Code and all applicable state codes.

**ELE 354 - Commercial Electrical/Electronic Systems - Credits: 3.00**
This course teaches the student the basics design of power, commercial, control and communication wiring in both new and existing business, institutional and medical facilities. Students will learn how to perform electrical work in compliance with the current edition of the National Electrical Code and all applicable state codes.

**ELE 355 - Intermediate Codes and Standards - Credits: 2.00**
This course teaches proper methods interpreting the codes and standards required in the industrial and utility electrical market segments. This training will
include NFPA, ISA, IEEE, OSHA and NESC codes & standards. 48 hours of this course meets the state of Iowa Electrical Examiner’s code update requirements.

**ELT 126 - Industrial Electronics** - Credits: 2.00
This course teaches proper methods interpreting the advanced codes and standards required in the signaling, renewable energy and energy management sectors. This training will include NFPA, ISA, IEEE, OSHA and NESC codes & standards. Students will be trained in the state of Iowa specific inspection and electrical safety code requirements.

**ELT 357 - Industrial Electrical/Electronic Systems** - Credits: 3.00
This course teaches industrial power, control and communication system, hard-wiring in both new and existing industrial process and manufacturing facilities. Students will learn how to perform work in compliance with the current edition of the National Electrical Code and all applicable State of Iowa laws.

**ELT 358 - Utility Electrical/Electronic Systems** - Credits: 3.00
This course teaches electric utility power, control and communication system hard-wiring in both new and existing generation, transmission and distribution facilities. Students will learn how to perform work in compliance with the current edition of the National Electrical Code (NEC), National Electrical Safety Code (NESC) and all applicable state of Iowa laws.

**ELT 375 - AC Fundamentals** - Credits: 2.00
This course covers magnetism and electromagnetic induction and progresses through alternating current and voltage. The utilization of capacitors, inductors, and transformers will be addressed as used in basic AC circuits.

**Prerequisite(s):** ELT 373

**Electronics**

**ELT 110 – Electronics** - Credits: 2.00
The focus of this course is a basic understanding of electronics used in computer technology today. Topics include electronic components, lab safety, static electricity, AC/DC circuits and various test equipment. Discussion topics will be reinforced through lab exercises.

**ELT 124 - Advanced PLCs and System Integration** - Credits: 3.00
This course covers basic instrumentation and process control fundamentals. The use of a Supervisory Control and Data Acquisition software package to control a process will be detailed in the laboratory projects.

**Prerequisite(s):** ATR 252; ELT 130

**ELT 126 - Industrial Electronics** - Credits: 2.00
The devices and circuits used in thyristor control of machines are presented. The course includes phase control of DC motors, triac control of AC motors as well as various speed control circuits.

**Prerequisite(s):** ELT 550

**ELT 130 - Control Systems** - Credits: 3.00
The study of automated manufacturing processes using electro-mechanical devices, ladder diagrams and wiring diagrams. Included is an introduction to programmable logic controller hardware, software and interfacing.

**ELT 136 - Electrical Systems Analysis** - Credits: 2.00
This is a facilitated course covering the use of schematics and ladder diagrams to determine the proper sequence of operation in electrical/electronic control system maintenance and troubleshooting.

**Prerequisite(s):** ELT 142

**ELT 140 - Electrical Systems I** - Credits: 2.00
This course covers the National Electrical Code, electrical blueprints and symbols, a basic overview of commercial wiring, operation and maintenance of DC and AC equipment and controls and single-phase motors. The use of instruments in electrical measurements is also included.

**ELT 141 - Electrical Systems II** - Credits: 2.00
This is a facilitated course covering the operation and maintenance of three-phase systems and motor starters.

**Prerequisite(s):** ELT 302

**ELT 142 - Electrical Systems III** - Credits: 2.00
This course covers the basic application of industrial electronic devices and programmable logic controllers.

**Prerequisite(s):** ELT 140

**ELT 165 - Industrial PLC Programming** - Credits: 1.00
This course covers installation, setup, programming, and troubleshooting of Programmable Logic Controllers (PLC).

**Prerequisite(s):** ELT 142 or IND 122

**ELT 302 - Principles of Electricity** - Credits: 2.00
This is a facilitated course covering the basic theory and principles of both direct (DC) and alternating (AC) currents and methods of measuring voltage, current, and resistance. This course also emphasizes the basics of operation and maintenance of three-phase systems.

**ELT 303 - Principles of Electricity** - Credits: 3.00
For beginners, theory, controlling electricity, voltage, amps, resistance, wattage, series and parallel circuits, DC and AC, batteries, electric lighting, generators and motors.

**ELT 373 - DC Circuit Analysis** - Credits: 4.00
This course covers the electrical and electron theory of direct current and proceeds through units in resistance, conductance, series circuits, parallel circuits, series-parallel circuits, voltage divider circuits and the proper use of meters.

**ELT 378 - AC Circuit Analysis** - Credits: 4.00
This course covers magnetism and electromagnetic induction and progresses through alternating current and voltage, capacitors, inductors and transformers. The response of sinusoidal voltages and currents to
ELT 402 - Introduction to Communication Systems - Credits: 3.00
The student is introduced to the fundamental concepts of AM/FM transmitters and AM/FM receivers. Phase lock loop circuits are emphasized in both transmitter and receiver applications. Lab projects are integrated throughout the course. **Prerequisite(s):** ELT 550

ELT 418 - Communication Systems I - Credits: 4.00
This course is a comprehensive coverage of communication receivers. The student will analyze various types of communication circuits, troubleshoot receivers and apply test equipment to evaluate circuit operation. **Prerequisite(s):** ELT 402; ELT 540

ELT 437 - Communication Networks - Credits: 4.00
This course covers the inner workings of the telephone system, data circuits, communication interfaces and protocols, as well as Local Area Network and Wide Area Network concepts and components.

ELT 460 - Fiber Optics - Credits: 3.00
This course introduces the student to various optoelectronic devices, types of fiber and fiber connectors. Fiber networks are evaluated on the basis of power and rise time budgets. Laboratory projects emphasizing modulation/demodulation techniques, network analysis and troubleshooting techniques are included in the course. **Prerequisite(s):** ELT 418

ELT 505 - Power Transfer Technology - Credits: 2.00
This course covers electrical power and fluid-power-transfer technologies. Emphasis will be placed on high voltage alternating current, direct current power supplies, and fluid power concepts and applications. Three-phase power voltage rectification and regulation are included. **Prerequisite(s):** ELT 378

ELT 515 - Wireless Networks - Credits: 3.00
This course examines radio theory and applications. Students will learn the fundamentals of transmission lines, antennas, wave propagation, regulatory issues and allocations of the frequency spectrum. Students will analyze, troubleshoot and operate transceivers from the VHF band to the SHF band. **Prerequisite(s):** ELT 402 ; ELT 418

ELT 540 - Linear Components - Credits: 3.00
Transistor fundamentals are expanded to include power supply and power amplifier applications. Silicon controlled rectifiers and field effect transistor circuits are introduced. A study of operational amplifier applications concludes the course. Lab projects are integrated throughout the course. **Prerequisite(s):** ELT 550

ELT 550 - Analog Devices - Credits: 4.00
This course covers the application, operation, and theory of solid state devices, such as diodes, transistors, thyristors and operational amplifiers. Semiconductor characteristics are examined and applied to voltage and power amplifiers, as well as switching circuits. **Prerequisite(s):** ELT 378

ELT 579 - Micro Circuits - Credits: 3.00
This course covers a variety of solid state circuits. Applications of integrated circuits for regulators, timing, amplification, and signal processing are analyzed. Circuits are built in the lab to study various applications. **Prerequisite(s):** ELT 550

ELT 731 - Industrial Instrumentation - Credits: 1.00
This facilitated course covers the use of instrumentation for monitoring and controlling an industrial process. **Corequisite(s):** ELT 736

ELT 736 - Instrumentation and Control - Credits: 2.00
This course will demonstrate different types and usage of industrial measurement devices. Piping and instrumentation symbols and terminology are also included.

ELT 858 - Circuit Design and Test - Credits: 3.00
This course emphasizes the operation of the digital storage oscilloscope, db meters, transistor curve tracer and storage oscilloscope. An audio amplifier design project including circuit construction, testing and documentation concludes the course. **Prerequisite(s):** ELT 550

ELT 932 – Internship - Credits: 3.00
A semi-structured experience in the student’s chosen field working as an intern with a sponsoring organization. Students have the opportunity to network with professionals and employees in their field. Students will write a resume suitable for employment applications. **Prerequisite(s):** ELT 550

**Emergency Medical Services**

EMS 260 - Emergency Medical Technician I - Credits: 4.00
This course is designed to prepare the student to provide emergency medical care at an Emergency Medical Technician (EMT) level as outlined by the National Emergency Medical Services Education standards. Basic emergency care concepts are introduced in a preparatory module including fundamental knowledge of the EMS system, safety/well-being of the EMT and medical/legal and ethical issues to the provision of emergency care. Certification in American Heart Association Basic Life Support will be completed. Students will complete required HIPAA, Infection Control and Mandatory Reporting for child/adult training for health care providers. Each student must demonstrate
competency within his/her scope of practice and for patients of all ages.

EMS 360 - Emergency Medical Technician 2 - Credits: 4.00
This course is a continuation of the EMS 260 - Emergency Medical Technician I. The basic concepts introduced are shock and resuscitation, patient assessment, care and transportation of the acutely ill trauma patient, special patient populations and EMS operations. A focus area includes, Hazmat Awareness and Incident Command. Students will be required to demonstrate proficiency for skills within the scope of practice for patients of all ages.
**Prerequisite(s):** EMS 260
**Corequisite(s):** EMS 365

EMS 365 - Emergency Medical Technician 2 Clinical - Credits: 1.00
This course prepares students to provide emergency medical assessment, care and transportation of acutely ill or injured patients of all ages. The student will develop proficiency in previously learned skills when providing direct patient care in selected clinical settings. The student will participate in and document patient contacts and field experience approved by the medical director and the EMS program director. To successfully complete the course, students must demonstrate competency in skills for patients of all ages within the scope of practice.
**Prerequisite(s):** EMS 260
**Corequisite(s):** EMS 360

EMS 460 - Emergency Medical Technician Advanced 1 - Credits: 4.00
This course prepares the student to become an allied health professional whose primary focus is to provide basic and limited advanced emergency medical care and transportation for critical and emergent patients who access the emergency medical system. Advanced Medical Technicians function as part of a comprehensive EMS response, under medical oversight. Advanced Emergency Medical Technicians perform interventions with the basic and advanced equipment typically found on an ambulance. Students will complete required HIPAA, Infection Control and Mandatory Reporting for child/adult training for Health Care Providers or demonstrate equivalency to if an advanced standing student.
**Prerequisite(s):** EMS 590
**Corequisite(s):** EMS 695

EMS 470 - Emergency Medical Technician Advanced 2 - Credits: 2.00
This course prepares the student to become an allied health professional whose primary focus is to provide basic and limited advanced emergency medical care and transportation for critical and emergent patients who access the emergency medical system. Advanced Medical Technicians function as part of a comprehensive EMS response, under medical oversight. Advanced Emergency Medical Technicians perform interventions with the basic and advanced equipment typically found on an ambulance.
**Prerequisite(s):** EMS 460
**Corequisite(s):** EMS 475

EMS 475 - Emergency Medical Technician Advanced 2 - Credits: 2.00
This course prepares the student to become an allied health professional whose primary focus is to provide basic and limited advanced emergency medical care and transportation for critical and emergent patients who access the emergency medical system. Advanced Medical Technicians function as part of a comprehensive EMS response, under medical oversight. Advanced Emergency Medical Technicians perform interventions with the basic and advanced equipment typically found on an ambulance. Students will comply with the required HIPAA, Infection Control and Mandatory Reporting for child/adult, confidentiality while at the clinical sites.
**Prerequisite(s):** EMS 460
**Corequisite(s):** EMS 835EMS 470

EMS 590 - Paramedic 1 - Credits: 5.00
This course prepares the student to become an allied health professional whose primary focus is to provide advanced emergency medical care for critical and emergent patients. Focus areas include IV / medication calculations, pulmonary system with airway management. Each student must demonstrate competency within his or her scope of practice and for patients of all ages.
**Prerequisite(s):** BIO 175BIO 178BIO 179BIO 176

EMS 690 - Paramedic 2 - Credits: 5.00
This course provides the complex knowledge and skills necessary to provide advanced emergency medical care for critical and emergent patients. Focus areas include IV / medication calculations, pulmonary system with airway management. Each student must demonstrate competency within his or her scope of practice and for patients of all ages.
**Prerequisite(s):** EMS 590
**Corequisite(s):** EMS 695

EMS 695 - Paramedic 2 Clinical - Credits: 2.00
This course prepares students to provide emergency medical assessment, care and transportation of acutely ill or injured patients of all ages. The student will develop proficiency in previously learned skills when providing direct patient care in selected clinical settings. The student will participate in and document patient contacts and field experience approved by the medical director and the EMS program director. To successfully complete the course, students must demonstrate competency in skills for patients of all ages within the scope of practice.
**Prerequisite(s):** EMS 590
**Corequisite(s):** EMS 690

EMS 781 - Paramedic 3 - Credits: 5.5
This course provides the complex knowledge and skills necessary to provide advanced emergency medical care for critical and emergent patients. Focus areas include cardiology, neurology and Advanced Cardiac Life Support (ACLS). Students will be required to successfully complete competencies within the scope of practice for patients across the life span.
**EMS 890 - Paramedic 3 Clinical - Credits: 3.00**
This course prepares students to provide emergency medical assessment, care and transportation of acutely ill or injured patients of all ages. The student will develop proficiency in previously learned skills when providing direct patient care in selected clinical settings. The student will participate in and document patient contacts and field experience approved by the medical director and the EMS program director. To successfully complete the course, students must demonstrate competency in skills for patients of all ages within the scope of practice.

**Prerequisite(s):** EMS 690; EMS 695

**Corequisite(s):** EMS 785

---

**EMS 895 - Paramedic 5 Clinical - Credits: 4.00**
This course prepares students to provide emergency medical assessment, care and transportation of acutely ill or injured patients of all ages. The student will develop proficiency in previously learned skills when providing direct patient care in selected clinical settings. The student will participate in and document patient contacts and field experience approved by the medical director and the EMS program director. To successfully complete the course, students must demonstrate competency in skills for patients of all ages within the scope of practice.

**Prerequisite(s):** EMS 880; EMS 885

**Corequisite(s):** EMS 890

---

**Engineering**

**EGR 160 - Engineering I - Credits: 3.00**
This course introduces students to a multifaceted engineering problem-solving and design approach through lectures and projects. Lectures introduce students to foundational practices such as the application of organizing principles to describe engineering systems, economic analysis to inform design decisions and presentation and analysis of technical data. In addition, students will be introduced to software applications used in engineering problem-solving. Projects provide an opportunity for students to apply the foundational practices of problem-solving and design towards the solution of engineering problems.

**EGR 162 - Engineering Math - Matrix Algebra - Credits: 2.00**
This course teaches the use of matrix arithmetic to solve linear equations first without and then using a computer. Matrix multiplication, inverse, determinants, eigenvalues, eigenvectors, diagonalization, vector space and subspace, rank and other topics related to matrix applications will be explored in this course.

**Prerequisite(s):** MAT 210

**EGR 165 - Engineering II - Credits: 3.00**
This course introduces students to the following: concepts in engineering problem solving involving structured programming techniques implemented with a procedural high level computer language like C; introduction to programming, compiling, debugging, and testing; data entry, programming and manipulation using MATLAB (or similar) to solve engineering problems involving arrays, matrices and strings.

**EGR 180 – Statics - Credits: 3.00**
Forces, vectors (addition, dot product, cross product), couples, equilibrium of rigid bodies, centroids and centers of gravity, friction, structures (trusses and
frames), distributed forces (moments of inertia).

**Prerequisite(s):** MAT 216; PHY 200 - Classical Physics I

EGR 284 - Introduction to Electrical Circuits - Credits: 3.00
This course examines principles of analysis for AC circuits including Kirchhoff's laws, loop and node equations, Thevenin equivalents, transient and steady-state response to impulses and sinusoidal inputs, impedance and power.

**Prerequisite(s):** MAT 226

EGR 290 – Thermodynamics - Credits: 3.00
This course covers the theory and operation of semiconductor logic families and their circuits. Topics include binary numbers, logic gates, Boolean algebra, combinational circuit design techniques, flip-flops, registers, counters, algorithmic statemachines, microprocessors and interfacing. Laboratory exercises allow the student to design, implement, and test a wide range of digital circuits using standard logic families and programmable logic devices. This course may be taken as part of the Project Lead The Way sequence of courses.

**Prerequisite(s):** MAT 216; CHM 157; PHY 200

EGR 411 - PLTW-Principles of Engineering I - Credits: 1.00
This course explores technology systems and manufacturing processes using the methodology of project-based engineering problem solving. Learning activities explore a variety of engineering disciplines and address the social and political consequences of technological change. This course, in addition to EGR 411 Principles of Engineering I, meets the requirements of EGR 410 as part of the Project Lead The Way sequence of courses. EGR 400 - PLTW Introduction to Engineering Design, or EGR 401 and EGR 402 together, is recommended, but not required.

**EGR 400**

EGR 401 - PLTW-Introduction to Engineering Design - Credits: 2.00
This course explores technology systems and manufacturing processes using the methodology of project-based engineering problem solving. Learning activities explore a variety of engineering disciplines and address the social and political consequences of technological change. This course, in addition to EGR 410 Principles of Engineering I, meets the requirements of EGR 410 as part of the Project Lead The Way sequence of courses. EGR 400 - PLTW Introduction to Engineering Design, or EGR 401 and EGR 402 together, is recommended, but not required.

**Prerequisite(s):** EGR 411 or EGT 411

EGR 420 - PLTW Digital Electronics - Credits: 3.00
This course examines principles of analysis for AC circuits including Kirchhoff's laws, loop and node equations, Thevenin equivalents, transient and steady-state response to impulses and sinusoidal inputs, impedance and power.

**Prerequisite(s):** MAT 216; PHY 200

EGR 412 - PLTW-Principles of Engineering II - Credits: 2.00
This course explores technology systems and manufacturing processes using the methodology of project-based engineering problem solving. Learning activities explore a variety of engineering disciplines and address the social and political consequences of technological change. This course, in addition to EGR 412 Principles of Engineering II, meets the requirements of EGR 410 as part of the Project Lead The Way sequence of courses. EGR 400 - PLTW Introduction to Engineering Design, or EGR 401 and EGR 402 together, is recommended, but not required.

**Prerequisite(s):** EGR 411 or EGT 411

EGR 440 - PLTW-Biotechnical Engineering - Credits: 3.00
The major focus of the Biotechnical Engineering (BE) course is to expose students to the diverse fields of biotechnology including biomedical engineering, bio-molecular genetics, bioprocess engineering and agricultural and environmental engineering. Lessons engage students in engineering design problems that can be related to biomechanics, human interface, forensics, bio-ethics, cardiovascular engineering, genetic engineering and agricultural biotechnology. Students should have some background experience in biology, chemistry and mathematics. Students in this course will apply biological and engineering concepts to design materials and processes that directly measure, repair, improve and extend living systems. Biotechnical Engineering applies and concurrently develops secondary level knowledge and skills in biology, physics, technology and mathematics. One year of high school biology or chemistry and successful completion or co-enrollment in college algebra are strongly recommended for students enrolling in this class.
Engineering Technology
EGT 104 - Technical Science II - Credits: 2.00
This course covers the concepts of work, energy, power, impulse, and momentum. Also covered are the properties of solids, liquids and gases.
Prerequisite(s): EGT 103

EGT 105 - Technical Science III - Credits: 2.00
This course covers the concepts of heat energy. Topics include thermal expansion, specific heat, change of phase, heat transfer and insulation.
Prerequisite(s): EGT 104

EGT 111 - Power Technology - Credits: 2.00
This introductory course deals with the analysis of motion in existing mechanisms and the application of the principles learned to new mechanisms of similar nature. The methods used are primarily graphic, but knowledge of basic math and mechanics is required. This course introduces the underlying principles in the application and control of pneumatic and hydraulic drives, electric motors and machine design processes. Emphasis is placed on concepts of transfer of material and energy in circuits and systems.

EGT 120 - Strength of Materials - Credits: 2.00
This course covers basic properties of materials such as stress, strain, modulus of elasticity, thermal expansion, thermal stress, and structural members composed of different materials. Strengths of bolted and welded joints are calculated. Centroids and moment of inertia are determined. Shear force and bending moment diagrams are created.
Prerequisite(s): MAT 101

EGT 130 - Kinematics - Credits: 2.00
This introductory course deals with the analysis of motion in existing mechanisms and the application of the principles learned to new mechanisms of similar nature. The methods used are primarily graphic, but knowledge of basic math and mechanics is required.

EGT 140 - Fluid Power - Credits: 2.00
This course introduces the underlying principles in the application and control of fluid power. Emphasis is placed on concepts of transfer of material and energy in circuits and systems.

EGT 170 - Physical Metallurgy - Credits: 2.00
This course introduces the student to terminology related to the mechanical, physical and chemical properties of metals. The principles of materials testing, introduction to the atomic and crystal structure of metals and deformation of metals will be emphasized.

EGT 187 - Computer Aided Electrical Design - Credits: 3.00
This course teaches students how to develop electrical and electronic drawings and symbols. Students will learn how to read electrical drawings, electronic schematics and ladder diagrams. Students will also learn how to build intelligent ladder diagrams and electrical panel layouts and how to leverage this intelligence. Students will receive an overview of electrical design and drafting software (AUTOCAD Electrical and/or Microstation-PromisE, ProEngineering or similar) utilities that enable students to build and manage electrical, control and production drawings. All exercises are based on the JIC (joint Industrial Council) standard. An intermediate understanding of electrical wiring methods, National Electrical Code, basic schematic and blueprint symbol recognition and electrical theory is recommended, but not required.

EGT 300 - Energy Efficiency & Auditing - Credits: 3.00
This course teaches the student basic energy efficiency and assessment. Topics covered are the basic economical and environmental impacts of sustainability, high performance green buildings, and an in-depth explanation of control system cost analysis. This course also covers in detail an effective energy management program as well as verification of energy savings.

EGT 304 - Electrical Engineering & Estimation - Credits: 3.00
This course is designed to develop the student's ability to apply a range of mathematical and geometric concepts. Topics include basic algebra, consumer mathematics, statistical averages and graphs, fundamental geometry, basic calculus and fundamental trigonometry. This course will also provide practical and detailed analysis of labor and material market data as well as effects of variables on successful project completion.

EGT 305 - Engineering Math - Credits: 2.00
This course teaches an overview of Descriptive Geometry, Trigonometry, Cyclic Functions, Differential Calculus, Integral Calculus, Infinite Series, Complex Quantities, Differential Equations, Laplace Transforms, Frequency Response Analysis, Transfer Functions and Block Diagrams, the Z-N Approximation, Units, Best Values, Formulas and other related mathematical equations and formulas may also be introduced.

EGT 400 - PLTW Introduction to Engineering Design - Credits: 3.00
This course uses a design development process while enriching technical and engineering problem-solving skills; students create and analyze models using specialized computer software (AutoCAD Inventor). This course may be taken as part of the Project Lead The Way sequence of courses.

EGT 401 - PLTW Intro to Engineering Design I - Credits: 2.00
This course uses a design development process while enriching technical and engineering problem-solving skills; students create and analyze models using specialized computer software (3D modeling). This course in addition to EGT402 - PLTW Intro to Engineering Design II will meet the requirements of EGR 400 as part of the Project Lead The Way sequence of courses.
EGT 402 - PLTW Intro to Engineering Design II - Credits: 1.00
This course uses a design development process while
enriching technical & engineering problem-solving
skills; students create and analyze models using
specialized computer software (Solid modeling). This
course in addition to EGT401 - PLTW Intro to
Engineering Design I will meet the requirements of
EGT 400 as part of the Project Lead The Way
sequence of courses.
Prerequisite(s): EGT 401

EGT 410 - PLTW Principles of Engineering - Credits: 3.00
This course explores technology principles and
manufacturing processes using the methodology of
project-based engineering problem solving. Learning
activities explore a variety of engineering disciplines
and address the social and political consequences of
technological change. This course may be taken as
part of the Project Lead The Way sequence of courses.
EGT400 - PLTW Introduction to Engineering Design
is recommended, but not required.

EGT 411 - PLTW Principles of Engineering I - Credits: 1.00
This course explores technology systems and
manufacturing processes using the methodology of
project-based engineering problem solving. Learning
activities explore a variety of engineering disciplines
and address the social and political consequences of
technological change. This course, in addition to
EGT412 - PLTW Principles of Engineering II, meets the
requirements of EGT410 - PLTW Principles of Engineering as part of the Project Lead The Way
sequence of courses. EGT400 - PLTW Introduction to
Engineering Design, or EGT401 - PLTW Intro to
Engineering Design I and EGT402 - PLTW Intro to
Engineering Design II together, is recommended, but
not required.

EGT 412 - PLTW Principles of Engineering II - Credits: 2.00
This course explores technology systems and
manufacturing processes using the methodology of
project-based engineering problem solving. Learning
activities explore a variety of engineering disciplines
and address the social and political consequences of
technological change. This course, in addition to
EGT411 - PLTW Principles of Engineering I, meets the
requirements of EGT410 - PLTW Principles of Engineering as part of the Project Lead The Way
sequence of courses. EGT400 - PLTW Introduction to
Engineering Design, or EGT401 - PLTW Intro to
Engineering Design I and EGT402 - PLTW Intro to
Engineering Design II together, is recommended, but
not required.
Prerequisite(s): EGT 411

EGT 420 - PLTW Digital Electronics - Credits: 3.00
This course covers the theory and operation of
semiconductor logic families and their circuits. Topics
include binary numbers, logic gates, Boolean algebra,
combinational circuit design techniques, flip-flops,
registers, counters, arithmetic state machines,
microprocessors and interfacing. Laboratory exercises
allow the student to design, implement, and test a
wide range of digital circuits using standard logic
families and programmable logic devices. This course
may be taken as part of the Project Lead The Way
sequence of courses.

EGT 440 - PLTW-Biotechnical Engineering - Credits: 3.00
The major focus of the Biotechnical Engineering (BE) course is to expose students to the diverse fields of biotechnology including biomedical engineering, bio-molecular genetics, bioprocess engineering, and agricultural and environmental engineering. Lessons engage students in engineering design problems that can be related to biomechanics, human interface, forensics, bio-ethics, cardiovascular engineering, genetic engineering and agricultural biotechnology. Students should have some background experience in biology, chemistry and mathematics. Students in this course will apply biological and engineering concepts to design materials and processes that directly measure, repair, improve, and extend living systems. Biotechnical Engineering applies and concurrently develops secondary level knowledge and skills in biology, physics, technology, and mathematics. One year of high school biology or chemistry and successful completion or co-enrollment in college algebra are strongly recommended for students enrolling in this class.

EGT 450 - PLTW Computer Integrated Manufacturing - Credits: 3.00
This course enhances computer modeling skills by
applying principles of robotics and manufacturing
automation to the creation of models of three-
dimensional designs.

ELT 180 - Microcontroller Applications - Credits: 2.00
This course is the theory and application of
microcontrollers for physical computing. The student
will program microcontrollers to interact with the
physical world using the microcontroller native
programming language. The student will learn the
basic architecture of the microcontroller, the
microcontroller instruction set, the microcontroller
hardware features, and hardware interfacing
Corequisite(s): ELT 373

English Composition
ENG 001 – Spelling - Credits: 1.00
This course is designed to help students improve their
spelling ability. A diagnostic test will help identify
student needs. The course provides students with
basic spelling concepts and opportunities for spelling
practice.

ENG 022 - Basic Academic Writing Skills - Credits: 2.00
This is a developmental course designed to prepare
students to make a smoother transition into college-
level writing courses. The student who successfully
completes this course should then be ready to take
ENG101-Elements of Writing. The course will focus
on the essential principles of academic writing,
including mechanics (e.g., grammar, punctuation and spelling) and composition (e.g., organization, sentence structure and topic sentences). This course is non-transferable.

ENG 030 - Grammar and Punctuation I - Credits: 1.00
This course is designed to instruct students in the fundamentals of sentence structure, including various topics in the following areas: the simple sentence; subordination and coordination; major sentence errors; pronoun usage; and comma usage.

ENG 031 - Grammar and Punctuation II - Credits: 1.00
Designed to complement Grammar and Punctuation I, this course includes topics in the following areas: subject/verb agreement; apostrophe usage; consistency and parallelism; adjectives and adverbs; and mechanics.

ENG 032 - Paragraph Writing I - Credits: 1.00
In this course, students are introduced to the fundamentals of paragraph writing, including strategies for prewriting, revision, focus, coherence, unity and support.

ENG 033 - Paragraph Writing II - Credits: 1.00
In this course, students will learn how to write paragraphs in various expository modes including the following: exemplification, definition, comparison and contrast and classification.

ENG 034 - College Writing - Credits: 3.00
This course provides advanced instruction in critical thinking, reading and writing to support success in ENG 105 Composition I. It will enable the student to write paragraphs and essays that demonstrate grammatical, organizational and analytical competence while integrating ideas and information from academic tests. The student will review and practice basic grammar and writing skills necessary for college-level writing, as well as read, analyze, synthesize, and critically respond to college-level texts.

ENG 101 - Elements of Writing - Credits: 3.00
This course is designed to develop students' abilities in writing and reasoning. Students will complete a variety of reading and writing assignments with the goal of enhancing written communication skills. All students enrolled in this course are strongly encouraged to take the reading and writing portions of the COMPASS test.

ENG 105 - Composition I - Credits: 3.00
This course emphasizes competent writing skills, focusing primarily on expository and analytical writing. Particular attention is given to rhetorical modes and to the analysis of social issues and/or literary works. Students will write four-six essays of approximately 1,000 words each. Instruction also includes clarity, punctuation and style. All students enrolled in this course are strongly advised to take the reading and writing portions of COMPASS.

ENG 106 - Composition II - Credits: 3.00
This course introduces the student to the process of research writing using the Modern Language Association documentation style. A thesis-driven report paper and a thesis-driven argumentative essay, both documented in MLA style, will demonstrate the student’s proficiency with the research process. Students will produce approximately 20 pages of academic research writing.

Prerequisite(s): ENG 105

ENG 111 - Technical Writing - Credits: 3.00
This course prepares the student in the areas of written and oral communication for professional situations. Instruction includes approaching writing rhetorically, employing techniques in document design and style of career-related communication. This course will emphasize effective professional communication in real-world applications.

ENG 225 - Creative Writing: Poetry - Credits: 3.00
Students will study the various techniques and forms of writing poetry. Students will be required to complete all assigned readings and weekly writing assignments. A writing journal is recommended.

ENG 230 - Creative Writing: Fiction - Credits: 3.00
Students will study the various techniques and forms of writing fiction. Students will also produce a variety of original fiction and participate in the critique of selected professional and student work.

Prerequisite(s): ENG 105

ENG 925 - Honors Research - Credits: 1.00
In this course, the student will work independently with a chosen Arts and Sciences English instructor on an English research project designed by the student and instructor. This course is restricted to members of the IHCC Academy or Phi Theta Kappa.

Prerequisite(s): Permission of Instructor.

English Language Learning
ENG 092 - College Writing Skills - Credits: 2.00
This course provides advanced instruction in critical thinking, reading and writing to support success in ENG 105 Composition I. It will enable the student to write paragraphs and essays that demonstrate grammatical, organizational and analytical competence while integrating ideas and information from academic tests. The student will review and practice basic grammar and writing skills necessary for college-level writing, as well as read, analyze, synthesize, and critically respond to college-level texts.

Prerequisite(s): ENG 105

ESL 002 - Cultural Orientation - Credits: 1.00
This course is designed for the new international student to better acclimate to American life, campus life, the educational system, and the community.

ESL 010 - ESL Writing I - Credits: 2.00
This course is designed for students with novice writing skills who need practice in basic writing and sentence structure. It is best suited for those who have studied some English but whose writing skills must be
developed through consistent, regular practice before they enroll in course work requiring college-level writing ability.

ESL 017 - ESL Skill Building I - Credits: 1.00
This course is specifically designed for non-native English-speaking students who are just beginning their program of study at Indian Hills Community College.

ESL 020 - English as a Second Language Lab - Credits: 2.00
This course will provide the non-native speaker of English with a variety of realistic laboratory tasks that will improve and expand their English fluency. The primary focus is to expand vocabulary, improve pronunciation, and to provide the students with experiences that will enhance their confidence in their English ability.

ESL 021 - ESL Listening II - Credits: 2.00
This course is designed for the English language learner who has progressed beyond basic listening proficiency but who needs continually guided practice to achieve the proficiency needed to perform successfully at an academic level.

ESL 024 - ESL Reading II - Credits: 2.00
This course is designed for the English language learner who is at an intermediate level of reading proficiency. The course focuses on vocabulary expansion and application of critical reading skills.

ESL 027 - ESL Speaking II - Credits: 2.00
This course is designed for the English language learner at intermediate oral English proficiency who needs to develop the speaking skills necessary to participate effectively in classroom discussions, with an emphasis on clarification through rewording and asking questions. Students participating in this class can be consistently understood by sympathetic listeners.

ESL 030 - ESL Writing II - Credits: 2.00
This course is designed for the English language learner who has progressed beyond basic writing, but who needs practice in developing the skills necessary for academic writing tasks. This course will introduce the student to a variety of writing topics and purposes.

ESL 037 - ESL Skill Building II - Credits: 1.00
This course is specifically designed for non-native English-speaking students who have either completed ESL Skill Building I or who evidence communicative competencies beyond those of a student who is just beginning a program of coursework at Indian Hills Community College.

ESL 041 - ESL Listening III - Credits: 2.00
This course is designed for the English language learner who has progressed beyond intermediate proficiency in listening but who needs guided practice and feedback to achieve a proficient consistency with successful comprehension in all academic coursework.

ESL 044 - ESL Reading III - Credits: 2.00
This course is designed for the English language learner at an advanced intermediate to advanced reading level, who still needs development to be able to read extensively and critically in English. Students will learn to apply reading strategies in order to comprehend lengthier texts on diverse academic topics.

ESL 047 - ESL Speaking III - Credits: 2.00
This course is designed to hone the oral communication, organization and pronunciation skills necessary for effective academic presentation and participation, leading to full participation in mainstream college classrooms. Most mainstream listeners in social and academic situations will understand the student.

ESL 050 - ESL Writing III - Credits: 2.00
This class is designed for the English language learner whose written proficiency is advanced intermediate or advanced, but who needs guided practice in order to participate successfully in academic classes requiring essays and papers. Students will learn to write structured, academic essays with emphasis on grammatical accuracy and cohesiveness.

ESL 057 - ESL Skill Building III - Credits: 1.00
This course is specifically designed for non-native English-speaking students who have completed ESL Skill Building I and II or who demonstrate a proficiency level above a basic level, but who still need to enhance communicative skills before beginning or continuing regular academic coursework at Indian Hills Community College.

ESL 077 - ESL Skill Building IV - Credits: 1.00
This course is specifically designed for the non-native English-speaking student who has completed ESL Skill Building I, II, and III (or their equivalents) but who wishes to spend the summer term polishing those competencies developed in previous coursework.

ESL 090 - Beginning ESL Communication - Credits: 3.00
This is a course for non-native speakers to improve language skills in academic reading, listening and speaking. This course is designed so a student could concurrently enroll in selected non-ESL courses.

ESL 091 - Intermediate ESL Communication - Credits: 3.00
This is a course for non-native speakers to refine language skills in academic reading, listening and speaking. This course is designed so a student could concurrently enroll in selected non-ESL courses.

ESL 092 - Advanced ESL Communication Skills - Credits: 3.00
This course is designed for non-native speakers to refine language skills in academic reading, listening and speaking. This course is designed so a student could concurrently enroll in selected non-ESL courses.
Entrepreneur
BUS 149 - Small Business Financial Management - Credits: 3.00
Successful entrepreneurial firms require careful financial management. This course covers a broad range of financial activities necessary for new businesses, including obtaining funding, managing cash flow, tracking financial transactions, paying taxes, and keeping the firm financially healthy. 
Prerequisite(s): BUS 128or BUS 130

BUS 155 - Customer Discovery and Development - Credits: 3.00
One of the key reasons new businesses fail is because they don’t make the sales they expected. This course is focused on solving this problem by finding potential customers, identifying products and services which meet the needs of those customers, and generating sales through effective selling strategies. Students will learn methods for successfully acquiring customers and generating higher revenue through increased sales.
Prerequisite(s): BUS 128or BUS 130

BUS 910 - Leading and Growing Entrepreneurial Companies - Credits: 3.00
Starting a business is easy, but keeping it open is difficult. This course is designed to prepare entrepreneurs for the increased complexity of managing a growing company. Topics include common human resources (HR) issues, legal requirements of a firm, and risk management. A strong emphasis is placed on creating and managing firm growth. The course also focuses on general best practices for successfully leading a company into the future.
Prerequisite(s): BUS 149 and BUS 155

Film & Theatre
DRA 101 - Introduction to Theatre - Credits: 3.00
This non-performance course provides a survey of the elements of theatre. Units of study include dramatic genres, theatre history, theory and criticism, and elements of design, acting and play production.

DRA 108 - Drama Excursions - Credits: 1.00
In this course, the student will attend a major production in an American metropolitan area. Class discussions and individual projects will be related to the visit.

DRA 109 - Drama Excursions II - Credits: 1.00
In this course, the student will attend a major production in an American metropolitan area. Class discussions and individual projects will be related to the visit.

DRA 110 - Introduction to Film - Credits: 3.00
This course explores motion pictures from functional, historical, and/or societal perspectives. Students will view motion pictures and then analyze them from these perspectives through class discussions, written assignments, and/or exams or quizzes.

DRA 130 - Acting I - Credits: 3.00
This class offers an introduction to fundamental techniques of acting including thought, emotion, specific movement and vocal technique. Emphasis is placed on improvisation and practical exercises leading to formal scene work. The ultimate goal is to develop a firm foundation in basic acting technique.

DRA 132 - Acting II - Credits: 3.00
This course deepens understanding and proficiency in the craft of acting through designated exercises, scene work, observations and discussion; includes physical action and dialogue.
Prerequisite(s): DRA 130

DRA 133 - Acting III - Credits: 3.00
This course focuses on individual acting skills while building skills on more challenging texts, including period scenes.
Prerequisite(s): DRA 132

DRA 162 - Technical Theatre - Credits: 3.00
This course introduces the student to the backstage crafts of theatre. Instruction includes scene design, parts and uses of the theatre, basic techniques of scenic carpentry, scene painting and stage lighting.

DRA 180 - Theatre Lab I - Credits: 1.00
This course provides the student with practical experience in theatre production on stage and/or backstage. Students will work as actors or technicians in one or more IHCC productions.
Prerequisite(s): Instructor permission.

DRA 181 - Theatre Lab II - Credits: 1.00
This course provides the student with practical experience in theatre production on stage and/or backstage. Students will work as actors or technicians.
in one or more IHCC productions.

**Prerequisite(s):** DRA 180

**DRA 235 - Acting Workshop - Credits: 3.00**
An intensive exploration of qualities that make up effective acting, the theatre workshop allows participants experience in essential aspects of the acting craft, including physical movement, vocal projection and variety, scene and character interpretation and development of emotional range.

**Prerequisite(s):** Instructor permission.

**DRA 280 - Theatre Lab III - Credits: 1.00**
This course provides the student with practical experience in theatre production onstage and/or backstage. Students will work as actors or technicians in one or more IHCC productions.

**Prerequisite(s):** Instructor permission.

**DRA 281 - Theatre Lab IV - Credits: 1.00**
This course provides the student with practical experience in theatre production onstage and/or backstage. Students will work as actors or technicians in one or more IHCC productions.

**Prerequisite(s):** Instructor permission.

**Finance**

**FIN 121 - Personal Finance - Credits: 3.00**
Personal Finance is a course that emphasizes budgeting, borrowing, taxation, consumer credit, savings, investments, insurance, and consumer protection.

**Foreign Language - French**

**FLF 131 - Elementary French I - Credits: 3.00**
Students will begin to communicate in French in both oral and written forms. Activities and cultural materials will emphasize communicative and cultural competencies. Students will compare the French language and francophone cultures with their own.

**FLF 132 - Elementary French II - Credits: 3.00**
Students will continue toward the goal of acquiring oral and written proficiency in communicative and cultural contexts. Students will continue to compare the French language and francophone cultures with their own.

**Prerequisite(s):** FLF 131 or equivalent.

**FLF 133 - Elementary French III - Credits: 3.00**
Students will increase their ability to communicate in French in both oral and written forms, continuing to explore similarities and differences in languages and cultures. They will make more connections in communication with the French-speaking world outside the classroom.

**Prerequisite(s):** FLF 132 or equivalent.

**FLF 145 - French I - Credits: 5.00**
This is a first year French course. Students will begin to communicate in French in both oral and written forms. Activities and cultural materials will emphasize communicative and cultural competencies. Students will compare the French language and francophone cultures with their own.

**FLF 231 - Intermediate French I - Credits: 3.00**
Intermediate French begins with a comprehensive review of skills acquired in the Elementary French sequence, and also provides further instruction in the communicative competencies of reading, writing, listening, and speaking, including grammar instruction for accuracy, as well as vocabulary development. Classes are conducted in French.

**Prerequisite(s):** FLF 133 or equivalent.

**FLF 232 - Intermediate French II - Credits: 3.00**
In this second course in the Intermediate French sequence, students will continue to develop proficiency in communication, using French to obtain, present, and interpret information. Accuracy in communication will be emphasized. Understanding of other cultures, disciplines and communities will be developed. Classes will be conducted in French.

**Prerequisite(s):** FLF 231 or equivalent.

**FLF 233 - Intermediate French III - Credits: 3.00**
Development of communicative skills will focus on obtaining, presenting and interpreting information in French. Accuracy in grammar and pronunciation will be emphasized. Students will have further opportunities to develop insight into the nature of language and culture through sustained practice in French. Classes will be conducted in French.

**Prerequisite(s):** FLF 232 or equivalent.

**FLF 245 - French II - Credits: 5.00**
Students will increase their ability to communicate in French in both oral and written forms, continuing to explore similarities and differences in languages and cultures. They will make more connections in communication with the French-speaking world outside the classroom.

**Prerequisite(s):** FLF 145 or equivalent.

**Foreign Language - Spanish**

**FLS 010 - Basic Spanish Conversation - Credits: 1.00**
Conversational Spanish is designed for English-speakers who wish to learn to carry out basic communication in Spanish, using basic vocabulary, phrases, and questions. The course also addresses cross-cultural issues pertinent to relationships between Hispanics and non-Hispanics.

**FLS 021 - Occupational Spanish: Law Enforcement I - Credits: 1.00**
This course is designed for English-speakers who wish to learn to carry out specific law enforcement protocols in making stops, searches, and arrests in Spanish, using basic phrases, questions and commands. Discussions will include cross-cultural issues pertinent to relationships between non-Hispanic officers and Hispanic community members.

**FLS 022 - Occupational Spanish: Law Enforcement II - Credits: 1.00**
This course is designed for English-speakers who use law enforcement protocols in vehicle stops, searches, traffic and parking citations in Spanish, using basic phrases, questions and commands. Discussions will include cross-cultural issues pertinent to relationships
between non-Hispanic officers and Hispanic community members.

FLS 024 - Occupational Spanish: Health Care - Credits: 1.00
Medical Spanish is designed for English-speakers who wish to learn to carry out specific, healthcare-related communication in Spanish, using basic phrases, questions and commands. The course also addresses cross-cultural issues pertinent to relationships between Hispanics and non-Hispanics.

FLS 026 - Occupational Spanish: Office/Work - Credits: 1.00
This course is specifically designed for English-speakers who wish to learn to carry out specific, job-related communication in Spanish, using basic phrases, questions, and commands. The course also addresses cross-cultural issues pertinent to relationships between non-Hispanic and Hispanic community members.

FLS 027 - Occupational Spanish: Industry - Credits: 1.00
This course is designed for English-speakers who wish to learn to carry out specific, job-related communication in Spanish, using basic phrases, questions, and commands. The course also addresses cross-cultural issues pertinent to relationships between Hispanics and non-Hispanics.

FLS 028 - Occupational Spanish: Education - Credits: 1.00
This course is designed for English-speakers who wish to learn to carry out specific, job-related communication in Spanish, using basic phrases, questions, and commands. The course also addresses cross-cultural issues pertinent to relationships between Hispanics and non-Hispanics.

FLS 125 - Spanish for Health Professionals - Credits: 3.00
Medical Spanish is designed for English-speakers who wish to learn to carry out healthcare related communication using Spanish. Students will learn to communicate orally in Spanish using basic phrases, questions, and commands necessary to carry out medical procedures. Discussions will cover cross-cultural issues pertinent to relationships between Hispanics and non-Hispanics.

FLS 131 - Elementary Spanish I - Credits: 3.00
A four-skills approach will be used—listening, reading, speaking and writing in Spanish. Activities and cultural materials will emphasize communicative and cultural competency, as well as begin a solid grammar foundation.

FLS 132 - Elementary Spanish II - Credits: 3.00
A four-skills approach will be used—listening, reading, speaking, and writing in Spanish. Activities and cultural materials will emphasize communicative and cultural competency, as well as begin a solid grammar foundation. **Prerequisite(s):** FLS 131 or Spanish placement test.

FLS 133 - Elementary Spanish III - Credits: 3.00
A four-skills approach will be used—listening, reading, speaking and writing in Spanish. Activities and cultural materials will emphasize communicative and cultural competency, as well as begin a solid grammar foundation. **Prerequisite(s):** FLS 132 or Placement Exam.

FLS 153 - Accelerated Elementary Spanish I - Credits: 5.00
This is a first-year Spanish course for students who have never taken Spanish. This course develops students speaking, listening, reading and writing skills so that they will be able to express their own ideas and communicate meaningfully in Spanish with others. Cultural knowledge of Spanish-speaking countries will also be addressed. **Prerequisite(s):** FLS 132 or Placement Exam.

FLS 154 - Accelerated Elementary Spanish II - Credits: 5.00
This is the second part of a first-year Spanish course for students who have never taken Spanish. This course develops student’s speaking, listening, reading and writing skills so that they will be able to express their own ideas and communicate meaningfully in Spanish with others. Cultural knowledge of Spanish speaking countries will also be addressed. **Prerequisite(s):** FLS 153; or FLS 131; FLS 132

FLS 231 - Intermediate Spanish I - Credits: 3.00
Intermediate Spanish will be comprised of a review of the skills acquired in the Elementary Spanish sequence. It will also continue instruction in the communicative competencies of reading, writing, listening and speaking. There will also be a bigger emphasis put on grammar for accuracy and usage. Vocabulary development will continue to be increased. Students will be required to produce more spoken Spanish. **Prerequisite(s):** FLS 133, FLS 154 or Spanish Placement Exam.

FLS 232 - Intermediate Spanish II - Credits: 3.00
Intermediate Spanish II will continue the review of the skills acquired in the Elementary Spanish sequence. It will also continue instruction in the communicative competencies of reading, writing, listening and speaking. There will also be a bigger emphasis put on grammar for accuracy and usage. Vocabulary development will continue to be increased. Students will be required to produce more spoken Spanish with even more emphasis put on pronunciation. Students will be required to communicate more readily in Spanish. **Prerequisite(s):** FLS 231 or Spanish Placement Exam.

FLS 233 - Intermediate Spanish III - Credits: 3.00
Intermediate Spanish III will continue the review of the skills acquired in the Elementary Spanish sequence. It will also continue instruction in the communicative competencies of reading, writing, listening, and speaking. There will also be a bigger emphasis put on grammar for accuracy and usage. Vocabulary development will continue to be increased. Students will be required to produce more
spoken Spanish with even more emphasis put on pronunciation. Students will be required to communicate more readily in Spanish.

**Prerequisite(s):** FLS 232 or Spanish Placement Exam.

**General Music**

**MUS 100 - Music Appreciation - Credits: 3.00**

This course is designed to develop musical perception in guided listening through the study of specific musical compositions. Also included is a general survey of musical terminology, stylistic periods and composers.

**MUS 102 - Music Fundamentals - Credits: 3.00**

Open to all interested students, this class is an introduction to the concepts of reading music. It is intended for the student with limited musical knowledge or background in music who wishes to study music theory, or for the student who wishes to learn to read music. Primary concepts of note reading, rhythm, scales, key signatures and intervals will be studied along with fundamental keyboard skills.

**MUS 115 - Music Theory I - Credits: 2.00**

This course is designed for music majors and others interested in music. This course is the beginning of the study of elementary harmony and its application in tonal music.

**MUS 116 - Music Theory II - Credits: 2.00**

A continuation of the study of elementary harmony, this course will investigate the application of the principles of voice leading, the use of triads and second inversion, and phrase structure and cadences.

**Prerequisite(s):** MUS 115 Instructor Approval

**MUS 117 - Music Theory III - Credits: 2.00**

The completion of the study of elementary harmony, this course will investigate the nature of harmonic progression, the technique of harmonization, and the introduction of non-harmonic tones and seventh chords.

**Prerequisite(s):** MUS 116 Instructor Approval

**MUS 135 - Music Theory Lab I - Credits: 1.00**

This is an introductory course to assist the student to develop accurate aural skills. A variety of activities will be used, including cognitive and aural recognition of intervals and chords, rhythmic dictation, sight singing and scale recognition.

**MUS 136 - Music Theory Lab II - Credits: 1.00**

This course continues in the development of accurate aural skills. A variety of activities will be emphasized including sight singing, interval recognition, chord recognition, rhythmic dictation and melodic dictation.

**Prerequisite(s):** MUS 135

**MUS 140 - Concert Choir - Credits: 1.00**

Chorus is a vocal ensemble open to all students interested in performance of choral music. The chorus will rehearse, prepare and perform at least one concert per term. An initial audition is required.

**MUS 141 - Concert Choir II - Credits: 1.00**

Chorus is a vocal ensemble open to all students interested in the performance of choral music. The chorus will rehearse, prepare and perform at least one concert per term. An initial audition is required.

**Prerequisite(s):** MUS 140

**MUS 142 - Concert Choir III - Credits: 1.00**

Chorus is a vocal ensemble open to all students interested in performance of choral music. The chorus will rehearse, prepare and perform at least one concert per term. An initial audition is required.

**Prerequisite(s):** MUS 141

**MUS 152 - Vocal Ensemble - Credits: 1.00**

Vocal Ensemble provides an opportunity to perform contemporary literature and utilize choreography in performances. The group will rehearse, prepare and perform at least one concert on campus per term, as well as community performances. An initial audition is required.

**MUS 170 - Jazz Band - Credits: 1.00**

This course features an instrumental ensemble designed for all interested students. An opportunity to rehearse and perform jazz and other musical styles will be provided.

**Prerequisite(s):** Permission of Instructor.

**MUS 171 - Jazz Band II - Credits: 1.00**

This course features an instrumental ensemble designed for all interested students. An opportunity to rehearse and perform jazz and other musical styles will be provided.

**Prerequisite(s):** MUS 170

**MUS 172 - Jazz Band III - Credits: 1.00**

This course features an instrumental ensemble designed for all interested students. An opportunity to rehearse and perform jazz and other musical styles will be provided.

**Prerequisite(s):** MUS 171

**MUS 205 - Jazz History and Appreciation - Credits: 3.00**

This course investigates the history, stylistic development and major figures of American jazz, with an emphasis on appreciation. All major jazz style periods will be examined from the roots in African music, the blues, early jazz, swing, bebop to contemporary developments.

**MUS 215 - Music Theory IV - Credits: 2.00**

This course entails advanced study of tonal harmony for the music student. Content will include analysis and study of chromaticism.

**Prerequisite(s):** MUS 117

**MUS 216 - Music Theory V - Credits: 2.00**

This course entails advanced study of tonal harmony for the music student. Content will include analysis
and study of chromaticism.

**Prerequisite(s):** MUS 215

MUS 217 - Music Theory VI - Credits: 2.00
This course entails advanced study of tonal harmony for the music student. Late nineteenth century and twentieth century musical techniques will be presented.

**Prerequisite(s):** MUS 216

MUS 235 - Music Theory Lab III - Credits: 1.00
This is a course to continue in the development of accurate aural skills. A variety of activities will be used including sight singing, chord recognition, rhythmic dictation and melodic dictation.

**Prerequisite(s):** MUS 136

MUS 236 - Music Theory Lab IV - Credits: 1.00
This is a course to continue the development of accurate aural skills. A variety of activities will be emphasized including sight singing, chord recognition, melodic dictation and harmonic dictation.

**Prerequisite(s):** MUS 235

MUS 240 - Concert Choir IV - Credits: 1.00
Chorus is a vocal ensemble open to all students interested in performance of choral music. The chorus will rehearse, prepare and perform at least one concert per term. An initial audition is required.

**Prerequisite(s):** MUS 142

MUS 241 - Concert Choir V - Credits: 1.00
Chorus is a vocal ensemble open to all students interested in performance of choral music. The chorus will rehearse, prepare and perform at least one concert per term. An initial audition is required.

**Prerequisite(s):** MUS 240

MUS 242 - Concert Choir VI - Credits: 1.00
Chorus is a vocal ensemble open to all students interested in performance of choral music. The chorus will rehearse, prepare and perform at least one concert per term. An initial audition is required.

**Prerequisite(s):** MUS 241

MUS 249 - Music Theory Lab V - Credits: 1.00
A continuation of Theory Lab IV, this course trains the future music student in increasingly challenging melodic, harmonic, and rhythmic dictation, music transcription, and sight-singing.

**Prerequisite(s):** MUS 236

MUS 252 - Vocal Ensemble II - Credits: 1.00
Vocal Ensemble II provides an opportunity to perform contemporary literature and utilize choreography in performances. The group will rehearse, prepare and perform at least one concert on campus per term, as well as community performances. An initial audition is required.

**Prerequisite(s):** MUS 152

MUS 253 - Vocal Ensemble III - Credits: 1.00
Vocal Ensemble III provides an opportunity to perform contemporary literature and utilize choreography in performances. The group will rehearse, prepare and perform at least one concert on campus per term, as well as community performances. An initial audition is required.

**Prerequisite(s):** MUS 252

MUS 254 - Vocal Ensemble IV - Credits: 1.00
Vocal Ensemble IV provides an opportunity to perform contemporary literature and utilize choreography in performances. The group will rehearse, prepare and perform at least one concert on campus per term, as well as community performances. An initial audition is required.

**Prerequisite(s):** MUS 253

MUS 255 - Vocal Ensemble V - Credits: 1.00
Vocal Ensemble V provides an opportunity to perform contemporary literature and utilize choreography in performances. The group will rehearse, prepare and perform at least one concert on campus per term, as well as community performances. An initial audition is required.

**Prerequisite(s):** MUS 254

MUS 256 - Vocal Ensemble VI - Credits: 1.00
Vocal Ensemble VI provides an opportunity to perform contemporary literature and utilize choreography in performances. The group will rehearse, prepare and perform at least one concert on campus per term, as well as community performances. An initial audition is required.

**Prerequisite(s):** MUS 255

MUS 270 - Jazz Band IV - Credits: 1.00
This course features an instrumental ensemble designed for all interested students. An opportunity to rehearse and perform jazz and other musical styles will be provided.

**Prerequisite(s):** MUS 172

MUS 271 - Jazz Band V - Credits: 1.00
This course features an instrumental ensemble designed for all interested students. An opportunity to rehearse and perform jazz and other musical styles will be provided.

**Prerequisite(s):** MUS 270

MUS 272 - Jazz Band VI - Credits: 1.00
This course features an instrumental ensemble designed for all interested students. An opportunity to rehearse and perform jazz and other musical styles will be provided.

**Prerequisite(s):** MUS 271

MUS 293 - Music Excursions - Credits: 1.00
Students will visit and study important musical events or institutions in a major American city. Class discussions and individual projects will be designed to supplement the visit.

**Prerequisite(s):** MUS 293

MUS 309 - Concert Choir VII - Credits: 1.00
Students will participate in a large, non-auditioned choir.

**Prerequisite(s):** MUS 309

MUS 318 - Concert Choir VIII - Credits: 1.00
The student will participate in a large, Non-auditioned choir
MUS 319 - Concert Choir IX - Credits: 1.00
The student will participate in a large, non-auditioned choir.

MUS 339 - Music Theory Lab VI - Credits: 1.00
This is an advanced aural skills course designed to further the skills acquired in Theory Labs I-V. It is intended for those students who are planning to continue further music study, but is open to any student who meets the basic skills requirements for the course, as determined by the instructor. Aural skills will include melodic, harmonic, and rhythmic dictation, and sight-singing. **Prerequisite(s):** MUS 249

MUS 950 - Special Topic - Credits: 1.00
This course provides students the opportunity to study special topics in music as determined by the student and the instructor. **Prerequisite(s):** Instructor Consent

**General Phys Ed & Health**

PEH 102 – Health - Credits: 3.00
This course will present an overview of a variety of health related topics. Instructional areas will include reproduction, mental health, smoking, alcohol, drugs, marriage, family, child abuse, nutrition, fitness, diseases, aging, dying, and death.

PEH 115 - Wellness Education - Credits: 3.00
This course will introduce students to the components of physical fitness, including muscular strength, muscular endurance, flexibility, cardiovascular endurance and body composition. Students will integrate information on nutrition, weight training and cardiovascular exercise into the development of a total exercise program. The course will consist of lecture and exercise sessions.

PEH 142 - First Aid - Credits: 3.00
The course will present an overview of various first aid techniques. An emphasis will be placed on multi-medical first aid procedures and CPR techniques. Class will be divided between instructor's lecture over assigned readings, questions, discussion, and practical application.

PEH 162 - Introduction to Physical Education - Credits: 3.00
In this course students will be introduced to all aspects of physical education. Topics will include the nature and scope of the discipline, its history, PE settings and the future of physical education.

PEH 176 - Sport Psychology - Credits: 3.00
This course examines the principles of sport psychology as they apply to the coaching setting. Emphasis will be placed on such topics as team cohesion, building a positive team environment, identifying and encouraging team leadership, motivating athletes, attentional focus and the coach/athlete relationship.

PEH 210 - Elementary Physical Education - Credits: 3.00
This course will introduce students to fundamentals of physical education and health programs for elementary students. Teaching methodologies and curriculum development will be explored. The student will be provided with the opportunity to experience working with children of this age group in a physical education setting.

PEH 215 - Introduction to Secondary Physical Education - Credits: 3.00
This course will introduce students to aspects of secondary physical education.

**Geography**

GEO 121 - World Regional Geography - Credits: 3.00
This course covers World Geography using a regional geography perspective. The geopolitical, economic, cultural, and physical geography of various world regions will be studied. Comprehension of geographic terms and concepts will be emphasized.

GEO 924 - Honors Project - Credits: 1.00
In this course, the student will work independently with a chosen Arts and Sciences geography instructor on a social science research project designed by the student and instructor. This course is restricted to members of the IHCC Academy or Phi Theta Kappa.

GEO 949 - Special Topics - Credits: 1.00
This course explores specialized topics in the field of geography. A contract between the student and an Arts and Sciences geography instructor outlining the educational project is required.

**Geospatial Technology**

GIS 100 - Introduction to Geospatial Technologies - Credits: 3.00
This course will introduce the student to terminology, concepts, applications, data acquisition, trends and careers using geospatial technology. This course includes an overview of hardware, software, online mapping machines, and related technologies, such as Geographic Information Systems (GIS), Remote Sensing (RS), and Global Positioning Systems (GPS). The applications of GIS across various disciplines, such as business, government and the private sector, will also be introduced.

GIS 111 - Introduction to Geographic Information Systems - Credits: 3.00
This course will allow the students to learn the basics of working with existing GIS data and maps and the creation of new maps. The student will use the ArcView software when working with their projects. Topics will include map design, GIS outputs, geodatabases, geocoding, importing and analyzing spatial data. **Prerequisite(s):** GIS 100

GIS 121 - Introduction to Data Bases - Credits: 3.00
Students will acquire the skills necessary to define, create, manage and integrate databases into their GIS applications using Microsoft Office software. Additional databases, including Census information, available data sets and geodatabases from...
government, private and educational sources and other data resources will also be explored.

GIS 130 - Remote Sensing - Credits: 3.00
In this class students will create different projects from an approved list using GIS applications. Topics will include project planning, workflow, management, and data acquisition. GIS applications will be used to create, edit and analyze maps and presentation of completed map project.
Prerequisite(s): GIS 230

GIS 140 - Global Positioning Systems - Credits: 2.00
This course will introduce the student to Global Positioning Systems (GPS), and their use in Geospatial Technologies. Students will work with mobile GPS units to become familiar with their functions and learn to record GPS coordinates for use in projects.

GIS 170 - Introduction to Raster Based GIS - Credits: 3.00
This course will introduce raster-based GIS sets, raster-based information such as images or photographs, how to acquire raster-based data, processing and merging raster data with vector data and storing GIS information in raster-based structures.
Prerequisite(s): GIS 230

GIS 180 - GIS Tools and Methods - Credits: 3.00
This course will introduce the student to work objects that help streamline a GIS project. Topics include building menus, tools, workflows and applications. Methods would include adding layers to maps, defining layer symbology, querying data and creating dynamic layouts.

GIS 190 - GIS Programming - Credits: 3.00
This course will introduce the student to the most current programming languages and applications relevant to the needs of the GIS industry, which may include those pertinent to desktop, online, and mobile GIS applications. Students will be able to write, test and debug computer programs for use in their GIS projects.

GIS 200 - Introduction to Cartography - Credits: 3.00
This course introduces the student to the field of cartographic principles and the core components for good map design. Topics cover map layout and design, effective fonts, white space, color basics and customized symbols. Map scale, projection, coordinate systems and types of maps (topographic, thematic, etc.) will be explored. GIS software will be used in this class.

GIS 205 - GIS Data Acquisition and Analysis - Credits: 3.00
This course will cover the different means of data acquisition for GIS projects. Topics include creation or mining of GIS data resources; transferring data GPS data to GIS applications; processing GPS data for GIS applications; understanding metadata; recognizing different spatial data structures (raster, vector, 3D models, tabular, topographic); data providers; data management; standards for spatial data; data storage and access; and using GIS for geospatial modeling and analysis.

GIS 230 - GIS Applications - Credits: 3.00
In this class students will create different projects from an approved list using GIS applications. Topics will include project planning, workflow, management and data acquisition. GIS applications will be used to create, edit and analyze maps and presentation of completed map project.
Prerequisite(s): GIS 111

GIS 800 - GIS Field Project I - Credits: 2.00
This course covers the analysis, design, documentation and presentation of a GIS project in a group environment. Knowledge and practical experience will be gained by this project chosen from real-world projects.
Prerequisite(s): GIS 230; GIS 205

GIS 801 - GIS Field Project II - Credits: 2.00
This course covers the development, documentation and presentation of a GIS project in a group environment. Knowledge will be gained by creating the project using GIS software and tools, creating the user documentation, and presenting the final project.
Prerequisite(s): GIS 800

GIS 900 – Internship - Credits: 4.00
Students enrolled in this course will work in an industry GIS department or under the supervision of an approved GIS professional. Emphasis will be on the integration of academic skills with the practical experience.
Prerequisite(s): GIS 230

GIS 949 - Special Topics in GIS - Credits: 3.00
This course covers the analysis and experimentation of new GIS tools or methods. Instructor approval for project selection is required. Knowledge will be gained by experimenting and documenting the methods and tools with a final presentation of results.
Prerequisite(s): GIS 180

Graphic Communications
GRA 127 - Illustrator I - Credits: 3.00
This course teaches many skills, including how to draw illustrations, transform objects, work with layers, patterns, brushes and filters, use effects, create graphics for the web, create graphs and prepare files for print production.

GRA 135 – InDesign - Credits: 2.00
This course offers creative projects, concise instructions, and complete coverage of basic InDesign skills, such as: creating comprehensive layouts, including formatting text and body copy, designing display headlines, setting up a document, working with process and non-process colors and placing graphics from Adobe Illustrator and Adobe Photoshop.

GRA 143 - Photoshop I - Credits: 2.00
This course offer creative projects, concise
instructions, and complete coverage of basic Photoshop skills, which include: working with layers, making selections, adjusting color techniques, using paint tools, working with filters and transforming type.

GRA 145 - Photoshop III - Credits: 3.00
This course offers creative projects, concise instructions, and extensive coverage of advanced design and Photoshop skills, helping to create polished, professional-looking graphics.

Prerequisite(s): GRA 127 and GRA 143 or GRD 210

GRA 222 - Illustrator II - Credits: 2.00
This course is designed with many hands-on activities to enable students to be proficient in the advanced features of Illustrator. Topic include: creating graphics, drawing with symbols, creating 3-D objects and preparing a document for prepress and printing.

Prerequisite(s): GRA 127

GRA 224 - InDesign II - Credits: 2.00
This course is designed with many hands-on activities to enable students to be proficient in the advanced features of InDesign. Topics include: working with tabs and tables, making books, exploring advanced techniques, and preparing, packaging and exporting documents.

Prerequisite(s): GRA 135

GRA 226 - Photoshop II - Credits: 2.00
This course is designed with many hands-on activities to enable students to be proficient in the advanced features of Photoshop. Topic include: enhancing specific selections, adjusting color, using clipping masks, liquefying an image, performing image surgery, annotating and automating an image and creating images for the web.

Prerequisite(s): GRA 143

GRA 250 – Dreamweaver - Credits: 2.00
This course is designed with many hands-on activities to enable students to learn to create web pages with Dreamweaver. Topics include: exploring the Dreamweaver workspace, developing a web page, working with text and graphics, working with links, working with tables, collecting data with forms, using styles and style sheets and positioning objects with layers.

Prerequisite(s): CIS 205; or BCA 185

GRA 251 - Dreamweaver II - Credits: 2.00
This course is designed with many hands-on activities in the advanced features of Dreamweaver. Topics include: adding multimedia elements, creating and using templates, working with library items and snippets and managing a web server and files.

Prerequisite(s): GRA 250

Graphic Design
GRA 280 - Audio/Video Production Basics - Credits: 3.00
This course offers creative projects, concise instructions and complete coverage of basic Premier Pro, After Effects and Audition Skills, which include: capturing, editing, and publishing video, adding animated text, digital motion graphics, and visual effects to video, and editing, mixing and exporting audio.

Prerequisite(s): ENG 101 ENG 105

GRA 281 - Audio/Video Production Basics II - Credits: 3.00
This course offers more advanced creative projects utilizing Adobe Premiere Pro, After Effects, and Audition. Students will enhance skills including capturing, editing, and publishing video, adding animated text, digital motion graphics, and visual effects to video, and editing, mixing, and exporting audio.

Prerequisite(s): GRA 280

GRA 299 - Technical Document Components - Credits: 2.00
This course will cover the different sections included in technical documents including bill of materials, safety features and warnings, regulatory agency requirements, copyrights, technical glossaries, indexes, etc. Students will investigate and create documents utilizing components discovered through internet research.

GRD 105 - Design Basics - Credits: 3.00
This course provides the student with an overview of graphic design and the profession. Students will study the basic fundamentals of design for both print and web applications.

Corequisite(s): GRD 110

GRD 110 - Introduction to Computer Graphics - Credits: 3.00
This course provides the student with an overview of the industry standard software for web authoring, animation and multimedia, and graphics. Students will be led through the features of Adobe Dreamweaver, Flash and Fireworks by working on hands-on exercises. Students will create a variety of projects for their portfolio.

Corequisite(s): GRD 105 Design Basics

GRD 210 - Computer Graphics II - Credits: 3.00
This course provides the student with an overview of the industry standard software for web authoring, animation and multimedia, and graphics. Students will be led through the features of the software by working on hands-on exercises. Students will create a variety of projects for their portfolio.

Prerequisite(s): GRD 110

GRD 220 - Web Animation - Credits: 3.00
This course teaches how to create and publish interactive, multimedia animations and web sites with industry standard web authoring and animation software.

Prerequisite(s): GRD 110

GRD 910 - Portfolio Development - Credits: 2.00
Students will finalize an electronic portfolio of their work for a college transfer application or employment opportunities as well as refine their career advancement skills. Additional topics include job
markets, resume development, interviewing and portfolio presentation.

**Health Information Technology**

**HIT 125 - Essentials of Health Records - Credits: 2.00**  
This course introduces the student to the components of the health record. An overview of the departments in the health care facility and the role of the health care team members will be discussed. The importance of confidentiality, child and dependent adult abuse reporting, HIPAA and infection control principles will be addressed.

**HIT 126 - Health Records Laboratory - Credits: 1.00**  
This laboratory course involves preparing various types of records in accordance with Standards for Certification and Accreditation. The course will provide extensive practice exercises to help students become proficient in basic health record functions.

**HIT 130 - Health Record Systems - Credits: 3.00**  
This course emphasizes the Standards for Certification and Accreditation of records in alternate facilities. Trends in health care delivery will be presented.  
**Prerequisite(s):** HIT 125; HIT 126

**HIT 141 - Health Law and Ethics - Credits: 3.00**  
Federal, state, and local law governing the preparation and use of health information is the focus of this course. Particular attention is paid to HIPAA and other regulations regarding privacy and confidentiality. Ethical issues, as they relate to the use of health information, are covered.

**HIT 161 - Health Information E-Systems - Credits: 3.00**  
Emphasis in this course is on emerging technologies, including software, that are changing the management of health information.  
**Prerequisite(s):** HIT 130; HIT 325

**HIT 221 - Compliance/Risk Management - Credits: 3.00**  
Fundamentals of loss exposure, negligence, liability, litigation management and loss prevention are examined. The role and responsibilities of the Compliance Officer are emphasized throughout the course.  
**Prerequisite(s):** HIT 141

**HIT 225 - Leadership and Organization - Credits: 3.00**  
Leadership skills and techniques, especially in a team environment, are the focus of this course. Students will become familiar with the basics of organizational management through problem-solving activities.  
**Prerequisite(s):** HIT 141; HIT 531

**HIT 227 - Health Statistics - Credits: 3.00**  
Basic descriptive statistics used in preparing monthly and yearly reports are presented in this course. Students will use statistics to analyze data and generate reports.  
**Prerequisite(s):** HIT 530

**HIT 260 - ICD-10 Diagnostic Coding - Credits: 2.00**  
This course is designed to develop skills in the use of the International Classification of Disease, Tenth Revision, Clinical Modification (ICD-10-CM). Students will review medical diagnostic statements and assign appropriate alpha-numeric code(s). Laboratory session include diagnostic coding applications.  
**Prerequisite(s):** HIT 125; HIT 126

**HIT 270 - ICD-10 Procedural Coding - Credits: 2.00**  
This course is designed to develop skills in the use of International Classification of Disease, Tenth Revision, Procedural Coding System (ICD-10-PCS). Students will review procedural information and assign appropriate alpha-numeric code(s). Laboratory session include procedural coding applications.  
**Prerequisite(s):** HIT 125; HIT 126

**HIT 290 - Reimbursement Methods - Credits: 3.00**  
This course provides students with the opportunity to study the uses of coded data and health information reimbursement systems appropriate to all health care settings. Emphasis will include prospective payment systems, charge master maintenance and identification of fraudulent billing practices.  
**Prerequisite(s):** HIT 270 and HIT 260 - ICD-10 Diagnostic Coding; HIT 130

**HIT 325 - CPT Coding - Credits: 3.00**  
This course is designed to develop skills in the use of Current Procedural Terminology (CPT). Students will review procedures and services performed by physicians and other healthcare providers and assign appropriate code(s). Laboratory sessions include procedural coding applications.  
**Prerequisite(s):** HIT 260; HIT 270

**HIT 410 - Practical Coding Application - Credits: 3.00**  
This course provides students with the opportunity to become proficient coders. Students will apply coding guidelines, rules and regulations. Course activities consists of case scenarios and chart coding using the International Classification of Disease, Tenth Revision, Clinical Modification (ICD-10-CM), International Classification of Disease, Tenth Revision, Procedural Coding System (ICD-10-PCS) and Current Procedural Terminology (CPT) Coding systems. Alternative coding applications will be explored.  
**Prerequisite(s):** HIT 325

**HIT 440 - Quality Management - Credits: 3.00**  
This course will expose the student to the basics of a quality improvement program. Emphasis will be placed on medical care evaluation procedures. Criteria development, variation, deficiency analysis and data display techniques will be introduced. Medical record peer review, ancillary audit techniques and utilization review will be discussed.  
**Prerequisite(s):** HIT 325

**HIT 530 - Professional Experience I - Credits: 1.00**  
This professional practice experience is designed to
provide the student with an opportunity to experience and perform functions relevant to Health Information Management.

**Prerequisite(s):** HIT 125; HIT 126

HIT 531 - Professional Experience II - Credits: 5.00
This professional practice experience is designed to provide the student with an opportunity to obtain foundation building Health Information Management skills applicable to various healthcare settings.

**Prerequisite(s):** HIT 530; HIT 141; HIT 325; HIT 701

HIT 532 - Professional Experience III - Credits: 5.00
This professional practice experience is designed to provide the student with an opportunity to build on their foundation of knowledge skills. The student will perform numerous management functions within the Health Information Management Department and other associated departments.

**Prerequisite(s):** HIT 227; HIT 440; HIT 410; HIT 531

HIT 700 - Virtual Lab Exploration I - Credits: 1.00
In this course the student will be introduced to the virtual laboratory. The student will establish the foundation of the electronic patient record at a beginner level with exercises/applications.

**Prerequisite(s):** HIT 125; HIT 126

HIT 701 - Virtual Lab Exploration II - Credits: 1.00
In the course the student will explore the Quadrax Quantim and the 3M Coding and Reimbursement applications. The student will be accessing electronic health records in the V-Lab and assigning appropriate diagnoses and procedure codes while analyzing their impact on reimbursement.

**Prerequisite(s):** HIT 270; HIT 260; HIT 700

HIT 702 - Virtual Lab Exploration III - Credits: 1.00
In this course the student will employ advanced techniques in electronic health records management. The student will provide analysis and display of dataset searches using multiple graphic techniques.

**Prerequisite(s):** HIT 161; HIT 701

HIT 950 - HIT Seminar - Credits: 1.00
This course reviews curriculum content pertinent to the Registered Health Information Technician accreditation examination. The application of critical thinking skills is included. Mock examinations will be given.

**Prerequisite(s):** HIT 440

**Health Sciences**

HIT 211 - Basic Medical Insurance and Coding - Credits: 3.00

HSC 100 - Health Career Exploration & Leadership - Credits: 3.00
This course allows participants the opportunity to narrow their interest and focus in a health occupations career. Educational and career planning is discussed. Skills vital to the success of college students and prospective health occupations professionals will be addressed.

HSC 113 - Medical Terminology - Credits: 2.00
This course offers a study of the basic medical language essential to health occupations careers. Emphasis will be placed on word analysis and construction, definitions, pronunciation, spelling, and standard abbreviations.

HSC 141 - Pharmaceutical Applications - Credits: 1.00
This course provides information on the classification of drugs, their generic names and normal route of administration. Accurate spelling is emphasized.

HSC 201 - Health Care Exploration - Credits: 2.00
This course provides an exploration of various health professions, through classroom and career shadowing. This course presents historical and current trends within the healthcare system. The skills, roles and functions of various professions and their differences in education and licensure or certification will be covered. Self-reflection as it relates to career choices, professionalism, ethical issues, confidentiality, and legal concerns will also be discussed.

HSC 212 - Pathophysiology - Credits: 3.00
The nature, cause, and treatment of disease are the focus of pathophysiology. The characteristics and etiology of diseases are presented using appropriate medical terminology to help students understand the relationship between clinical signs and disease processes.

HSC 227 - CLA Administrative Procedures - Credits: 2.00
This course presents basic concepts related to the health record, CPT and ICD coding, ethical issues, and communication. Students will use information systems to input data. Procedures for assessing vital signs and performing electrocardiograms will be introduced.

**Prerequisite(s):** MLT 175; MLT 136

HSC 230 - Employment Preparation - Credits: 1.00
This course is designed for students preparing to seek employment. Written documents including letters and resumes will be discussed and created. Job seeking techniques including interviewing skills and human relations skills will also be addressed.

**Health Unit Coordinator**

HUC 121 - Health Unit Coordinator - Credits: 5.00
This course introduces the basic concepts required to function as a Health Unit Coordinator in a health care facility. Students will gain knowledge in requisitioning basic diagnostic tests, ordering unit supplies, using customer service skills, transcribing physician orders and maintaining the health record.

**Prerequisite(s):** HSC 113; HIT 125

HUC 122 - HUC Practicum - Credits: 2.00
This practicum experience is completed in a health care setting. Knowledge and skills acquired in the classroom and laboratory environment will be utilized...
in performing Health Unit Coordinator responsibilities.

**Corequisite(s):** HUC 121

# Heating & Air Conditioning

**HCR 105 - Heating/Cooling Fundamentals - Credits: 2.00**
This facilitated course covers the basic principles of heating/cooling systems, components and design. The basic concepts of heat exchangers, refrigerant flow control and types of fuels are also included.

**HCR 108 - Heating and Air Conditioning Trade Codes - Credits: 2.00**
An initial portion of this course teaches how to use the Mechanical Code Manual properly. A general study of the codes necessary for installation of heating equipment, ventilating equipment, and fuel-gas piping is emphasized.

**Prerequisite(s):** HCR 105

**HCR 130 - Heating System Controls - Credits: 2.00**
This facilitated course covers heating systems and controls including proper safety procedures, operational theory, parts identification, component parts rebuilding, replacement, unit repair and operational procedures. Basic application of controls and related devices in heating systems, troubleshooting and failure analysis will also be covered.

**Prerequisite(s):** HCR 304

**HCR 304 - Fundamentals of Refrigeration - Credits: 2.00**
This facilitated course covers the basic principles of heating/cooling systems, components and design. The basic concepts of heat exchangers, refrigerant flow control and types of fuels are also included.

**HCR 390 - Refrigeration Certification - Credits: 1.00**
This facilitated course will cover the history, basic theory, and principles of refrigerant handling; (recovery, recycling, and reclaiming) and will prepare the student for the Environmental Protection Agency (EPA) certification exam.

**HCR 830 - Systems Analysis - Credits: 1.00**
This is a facilitated course covering commercial refrigeration, including proper safety procedures, operational theory, part identification, component parts rebuilding, replacement, unit repair, operational procedures and troubleshooting.

**Prerequisite(s):** HCR 230

---

# History

**HIS 110 - Western Civilization: Ancient to Early Modern - Credits: 3.00**
This course examines the development of the earliest civilizations in Mesopotamia and the Mediterranean region, the medieval world of Manorialism and Feudalism, the Investiture Conflict, the Crusades, the Renaissance and Reformation, the Thirty Years War, the English Civil War and the Age of Louis XIV.

**HIS 111 - Western Civilization: Early Modern to Present - Credits: 3.00**
This course examines the background to the French Revolution, the French Revolution, the Napoleonic era, industrialization and nationalism, German and Italian unification, neo-colonialism, WWI, the Russian Revolution, the interwar period, the rise of Fascism and Nazism, WWII, the Cold War, the collapse of communism and the emergence of the European Union.

**HIS 121 - Ancient Mediterranean World - Credits: 3.00**
This course examines the cultural, political, and historical heritages of ancient Egypt, Mesopotamia, the Levant, Greece and Rome.

**HIS 125 - Modern Europe - Credits: 3.00**
This course will examine the development of European civilization in the 20th century and the early 21st century. Topics for study will include: imperialism and decolonization, WWI and WWII, the growth of the European Union and the development of modern political ideologies. Liberalism, conservatism and fascism, the rise and fall of communism, as well as the cultural and scientific accomplishments of this period will also be discussed.

**HIS 141 - History of Asia - Credits: 3.00**
This course examines the origin and impact of Asiatic religions; the formation of empires in China, India, and Southeast Asia; the development of Japanese culture and civilization and the modern era in Eastern and Southeastern Asia.

**HIS 151 - U.S. History to 1877 - Credits: 3.00**
This course covers European discovery and settlement of the Americas. Topics include: European colonial expansion, colonial wars, colonial governments, the Revolutionary War, the adoption of the Constitution and the growth and development of the United States through the Civil War and Reconstruction.

**HIS 152 - U.S. History since 1877 - Credits: 3.00**
This course examines Westward expansion, industrialization, immigration, and urbanization. Topics include populism and the Progressive Era, WWI, the Roaring Twenties, the Great Depression, WWII, the Cold War and the post-Cold War period.

**HIS 214 - Russian History and Culture - Credits: 3.00**
This course covers the history of Russia from 800 to the present. Topics include the rise of Kievan Russia, the Mongol invasions, the expansion of Moscow, the Romanov dynasty, the creation of the Russian

---

302
Empire, the Russian Revolution and the Soviet period and its collapse.

HIS 257 - African American History - Credits: 3.00
The scope of this course includes a study of slavery and its effects and an examination of African Americans' struggle for political, economic and social equality from emancipation through recent times. Students will also explore various African-American cultural contributions to the larger American society.

HIS 927 - Honors Study - Credits: 1.00
In this course, the student will work independently with a chosen Arts and Sciences social science instructor on a social science research project designed by the student and instructor. This course is restricted to members of the IHCC Academy or Phi Theta Kappa.
Prerequisite(s): Permission of Instructor.

HIS 949 - Special Topics - Credits: 1.00
This course explores specialized topics in the field of social science. A contract between the student and an Arts and Sciences social science instructor outlining the educational project is required.
Prerequisite(s): Permission of Instructor.

Hospitality, Culinary, Management

HCM 101 - Safety/Sanitation - Credits: 1.00
This course introduces the basic principles of safety and sanitation and their relationship to the foodservice industry. Topics include the sanitation challenge, the flow of food through the operation, clean and sanitary facilities and equipment, accident prevention and crisis management and sanitation management.

HCM 102 - Food Service Technology - Credits: 1.00
This course offers a broad overview of the food service industry with emphasis placed upon sanitation and safety, terminology, equipment, structure of the recipe, mise en place and basic principles of cooking. The student should become aware of what a foodservice career offers and what a successful foodservice career involves.

HCM 114 - Basic Baking (lec) - Credits: 2.00
This course will allow the student the use of weights and measurements as it relates to a retail bakery. The student will learn various ingredients and will learn to mix, blend and combine ingredients into bakery products. The use of scales, utensils and bakery equipment will be included.
Prerequisite(s): HCM 261; HCM 101; HCM 102; HCM 163

HCM 115 - Basic Baking (lab) - Credits: 4.00
This course is a basic introduction to the study of methods in producing various sweet goods and breads. The student will learn manipulative skills and use equipment in baking a variety of sweet goods and breads.
Prerequisite(s): HCM 261; HCM 101; HCM 102; HCM 163

HCM 118 - Advanced Baking (lec) - Credits: 2.00
This course focuses on the study of baking with ingredients to develop a more profound understanding of baking methods. Information will be presented to the student in the making of unique and elegant creations.
Prerequisite(s): HCM 114; HCM 115

HCM 119 - Advanced Baking (lab) - Credits: 4.00
This course will introduce pastry and bread techniques for the more advanced baking professional. The student prepares advanced pastry and bread items under real life production conditions for demand and volume.
Prerequisite(s): HCM 114; HCM 115

HCM 145 - Garde Manger(lab) - Credits: 3.00
This course allows the student to apply knowledge of fruits, vegetables and starches to prepare, garnish and merchandise a variety of main course, accompaniment and dessert salads, sandwiches and hors d’oeuvres.
Prerequisite(s): HCM 101; HCM 102; HCM 163

HCM 146 - Cold Food Principles(lec) - Credits: 1.00
This course content ranges from the simple identification of fruits, vegetables and starches to the presentation of an elegant salad buffet. The student will learn how the color, texture and other characteristics of these products can be blended to prepare salads, sandwiches and hors d’oeuvres.
Prerequisite(s): HCM 101; HCM 102

HCM 149 - Principles of Cooking (lab) - Credits: 4.00
This course will allow students to prepare meats, poultry, fish and shellfish entrees with accompaniment dishes using all methods of cooking.
Prerequisite(s): HCM 101; HCM 102; HCM 163

HCM 150 - Shellfish, Poultry, Meats(lec) - Credits: 1.00
This course will introduce the composition and structure of meats, poultry, fish and shellfish so the student can understand the relationship between structure and cooking technique. Quality assurance and grading will be covered along with proper handling, cooking and storage.
Prerequisite(s): HCM 101; HCM 102; HCM 163

HCM 151 - Stocks, Soups, Sauces - Credits: 1.00
This course will provide the foundation for the sauces and soups of fine cuisines. The student will develop knowledge of and skill in the relationship between the preparation of quality stocks, soups and sauces.
Prerequisite(s): HCM 101; HCM 102; HCM 163

HCM 163 - Culinary Skills(lab) - Credits: 3.00
This course will instruct students in basic culinary skills. Students will become familiar with the safe operation of food processing equipment, develop hand skills and practice proper sanitation techniques. Development of good work habits and effective use of time and work space will be emphasized.

HCM 174 - International Cuisine (lab) - Credits: 4.00
This course will allow the student to explore a variety of cultures and cuisine by planning, preparing and
serving theme dinners.

**Prerequisite(s):** HCM 150; HCM 149; HCM 151

HCM 184 - International Cuisine Excursion I - Credits: 6.00
This course will allow the student to explore a variety of cultures and cuisine by traveling abroad, learning international culinary techniques, experiencing cultural exchanges and networking globally in preparation for a career in foodservice.

**Prerequisite(s):** HCM 150; HCM 149; HCM 151.
Permission of Instructor.

HCM 185 - International Cuisine Excursion II - Credits: 6.00
This course will allow the student to explore a variety of cultures and cuisine by traveling abroad, learning international culinary techniques, experiencing cultural exchanges and networking globally in preparation for a career in foodservice.

**Prerequisite(s):** Permission of Instructor.

HCM 200 - Dining Service - Credits: 2.00
This course will help the student acquire the skills to communicate with culinary employers, employees and customers. The student will develop professional skills in table side and banquet service. Students should be aware that several lab hours are outside of the regular academic day.

**Prerequisite(s):** HCM 261; HCM 101; HCM 102; HCM 163

HCM 201 - Fine Dining Experience (lab) - Credits: 1.00
This course will provide the student with experience in advanced table side service from a fine dining perspective. The legal aspects of beverage service. Pairing foods and beverages, marketing and cost control will also be presented. Students should be aware that several lab hours are outside the regular academic day.

HCM 202 - Food Service Lab 1 - Credits: 2.00
This course allows the student to learn the value of customer service along with the importance of portion control and suggestive selling techniques while applying sanitation and safety practices in a simulated work environment.

HCM 203 - Food Service Lab 2 - Credits: 2.00
Students will learn the value of customer service, the importance of portion control, and suggestive selling techniques while applying sanitation and safety practices in a simulated work environment. This course is a continuation of Foodservice Lab I.

**Prerequisite(s):** HCM 202

HCM 211 - Culinary Management - Credits: 4.00
This course is an introduction to the responsibilities and techniques involved in getting the job done through other people with emphasis on people skills and communication. Various management styles will be presented. Also covered will be the supervisor's role in planning for profit.

**Prerequisite(s):** BUS 102; MGT 101

HCM 232 - Culinary Nutrition(lec/lab) - Credits: 2.00
This course is a practical and systematic look at nutritional essentials to help foodservice professionals develop a philosophy about healthy eating. The course also provides guidelines for recipe adaptation and menu planning.

**Prerequisite(s):** HCM 101; HCM 102; HCM 163

HCM 261 - Math Principles - Credits: 1.00
This course will use relevant math problems to provide the student with knowledge used in the foodservice industry. The student will develop math skills in solving problems using whole numbers, fractions, decimals, percents and measurement formulas.

HCM 264 - Culinary Computer Apps. - Credits: 2.00
Various methods of manual record keeping will be explored particularly as they pertain to the daily operation of a foodservice establishment. These records will then be applied to a computer using Microsoft Excel and Microsoft Word software.

HCM 311 - Convention & Meeting Management - Credits: 3.00
This course covers the organizational and logistical requirements for setting up meetings and conventions from concept through completion. Students will learn about planning, marketing, financing, and SWOT analysis.

HCM 312 - Facilities Management - Credits: 3.00
This course explores property management with a focus on the lodging and tourism industry, including their food service operations. Facility engineering, housekeeping, laundry, and customer service are outlined as well.

HCM 327 - Convention & Meeting Management - Credits: 3.00
This course covers the organizational and logistical requirements for setting up meetings and conventions from concept through completion. Students will learn about planning, marketing, financing, and SWOT analysis.

HCM 333 - Management of Guest Services - Credits: 3.00
This course explores property management with a focus on the lodging and tourism industry, including facility organization, food service operations, and guest services.

HCM 334 - Managing Hospitality Human Resources - Credits: 3.00
In this course, the student will learn about U.S. Employment and workplace law as well as strategies for hiring and training employees in the hospitality industry.

HCM 341 - Catering and Banqueting (lec/lab) - Credits: 2.00
This course reinforces skills specific to banquet and catering preparation and service. Emphasis is on quality, quantity, setup, timing, service, event planning and execution of catering and banquet
techniques.

**Prerequisite(s):** HCM 146; HCM 145; HCM 149

**HCM 346 - Culinary Seminar** - Credits: 1.00
In this entry level course students will explore the field of hospitality and the career opportunities within the industry. Real-life work requirements including soft skills, ethics, stamina, and professionalism will be discussed. The course will offer opportunities to interact with local chefs.

**HCM 348 - Managing Food Service Operations** - Credits: 3.00
Students will learn the basic principles of commercial food service operations and about the organization, logistics, and streamlining of large production events.

**HCM 400 - Food Service Entrepreneurship (lec)** - Credits: 3.00
In this course, the student will design a restaurant or bakery business from beginning to opening day. The student will follow a detailed outline which covers all areas of each planning stage. Students should be aware that several research hours are outside of the regular academic day.

**Prerequisite(s):** MGT 101; HCM 211

**HCM 401 - Culinary Industry** - Credits: 3.00
This course will be a review of the culinary profession and a synthesis of the knowledge and experience gained throughout this Culinary Arts program of study. The student will focus on major subject areas that pertain to success in the culinary industry.

**Prerequisite(s):** MGT 101; HCM 211

**HCM 512 - Culinary Internship** - Credits: 2.00
This course will provide the student with valuable work experience directly related to his/her vocational course. Additional culinary skills will be provided by actual experience in the industry. The student will be required to establish acceptable and measurable objectives to be met during the internship.

**Prerequisite(s):** HCM 341/HCM 1740/HCM 184/and HCM 211

**HCM 608 - Introduction to Hospitality** - Credits: 3.00
This course introduces the student to the hospitality industry which includes hotels, resorts, restaurants, and catering and banqueting facilities.

**Humanities**

**ART 302 - Studio and Portrait Photography** - Credits: 3.00
Emphasizing creative solutions to complex photographic problems, this course is for those interested in discovering the versatility and creative potential of the studio environment. Learn how controlled studio lighting enhances a photograph. The course incorporates lecture, demonstrations and a series of assignments in still life, portraiture, and product set-ups. This course introduces a range of techniques including studio and lifestyle portraiture.

**Prerequisite(s):** ART 184

**ART 303 - Commercial Photography** - Credits: 2.00
Introduction to Commercial Photography. Includes basic techniques of lighting, camera work, and reproduction of commercial photography.

**Prerequisite(s):** ART 184

**ART 304 - Architecture and Landscape Photography** - Credits: 2.00
This course is designed for students that want to further enhance their photographic abilities in architecture and landscape photography. Students will learn how light alters the visual impact of architecture and landscape forms. Students will learn how to create images of interior architectural design, exterior architectural design, and outdoor environments.

**Prerequisite(s):** ART 184

**ART 305 - Wedding and Event Photography** - Credits: 2.00
This course is designed for students that want to further enhance their photographic abilities in wedding and event photography. Students will learn equipment, lighting and posing utilized for weddings and event photography. Methods, techniques and business practices for professional wedding and event photographers will be included.

**Prerequisite(s):** ART 184

**ART 306 - Photography Portfolio** - Credits: 1.00
Students will identify different types of photographs that represent the spectrum of photographic subjects and disciplines they have been educated in. Students will assemble and present a body of work in a professional portfolio of images appropriate to their professional, educational or personal goals. This course concludes with a public exhibition of the students work.

**Prerequisite(s):** ART 184

**ART 307 - Photography Practicum 1** - Credits: 1.00
The purpose of this course it to collect images for your professional portfolio. Students will be assigned to an on campus or off campus organization to take images of events, people, architecture, or commercial projects. Students will be responsible for capturing images, editing images, and developing images.

**Prerequisite(s):** ART 184

**ART 308 - Photography Practicum II** - Credits: 1.00
The purpose of this course it to collect images for your professional portfolio. Students will be assigned to an on campus or off campus organization to take images of events, people, architecture, or commercial projects. Students will be responsible for capturing images, editing images, and developing images.

**Prerequisite(s):** ART 307

**ART 310 - Photography Practicum IV** - Credits: 1.00
The purpose of this course it to collect images for your professional portfolio. Students will be assigned to an on campus or off campus organization to take images of events, people, architecture, or commercial projects. Students will be responsible for capturing images, editing images, and developing images.

**Prerequisite(s):** ART 309
HUM 135 - Humanities of the Early World - Credits: 3.00
This course surveys the humanities in early world history, from Classical China and India, the Fertile Crescent and Mediterranean seaboard, and the Greco-Roman empires, through Medieval Europe. It examines the religion, philosophy, literature and drama, painting and sculpture, music, and architecture of these areas and times.

HUM 136 - Humanities of the Renaissance - Credits: 3.00
This course surveys the humanities in world history, from the Western Renaissance and Reformation periods through the Enlightenment, along with the Western encounters with Africa and the Americas. It examines the religion, philosophy, literature and drama, painting and sculpture, music and architecture of these areas and times.

HUM 137 - Humanities of the Modern World - Credits: 3.00
This course surveys the humanities in modern history, from the Western Romantic, Realist, and Modernist movements, to the postmodernist turn toward globalism in the Information Age. It examines the religion, philosophy, literature and drama, painting and sculpture, music and architecture of these areas and times.

HUM 145 - Language and Society - Credits: 3.00
This course details how language is interrelated with the society from which it develops and in which it currently operates. Areas of study include the history of language, dialects, jargon, slang and sexist language.

HUM 205 - Humanities: The Hero - Credits: 3.00
This course examines the idea of the hero from a variety of perspectives, including literary, historical and cultural. The students will read selected texts focusing on varying interpretations of the hero.

HUM 210 - Humanities: Nature of Conflict - Credits: 3.00
This course examines the dynamics of human conflict from selected historical, cultural and literary sources. The specific content may vary from year to year to accommodate a variety of topics focusing on human conflict.

HUM 927 - Honors Study - Credits: 1.00
In this course, the student will work independently with a chosen Arts and Sciences humanities instructor on a humanities project designed by the student and instructor. This course is restricted to members of the IHCC Academy or Phi Theta Kappa. 

Prerequisite(s): Permission of Instructor.

HUM 952 - Topics - Credits: 1.00
This course explores specialized topics in the field of humanities. A contract between the student and an Arts and Sciences humanities instructor outlining the educational project is required. 

Prerequisite(s): Permission of Instructor.

SDV 101 - How to be Successful in College - Credits: 3.00
This course introduces students to the fundamental skills necessary for college success. Topics include: study and test-taking skills, college culture and services, financial aid and literacy, health and wellness, policies and procedures.

Industrial Technology

ELE 196 - Motor Control Principles - Credits: 4.00
This course will provide coverage of control devices and control circuitry used in industrial electrical systems. Coverage will include electrical safety, electrical symbols, line diagrams, relays, motor starters, solenoids, common motor circuits, reduced voltage starters, and control of electro-pneumatic devices. It is designed to provide hands-on training using industrial control equipment.

Prerequisite(s): ELT 151

ELT 151 - Industrial Electricity - Credits: 3.00
Industrial Electricity is an introductory course that provides a basic electricity background. The course covers 3-phase power distribution and circuits related to the operations of motors, generators, and transformers in an industrial setting. Students also examine Ohm’s Law and how it is applied to series, parallel and series-parallel circuits using resistors, capacitors and inductors. Throughout this course the importance of NFP70E will be addressed and the requirements for control of electrical hazards maintaining your safety and the safety of others in the workplace.

ELT 225 - Introduction to PLCs - Credits: 4.00
This course will cover the major components of a programmable logic control system. Coverage will include electrical safety, PLC hardware, interfacing input-output devices, using discrete PLC instructions, interfacing electro-pneumatic devices, and configuring operator interface devices. The course is designed for individuals moving into the industrial control career field and who has an electrical/electronic background.

HCR 505 - Air Distribution - Credits: 3.00
A study of the construction and design of duct work and related duct fittings. Includes correct layout and sizing of ducts, return and supply grills, and use of airflow measuring instruments. (30-60)

Prerequisite(s): HCR 105

IND 109 - Equipment Safety and Operation - Credits: 3.00
This course will provide an overview of the safety precautions and operation of equipment commonly used in industry. Each student will complete the necessary materials to test of their OSHA 10 Hour Construction certificate. Each student will receive training in CPR and basic first-aid procedures receiving their credentials upon completion.

IND 110 - CPR, First Aid and Safety - Credits: 1.00
This course covers OSHA 10 Hour Construction Outreach. This certification addresses safety and ealth
hazards in the workplace, employer responsibilities, and worker rights. The student will obtain training in Cardiopulmonary resuscitation (CPR)/AED basics and basic first-aid procedures.

IND 120 - Fluid Systems I - Credits: 2.00
This course covers the basic operation of pumps and valves, drive components, basic hydraulic and pneumatic systems. The selection and proper use of lubricants in drive components are also covered.

IND 121 - Fluid Systems II - Credits: 2.00
This course covers constructing hydraulic circuits utilizing check valves, accumulators, cylinders, motors, flow control valves, directional control valves and the various types of pumps. Operation of pneumatic systems devices is also covered.

IND 122 - Fluid Systems III - Credits: 2.00
This course covers in detail the maintenance and troubleshooting of hydraulic and pneumatic systems. Prerequisite(s): IND 120 and IND 121

IND 123 - Fluid Systems Analysis - Credits: 2.00
This course covers troubleshooting and routine maintenance of systems covered in Fluid Systems I, II, III. The basic concepts of Total Productive Maintenance (TPM) are also included. Prerequisite(s): IND 122

IND 134 - Print Reading - Credits: 2.00
This course presents an overview of methods used in presenting and interpreting a variety of industrial blueprints and schematics. Topics will include engineering drawings in the machine and electrical fields, construction blueprints including structural, fabrication, erection drawings and piping drawings.

IND 142 - Industrial Maintenance Pumps - Credits: 1.00
This is a facilitated course covering the basic troubleshooting and maintenance of pumps.

IND 161 - Lubrication Certification - Credits: 2.00
This facilitated course will cover the basic theory, and principles of machinery lubrication and will prepare the student for the MLA and MLTA certification exam.

IND 162 - Equipment Maintenance - Credits: 2.00
This course includes the study of boiler systems, equipment lubrication, vibration analysis, thermal analysis of equipment, corrective and preventative maintenance and fundamental equipment troubleshooting techniques.

IND 169 - Basic Plumbing and Pipework - Credits: 2.00
Study of typical in-plant applications of piping and fittings in an industrial plant. Emphasis will be placed on basic skills of installing metal and plastic pipe. Course includes cutting, bonding and joining pipe.

IND 170 - Rigging Systems - Credits: 2.00
This program will teach students the fundamentals of rigging systems and components. Hoists, slings and lifting, wire and fiber rope, chain slings and crane operations are included.

IND 193 - Introduction to Pumps - Credits: 4.00
This course introduces the student to the different types of pumps, their construction and operation. It gives the students the ability to troubleshoot and the hands-on experience in disassembling, replacing parts and reassembling various types of pumps found in industry.

IND 200 - Mechanical Drives I - Credits: 2.00
This course will teach students the fundamentals of mechanical drives by introducing the student to key fasteners, v-belts, chain drives, spur gear drives and multiple shaft drives in a mechanical drives systems used throughout industry.

IND 201 - Mechanical Drives II - Credits: 2.00
This course will teach students the fundamentals of mechanical belt drives, mechanical lubrication concepts, precision shaft alignment and heavy duty chain drives. Prerequisite(s): IND 200

IND 202 - Mechanical Drives III - Credits: 3.00
This course will teach students the fundamentals of mechanical drives by introducing the student to bearings, gear drives, brakes and clutches, linear ball bushings, ball screw drives, dovetail slides and tapered gibbs a mechanical drives system and conveyor used throughout industry. Prerequisite(s): IND 201

IND 204 - Fluid Power I - Credits: 4.00
This course covers the theory and basic operation of fluid power systems. Emphasis on pumps, compressors and valves will be covered. Constructing hydraulic/pneumatic circuits utilizing valves, cylinders, motors, and check valves will be performed during laboratory projects.

IND 205 - Fluid Power II - Credits: 4.00
This course will address fluid quality and fire resistant fluids as utilized in the industry. Laboratory projects will utilize electrically controlled valves and construction of advanced fluid control circuits. The student will develop basic troubleshooting techniques in correcting systems faults and determine when fluid leakage and system heat are a problem in a fluid system. The concepts of Total Productive Maintenance will also be introduced. Prerequisite(s): IND 204

**Intercollegiate Physical Ed**

PEV 107 - Techniques of Sports I - Credits: 1.00
This course covers the fundamentals of conditioning, training and playing of various team activities. A maximum of four (4) semester credits may be earned for participation in the following team activities: baseball, basketball, volleyball, softball, golf, cross country and cheerleading. Prerequisite(s): Permission of Instructor.
This course introduces the student to how light is generated and manipulated. Students will have the chance to perform basic labs to enhance their understanding of optics and laser beams. Laser industry experts will discuss real world applications and the future of the photonics industry.

LEO 102 - Photonics Fundamentals - Credits: 3.00
This course introduces the student to how light is generated and manipulated. The use basic optics and how different laser systems utilize them will be addressed. Real world uses in numerous industrial fields will be analyzed providing the student a board scope view of lasers.

LEO 242 - Introduction to Photonics - Credits: 4.00
This course covers the history, safety, and theory of laser light and laser systems. Different laser system configurations and operations will be examined.

LEO 250 - Automated Laser Processing - Credits: 3.00
This course covers the basics of laser material processing. The student will perform laser welding, drilling, cutting, and marking of various materials. The properties of materials and the interaction of the laser light with the materials is the focus. Statistical process control, blueprint reading, and CNC (Computer Numerical Control) of laser systems are strongly emphasized.

LEO 251 - Laser Material Processing - Credits: 4.00
This is an introductory course in laser material processing. This course includes information needed to understand lasers, optics, safety and programming prior to specific applications. A variety of laser material processes will be studied.

LEO 259 - Optical Devices - Credits: 3.00
This course will teach the students the operational theory behind equipment used for laser beam measurement and manipulation. Students will work with detectors, beam expanders/collimators, holography and acoustic and electro-optic devices.

LEO 262 - Laser System Fundamentals - Credits: 3.00
This course is an in-depth study of solid-state, ion, gas, molecular, and semiconductor lasers and laser systems. Diode pumped solid-state lasers, Q-switching and other laser output measurements will be covered.

LEO 266 - Photonics Applications - Credits: 4.00
This course offers students exposure to various industrial, medical, communication, quality control, construction, and military laser applications. Students will work in a team environment and receive hands-on experience in several of the applications.

LEO 268 - Photonics Troubleshooting - Credits: 3.00
This course covers the identification and operation of a number of hand tools and measuring devices. Measurement techniques will be applied to various electronic circuits and optical equipment. The importance of equipment manual usage will be emphasized. This course also includes analyzing problems and performing maintenance and repair of
photronics equipment.

Prerequisite(s): LEO 259; LEO 262

LEO 273 - Photonic Systems - Credits: 4.00
This course provides an in-depth study of imaging, detection, and measurement systems. The student will use optics and computer programs to test optical systems and beam quality.

Prerequisite(s): LEO 262

LEO 275 - Optical Systems Analysis - Credits: 3.00
This course provides an in-depth study of imaging, detection and measurement systems. The student will use optics and computer programs to test optical systems and beam quality.

Prerequisite(s): LEO 259; LEO 262

LEO 277 - Photonic Systems Lab - Credits: 3.00
This course combines lasers with other related equipment such as computers and microprocessors for specific applications. Applications are determined jointly by the student and instructor.

Prerequisite(s): LEO 262

LEO 932 – Internship - Credits: 4.00
Students enrolled in this course will work in the photonics industry. Emphasis will be on the integration of academic skills with practical work experience.

Literature

LIT 101 - Introduction to Literature - Credits: 3.00
This course surveys the basic literary genres. Emphasis is on analysis of fiction, poetry and drama. The student will be expected to read and think critically about literature and to be familiar with basic literary terminology.

LIT 110 - American Literature to Mid-1800’s - Credits: 3.00
This course examines the development of American literature from pre-Colonial times to the end of the Civil War, focusing on the Puritan, Neoclassical, and Romantic eras. Emphasis is on major writers, literary movements and historical influences.

LIT 112 - American Literature: 1945 to Present - Credits: 3.00
This course examines the growth of American literature from the end of WWII to the present, with attention given to the voices of women and ethnic minorities. Emphasis is on major writers, literary movements and historical influences.

LIT 113 - American Literature: 1865 to 1945 - Credits: 3.00
This course examines the emergence of Realism and Modernism in American literature from the end of the Civil War to the end of WWII. Emphasis is on major writers, literary movements and historical influences.

LIT 140 - British Literature I - Credits: 3.00
The course examines the development of English Literature from Beowulf to the Romantic Age.

Emphasis is on major writers, literary movements and historical influences.

LIT 141 - British Literature II - Credits: 3.00
This course examines the growth of English literature from 1785 to the present. Emphasis is on major writers, literary movements and historical influences.

LIT 150 - World Literature I - Credits: 3.00
A broad study of Classical, Medieval and Renaissance literature in translation, this course covers works such as the Bible, Homeric and Mesopotamian epics, the Greek and Roman playwrights, Dante, Chaucer, Shakespeare and others, concentrating on the relevance of this literature to modern life.

LIT 152 - Early Modern World Literature - Credits: 3.00
A survey of literature in translation from the 1700s and 1800s, this course covers Enlightenment-era neoclassical, Romantic and Realist works. The Romantic and Realist movements are the focus. Authors may include Swift, Rousseau, Racine, Moliere, Goethe, the British Romantics, Flaubert, Melville, Tolstoy, Dostoyevsky and others.

LIT 153 - Modern World Literature - Credits: 3.00
This course is a survey of twentieth-century literature with special focus on Modernist and Post-Modernist works. Authors examined may include Yeats, Pirandello, Mann, Joyce, Stein, Woolf, Eliot, Mishima, Achebe, Soyinka, Beckett, Faulkner, Camus and others.

LIT 155 - Bible as Literature - Credits: 3.00
This course surveys both Old and New Testaments of the Bible. Events, places and people of the Bible are introduced with the view that language, literature, art and culture have been influenced by biblical content.

LIT 161 - The Short Story - Credits: 3.00
Students will read and discuss 20–25 short stories by a range of authors. The course will cover the development, growth and properties of the short story as a genre, as well as provide background information on authors and their historical and literary context.

LIT 165 - The Novel - Credits: 3.00
Students will read, analyze and discuss 4-5 novels by a variety of authors. The course will cover the origin, development, growth and properties of the novel as a genre. Novels will be taught within an historical and literary framework.

LIT 167 - Popular Genres I - Credits: 3.00
This course examines popular genres, including science fiction, horror and mystery. Emphasis is on major works within these genres and the historical, cultural, political and aesthetic influences that have shaped popular genres and that have been shaped by popular genres.

LIT 168 - Popular Genres II - Credits: 3.00
This course examines popular genres, including action/adventure, western, romance and/or sports. Emphasis is on major works within these genres and
the historical, cultural, political and aesthetic influences that have shaped popular genres and that have been shaped by popular genres.

LIT 171 - Survey of Poetry - Credits: 3.00
Students will read and discuss poetry by a range of poets. The course will cover the development, growth and properties of poetry as a genre. Students will be introduced to background information on poets and their historical and literary contexts.

LIT 175 - Survey of Drama - Credits: 3.00
This course offers a survey of dramatic literature from various periods and cultures, including Classical Greek, Medieval European, Renaissance European, African American and Modern Drama. Emphasis is on major playwrights, movements and historical and philosophical influences on plays. The course will also seek to discover cross-cultural connections between works by diverse authors from a variety of cultures at a variety of times.

LIT 181 - Mythology and Literature - Credits: 3.00
A study of the nature, general meaning, characteristics and chief kinds of mythology, this course emphasizes the use of mythic patterns and motifs in literature. Both classical and contemporary works are analyzed.

LIT 190 - Women Writers - Credits: 3.00
This course examines the contribution of women writers to the literature of diverse eras, cultures, and nations. Along with exploring issues such as the literary canon and the roles of race, ethnicity, class, sexual orientation, and cultural context, this course introduces students to feminist literary theory and feminist literary criticism.

LIT 802 - Readings in Literature I - Credits: 1.00
This course provides an opportunity to study special literary selections. It is designed to enhance overall knowledge of and appreciation for literature as an art.

LIT 804 - Readings in Literature II - Credits: 2.00
This course provides an opportunity to study special literary selections. It is designed to enhance overall knowledge of and appreciation for literature as an art.

LIT 806 - Readings in Literature III - Credits: 3.00
This course provides an opportunity to study special literary selections. It is designed to enhance overall knowledge of and appreciation for literature as an art.

Management
MGT 101 - Principles of Management - Credits: 3.00
Principles of Management is a course that presents the theory and major functions of management and describes the role of the manager. Management concepts, theories, techniques and skills are applicable to all business functional areas and are essential components for successful organizations.

MGT 170 - Human Resource Management - Credits: 3.00
Human Resource Management introduces the theory and practice of personnel administration and management. A view toward harmonizing the individual worker's goals with goals of the organization is stressed through the techniques and principles of management and organization.

MGT 220 - Intro to Sport Management - Credits: 3.00
This course is designed for students entering the sport and physical education profession where it is critical to understand the theory and practice of ethical management principles in sport/fitness organizations. These principles are applied to interscholastic, intercollegiate, international and professional organizations along with the health/fitness and community recreation industries.

Manufacturing
CAD 230 - Geometric Dimensioning and Tolerancing - Credits: 2.00
The student will learn the fundamentals of Geometric Tolerancing, according to ANSI standards. Skill will be developed in both the interpretation and application of Geometric Tolerancing to engineering drawings. 
Prerequisite(s): MFG 131

MFG 121 - Machine Trade Printreading I - Credits: 2.00
This course covers the reading and/or creation of engineering drawings through mechanical sketching techniques as a means of communication. Emphasis is placed on developing the perceptual skills that require the student to think in three-dimensional space.

MFG 131 - Machine Trade Printreading II - Credits: 2.00
This course provides the necessary range of topics to ensure that the student will know how to interpret engineering drawings.

MFG 203 - Manufacturing Processes - Credits: 3.00
This course covers the fundamental processes to manufacture parts and assemblies. The following concepts are introduced: safety, sheet metal fabrication, machining processes, casting processes, heat treating, methods of joining materials, forging processes, surface treatment and automation.

MFG 209 - Machine Shop Practices - Credits: 3.00
This course covers safety in machine shops, environmental safety, measurement, layout, inspection, setup, basic bench work practices and non-traditional machining processes.

MFG 222 - Machine Operations I - Credits: 4.00
This project-oriented lab is the first class in the machining series. The operations involve machining parts utilizing the lathe, vertical milling machine, drill press, surface grinder, shaper, pedestal grinder, and band saw.

MFG 228 - Machine Operations II - Credits: 4.00
This project-oriented lab is the second in the machining series. The operations involve machining
parts utilizing the lathe, vertical milling machine, drill press, surface grinder, horizontal milling machine, shaper, pedestal grinder and band saw.

**Prerequisite(s):** MFG 222

MFG 233 - Machine Operations III - Credits: 6.00
This project-oriented lab is the third class in the machining series. The operations involve machining parts utilizing the lathe, vertical milling machine, surface grinder, drill press, rotary table and direct indexing head.

**Prerequisite(s):** MFG 233

MFG 234 - Machine Operations IV - Credits: 6.00
This project-oriented lab is the fourth class in the machining series. The operations involve machining parts utilizing the lathe, mill, drill press, surface grinder, indexing head, radial arm drill and heat treatment process.

**Prerequisite(s):** MFG 234

MFG 235 - Machine Operations V - Credits: 6.00
This project-oriented lab is the fifth class in the machining series. The operations involve machining parts utilizing lathes, vertical milling machine, drill press and surface grinder.

**Prerequisite(s):** MFG 234

MFG 236 - Machine Operations VI - Credits: 4.00
This project oriented lab is the final class in the machining series. The operations involve machining parts utilizing lathes, vertical milling machines, surface grinders, drill presses, CNC milling machine and CNC lathe.

**Prerequisite(s):** MFG 235

MFG 254 - Engine Lathe Theor - Credits: 3.00
This course will develop a student’s skills in metal cutting technology as it relates to manual and CNC lathes.

**Prerequisite(s):** MFG 209 or may be taken concurrently.

MFG 262 - Mill Operations Theory - Credits: 3.00
This course includes an introduction to basic milling machine operations, gear cutting, drills and drilling machines.

**Prerequisite(s):** MFG 209

MFG 294 - Manufacturing Processes II - Credits: 2.00
This course covers the fundamental processes to manufacture parts and assemblies. The following concepts are introduced: safety, fabrication, machining processes, casting processes, heat treating, methods of joining materials, forging processes, surface treatment and automation.

**Prerequisite(s):** MFG 203; CAD 105

MFG 333 - CNC Mill Fundamentals - Credits: 4.00
This course covers the advanced methods involved in the setup and programming of CNC (Computer Numerical Control) vertical milling machines. Emphasis will be placed on programming, work offsets, tool offsets and production of precision parts from technical drawing specifications.

**Prerequisite(s):** MFG 352

MFG 349 - Introduction to CAM - Credits: 2.00
An introduction to Computer Aided Manufacturing (CAM) designing parts and toolpaths for a modern CNC machining systems utilizing industrial software. Laboratory work will include exercises progressing from designing a two-dimensional part and a contour toolpath to more advanced CNC Mill applications. Safety and efficient machining will be stressed throughout the course.

**Corequisite(s):** CAD 180

MFG 352 - CNC Lathe Fundamentals - Credits: 2.00
This course covers the introductory theory of two axis programming, plotting tool paths and the operation of the CNC (Computer Numerical Control) lathe. The course also covers understanding and using the cartesian coordinate system and selecting cutting tools for turning, grooving and threading.

**Prerequisite(s):** MFG 254; MFG 262

MFG 421 - Jig and Fixtures - Credits: 2.00
This course includes an introduction to the different types, functions, designs, and construction of jigs, dies and fixtures. The laboratory construction of fixtures will be included.

**Prerequisite(s):** MFG 209; MFG 254; MFG 262

MFG 507 - Lean Quality Manufacturing - Credits: 2.00
This course introduces the student to the basic principles of lean manufacturing and quality control inspection tools.

**Prerequisite(s):** AUT 143; MFG 209

MFG 932 – Internship - Credits: 4.00
Students enrolled in this course will work in a manufacturing facility. Emphasis will be on the integration of academic skills with practical work experience.

**Marketing**

MKT 110 - Principles of Marketing - Credits: 3.00
Marketing is a course that examines the movement of goods and services from the producer to the consumer. The areas of retailing, wholesaling, channels of distribution, marketing research and pricing are approached from the total marketing concept.

MKT 140 - Principles of Sellin - Credits: 3.00
This course examines sales skills from finding prospects to closing the sale. The student will also examine the relationship between sales and the marketing efforts of an organization. Emphasis is on the need to develop relationships in order to achieve sales.

MKT 198 - Sports Marketing - Credits: 3.00
Principles of Sport Marketing is designed to meet the needs of students who are interested in a career in Sport Marketing. This course focuses on the sports marketing mix (product, price, promotion and place).
Mass Media Studies  
MMS 241 - Public Relations and Marketing - Credits: 3.00  
This course is an introduction to theories, processes and techniques involved in researching, planning, and implementing programs designed to influence public opinion and human behavior.

Mathematics  
MAT 040 - Basic Mathematics - Credits: 2.00  
This course gives students the opportunity to review their mathematical skills in the areas of whole numbers, fractions, decimals, ratios, proportions and percents.

MAT 056 - Basic Algebra I - Credits: 2.00  
This course begins an introductory sequence for students with no prior background in algebra. Topics include real numbers, algebraic expressions, order of operations, linear equations and inequalities and graphing.

MAT 087 - Survey of Mathematics - Credits: 2.00  
This course gives students an overview of topics from Math for Liberal Arts. Topics include percentages, calculator usage, and a basic introduction to set theory, logic, probability, statistics and algebra.

MAT 101 - Intermediate Algebra - Credits: 3.00  
This course serves as a preparatory course for College Algebra. Topics include real numbers; linear equations, inequalities, and graphs; exponents and polynomials; rational, radical and quadratic expressions; and equations. This course is a general education math elective. Prior background in basic algebra is recommended.

MAT 110 - Math for Liberal Arts - Credits: 3.00  
This is a liberal arts course intended for students with a wide variety of mathematical backgrounds. Emphasis is on problem-solving and applications. Among the topics included are logic, probability, statistics, and consumer mathematics. At least one additional topic will be chosen from among set theory, algebra basics, and voting theory. This content is similar to MAT118. Credit cannot be earned in both.

MAT 117 - Math for Elementary Teachers - Credits: 3.00  
This course investigates number systems including systems of numeration, set theory, the whole numbers, integers and rational numbers, number theory, abstract systems, and informal geometry and measurement.

MAT 118 - Math for Elementary Teacher II - Credits: 3.00  
This course complements the content of MAT117 Math for Elementary Teachers. Emphasis is on problem-solving and applications. Topics include probability, statistics, and algebraic equations and graphs. This content is similar to MAT110. Credit cannot be earned in both.

MAT 120 - College Algebra - Credits: 3.00  
This course extends study of algebraic principles. Topics include linear and quadratic equations and inequalities, graphs of relations and functions, exponential and logarithmic functions, systems of equations and inequalities and matrices and determinants.  
Prerequisite(s): Before enrolling in this course, a student should have a strong background in algebra.

MAT 125 – Precalculus - Credits: 3.00  
This course is designed to prepare students for calculus and other math-related courses needed in business or science. Topics include polynomial and rational functions and graphs, trigonometric functions and identities, and conic sections.  
Prerequisite: Before enrolling in this course, a student should have a mastery of advanced algebra concepts.  
Prerequisite(s): Before enrolling in this course, a student should have a mastery of advanced algebra concepts.

MAT 140 - Finite Math - Credits: 3.00  
This course covers mathematical theory necessary for business decision-making. Topics include set theory and counting techniques, finite probability, matrix algebra, linear programming and the mathematics of finance.  
Prerequisite(s): Before enrolling in this course, a student should have a strong background in algebra.

MAT 156 – Statistics - Credits: 3.00  
This course is an introduction to and survey of general statistics. Topics covered include obtaining, presenting and organizing statistical data; measures of central tendency and variability; probability concepts; probability distributions; hypothesis testing; and simple linear regression.  
Prerequisite(s): Some background in algebra is recommended.

MAT 161 - Business Statistics - Credits: 3.00  
The course focuses on the need and use of statistics in examining business situations. Statistical principles and computer software will be used to solve problems and make policy decisions.  
Prerequisite(s): CSC 110; MAT 156

MAT 210 - Calculus I - Credits: 4.00  
This is the first course of a full year of calculus. Topics include limits and continuity, differentiation, applications of differentiation and integration.  
Prerequisite(s): Before enrolling in this course, a student should have a strong background in advanced algebra and trigonometry.

MAT 216 - Calculus II - Credits: 4.00  
This course is a continuation of Calculus I. Topics include applications of the definite integral; the calculus of exponential, logarithmic and other transcendental functions; and techniques of integration.  
Prerequisite(s): MAT 210

MAT 219 - Calculus III - Credits: 4.00  
This course is a continuation of Calculus II. Topics
include parametric equations, polar coordinates, vectors, planes and lines in space, surfaces and vector-valued functions, functions of several variables, and partial differentiation.

**Prerequisite(s):** MAT 216

MAT 226 - Differential Equations with Laplace - Credits: 3.00
This course examines differential equations and their applications. Topics will include: first-order equations, higher-order linear equations, systems of linear differential equations, Laplace methods and non-linear differential equations.

**Prerequisite(s):** MAT 216

MAT 742 - Technical Math - Credits: 2.00
This course covers basic algebra, units and dimensions, graphing lines and inequalities, manipulating radicals and roots and solving a variety of equations.

**Prerequisite(s):** MAT 742

MAT 762 - Technical Math for Industry - Credits: 2.00
This course covers number systems, introductory trigonometry, basic Boolean algebra, complex numbers, phasor algebra and periodic functions as they relate to electricity.

**Prerequisite(s):** MAT 761

MAT 761 - Technical Math for Electronics - Credits: 2.00
This course covers number systems, introductory trigonometry, basic Boolean algebra, complex numbers, phasor algebra and periodic functions as they relate to electricity.

**Prerequisite(s):** MAT 742

MAT 772 - Applied Math - Credits: 3.00
This course is designed to give students a thorough background in blood collection, including demonstration of venipuncture and skin puncture techniques. Students will complete required HIPAA, Infection Control and Mandatory Reporting for child/adult training for Health Care Providers.

**Prerequisite(s):** MLT 112

MLT 104 - Laboratory Math - Credits: 1.00
This course incorporates concepts from chemistry, algebra, and the clinical laboratory into a distinctive application called Laboratory Math. Calculations within the metric system are emphasized, along with dilutions, preparation of reagents, and other applications unique to the clinical laboratory disciplines.

MLT 111 – Principles of Phlebotomy - Credits: 2.00
This introductory course is designed to give students a thorough background in blood collection, including demonstration of venipuncture and skin puncture techniques. Students will complete required HIPAA, Infection Control and Mandatory Reporting for child/adult training for Health Care Providers.

**Prerequisite(s):** MLT 112

MLT 112 – Principles of Phlebotomy - Credits: 2.00
This course introduces the concepts and basic skills that are unique to the Clinical Laboratory Assistant. Basic laboratory tasks and standard laboratory protocols are identified.

**Prerequisite(s):** MLT 112 or MLT 135

MLT 113 - CLA Basics Bridge - Credits: 1.00
This course introduces the concepts and basic skills that are unique to the Clinical Laboratory Assistant. Normal hematological procedures are discussed. Students will identify microscope components and demonstrate proper use of the microscope.

**Prerequisite(s):** MLT 112 or MLT 135

MLT 114 - MLT Fundamentals Bridge - Credits: 1.00
This course introduces the concepts and basic skills that are unique to the medical laboratory technician. Normal hematological procedures are discussed. Students will identify microscope components and demonstrate proper use of the microscope.

**Prerequisite(s):** MLT 112 or MLT 135

MLT 115 - Clinical Lab Fundamentals - Credits: 3.00
This course acquaints the student with the field of laboratory medicine. Basic laboratory mathematics, testing methods, and quality control are presented. An introduction to blood collection and the study of common blood cells and blood cell disorders is presented. Students will complete required HIPAA, Infection Control and Mandatory Reporting for child/adult training for Health Care Providers.

MLT 120 – Urinalysis - Credits: 3.00
This course includes the study of urine formation and the methodology of determining the physical, chemical, and microscopic properties of urine in normal and abnormal states. Properties of body fluids are discussed. Basic lab skills, safety and quality control in urinalysis are presented.

**Prerequisite(s):** MLT 165

MLT 135 - Clinical Laboratory Basics I - Credits: 3.00
This course defines the role of the clinical assistant in the healthcare delivery system. Infection control principles, safety practices, procedures to collect specimens, methods for preparing blood and body fluid specimens for analysis, and the performance of basic tests at the clinical assistant level will be discussed. An overview of quality control protocols and potential pre-analytical errors will be provided. Students will complete required HIPAA, Infection
Control and Mandatory Reporting for child/adult training for Health Care Providers.

MLT 136 - Clinical Laboratory Basics II - Credits: 3.00
This course provides an introduction to the basics of immunology and clinical chemistry. Specimen collection and processing are discussed. Lab included.  
Prerequisite(s): MLT 135

MLT 137 - Clinical Laboratory Basics III - Credits: 3.00
This course introduces the basics of laboratory tests related to hematology, urinalysis and microbiology. Safety procedures, suitability of specimens, standards and controls, slide preparation, test performance, technical errors and inventory supplies will be discussed. Lab included.  
Prerequisite(s): MLT 135

MLT 165 - Medical Lab. Principles and Techniques - Credits: 3.5
This course is an introduction to laboratory techniques and analytical principles of methods, including macro- and micro-techniques, utilized in analyses in all laboratory departments. Aspects of quality control, laboratory math, automated methods and the required skills utilized will be presented. Lab included.  
Prerequisite(s): MLT 115

MLT 166 - MLT Critical Analysis - Credits: 1.00
Concepts and knowledge of pathology and physiology will be utilized to develop critical analysis skills in reviewing class case studies, in writing research papers on various diseases and in writing case studies with actual cases/data. Competency levels for professional presentations of these diseases and case studies are established and will be critically analyzed by peers and instructor.  
Prerequisite(s): MLT 115

MLT 175 - CLA Practicum I - Credits: 1.00
This clinical course provides the student with the opportunity to gain competency in the collection of blood specimens in a medical laboratory setting. Waived testing and basic procedures in clinical chemistry and immunology will be performed. Prerequisites: MLT135-Clinical Laboratory Basics I; Concurrent with MLT 136 - Clinical Laboratory Basics II.  
Prerequisite(s): MLT 135  
Corequisite(s): MLT 136

MLT 176 - CLA Practicum II - Credits: 1.00
This clinical course provides the student with the opportunity to acquire skills in phlebotomy, vital sign measurements and electrocardiography. Basic laboratory tests in hematology, urinalysis, chemistry, immunology and microbiology will be performed at the clinical laboratory assistant level. Students will gain experience in documentation and the use of information systems necessary to accomplish job functions.  
Prerequisite(s): MLT 136; MLT 175  
Corequisite(s): MLT 137

MLT 180 - Clinical Lab Practicum I - Credits: 1.00
In this course, students join the phlebotomy team in an area hospital to practice patient approach and draw blood specimens.  
Prerequisite(s): MLT 1140r MLT 115

MLT 181 - Clinical Lab Practicum II - Credits: 6.00
In this practicum experience students apply laboratory techniques in the laboratory setting. Students will gain experience in performing laboratory tests in multiple areas of the lab. Procedures are performed under the direct supervision of a certified technologist.  
Prerequisite(s): MLT 245; MLT 255

MLT 182 - Clinical Lab Practicum III - Credits: 6.00
This practicum involves the clinical application of laboratory techniques in the laboratory setting. Students will gain experience in performing laboratory tests in multiple areas of the lab.  
Prerequisite(s): MLT 181

MLT 232 - Advanced Hematology and Coagulation - Credits: 5.00
This course reviews basic laboratory procedures. Normal and abnormal blood and bone marrow smears as they relate to anemias and leukemias are studied. Hematology instrumentation, quality control, and coagulation are examined. An in-depth study of anemias, leukemias and other hematological disorders is presented.  
Prerequisite(s): MLT 165

MLT 245 - Clinical Chemistry - Credits: 5.00
Various aspects of clinical chemistry are introduced, including primary blood and body fluid constituents, their significance in health and disease, and methods utilized in their determinations. Emphasis is on competence in general procedures for clinical analysis and the development of pertinent skills of troubleshooting, evaluating data and interpreting for presence/absence of disease. Lab included.  
Prerequisite(s): MLT 120; MLT 165; MLT 270

MLT 253 - Parasitology and Mycology - Credits: 2.00
Common human parasites, their morphology, life cycles, symptomology and techniques of identification are covered. Competencies in mycology include studying the changing etiologic role of fungi, proper specimen collection, processing, culture methods, and identification.  
Prerequisite(s): MLT 165

MLT 255 - Clinical Microbiology - Credits: 5.00
This course examines the essential principles of bacteriology relative to human disease with emphasis on knowledge regarding the pathogenicity of the microorganisms presented. Emphasis is on competence in general procedures, such as cultivation, isolation and identification of organisms. Evaluation/interpretation of laboratory data is discussed. Lab included.  
Prerequisite(s): MLT 253

MLT 261 – Immunohematology - Credits: 5.00
This course presents the principles of
immunohematology with the practices of blood banking. ABO grouping and Rh typing for transfusion testing procedures are discussed. Blood group antigens and antibodies are studied. Prerequisite(s): MLT 232; MLT 270; or MLT 232; MLT 270; CHM 132; or MLT 232; MLT 270; BIO 187

MLT 270 - Immunology and Serology - Credits: 2.00
This course introduces immune reactions of the body. Reactions between antigen and antibodies as a means to detect diseases such as hepatitis, infectious mononucleosis and rheumatoid arthritis will be discussed. Prerequisite(s): MLT 165

MLT 290 - Clinical Seminar and Review - Credits: 2.00
Students review medical laboratory subjects, share experiences in the clinical area and present case studies. Job seeking skills, continuing education opportunities, legal responsibilities and professional organizations are discussed. A mock certification examination is given. Corequisite(s): MLT 182

MLT 295 - Topics in Clinical Laboratory Science I - Credits: 1.00
This course explores specialized topics in the field of laboratory science. Students will be expected to integrate physiology, pathology, analytical test results, diagnosis, and treatment in the development of a learning project. Prerequisite(s): MLT 175

MLT 296 - Topics in Clinical Laboratory - Credits: 1.00
This course explores specialized topics in the field of laboratory science. Students will write a laboratory procedure according to CLSI standards. Corequisite(s): MLT 181

Healthcare Documentation Specialist
MTR 156 - HDS Fundamentals - Credits: 2.00
Students will acquire basic and intermediate transcription and editing skills using standard reference sources. Practical experience includes transcription/editing of basic and to progress to intermediate reports, this may include letters, history and physical reports, consultation reports, operative reports, discharge summaries, office notes, radiology reports, and pathology reports. Prerequisite(s): MTR 156

MTR 300 - HDS Seminar - Credits: 3.00
This course reviews curriculum content pertinent to the Registered Healthcare Documentation Specialist accreditation examination. The application of critical thinking skills is included. Mock examinations and cognitive assessment will be given. Prerequisite(s): MTR 200 MTR 201 MTR 301

MTR 301 - HDS Practicum - Credits: 5.00
This practicum provides the student with an opportunity to obtain clinical practice in a health care environment. This course will focus on actual allied health dictation and the various medical office functions. Prerequisite(s): MTR 201

Occupational Therapy Assistant
OTA 106 - Trends in OTA - Credits: 3.00
This course is an introduction to and investigation of a career choice in Occupational Therapy. A foundational overview of the history, philosophy, ethics, and role of occupational therapy in the health care environment is provided. The roles and functions of the occupational therapist and occupational therapy assistant in traditional and emerging practice areas, as well as the role of the AOTA will be explored. Models of care and the essentials of success in the OTA program will be discussed. Students will complete required HIPPA, Infection Control and Mandatory Reporting for child/adult training for Health Care Providers.

OTA 121 - Principles of OT - Credits: 4.00
This course provides an introduction to skilled observation of identified performance areas in occupational therapy, activity analysis, goal setting, oral and written reporting skills, professional documentation formats and the use of the OT Practice Framework. Basic patient handling techniques and functional transfers will be practiced. Specific theory and philosophy with regard to physical, psychological and developmental diagnosis will be addressed. Current issues relating to the field, the framework of occupational therapy practice and process and intervention approaches will be examined. Prerequisite(s): OTA 106

OTA 131 - Pediatric Practice for the OTA - Credits: 4.00
This course introduces students to entry-level pediatric occupational therapy skills by examining theoretical practice frameworks for individuals ages birth through twenty-one. Focuses of this course include: typical and atypical development, physical disabilities, neurological impairments, developmental dysfunction and their effects on childhood occupation. The role of the OTA in a variety of pediatric settings will be explored. Childhood conditions, evaluation, program planning and program implementation will be discussed. Family, sociocultural and socioeconomic
This course reinforces the concepts and principles of OTA 210 included. Communication and observation skills will be associated with aging will be discussed. An overview of group process, group leadership and facilitation, emotional, mental, and social disability will be explained. A survey of conditions that limit or affect engagement in occupations. As participant observers, students will develop skills in observation of occupational performance, clinical safety, therapeutic communication, clinical relationships, professional behavior and boundary setting.

Prerequisite(s): OTA 121

OTA 141 - Therapeutic Media in OT - Credits: 3.00 This course addresses the knowledge and skills required to recognize the value of and link between life roles occupations as applied to therapeutic interventions. Topics include the use of crafts and games, splinting, therapeutic exercises and application to various diagnoses. Activity analysis and methods of determining and selecting age appropriate and culturally meaningful activities for OT consumers will be examined. Approaches to teaching, learning, and professional communication will be explored through individual and group treatment role plays.

Prerequisite(s): OTA 121

OTA 151 - Adult Physical Disability Practice for the OTA - Credits: 4.00 This course examines occupational therapy theoretical practice frameworks in adult physical and neurological dysfunction. Common problems seen in medical and orthopedic diseases and disabilities that affect occupational performance in the adult will be addressed, and the method of treatment will be investigated. Treatment methods and activities such as splinting, exercises and physical agent modalities will be explored. Models of service delivery, motor control theories, daily living skills, work, leisure, education and social participation will be presented. Client-centered, meaningful occupation for the purposes of rehabilitation, skill maintenance and wellness and prevention of decline in occupational performance will be emphasized.

Prerequisite(s): OTA 131; OTA 141

OTA 161 - Traditional and Emerging Practice in OT - Credits: 2.00 This course explores traditional, specialized and emerging practice areas in occupational therapy. Topics to be addressed may include: hand injuries, assistive technology, wheelchair assessment, low vision rehabilitation, lymphedema, vocational rehabilitation, work hardening and workplace assessments.

Prerequisite(s): OTA 151

OTA 171 - Psychosocial Practice for the OTA - Credits: 3.00 This course focuses on the role of the occupational therapy assistant in providing services in both medical and community-based settings. The relevance of occupation and goal-directed activity will be explained. A survey of conditions which may cause emotional, mental, and social disability will be explored. Normal and pathological conditions associated with aging will be discussed. An overview of group process, group leadership and facilitation, types of therapeutic groups and development of communication and observation skills will be included.

Prerequisite(s): OTA 151

OTA 210 - Professional Issues in OT - Credits: 2.00 This course reinforces the concepts and principles of professionalism for the occupational therapy assistant in the delivery of services. Basic tenets of professional behavior, values and ethics will be discussed. Topics addressed include: ethical and legal aspects, cultural competence, structure and function of institutions, reimbursement issues and the roles of key professional organizations. Job seeking techniques including interview skills and resume and letter writing will be addressed. Resources for life-long learning and professional support will be provided.

Corequisite(s): OTA 831

OTA 212 - Functional Kinesiology - Credits: 3.00 This course introduces human movement within the context of occupational performance. Principles from the biological sciences will be applied to the biomechanical principles of human movement. Topics include survey of the skeletal system, articular system and muscular system. Exercise principles are explored from the perspective of the occupational therapy practitioner. Movement within the context of activities will be analyzed. Laboratory practice addresses basic biomechanics, manual muscle testing, goniometric measurement, range of motion techniques, and activities of daily living motion analysis.

Prerequisite(s): BIO 178; BIO 179

OTA 220 - Clinical Reasoning for OTA - Credits: 2.00 This course introduces the clinical reasoning process with a focus on analyzing functional status and occupational performance of a client, identifying problems and goals and determining an appropriate plan of action. Aspects of clinical reasoning and evidence-based practice are explored.

Corequisite(s): OTA 841

OTA 801 - OTA Level IA Fieldwork - Credits: 1.00 This course introduces students to clinical practice for individuals with pediatric or developmental conditions that limit or affect engagement in occupations. As participant observers, students will integrate academic experiences with occupational therapy process in settings serving clients with a variety of developmental challenges and disability. Through interactions with clients and staff, students will develop skills in observation of occupational performance, clinical safety, therapeutic communication, clinical relationships, professional behavior and boundary setting.

Corequisite(s): OTA 131

OTA 811 - OTA Level IB Fieldwork - Credits: 1.00 This course introduces students to clinical practice for individuals with primary physical disabilities that limit or affect engagement in occupations. As participant observers, students will integrate academic experiences with occupational therapy process in settings serving clients with a variety of physical challenges and degrees of disability. Through interactions with clients and staff, students will develop skills in observation of occupational performance, clinical safety, therapeutic communication, clinical relationships, professional behavior and boundary setting.
Abbreviations, referencing, competency, different areas of patient responsibilities of the Pharmacy Technician. The course provides training for Health Care Providers.

PHR 115 - Pharmacy Technician II - Credits: 5.00 Prescription processing, repacking, compounding, aseptic technique, pharmacy stock, billing and psychopharmacology will be discussed. Body systems and related pharmaceuticals will be examined. Students will be introduced to the basic sciences for pharmacy technicians, pharmacy organizations and the future of technicians.

Prerequisite(s): PHR 110

PHR 141 - Pharmacy Operations - Credits: 3.00 Procurement, billing, reimbursement, inventory management, and patient and medication safety will be discussed. Students will be introduced to tech-check-tech and the future of technicians.

Prerequisite(s): PHR 110

PHR 145 - Pharmacy Simulation I - Credits: 1.00 This simulation experience provides the student with the opportunity to apply knowledge and develop skills as a pharmacy technician in an environment without impact, or potential impact, on patients.

Prerequisite(s): PHR 145

PHR 150 - Pharmacy Technician Practicum - Credits: 2.00 This course provides students with the opportunity to experience the profession of pharmacy at both community and hospital pharmacy sites. Practicum experiences will help the students decide which area of the profession they would like to pursue at program completion.

Prerequisite(s): PHR 148

PHR 200 - Pharmacy Technician Certification Review - Credits: 1.00 This review course prepares students who are registered pharmacy technicians for the PTCB Examination. Major pharmacy laws and regulations, over-the-counter medications, sterile product preparation, selected health conditions, trade/generic medications and drug interactions are reviewed. Abbreviations, dosage forms and administration
routes essential for processing prescriptions are examined. Mathematical calculations are practiced.

**Philosophy**

**PHI 101 - Introduction to Philosophy - Credits: 3.00**
This course is an overview of various topics in the field of philosophy, including metaphysics, epistemology, theology, ethics, philosophy of mind, philosophy of religion, political theory, freedom of the will, logic and meaning in life. It presents different views on these topics and introduces philosophical methods of analysis and thinking.

**PHI 105 - Introduction to Ethics - Credits: 3.00**
This course provides an introduction to ethical reasoning and a survey of ethical theories. Both community and personal ethics will be studied.

**PHI 114 - Critical Reasoning - Credits: 3.00**
This course introduces the critical reasoning skills necessary for academic and personal success. Students examine and analyze arguments, explore fallacies and apply logic thinking. Additionally, students will apply their analytical abilities to pertinent social and educational issues, enhancing their abilities to succeed in their college and professional careers.

**PHI 120 - Modern Philosophy - Credits: 3.00**
This course surveys the major philosophical movements and thinkers from Descartes and the Rationalists through today. Emphasis will be placed upon how these thinkers both reflected and influenced their cultures and how their ideas still influence our lives today.

**PHI 121 - Classical/Medieval Philosophy - Credits: 3.00**
This course covers the history of Western philosophy from the Greek Pre-Socrates (c. 600 B.C.) to the early Enlightenment period (c. A.D. 1550).

**PHI 145 - Introduction to Ethical Conflicts - Credits: 3.00**
This course examines contemporary ethical conflicts and provides an understanding of ethical doctrine and theory, including the language, concepts and traditions of ethics. Students will examine contemporary ethical issues in light of selected ethical theories.

**Phlebotomy**

**PHB 270 - Phlebotomy Clinical - Credits: 1.00**
This clinical course provides students with the opportunity to gain competency in the collection of blood specimens in a hospital or clinic setting. Theory learned in MLT112 Principles of Phlebotomy will be applied.

**Prerequisite(s):** MLT 112

**Physical Education Activities**

**PEA 122 - Cardiovascular Training I - Credits: 2.00**
This course will introduce students to the benefits of a cardiovascular training program through various methods of exercise. Methods of exercise will include distance running, stairmaster, exercise biking, Elliptical training, treadmills and other methods of cross training.

**PEA 135 - Golf I - Credits: 2.00**
This course will teach the beginning golfer the basic techniques of grip, stance and swing. Other topics will include equipment, rules and golfing etiquette.

**PEA 152 - Racquet Sports I - Credits: 2.00**
This course will introduce students to the basic rules, skills, strategies, court safety and etiquette necessary for participating in racquetball and tennis. Students will have the opportunity to practice their skills through drills and game play.

**PEA 188 - Weight Training I - Credits: 2.00**
The focus of this class will be on the use of free weights as the major component of the lifting program.

**PEA 222 - Cardiovascular Training II - Credits: 2.00**
This course will build on the cardiovascular exercising techniques explored in Cardiovascular Training I. An emphasis will be placed on increasing the student’s level of performance and endurance. Methods of exercise will include running, power walking, stairmaster, exercise biking, Elliptical training and other methods of cross training.

**PEA 235 - Golf II - Credits: 2.00**
This course is a continuation of Beginning Golf. The course will explore more advanced techniques of the game of golf.

**Prerequisite(s):** PEA 135

**PEA 288 - Weight Training II - Credits: 2.00**
This course will build upon the techniques explored in Beginning Weight Training I. The focus of this class will be on the use of free weights as the major component of the lifting program.

**Physical Education Training**

**PET 105 - Basic Athletic Training - Credits: 3.00**
This course serves as an introduction to the profession of athletic training. Students will be instructed in basic skills and theories of the profession, including: measurement of vital signs, taping, wrapping and immobilization. Students will become familiar with the roles, functions and professional preparation of an athletic trainer as well as the history of the profession and its governing structures.

**PET 140 - Athletic Training Practicum I - Credits: 1.00**
This course is designed to provide the student with the opportunity to apply skills learned in PET 105 and PET 140 in a clinical setting. This experience will take place before, during, and after practices and games of
the various Indian Hills Community College sports teams. Students will demonstrate their hands-on skills relating to taping, emergency procedures, equipment and administration. **Prerequisite(s):** PET 105 or may be taken concurrently.

**PET 146 - Athletic Training Administration - Credits:** 3.00
This course has been designed to develop policy and procedure to guide the intended operation of athletic training services within a health care facility. Legal concepts, various types of health insurance models and proper protocol for referral are discussed. An introduction to principles of recruiting, selecting and employing physicians and other medical personnel in the deployment of health care services is provided.

**PET 150 - Athletic Training Practicum II - Credits:** 1.00
The course is designed to provide the student with observational and hands-on learning opportunities for the beginning athletic trainer student. Practices and games of the IHCC athletic teams as well as all material taught will correlate with the practical examination. Some travel for competition off campus is a required part of the program. **Prerequisite(s):** PET 140

**PET 171 - Athletic Training Practicum III - Credits:** 1.00
This course will provide students with the opportunity to obtain direct experience involving emergency procedures and care, basic taping and wrapping and selecting and fitting protective equipment. This experience will take place before, during and after practices and games of the IHCC athletic teams. Some travel for competition off campus is a required part of the program. **Prerequisite(s):** PET 150

**PET 181 - Athletic Training Practicum IV - Credits:** 1.00
The course is designed to provide an opportunity for the student to obtain direct experience involving injury evaluation, discrimination of appropriate special tests, and interpretation of evaluation results. The experience will take place before, during, and after practices and games of the IHCC athletic teams. All material taught will correlate with the practical exam. Some travel for competition off campus is a required part of the program. **Prerequisite(s):** PET 171

**PET 185 - Athletic Training Practicum V - Credits:** 1.00
The course will provide an opportunity for students to experience how to effectively supervise practices and competitions, utilize a variety of techniques and measurement skills and explain assessments of an athlete's return to play. The experience will take place before; during and after practices and games of the IHCC athletic teams as well as material taught will correlate with the practical exam. Some travel for competition off campus is a required part of the program. **Prerequisite(s):** PET 181

**PET 230 - Care and Prevention of Athletic Injuries - Credits:** 3.00
The purpose of this course is to provide the student with an understanding of the prevention, recognition, evaluation, treatment, and rehabilitation of athletic injuries. Students will learn of the various types of injuries that can occur at each joint and how those injuries can be evaluated, treated, and rehabilitated. Biomechanics and anatomy will be emphasized throughout the course. The student will build upon the knowledge obtained in PET 105: Basic Athletic Training. **Prerequisite(s):** PET 105

**PET 250 - Introduction to Modalities - Credits:** 3.00
The purpose of this course is to provide an overview of the various and current therapeutic modalities and their usage within the field of athletic training. Emphasis will center on the effects, usages, and application of therapeutic modalities. Students will also gain a better understanding of the application of therapeutic modalities as it pertains to the current literature. **Prerequisite(s):** PET 105

**PHS 184 - Introduction to Earth Science - Credits:** 2.00
Topics in astronomy, geology, meteorology, and oceanography are studied. Emphasis is placed on the laws of physics and chemistry, which govern the observed phenomena in the above areas. Historical and modern viewpoints are contrasted. This course may be accompanied by PHS 186 Earth Science Lab. **Corequisite(s):** PHS 186

**PHS 186 - Introduction to Earth Science Lab - Credits:** 1.00
This course is designed to accompany PHS 184 Introduction to Earth Science. Topics in astronomy, geology, meteorology and oceanography are studied. **Prerequisite(s):** PHS 184

**Physical Therapist Assistant**
**PTA 109 - PTA Trends - Credits:** 2.50
This course provides an introduction to the physical therapist profession, discusses basic concepts related to health care management, introduces trends in wellness and presents an overview of the clinical component of the Physical Therapist Assistant Program. Students will complete required HIPPA, Infection Control and Mandatory Reporting for child/adult training for Health Care Providers.

**PTA 111 - PTA Fundamentals - Credits:** 4.00
This course presents activities that will introduce posture, body mechanics and gait analysis, along with positioning and transfer techniques. Concepts of documentation and range of motion assessment are taught.
PTA 118 - Functional Human Anatomy - Credits: 4.00
This course teaches the student manual muscle testing skills through application. It also includes surface anatomy, muscle origin, insertion, action and innervation with consideration of functional activity for human structures.

**Prerequisite(s):** PTA 109, PTA 111; BIO 175; BIO 176

PTA 121 - PTA Kinesiology - Credits: 3.00
This course introduces the study of movement as related to the human body. Topics presented include: gravity, friction, momentum, center of gravity, and base of support. Movement arms and levers as components of torque, and joint shapes as they affect movement are discussed.

**Prerequisite(s):** PTA 118; BIO 178; BIO 179

PTA 191 - PTA Modalities - Credits: 4.00
This course presents the use of heat, cold, water, electricity, light and mechanical devices as interventions for physical dysfunctions. Assessment of physiological responses will be studied as well as indications and contraindications for specific interventions. Lab and lecture components are involved.

**Prerequisite(s):** PTA 118; BIO 178; BIO 179

PTA 202 - Cardiopulmonary and Integumentary Rehab - Credits: 2.00
This course is an introduction to PTA treatment of disorders of the cardiopulmonary, lymphatic, vascular and integumentary systems including wounds and burns. Course content will include diseases and conditions that impact these systems, common tests and measures for these patient populations and pharmacological and non-pharmacological management including physical therapy management of these conditions.

**Prerequisite(s):** PTA 191, PTA 121

PTA 203 - PTA Therapeutic Exercise - Credits: 2.00
This course introduces physiologic impairments and therapeutic exercise in relation to muscle performance and resistance training, aerobic capacity/endurance, range of motion, balance, posture and pain. The course will include exercise for specialized populations such as chronic pain, osteoporosis and pelvic floor dysfunction. Special considerations for the geriatric patient will also be discussed.

**Prerequisite(s):** PTA 191, PTA 121, PTA 202

PTA 216 - PTA Orthopedics - Credits: 4.00
This course is an introduction to the management of orthopedic conditions frequently encountered by the physical therapist assistant in the clinical setting. It includes the study of tissue healing as well as the study of the assessment and interventions employed in the management of presented orthopedic conditions.

**Prerequisite(s):** PTA 202, PTA 203

PTA 248 - PTA Neurology - Credits: 4.00
This course presents analysis and intervention techniques for adults and children with neurologic deficits. Lecture and laboratory topics include child development, neuroanatomy review, motor development and control theories, sensory, balance/coordination, tone and reflex analysis and intervention. Pediatric disorders, cerebrovascular accidents, spinal cord injuries, traumatic brain injuries and degenerative diseases are discussed.

**Prerequisite(s):** PTA 216

PTA 252 - Professional Issues - Credits: 3.00
This course presents issues in health care pertinent to the profession of Physical Therapy. Topics addressed include ethical and legal aspects, cultural competence, wellness and prevention and the role of the American Physical Therapy Association. The student will present research pertaining to cultural competence and health care related topics. Job seeking techniques including interview skills, resume and letter writing will also be addressed.

**Prerequisite(s):** PTA 216, PTA 410

PTA 290 - PTA Capstone - Credits: 3.00
Components of the Physical Therapist Assistant curriculum will be reviewed in preparation for the National Physical Therapist Assistant board examination. Students will be required to take several mock board examinations, write a case study on a patient from their clinical experience, and give a presentation on their case study. Classroom activities will include instructions on how to write a case study and analyze healthcare literature as well as presentations and discussions of contemporary topics in physical therapy.

**Prerequisite(s):** PTA 248, PTA 252

PTA 310 - PTA Clinical I - Credits: 1.00
This course introduces the student to clinical practice. Skills learned in PTA Fundamentals and Functional Human Anatomy will be applied to direct patient care in selected clinical settings.

**Prerequisite(s):** PTA 111

PTA 311 - PTA Clinical II - Credits: 1.00
This course allows the application of new concepts and skills learned in previous coursework.

**Prerequisite(s):** PTA 121, PTA 191, PTA 310

PTA 410 - PTA Clinical III - Credits: 2.00
This course allows application of new concepts and skills learned in PTA Orthopedics. The student will develop proficiency in previously learned skills when providing direct patient care in selected clinical settings.

**Prerequisite(s):** PTA 311

**Corequisite(s):** PTA 215

PTA 416 - Clinical Experience IV - Credits: 5.00
This is a full-time clinical experience that provides an opportunity for students to integrate all of the concepts and skills learned in previous academic and clinical course work. Experience will be offered in a variety of clinical settings.

**Prerequisite(s):** PTA 248, PTA 252
Physics

PHY 101 – Physics - Credits: 2.00
This is an introductory course in physics for non-science majors. Topics include the atomic model of matter; Newton’s laws of mechanics; the concepts of energy, power, heat and entropy; wave phenomena, including light; electro-magnetic phenomena; quantum physics; nuclear physics; quantum field theory; high energy physics; and the unification of fundamental forces. This course may be accompanied by PHY 102 Physics Lab.

Corequisite(s): PHY 102

PHY 102 - Physics Lab - Credits: 1.00
This is an introductory laboratory course in physics for non-science majors. Topics include the atomic model of matter; Newton’s laws of mechanics; the concepts of energy, power, heat and entropy; wave phenomena, including light; electro-magnetic phenomena; quantum physics; nuclear physics; quantum field theory; high energy physics; and the unification of fundamental forces.

Corequisite(s): PHY 101

PHY 200 - Classical Physics I - Credits: 3.00
This course includes studies of the foundations of classical physics through Newtonian contributions and the concepts of momentum, force, work, energy, conservation of energy and momentum, rotational mechanics and the universal law of gravity. This is a calculus-based physics course and is part of the majors physics series. This course has three hours of lecture and two hours of laboratory work per week. This is the recommended course for students pursuing studies in engineering, physics and mathematics.

Corequisite(s): MAT 210

PHY 201 - Classical Physics II - Credits: 3.00
This course is a continuation of PHY200. This course includes studies of gravity, oscillation about equilibrium, waves and sound, fluids, temperature and heat, phases and phase changes, the laws of thermodynamics, and electric charges, forces and fields. This is a calculus-based physics course and is part of the majors physics series. This course has three hours of lecture and two hours of laboratory work per week. It is recommended for students who plan to study engineering, physics and mathematics.

Prerequisite(s): PHY 200 MAT 210

PHY 202 - Classical Physics III - Credits: 3.00
This course is a continuation of PHY201. This course includes studies of electricity, magnetism, optics and modern physics. This is a calculus-based physics course and is part of the majors physics series. This course has three hours of lecture and two hours of laboratory work per week. It is recommended for students who plan to study engineering, physics and mathematics.

Prerequisite(s): PHY 201 MAT 210

PHY 705 - Introduction to Physics - Credits: 2.00
This course covers the basic principles and concepts of solids, liquids and gases as they relate to work, force and pressure. Mechanical systems such as levers, wedges, screws and gears will be covered.

Political Science

POL 111 - American National Government - Credits: 3.00
This course examines the formation, structure and practice of the American federal government, citizenship, political parties, the electoral process and the legislative, executive and judicial branches.

POL 121 - International Relations - Credits: 3.00
This course examines the historical development of international relations, the basic concepts and principles of international diplomacy, the establishment of the United Nations and other non-state organizations, international relations in the Cold War era, changes in the post-Soviet period and current international conflicts.

POL 949 - Special Topics - Credits: 1.00
This course explores specialized topics in the field of American Government. A contract between the student and an Arts and Sciences instructor outlining the educational project is required.

Prerequisite(s): Permission of Instructor.

Practical Nursing

PNN 147 - Nursing Essentials I - Credits: 3.00
This course introduces the essential scientific knowledge, technical skills and communication techniques, as specified by OBRA, to function as an accountable member of the health care team. Theory, laboratory practice and clinical experience will be incorporated to prepare the student to address the biopsychosocial and spiritual needs of patients.

PNN 148 - Nursing Essentials II - Credits: 2.00
This course introduces basic assessment principles and techniques and explains documentation procedures. The concept of surgical asepsis and the procedures requiring sterile technique are discussed. Protocol for medication administration is examined. The student will have the opportunity to gain skill in advanced nursing procedures requiring sterile technique.

PNN 231 – Pharmacology - Credits: 3.00
This course is designed to provide the student with information essential to planning care for patients receiving medication therapy. Common medications affecting the body systems will be introduced. Principles of basic mathematics used in the calculation of drug dosages will be integrated.

PNN 232 - Pharmacology IA - Credits: 1.50
This course is designed to provide the student with information essential to planning care for patients receiving medication therapy. Common medications affecting the nervous and cardiopulmonary systems will be introduced. Principles of basic mathematics used in the calculation of drug dosages will be integrated.
This course introduces basic issues related to aging. The physiology, psychology and sociology of aging will be addressed. Discussion will focus on the impact of aging on society. Community resources available to support an aging population will be examined.

PNN 233 - Pharmacology IB - Credits: 1.50
This course is designed to provide information essential to planning care for patients receiving medication therapy. Common medications affecting the endocrine, gastrointestinal, renal and musculoskeletal systems will be introduced. Antimicrobial agents will be discussed. Mathematical calculations of drug dosages will be integrated.

**Prerequisite(s):** PNN 232

PNN 265 – Nutrition - Credits: 3.00
This course surveys normal nutritional needs of individuals throughout the lifespan. Emphasis is placed on identifying the various nutrients and their functions for the maintenance or restoration of health. The protection and preservation of food and community nutritional needs are discussed. Dietary modifications related to specific diseases are introduced.

PNN 311 - PN Issues and Trends - Credits: 1.00
This course is designed to provide the practical nursing student with knowledge concerning nursing history, standard application and resignation procedures, legal/ethical considerations and the licensure process. Information about health care systems, financing, trends in health care, management and leadership will be presented.

**Prerequisite(s):** PNN 148

PNN 331 - Nursing Seminar I - Credits: 1.00
This course provides a comprehensive review of nursing care interventions for specific nursing diagnoses. The concepts of critical thinking and prioritization will be addressed using case studies and patient scenarios. Emphasis will be placed on essential knowledge and skills for the practical nurse.

**Corequisite(s):** PNN 504; or PNN 717 and PNN 506

PNN 401 - Mental Health Nursing I - Credits: 1.00
This course introduces basic nursing theory related to the psychological aspects of illness. The concepts of mental health and emotional illness are examined. The role of the nurse in caring for clients with alterations in mental health is discussed.

**Prerequisite(s):** PNN 501 or PNN 503 and PSY 111

PNN 431 - Maternal Child Nursing I - Credits: 2.00
This course is designed to provide the student with an understanding of basic nursing care during pregnancy, labor, delivery and postpartum periods. Health promotion of infants, children and adolescents is addressed. Basic nursing care essential in caring for the child hospitalized with a common illness or surgical procedure is presented.

**Prerequisite(s):** PNN 231 or PNN 501

**Corequisite(s):** PNN 714

PNN 451 - Issues in Aging - Credits: 1.00
This course introduces basic issues related to aging. The physiology, psychology and sociology of aging will be addressed. Discussion will focus on the impact of aging on society. Community resources available to support an aging population will be examined.

PNN 501 - Nursing of Adults I - Credits: 3.00
This course is a study of common diseases as they affect the body systems including the cardiovascular, respiratory, endocrine and urinary systems. The student investigates disease processes, signs/symptoms, labs and treatments with emphasis placed on describing basic nursing care for the adult patient.

**Prerequisite(s):** BIO 175; BIO 176; PNN 265

**Corequisite(s):** PNN 725

PNN 502 - Nursing of Adults IA - Credits: 1.50
This course introduces basic principles of adult nursing and common diseases affecting the endocrine and cardiovascular systems. Related signs and symptoms, laboratory findings and treatment of specified diseases will be presented. Basic nursing care of the surgical and adult patient will be discussed.

**Prerequisite(s):** PNN 265; PNN 148; BIO 175; BIO 176

**Corequisite(s):** PNN 232; PNN 726

PNN 503 - Nursing of Adults IB - Credits: 2.00
Common diseases affecting the hematopoietic, respiratory and renal systems are introduced. Related signs and symptoms, laboratory findings and treatment of specified diseases will be presented. Basic nursing care of the adult patient will be discussed.

**Prerequisite(s):** PNN 502

**Corequisite(s):** PNN 713

PNN 504 - Nursing of Adults II - Credits: 3.00
This course introduces common diseases of the reproductive, gastrointestinal, musculoskeletal, integumentary, neurological and sensory systems. The student investigates disease processes, signs, symptoms and treatments, with emphasis placed on describing basic nursing care for adult patients.

**Prerequisite(s):** PNN 231; PNN 501; PNN 714 or PNN 431

**Corequisite(s):** PNN 717

PNN 505 - Nursing of Adults IIA - Credits: 2.00
Common diseases of the sensory, reproductive, gastrointestinal and musculoskeletal system are discussed. Oncology is introduced. Related signs and symptoms, laboratory findings and treatment of specified diseases are presented. Basic nursing care of the adult patient will be discussed.

**Prerequisite(s):** PNN 503

**Corequisite(s):** PNN 718

PNN 506 - Nursing of Adults IIB - Credits: 1.50
Common diseases of the integumentary and neurological system and special senses are introduced. Related signs and symptoms, laboratory findings and treatment of specified diseases will be presented. Basic nursing care of adult patient will be discussed.

**Prerequisite(s):** PNN 505

**Corequisite(s):** PNN 719; PNN 331

PNN 709 - Nursing Clinical Experience I - Credits: 2.50
The student will provide basic nursing care in a long term setting. The development of assessment techniques will be emphasized. Scientific nursing principles and basic nursing skills will be utilized to provide care to residents with identified self-care deficits. Documentation will be introduced. Certification in American Heart Association Basic Life Support will be completed. Students will complete required HIPPA, Infection Control and Mandatory Reporting for child/adult training for Health Care Providers.

**Prerequisite(s):** PNN 147
**Corequisite(s):** PNN 148; PNN 501

PNN 710 - Nursing Clinical Experience IA - Credits: 1.50
This clinical course affords students the opportunity to provide basic nursing care to patients in the long term care setting using scientific nursing principles. Emphasis is placed on assessment and documentation skills. Certification in American Heart Association Basic Life Support will be completed. Students will complete required HIPPA, Infection Control and Mandatory Reporting for child/adult training for Health Care Providers.

**Prerequisite(s):** PNN 147
**Corequisite(s):** PNN 502

PNN 714 - Nursing Clinical II - Credits: 2.00
The student will plan and provide nursing care to patients in the acute care setting. Scientific nursing knowledge and nursing skills requiring surgical aseptic techniques will be applied in the practice setting. Medication administration under the direct supervision of the clinical instructor will be included.

**Prerequisite(s):** PNN 713; PNN 503; PNN 712

PNN 716 - Nursing Clinical IIIB - Credits: 1.00
Students will apply scientific nursing principles in the provision of nursing care. Students will administer medications to and perform sterile procedures for patients in the acute care setting. Emphasis is placed on developing competence in medication administration.

**Prerequisite(s):** PNN 715; PNN 431
**Corequisite(s):** PNN 401

PNN 717 - Nursing Clinical III - Credits: 2.00
The student will be assigned patients in various medical, surgical, pediatric and obstetric areas in the acute care setting. Each student will have the opportunity to gain leadership and management skills in the long term care setting by caring for and managing groups of patients through a preceptorship experience.

**Prerequisite(s):** PNN 714
**Corequisite(s):** PNN 504

PNN 718 - Nursing Clinical IIIA - Credits: 1.00
This clinical course provides the opportunity for students to apply scientific nursing principles in the provision of nursing care to patients in the pediatric, obstetric, medical and surgical areas in the acute care setting. Emphasis is placed on developing competence in utilization of the nursing process.

**Prerequisite(s):** PNN 716
**Corequisite(s):** PNN 505

PNN 719 - Nursing Clinical IIIB - Credits: 1.00
Students will apply leadership and team management skills in the organization and provision of nursing care. Emphasis is placed on developing competence in time management and prioritization of nursing interventions. A preceptor experience in long-term care is included.

**Prerequisite(s):** PNN 718; PNN 505
**Corequisite(s):** PNN 506

Psychology

PSY 111 - Introduction to Psychology - Credits: 3.00
This course is a broad introduction to the principles of contemporary psychology. The course is based on providing the student with an understanding of the theoretical foundations of psychology, as well as a survey of empirical research dealing with behavior and mental processes.

PSY 112 - Psychology of Human Relations - Credits: 3.00
This course is designed to assist students in developing self-awareness and establishing meaningful relationships with others. Dealing with stress, conflict management, developing intimacy and diversity issues will be addressed.

PSY 121 - Developmental Psychology - Credits: 3.00
The course is designed to provide a survey of the patterns of behavior and current attitudes on human development from birth to death. Emphasis is given to the theories of cognitive, social, physical and emotional development.

**Prerequisite(s):** PSY 111

PSY 211 - Psychology of Adjustment - Credits: 3.00
This course will examine psychological theories and current research on positive mental health. Emphasis will be given to models of adjustment as they apply to the student’s life.

PSY 223 - Child and Adolescent Psychology - Credits: 3.00
Human development is explored from conception
through adolescence. Emphasis is placed on physical, cognitive, personality and social development. Various theoretical perspectives and research will be discussed. There will also be an introduction to childhood disorders, child abuse and parenting. **Prerequisite(s):** PSY 111

**PSY 226 - Psychology of Aging - Credits: 3.00**

This course provides a multidisciplinary perspective of aging. Biological, psychological and sociological aspects of aging are explored. The impact of an aging population on societal issues such as politics, education, public policy, religion and health care will be considered.

**PSY 241 - Abnormal Psychology - Credits: 3.00**

This course is an introduction to the study of abnormal behavior. The course focuses on the causes, assessment and treatment of maladaptive behavior, with emphasis on contemporary views regarding the nature of mental disorders. **Prerequisite(s):** PSY 111

**PSY 251 - Social Psychology - Credits: 3.00**

This course is designed to give a broad overview of how people think about, influence and relate to one another. Time will be spent on both behavior and attitudes. Related research will be examined. **Prerequisite(s):** PSY 111

**PSY 281 - Educational Psychology - Credits: 3.00**

This course examines the principles of psychology as they apply to educational settings with special emphasis on such topics as development, learning, motivation, measurement and evaluation and mental health. **Prerequisite(s):** PSY 111

**PSY 296 - Investigating the Effects of Recreational Drugs - Credits: 1.00**

Students will explore the physiological and psychological effects of common recreational drugs. **Prerequisite(s):** PSY 924 - Honors Project - Credits: 1.00

In this course, the student will work independently with a chosen Arts and Sciences social science instructor on a social science research project designed by the student and instructor. This course is restricted to members of the IHCC Academy or Phi Theta Kappa. **Prerequisite(s):** Permission of Instructor.

**PSY 949 - Special Topics - Credits: 1.00**

This course explores specialized topics in the field of social science. A contract between the student and an Arts and Sciences social science instructor outlining the educational project is required. **Prerequisite(s):** Permission of Instructor.

**Radiologic Technology**

**RAD 108 - Radiology and Medical Imaging - Credits: 2.50**

This course introduces radiology and its role in healthcare delivery. Academic and administrative structures of the profession are discussed. Basic principles of radiation protection are introduced. Ethical and legal responsibilities of the profession are emphasized. The basics of patient care and imaging are examined. A brief introduction to special modalities and mobile imaging is presented. Students will complete required HIPPA, Blood Borne Pathogens (OSHA), and Mandatory Reporting: Child and Dependent Adult Abuse.

**RAD 125 - RT Position I - Credits: 2.00**

This course acquaints students with radiographic terminology. An introduction to arthrology and a study of basic routine positions and anatomy of the chest, abdomen and upper extremities is provided. The basic pathophysiology related to the chest, abdomen and upper extremities is identified.

**RAD 126 - Position and Film Critique Lab I - Credits: 1.50**

Basic radiographic equipment and skills will be introduced. Chest, abdomen and upper extremity examinations will be simulated. The standards used to critique radiographs for correct positioning and quality will be described. Radiation protection will be introduced and simulated during this lab experience. Transporting and safety will be emphasized. **Corequisite(s):** RAD 125

**RAD 127 - RT Positioning II - Credits: 2.00**

Basic radiographic procedures of the lower extremities, upper and lower gastrointestinal tract and biliary system are discussed. The anatomy and pathophysiology related to these systems are described. **Prerequisite(s):** RAD 125; BIO 175; BIO 176; RAD 126

**RAD 128 - Positioning and Film Critique Lab II - Credits: 1.00**

Radiographic techniques related to upper and lower extremities and the gastrointestinal tract are introduced and simulated. The standards used to critique radiographs for correct positioning and image quality will be described. **Prerequisite(s):** RAD 125; BIO 175; BIO 176; RAD 126

**RAD 129 - RT Positioning III - Credits: 2.00**

Basic radiographic procedures for the urinary system, pelvis, hip, vertebral column and bony thorax are discussed. The anatomy and pathophysiology related to radiographs of the urinary system, pelvis, hip, vertebral column and bony thorax are identified. Complex examinations and technical considerations related to radiographs of the urinary system, pelvis, hip, vertebral column and bony thorax will be explained. **Prerequisite(s):** RAD 127; RAD 128;

**RAD 130 - Positioning and Film Critique Lab III - Credits: 1.00**

Radiographic techniques related to the pelvis, hip, vertebral column and bony thorax are introduced. The use of standards to critique radiographs for correct positioning and quality will be described. **Prerequisite(s):** RAD 127; RAD 128; BIO 178; BIO 179
RAD 131 - RT Positioning IV - Credits: 2.00
Basic radiographic procedures for facial and skull bones will be discussed. Special procedures including sectional imaging will be explored. The anatomy and pathophysiology of the urinary system are discussed. Complex examinations and technical considerations for radiographic imaging of the facial and skull bones will be explained.
Prerequisite(s): RAD 129; RAD 130

RAD 132 - Positioning and Film Critique Lab IV - Credits: 1.50
Manual techniques related to portable and c-arm imaging will be introduced. Situations involving the square law and inverse square law as related to the intensity of the beam will be reinforced. Radiographic techniques related to the urinary system, head and facial bones are introduced. The use of standards to critique radiographs for correct positioning and quality will be described.
Prerequisite(s): RAD 130; RAD 129

RAD 133 - Advanced Radiographic Procedures - Credits: 2.00
This course introduces radiographic imaging involving portable and surgical procedures, basic pharmacology, venipuncture, trauma, forensics and imaging of the pediatric and geriatric patient.
Prerequisite(s): RAD 545

RAD 205 - RT Clinical I - Credits: 2.00
Basic imaging and positioning theories are applied in this course. Patient care and communication techniques are implemented. Radiation protection theories are emphasized. Radiographic skills of chest, abdomen and upper extremities are performed.
Prerequisite(s): RAD 108; RAD 125; RAD 126

RAD 225 - RT Clinical II - Credits: 2.00
Basic imaging and positioning theories are applied in this course. Fluoroscopy exams including gallbladder and upper and lower gastrointestinal studies will be introduced. Radiation theories relating to fluoroscopy will be emphasized. Radiographic skills of the upper and lower extremities are performed. Basic skills for critiquing radiographs for correct positioning and quality will be demonstrated. The use of contrast for gastrointestinal studies will be introduced.
Prerequisite(s): RAD 205; RAD 127; RAD 128

RAD 265 - RT Clinical III - Credits: 3.50
Imaging and positioning theories are applied in this course. Radiation protection theories are emphasized. Radiographic intravenous contrast procedure for imaging of the urinary system will be introduced. This course will include administration of intravenous contrast, contraindications, adverse reactions and pharmaceuticals related to contrast. Radiographs of the pelvis, hip, spine and bony thorax are performed. The student will be introduced to mobile radiography.
Prerequisite(s): RAD 129; RAD 130; RAD 225

RAD 325 - RT Imaging I - Credits: 3.00
Equipment routinely used in producing radiographic images will be discussed. Factors that directly relate to the production of radiation will be explained. Emphasis is placed on image quality such as technical, geometric and visibility factors. Prime Factors and Multi-Factor problems will be introduced.
Prerequisite(s): RAD 108

RAD 335 - RT Imaging II - Credits: 1.50
This course introduces the student to image formation, beam-restricting devices, grids, radiographic exposures and techniques. Special emphasis is placed on factors that reduce patient radiation dose. The theories discussed in RT Imaging I and problems related to intensity, technique and multi-factor problems will be reviewed.
Prerequisite(s): RAD 325

RAD 525 - RT Clinical IV - Credits: 3.50
Imaging and positioning theories are applied in this course. Radiation protection theories are emphasized. Radiographic skills of the sinus, cranial and facial bones are performed. The student is introduced to sectional imaging and special procedures.
Prerequisite(s): RAD 131; RAD 132; RAD 225

RAD 545 - RT Clinical V - Credits: 3.50
The student will perform specified radiographic competencies required prior to graduation. The focus will be on the completion of exams in an efficient manner. Critical thinking skills regarding emergency procedures will be demonstrated. Radiographic dictation will be observed. Pathophysiology will be emphasized.
Prerequisite(s): RAD 525

RAD 595 - RT Clinical VI - Credits: 3.50
The student will participate in advanced radiographic procedures. Competencies will be completed or simulated in preparation for completion of graduation requirements. The focus will be on proficiency and critical thinking in film critique. The student will perform surgical and portable procedures with direct supervision. Radiographic skills will include digital imaging and picture archival communication imaging skills. Completion of a career portfolio is required.
Prerequisite(s): RAD 545

RAD 625 - RT Clinical VII - Credits: 3.50
This course emphasizes attainment of all required radiographic competencies required prior to graduation. Proficiency in radiographic and critical thinking skills is stressed. Radiographic dictation, venipuncture rechecks and blood pressure assessments are verified. Film critique of surgical and trauma films with emphasis on pathophysiology will be performed. The student will observe Computed Tomography and additional modalities will be explored.
Prerequisite(s): RAD 595

RAD 685 - RT Seminar - Credits: 5.00
All elements of the radiologic technology curriculum are reviewed in preparation for the ARRT national exam. Topics include: patient care, positioning techniques, digital imaging, pathophysiology, legal and ethical issues, radiographic procedures, radiographic protection, biology, and physics.
Prerequisite(s): RAD 595 RAD 715
RAD 715 - Digital Imaging - Credits: 3.00
Basic computer science will be discussed. The course introduces the student to digital radiographic and fluoroscopic imaging, computed radiography and PACS. Computed tomography and sectional imaging will be examined. 
Prerequisite(s): RAD 826

RAD 738 - Radiologic Pathology - Credits: 2.00
Basic principles of radiographic pathology and disease processes will be discussed. Recognition of the radiographic appearance of specific diseases and how they affect the imaging technique will be addressed. Selecting the proper modalities and determining the need for repeat radiographs in different situations will be explained.
Prerequisite(s): RAD 131

RAD 785 - Radiographic Legal and Ethical Aspects - Credits: 1.50
Moral, legal and ethical issues related to radiography and health care are discussed. Topics of study include caring, communication, patient autonomy, informed consent, death and dying and diversity. Career issues will be discussed. 
Prerequisite(s): RAD 875

RAD 815 - RT Physics I - Credits: 1.00
Basic physics relevant to radiologic technology will be discussed. Topics of study include electromagnetic radiation, the atom, electricity, magnetism and electromagnetism. The construction and operation of radiographic equipment including automatic exposure controls will be reviewed.
Prerequisite(s): RAD 335

RAD 816 - Physics in Medical Imaging I - Credits: 1.00
Physics relevant to Radiologic Technology will be examined. Topics of study will include an in-depth look into the discovery and use of x-rays, how they are created, along with how x-rays are quantified. The various components of the x-ray tube and circuit will be explored in detail, as well as investigating the nature of electromagnetic radiation.
Prerequisite(s): RAD 335

RAD 825 - RT Physics II - Credits: 1.50
Physics relevant to radiologic technology will be discussed. Topics of study include quality assurance, quality control, sensitometry and special imaging methods. Fluoroscopy, image intensification and interventional radiology will be examined. Radiographic image artifacts will be explained. Advanced multi-factor problems will be solved. 
Prerequisite(s): RAD 815

RAD 826 - Physics in Medical Imaging II - Credits: 1.50
Further investigation into physics associated with medical imaging will include a study of x-ray interactions with matter, and identification of the various emission spectrums and the factors which influence them. The function and purpose of automatic exposure control will be identified, as well as an overview of the quality control tasks routinely performed on radiographic equipment. 
Prerequisite(s): RAD 816

RAD 875 - Diagnostic Imaging Protection - Credits: 1.50
Physics relevant to radiation protection will be introduced. Regulatory and advisory limits for human exposure to radiation will be discussed. The implementation of patient and personal radiation protection practices for diagnostic radiographic procedures will be emphasized. Radiation monitoring devices will be discussed. The historical evolution of radiation quantities and units will be described. Topics emphasized include differentiation of somatic and genetic effects, effective dose and international and traditional units. 
Prerequisite(s): RAD 875

RAD 885 - RT Biology - Credits: 1.00
The biological effects of radiation will be introduced. Molecular and cellular radiation biology will be discussed. The effects of radiation on the organ systems will be described. Cell structure, composition and function for radiation biology will be discussed. Radiation therapy and the use of radioisotopes in radiology will be explained. 
Prerequisite(s): RAD 875

RAD 886 - Introduction to Mammography - Credits: 2.00
Radiographic imaging of the breast will be discussed. Topics of study include anatomy of the breast, recommended guidelines for mammography, the mammographic equipment utilized and quality control measures conducted to ensure quality examinations.
Prerequisite(s): Instructor Approval.

RAD 887 - Introduction to CT - Credits: 2.00
Basic cross-sectional anatomy and physics of computed tomography will be discussed. Topics of study will include the history of CT, equipment and data acquisition, patient dose and safety, image quality, basic protocols, anatomy and pathology. 
Prerequisite(s): Instructor Approval.

RAD 888 - Introduction to MRI - Credits: 2.00
This course is designed to provide the student with an introduction to the field of magnetic resonance imaging. This introductory course will include an overview of the history and development of MRI. Topics of study will include patient care, imaging procedures, sequence parameters and options, data acquisition and processing, and physical principles of image formation. Basic cross-sectional anatomy will be discussed.

RAD 900 - RT Sectional - Credits: 3.00
This course is designed so that the student can identify anatomy divided into sections. The course will discuss the sectional anatomy divided into axial, coronal, and sagittal planes. The musculoskeletal system will be correlated using CT and MRI images. Pathologies that occur in the above stated anatomy will also be discussed in depth.
RAD 905 - CT Procedures for RTs - Credits: 3.00
This course will provide basic protocol information on imaging the head, neck, thorax, abdomen and pelvis, and the musculoskeletal system. Procedures such as 3D reconstruction, CTA scanning, cardiac, biopsies, CT arthrography, virtual colonoscopy and PET scanning will be introduced. Pediatric procedures will be discussed. This course will discuss patient room preparation, positioning techniques, scanning parameters in CT scanning. Also procedures indicated and contraindicated will be included in this course.

RAD 910 - CT Clinical I-A - Credits: 7.00
This three-day clinical course is designed to provide students with CT clinical experience. It will permit the student to develop the necessary skills to produce quality CT images. Focus on equipment manipulation, CT procedures, patient care and CT protocols will be emphasized. All eligible students must demonstrate clinical experience requirements with documentation to establish eligibility for the ARRT Computed Tomography Examination.

RAD 915 - CT Clinical I-B - Credits: 12.00
This five-day clinical course is designed to provide students with CT clinical experience. It will permit the student to develop the necessary skills to produce quality CT images. Focus on equipment manipulation, CT procedures, patient care and CT protocols will be emphasized. All eligible students must demonstrate clinical experience requirements with documentation to establish eligibility for the ARRT Computed Tomography Examination.

RAD 920 - CT Patient Care and Safety - Credits: 1.00
This course will provide information on patient safety in CT and include contrast administration usage and safety. Radiation protection including factors that play a role in dose reduction will be explored.

RAD 925 - CT Principles and Instrumentation - Credits: 3.00
This course was designed to provide the student with knowledge of the physics and instruments involved in CT. Topics will include the history and development of CT, x-ray characteristics, beam attenuation, Hounsfield numbers, linear attenuation coefficient, and tissue characteristics associated with the CT x-ray beam. Understanding systems operation, gantry components, detector array, and how the x-ray is produced will be discussed. Data collection and image processing and artifact production will be covered in this course as well. Quality Control in CT will also be explored.

Reading
RDG 010 - Reading I - Credits: 1.00
This course is designed to develop reading comprehension, vocabulary and rate.

RDG 014 - Reading II - Credits: 1.00
This course is designed for students who have successfully completed Reading I. The emphasis is on increasing reading comprehension using specific reading skills, as well as increasing vocabulary and rate.

RDG 060 - Speed Reading Strategies - Credits: 1.00
This course is designed to increase flexibility in reading rate and improve comprehension.

Religion
REL 101 - Survey of World Religions - Credits: 3.00
A study of the role and history of religion in society, this course deals with religious behavior in general and also with specific religious systems such as Hinduism, Buddhism, Taoism, Confucianism, Judaism, Christianity, Islam and indigenous religions.

Science
SCI 130 - Limits of Science - Credits: 2.00
This course introduces students to the philosophy and principles of science and critical thinking. Development of contemporary scientific methodology as a means of addressing questions in the natural world is examined; its advantages, limitations and misconceptions will be explored. The course will also focus on controversial issues at the interface between science and religion. Specific themes vary with the instructor but may include development of the heliocentric theory or the development of the theory of evolution by natural selection.

Sign Communication Skills
SCS 011 - Beginning Sign Language - Credits: 1.00
Beginning Sign Language is designed for English-speakers who wish to learn to carry out basic communication in sign language, using basic vocabulary, phrases and questions. The course also addresses cross-cultural issues pertinent to relationships between the hearing and the hearing-impaired community.

SCS 012 - Intermediate Sign Language - Credits: 1.00
Intermediate Sign Language is a continuation of Basic Sign Language. This course is designed to provide practice in additional conceptual signing and teaches classifiers, facial expressions and directional signing.

Prerequisite(s): SCS 011

SCS 013 - Advanced Sign Language - Credits: 1.00
Advanced Sign Language is an intensive course that deals primarily with the usage of signed languages. Coursework will include glossing written English into sign.

Prerequisite(s): SCS 012

Social Media & Marketing
SMM 100 - Introduction to Social Media - Credits: 3.00
This course provides students with an introduction to several popular social media sites. Emphasis is on how to use social media platforms to successfully market your business and/or products. Special attention will be paid to when this type of marketing is most effective, how to select the most effective social media outlet for your particular target demographic and tracking results.
SMM 110 - Writing for the Web - Credits: 2.00
Students in this course will learn techniques for writing successful copy for the web including but not limited to conciseness, effective hypertext links, and targeting keywords. Current trends in Search Engine Optimization (SEO) will also be introduced.

SMM 115 - Introduction to Internet Marketing - Credits: 3.00
This course will introduce the student to the foundations of Internet Marketing. Students will learn the essential tools, strategies, performance and opportunities available.

SMM 130 - Electronic Advertising - Credits: 3.00
Students in this course will learn how to effectively design web banner advertisements and HTML email campaigns. Emphasis will be on aesthetic design as well as how to evaluate the impact of electronic advertising in an Internet marketing campaign.

Prerequisite(s): GRD 220

SMM 170 - Social Media Campaigns - Credits: 3.00
This course will expand upon the introductory concepts introduced in the Introduction to Social Media course. Students will plan and implement a social media marketing campaign as well as evaluate and measure its success based on targeted audiences and market research. Emphasis will also be placed on presenting and defending their choices in a business environment.

Prerequisite(s): SMM 100

SMM 180 - Mobile Marketing - Credits: 3.00
This course will examine how mobile marketing fits into a business's overall digital and social media strategy. Students will investigate geo-marketing, localized marketing, designing for mobile media, mobile websites, mobile advertising, m-commerce and mobile spending, SMS and mobile apps. Students will develop a creative mobile marketing campaign that integrates with a traditional marketing plan.

Prerequisite(s): SMM 115

SMM 200 - Emerging Media Technologies - Credits: 3.00
This course will explore, discuss and research emerging technologies in the web arena. Emphasis is placed on exposure to up-and-coming technologies relating to the web, providing hands-on experience.

SMM 210 - Web Analytics - Credits: 3.00
This course provides students with the skills to make good web design and social marketing decisions by researching and understanding website architecture, usability, search engine optimization, keywords, link building, website indexing and website analysis. Students will analyze websites and develop search engine optimization proposals.

Prerequisite(s): CIS 216

SMM 910 – Internship - Credits: 3.00
Students selecting the internship option will work with a local business or non-profit agency in an area directly tied to one of the four emphasis options in the Social and Digital Media Communications major.

SMM 920 - Service Learning Project - Credits: 3.00
Students selecting the service learning project option will work with a non-profit agency, Indian Hills club/department or outside non-profit entity to enhance the organization's marketing efforts.

Sociology

SOC 110 - Introduction to Sociology - Credits: 3.00
This course examines the core of the field of sociology. This core includes the history of the field, classic theoretical concepts, and examination of the effects of culture and social institutions on human behavior. Other topics covered as part of the core of the field include, gender, family, deviance and stratification.

SOC 120 - Marriage and Family - Credits: 3.00
This course examines courtship and marriage relationships in our society and in other societies. Topics include: mate selection, alternative and single lifestyles, marriage, parenting, divorce, remarriage and the impact of cultural forces on the maintenance of relationships. Emphasis is on the changing family in a changing society.

SOC 135 - Death and Dying - Credits: 3.00
This course provides a basic background on historical and contemporary perspectives on death, dying and bereavement. Course covers current American and contemporary perspectives on death, dying and the terminal illness and suicide.

SOC 147 - Foreign and Domestic Terrorism - Credits: 3.00
This course will examine the origins and history of terrorism providing the student with an understanding of terrorism and its modern-day implications.

SOC 170 - Sociology and Technology - Credits: 3.00
This course focuses on the social change created by the introduction of technology. General principles of sociological inquiry are applied to the development of technology and its impact on society. Historical and current issues are discussed.

SOC 230 - Juvenile Delinquency - Credits: 3.00
This course traces the historical, philosophical, and legal development of the juvenile justice system in the United States and examines the various stages of the juvenile justice process and critical issues currently facing the system.

SOC 240 – Criminology - Credits: 3.00
This course will examine the various aspects of crime from a different perspective. It will explore the various myths that surround both criminology and the criminal justice system. Areas to be examined will include drugs, serial killers, juvenile crime, the death...
penalty, policing, the courts, punishment and corrections.

SOC 242 - Introduction to Corrections - Credits: 3.00
This course is an overview of federal, state, and local practices regarding the incarceration and rehabilitation of adult and juvenile offenders. Major emphasis is placed on local and state programs and innovative and progressive practices in various correctional systems.

SOC 244 - Criminal Procedures - Credits: 3.00
This course explores the constitutional development of the law of criminal procedure which will include the 4th, 5th, 6th, 8th and 14th Amendments. Areas of case study will be search and seizure, self-incrimination, court proceedings, due process and cruel and unusual punishment.

SOC 245 - Criminal Law - Credits: 3.00
Students enrolled in this course study specific criminal law with case presentations showing the logic used to reach decisions that are currently in practice.

SOC 261 - Human Sexuality - Credits: 3.00
This course examines the historical and cross-cultural analysis of sexuality, sexual identities and gender roles, sexual orientation, birth control, sexual abuse, prostitution, pornography, sexual dysfunctions and therapy.

SOC 280 - Social Issues - Credits: 3.00
This is a service learning course which introduces students to a variety of social issues, such as poverty and homelessness, through hands-on experiences. Students are required to spend time working directly with various social agencies which address the social issues under discussion. Student must consult instructor prior to enrolling.

Prerequisite(s): Instructor permission required.

SOC 924 - Honors Project - Credits: 1.00
In this course, the student will work independently with a chosen Arts and Sciences social science instructor on a social science research project designed by the student and instructor. This course is restricted to members of the IHCC Academy or Phi Theta Kappa.

Prerequisite(s): Permission of Instructor.

SOC 949 - Special Topics - Credits: 1.00
This course explores specialized topics in the field of social science. A contract between the student and an Arts and Sciences social science instructor outlining the educational project is required.

Prerequisite(s): Permission of Instructor.

Speech

SPC 101 - Fundamentals of Oral Communication - Credits: 3.00
This course focuses on basic communication, including the communication process, self-concept, self-disclosure, perception, language, listening, non-verbal messages, interpersonal relationships, public speaking, small group communication and inter-cultural relations.

SPC 112 - Public Speaking - Credits: 3.00
This course prepares students for a variety of speaking situations, both formal and informal. The student will prepare and deliver 5-7 speeches using a variety of preparation and delivery strategies. The student will learn how to incorporate research and professional presentational aids into a speech.

SPC 122 - Interpersonal Communication - Credits: 3.00
The course examines how the concepts of self and human behavior influence both interpersonal and intrapersonal communication. Activities and techniques are introduced to improve the student’s one-on-one and small-group communication skills, especially listening, nonverbal communication and conflict reduction.

Sustainable Energy Resources

SER 100 - Introduction to Renewable Energy Applications - Credits: 2.00
This course will provide an introduction to the generation, application, and transfer of energy from a variety of sources including solar, wind and geothermal.

SER 122 - Photovoltaics I - Credits: 3.00
This course is designed to provide an overview on photovoltaic technology. Topics such as photovoltaic phenomenon, theory of photovoltaics, charge transport and collection, inorganic photovoltaic materials, organic photovoltaic materials, photovoltaic device designs and fabrication, characterization of photovoltaic devices and future trends will be covered.

SER 123 - Photovoltaics II - Credits: 3.00
This course is designed to provide an overview on the installation, maintenance and design practices used in photovoltaic engineering technology. Topics such as site surveys and pre-planning system components and configurations, storage and charging systems, system sizing, mechanical and electrical integration, utility interconnection, building permitting and inspection, commissioning, maintenance, troubleshooting and economic analysis will be covered.

SER 300 - Advanced Renewable Energy Systems - Credits: 3.00
This course will provide an introduction to the generation, application and transfer of energy from a variety of advanced renewable resources, including but not limited to, biofuel, algae oil and hydrogen. Students will learn to understand the technical aspects of building an advanced renewable energy system.

SER 301 - Smart Grid Technology - Credits: 2.00
This course introduces the student(s) to the smart grid components, systems and technology that is being used to upgrade the North American Power Grid, primarily in the USA. An overview of codes and standards required to fully implement an energy standard will be explored in detail.
This course covers the basic knowledge and skills used in over-the-road driving. The student will learn, practice and perform the techniques necessary to enter the industry as a safe, competent introductory driver.

**Virtual Reality Technology**

**VRT 110 - Fundamentals of Algebra - Credits: 2.00**
This course covers basic mathematical concepts utilized in drafting. Topics include operations with signed numbers and exponents, basic algebra, plane geometry, solid geometry, triangle trigonometry, systems of equations and quadratic equations.

**VRT 111 - Engineering Design I - Credits: 4.00**
This course is an introduction to the concepts of basic mechanical design. The student will learn entry-level design skills such as tolerance and material selection.

**Prerequisite(s):** CAD 105

**VRT 112 - Engineering Design II - Credits: 4.00**
In this course the student will be introduced to creative problem-solving techniques and basic hardware used in mechanical design. The course includes fundamental concepts of Finite Element Analysis (FEA), project management and fixture design. A design project requires the student to apply comprehensive skills.

**Prerequisite(s):** VRT 111

**VRT 135 - Blueprint Reading - Credits: 2.00**
Emphasis will be on interpretation of prints, placement of dimensions and surface contour, different methods of object presentations and placement of notes and specifications for design purposes.

**VRT 140 - Blueprint Reading II - Credits: 2.00**
This course provides the necessary range of topics to ensure that the student will know how to interpret engineering drawings. Emphasis will be on interpretation of prints, placement of dimensions and surface contour, different methods of object presentations, and placement of notes and specifications for design purposes. Technical Graphics emphasizes the specialized areas of print reading.

**Prerequisite(s):** VRT 135; CAD 105

**VRT 150 - Virtual Reality I - Credits: 2.00**
This course is an introduction to virtual reality technology. Application areas, virtual environments, sensing devices, interaction devices and tracking devices are introduced.

**VRT 156 - Virtual Reality II - Credits: 3.00**
This course covers the basics of creating and working in a virtual environment. The following concepts are introduced: creating a virtual world, placing objects in the virtual environment, navigating, manipulating, lighting, texture mapping and rendering.

**VRT 157 - Virtual Reality III - Credits: 3.00**
This course covers advanced topics in virtual prototyping. This is a project-oriented class in which the student will learn how to interact with and modify the virtual prototype in a professional design.
environment.

**Prerequisite(s):** VRT 156

VRT 158 - Mechanical Design Simulation - Credits: 2.00
This course covers the application of simulation software to mechanical design problems. The application of joints, motors, constraints, CAM connections, slot connections and gear pairs are included. Importing and creating models and setting up the simulation environment are also discussed. These concepts will be applied to engineering models.

**Prerequisite(s):** CAD 142

VRT 159 - Industrial Prototyping - Credits: 2.00
This course covers concepts of Industrial Design. The application of color, space, form, shape and ergonomic considerations to a design are emphasized. A virtual environment is used to create, analyze and modify an industrial design.

**Prerequisite(s):** VRT 156; CAD 142

VRT 169 - Virtual Environments - Credits: 3.00
This course introduces the concepts of human perception and interaction in a virtual environment. Hardware requirements for supporting the different virtual environments, and representing graphics and sound are also covered.

**Welding**

WEL 110 - Welding Blueprint Reading - Credits: 2.00
This is a facilitated course which covers how different types of welds are designated on blueprints and the manner in which the weld locations are specified.

WEL 120 - Oxy Fuel Welding and Cutting - Credits: 2.00
This is a facilitated course which covers oxy-acetylene and shielded metal arc welding procedures in flat position.

WEL 150 - Arc Welding I (SMAW) - Credits: 2.00
This course covers safety, electrode selection, power sources and welding distortion control utilizing arc welding process in all positions.

WEL 151 - Common Arc Welding Processes - Credits: 2.00
This is a facilitated course, which covers different arc welding processes used in industry.

WEL 173 - Advanced Welding Procedures I - Credits: 3.00
This is a facilitated course that covers in-depth study of welding procedures and the proper use of electrodes and techniques of advanced Shielded Metal Arc Welding (SMAW).

**Prerequisite(s):** WEL 120; WEL 150; WEL 181; WEL 190

WEL 174 - Advanced Welding Procedures II- Credits: 3.00
This is a facilitated course that covers Advanced Shielded Metal Arc Welding (SMAW) preparing the student for structural steel and pipe welding.

**Prerequisite(s):** WEL 262; WEL 274; WEL 244; WEL 251; WEL 253

WEL 181 - Gas Metal Arc Welding - Credits: 2.00
This course covers safety and Gas Metal Arc Welding (GMAW) techniques in horizontal, vertical and overhead positions.

WEL 182 – FCAW - Credits: 2.00
This is a facilitated course that covers Flux Core Arc Welding (FCAW) techniques and procedures.

**Prerequisite(s):** WEL 262; WEL 274; WEL 244; WEL 251; WEL 253

WEL 190 - Gas Tungsten Arc Welding - Credits: 2.00
This is a facilitated course which covers safety and gas tungsten arc welding in the flat position.

WEL 200 - Metallurgy Fundamentals - Credits: 2.00
This is a facilitated course that covers basic metallurgy, destructive, and non-destructive testing methods which the students will see or possibly use in industry.

WEL 201 - Procedures and Qualifications - Credits: 1.00
This is a facilitated course designed to make students aware of proper welding procedures, qualification records, and procedure specifications found in industry. This course helps prepare students who may become a welding supervisor or inspector.

WEL 202 - Discontinuities and Defects - Credits: 1.00
This is a facilitated course that covers different discontinuities and defects related to the arc welding processes found in industry.

WEL 211 - Production Welding Procedures - Credits: 4.00
This is a facilitated course which covers Gas Metal Arc Welding Pulse (GMAW-P) in a production environment. This course will prepare students to take an AWS welder certification test, which is recommended.

**Prerequisite(s):** WEL 233; WEL 244; WEL 251; WEL 253; WEL 262; WEL 274

WEL 228 - Introduction to Welding, Safety & Health of Welders: SENSE 1 - Credits: 1.00
This course will provide students with orientation to the welding profession and will cover the basics of safety & health within the welding profession. This course aligns to SENSE Level 1, Module 1 and Module 2 – Key Indicators 1-6.

WEL 230 - Welding Quality Assurance - Credits: 3.00
This course focuses on understanding weld discontinuities and defects, their causes and prevention, and testing and maintaining weld quality.

WEL 233 - Print Reading and Welding Symbol Interpretation: SENSE 1 - Credits: 3.00
Provides instruction in interpreting elements of welding prints (drawings or sketches), focusing on measurement, American Welding Society welding symbols, and fabrication requirements. Students will
Students will visually examine principles and techniques of welding. This course aligns to SENSE Level 1 Module 4: Shielded Metal Arc Welding (SMAW) process. Students perform American Welding Society compliant welds on carbon steel, in vertical and overhead positions. This course will prepare students to take an AWS welder certification test, which is recommended for successful completion. This course aligns with SENSE Level 1 Module 2, 3, and Module 9 - Key Indicator 2.

**Corequisite(s):** WEL 228

WEL 228 - Shielded Metal Arc Welding I: SENSE 1 - Credits: 3.00
Focuses on proper safety, equipment setup and cutting techniques for manual and mechanized oxyfuel cutting on carbon steel. Students perform American Welding Society compliant cutting operations in the flat position. The student will also perform scarfing and gouging operations to remove base and weld metal in flat and horizontal positions on carbon steel. This course aligns to SENSE Level 1 Module 8 - Units 1 and 2, as well as Module 2 - Key Indicator 7 and Module 9 – Key Indicator 1.

**Corequisite(s):** WEL 228

WEL 274 - Shielded Metal Arc Welding II: SENSE 1 - Credits: 3.00
Focuses on safety, amperage settings, polarity and the proper selection of electrodes for the shielded metal arc welding process. Students will perform American Welding Society compliant welds on carbon steel, using visual and destructive methods for determining weld quality. This course aligns to SENSE Level 1.

**Corequisite(s):** WEL 228

WEL 308 - Pipe Welding/Uphill SMAW - Credits: 4.00
This is a facilitated course that covers in-depth study of pipe welding uphill with the Shielded Metal Arc Welding (SMAW) and Gas Tungsten Arc Welding (GTAW) processes.

**Prerequisite(s):** WEL 174WEL 244WEL 251WEL 253WEL 262WEL 274WEL 275

WEL 309 - Pipe Welding/Downhill SMAW - Credits: 4.00
This is a facilitated course that covers in-depth study of pipe welding downhill with the Shielded Metal Arc Welding (SMAW) process.

**Prerequisite(s):** WEL 174WEL 244WEL 262WEL 251WEL 253WEL 274WEL 275

WEL 333 - Auto Collision Welding - Credits: 2.00
This course covers the principles and techniques of steel GMA (MIG) welding. Students learn how to properly set up and tune a welding machine, perform thermally cut surfaces per multiple welding codes, standards, and specifications. This course aligns to SENSE Level 1, Module 9: Welding Inspection and Testing Principles.
proper welding techniques, prepare metal surfaces and identify and correct weld defects. Several types of welds are covered, including GMA plug, fillet and butt joint with backing welds on automotive grade coated steel. Both vertical and overhead positions are covered.

**Prerequisite(s):** AUT 140

**WEL 710 - Robotic Welding - Credits: 3.00**

This course focuses on the fundamental principles, weld process controls, applications and parameters for Robotic Gas Metal Arc Welding.

**Prerequisite(s):** WEL 211

**WEL 932 – Internship – Credits: 4.00**

Students enrolled in this course will work in a manufacturing/welding facility. Emphasis will be on the integration of technical skills with practical work experience.

**Prerequisite(s):** WEL 233 WEL 244 WEL 262 WEL 274 WEL 251 WEL 253

**Wind Energy & Turbine Technology**

**WTT 103 - Introduction to Wind Energy - Credits: 3.00**

In this course students will be exposed to many facets of the wind power electric industry. This course will cover the history and development of the wind industry, terminology used in the industry, types and applications of various wind turbines, environmental and economic issues of the wind industry, the future of the wind industry and other appropriate topics. A basic understanding of mathematics and electrical theory is required.

**WTT 202 - Advanced Wind Energy - Credits: 4.00**

Advanced Wind Energy seeks to broaden the scope and depth of student understanding of wind turbine operation and the wind energy industry. Students will study site preparation and construction, turbine component specifications and manufacturing, operation and maintenance programs, and data acquisition and assessment.

**Women's Studies**

**WST 101 - Women's Studies - Credits: 3.00**

This course is an introduction to the interdisciplinary field of Women's Studies focusing on the contemporary status of women mainly in the United States from social, economic, historical, political, philosophical and literary perspectives. Topics may include work, health, sexuality, violence and sports.
Faculty/Professional Staff

Andy Alderson  
*Instructor, Computer Networks and Security*  
A.A.S., Indian Hills Community College

Tiffany Anderson  
*Associate Professor, Clinical Laboratory Sciences*  
A.A.S., Des Moines Area Community College  
B.A., Allen College

Robert Arendt  
*Associate Professor, Welding Technology*  
Diploma, Indian Hills Community College

Patricia Babbitt  
*Instructor, Math*  
B.A., Graceland University  
M.A., Iowa State University

Duke Ball  
*Lab Technician, Aviation Technologies*  
A.A.S., Indian Hills Community College

Amanda Beane  
*Associate Professor, Clinical and Theory, Radiologic Technology*  
A.A.S., Iowa Central Community College  
B.A., Grand Canyon University

Beverly Bethune  
*Professor, Sociology*  
B.S., University of Central Arkansas  
M.A., Arkansas State University  
Ed.S., Arkansas State University

Dallas Black  
*Instructor, Nursing Theory and Clinical*  
A.A.S., Indian Hills Community College  
B.S.N., University of Iowa

Kelly Blegen  
*Professor, Clinical Nursing*  
B.S.N., University of Iowa

Martin Blomme  
*Instructor, Electronic Technician*  
A.A.S., Indian Hills Community College

Kevan Bogert  
*Automotive Lab Technician*  
A.A.S., Indian Hills Community College

Denise Bower  
*Academy Instructor, Health Sciences*  
A.A.S., Indian Hills Community College  
A.A., Indian Hills Community College

Jennifer Boyenga  
*Program Director, Fine Arts/Drama Sponsor*  
B.A., University of Northern Iowa  
M.A., University of Northern Iowa  
Ph.D., Iowa State University

Richard Brauhn  
*Professor, Aviation Maintenance Technology*  
B.A., Parks College

Andrew Brainard  
*Instructor, Welding Technology*

Randall Brookhiser  
*Professor, Aviation Pilot Training*  
B.S., University of Dubuque

Kim Brown  
*Associate Professor, Dental Assisting*  
A.A., Des Moines Area Community College  
B.A., Buena Vista University

Colt Brown  
*Instructor, Aviation Pilot Training*  
A.A., Indian Hills Community College  
A.A.S., Indian Hills Community College  
B.A., Buena Vista University

Jill Budde  
*Executive Dean, Career and Workforce Education*  
B.S., Clarke College  
M.S., Clarke College  
D.P.T., Clarke College

Georgiana Buttkofer  
*Program Director, Early Childhood*  
B.A., Eastern Michigan University  
M.S., Eastern Michigan University

Thatcher Carel  
*Certified Flight Instructor, Aviation*  
A.A.S., Indina Hills Community College

Tracy Clawson  
*Professor, Nursing Theory and Clinical*  
A.A.S., Indian Hills Community College  
A.A., Indian Hills Community College  
B.S.N., Graceland University  
M.S.N., Walden University  
D.N.P., Walden University
Kevin Cook  
*Professor, English/Advisor, Phi Theta Kappa*  
B.A., University of Iowa  
M.A. University of Iowa  
Ph.D., Duke University

Sarah Cottington  
*Program Director, Health Informatics*  
A.A.S., Indian Hills Community College  
B.S., Spring Arbor University  
M.H.A., Walden University

Kameo Cragoe  
*Instructor, English*  
B.S., Dakota State University  
M.S., South Dakota State University

Keith Crist  
*Instructor, Diesel Locomotive*

Adam Darland  
*Instructor, Chef Training*  
A.A.S., Indian Hills Community College

Diane Darland  
*Professor, Accounting*  
A.A., Indian Hills Community College  
B.A., Buena Vista University  
M.B.A., Upper Iowa University

Heather Davison  
*Associate Professor, History*  
B.A., University of Iowa  
M.A., University of Iowa

Tammy Delker  
*Program Director, Radiologic Technology*  
A.A.S., Indian Hills Community College  
B.S., University of St. Francis  
M.S., University of St. Francis

Bruce Dickerson  
*Professor, History/Student Senate Sponsor*  
B.A., Indiana State University  
M.A., Indiana State University

Jon Dorman  
*Instructor, Construction Technology*  
Diploma, Indian Hills Community College

Justin Doyle  
*Instructor, Biology*  
A.A.S., Indian Hills Community College  
A.A., Indian Hills Community College  
B.A., William Penn University  
M.A., Mississippi State University

Kimberly Dreaden  
*Program Director, Bioprocessing*  
B.S., University of Florida  
M.S., University of Florida

Terry Dunkin  
*Professor, Aviation Maintenance Technology*  
A.A.S., Indian Hills Community College

Kimberly Dykes  
*Professor, Clinical Nursing*  
A.A., Indian Hills Community College  
A.A.S., Indian Hills Community College  
B.S.N., Marycrest College

Rhonda Eakins  
*Professor, English*  
B.S., Northeast Missouri State University  
M.A. Northeast Missouri State University

Rebecca Ellingson  
*Department Chair, Nursing*  
A.A.S., Northeast Iowa Community College  
B.S., University of North Carolina  
M.S.N., University of Iowa

Mark Fisher  
*Program Director, Culinary Arts*

Doug Flournoy  
*Professor, Chemistry*  
B.S., Virginia Commonwealth University  
Ph.D., University of Wisconsin

Ruston Ford  
*Professor, Spanish*  
A.A.S., Snow College  
B.A., University of Utah  
M.A., University of Utah

Andrea Fowler  
*Instructor, High School Health Sciences*  
A.A., Indian Hills Community College  
A.D.N., Indian Hills Community College  
B.S.N., William Penn University

Lisa Fritz  
*Associate Professor, Art*  
B.F.A., Northeast Missouri State University  
M.F.A., Louisiana State University

Dawn Fry  
*Professor, Clinical Nursing*  
Diploma, Indian Hills Community College  
B.S.N., Grand View College

William Garrels  
*Academy Instructor, Advanced Technologies*  
A.A.S., Indian Hills Community College
Chad Gatlin  
**Professor, Chemistry and Biology**  
B.S., Truman State University  
M.S., Emporia State University

Alex Goerdt  
**Associate Professor, Social and Digital Media Communications**  
B.A., University of Northern Iowa  
M.A., University of Northern Iowa

Joe Goudy  
**Associate Professor, Avionics**  
A.A.S., Indian Hills Community College  
B.S., Wayne State University  
B.S., Iowa Wesleyan College  
M.A., Northeast Missouri State University

Darren Graham  
**Chief Flight Instructor & Department Chair, Aviation Programs**  
A.A.S., Indian Hills Community College

Rick Guffey  
**Instructor, Welding Technologies**  
A.A., William Penn University

Brian Hammack  
**Assistant Chief Flight Instructor**  
A.A.S., Indian Hills Community College

Kirsten Hanson  
**Professor, English**  
B.A., University of Minnesota  
M.A., University of Minnesota

Mychelle Harvey  
**Executive Assistant/Board Secretary**  
A.A., Indian Hills Community College  
B.S., Upper Iowa University  
M.S., Thomas Edison State College

Joshua Hemminger  
**Program Director, Emergency Medical Services**  
A.A.S., Indian Hills Community College  
B.A., Buena Vista University

Jeff Henderson  
**Program Director, Advanced Manufacturing Technologies**  
B.S., Northeast Missouri State University  
M.S., Drake University

Jennifer Hess  
**Associate Professor, Sociology/Psychology**  
B.S., University of Pittsburgh  
M.A., Southern Illinois University

Danielle Hodges  
**Associate Professor, High School Health Sciences**  
A.A., Indian Hills Community College  
A.A.S., Indian Hills Community College  
B.S.N., University of Iowa  
M.S.N., Graceland University

April Hollenhorst  
**Professor, Psychology**  
B.S., Bemidji State University  
M.S., Winona State University

John Hopwood  
**Professor, Welding Occupations**  
Diploma, Indian Hills Community College

Barry Houser  
**Professor, Computer Networks & Security**  
A.A.S., Indian Hills Community College

Jenny Howk  
**Associate Professor, Business**  
A.A., Indian Hills Community College  
B.S., Truman State University  
M.B.A., St. Ambrose University

Cale Hutchings  
**Associate Professor, Automotive Technology**  
A.A., Indian Hills Community College  
B.A., William Penn University  
M.A., Viterbo University

Richard Johnson  
**Lab Technician, Diesel Power Systems Technology**  
A.A.S., Indian Hills Community College

Heidi Jones  
**Associate Dean, Health Sciences**  
A.A.S., Indian Hills Community College  
B.S., University of Osteopathic Medicine  
M.S., University of St. Francis

John-Paul Jones  
**Associate Professor, Electrical & Renewable Energy Technology**  
Diploma, George Brown College

Walter Kamerick  
**Professor, Robotics/Automation Technology**  
A.A.S., Indian Hills Community College  
B.A., Buena Vista University

Brydon Kaster  
**Professor, Sustainable Agriculture and Entrepreneurship**  
A.A., Indian Hills Community College  
B.S., Iowa State University
Suzanna Keegel  
_Instructor, Health Sciences Simulation_  
A.A., Indian Hills Community College  
A.A.S., Indian Hills Community College  
B.S.N., Graceland University  

Suzanne Keller  
_Professor, Microbiology/Anatomy and Physiology_  
B.A., Simpson College  
Ph.D., University of Texas Health Sciences Center at San Antonio  

Lauri Kellner  
_Professor, Nursing Theory and Clinical_  
B.S.N., University of South Florida  
M.S.N., Walden University  

Gregory Kepner  
_Department Chair, Advanced Manufacturing Programs/Director, Midwest Photonics Education Center_  
A.A.S., Indian Hills Community College  
A.A., Indian Hills Community College  
B.A., Buena Vista University  
M.Ed., Iowa State University  

Lori Kielkopf  
_Professor, Physical Therapist Assistant Program_  
A.A., Indian Hills Community College  
B.S., University of Iowa  
M.S.Ed., St. Joseph’s College  

Tim King  
_Program Director, Criminal Justice_  
B.S., Truman State University  
M.A., Tiffin University  

Ronda Lamb  
_Associate Professor, Emergency Medical Services_  
A.A.S., Indian Hills Community College  

Sherry Langfritz  
_Program Director, Social Sciences and Business_  
B.A., Buena Vista University  
M.A., University of Phoenix  

Heather Larson  
_Program Director, Allied Health_  
B.S. Iowa State University  
M.B.A. Walden University  

Jeff Long  
_Associate Professor, Machine Technology_  
A.A.S., Indian Hills Community College  

Joy Lyle  
_Professor, English_  
B.A., University of Iowa  
M.F.A., University of Iowa  

Stacie Mason  
_Program Director, Clinical Lab Sciences_  
B.S., Graceland University  

Brandea McCann  
_Associate Professor, Math_  
B.S., Southern Illinois University  
M.A., Iowa State University  

Mark McVey  
_Professor, Industrial Maintenance_  
A.A.S., Cowley County Community College  

Mark McWhorter  
_Professor, Art_  
B.A., Morehead State University  
M.A., Morehead State University  

Bill Meck  
_Vice President/Chief Financial Officer_  
A.A., Southeastern Community College  
B.A., Western Illinois University  

Michael Miller  
_Associate Professor, Biology_  
B.S., Missouri State University  
M.S., Iowa State University  

Grant Mitchell  
_Associate Professor, Machine Technology_  
A.A.S., Indian Hills Community College  

Shane Molyneux  
_Choice Information Officer_  
A.A.S., Indian Hills Community College  

Brett Monaghan  
_Director, Athletics; Interim Dean, Student Affairs_  
A.A., Marshalltown Community College  
B.A., University of Northern Iowa  
M.A., University of Northern Iowa  
Ph.D., Iowa State University  

Brenda Moore  
_Professor, Developmental Studies/Mathematics_  
B.S., Northwest Missouri State University  
M.S., Northwest Missouri State University  

Bianca Myers  
_Director, Marketing and Community Relations_  
A.A., Indian Hills Community College  
B.S., Park University  
M.A., Park University  
Ph.D., Iowa State University  

Jeri Olhausen  
_Associate Professor, Clinical Nursing_  
B.S.N., South Dakota State University  

337
Joe Owczarzak  
Assistant Professor, Science/Mathematics  
B.A., Augustana College  
M.A., University of Arkansas

Kristen Parks  
Director, Human Resources  
B.A., Central College  
M.B.A., University of Phoenix

Craig Payne  
Program Director, English and Humanities  
B.A., William Penn College  
M.A., Northeast Missouri State University  
M.A., University of Iowa  
Ph.D., University of Wales

Heidi Peterson  
Professor, Anatomy and Physiology/Phi Theta Kappa Advisor  
B.A., Central College  
M.S., Palmer College of Chiropractic

Caroline Peyrone  
Program Director, Physical Therapist  
Assistant/Therapeutic Massage Program  
B.A., Penn State University  
M.S., Marymount University  
D.P.T., Marymount University

Kevin Pink  
Director, Information  
B.A., Loras College

Oguz Poroy  
Associate Professor, Engineering  
B.S.E.E., Bogzici University  
M.S.E.E., Tuskegee University  
Ph.D., University of Arkansas at Little Rock

Tisha Pruett  
Associate Professor, High School Health Occupations  
A.A., Indian Hills Community College  
A.A.S., Indian Hills Community College  
B.S.N., University of Iowa  
M.S.N., Clarkson College

Gordon Rader  
Instructor, Chef Training  
Certified Executive Chef, American Culinary Federation  
B.S., Art Institute of Pittsburgh

Allan Ready  
Professor, Diesel Power Technology/Hazardous Waste Compliance Specialist  
A.A.S., Indian Hills Community College

Shirley Reid  
Professor, Advanced Technologies  
B.S., Northeast Missouri State University  
M.E., Iowa State University

Seth Richmond  
Instructor, Electronics Engineering Technology  
A.A.S., Indian Hills Community College

Marty Roberts  
Professor, Machine Technology  
A.A.S., Indian Hills Community College

Brent Robinson  
Professor, Communications  
A.A., Illinois Valley Community College  
B.A., Olivet Nazarene  
M.Div., Asbury Theological Seminary  
M.A., Western Illinois University

Ray Ryon  
Program Director, Information Technology  
B.S., Iowa State University  
M.A., University of Phoenix

Cheryl Sampson  
Associate Professor, Clinical Nursing  
A.A.S., Indian Hills Community College

Jay Schelhaas  
Associate Professor, Nursing Theory and Clinical  
B.A., Dordt College  
B.S.N., South Dakota State University  
M.S.N., University of Phoenix

Roger Scott  
Professor, English  
B.A., Drake University  
M.A., Iowa State University  
M.F.A., University of Alabama

Marcia Seddon  
Professor, Sociology/Psychology  
B.A., Northeast Missouri State University  
M.A., Northeast Missouri State University

Carol Sexton-White  
Program Director, Dental Assisting  
A.A.A., Des Moines Area Community College  
B.F.A., University of Northern Iowa

David Sharp  
Professor, Instrumental Music  
B.A., University of Miami  
M.A., University of Nebraska
Michael Shay
Instructor, Laser/Electro-Optics Technology
A.A.S., Indian Hills Community College
B.S., National Louis University

Janene Sheldon
Associate Professor, Vocal Music and Piano
B.A., Kearney State College
M.M., University of Nebraska-Lincoln
D.M.A., University of Nebraska-Lincoln

Alice Shepard
Professor, Radiologic Technology
A.A.S., Indian Hills Community College
B.S., University of St. Francis

Darlas Shockley
Executive Dean, Arts and Sciences
B.A., University of Kentucky
M.A., Texas A & M University
Ed.S., University of Iowa
MSLS, Clarion University

Blaire Siems
Executive Director, Foundation and Development

Angela Sieren
Professor, Mathematics
B.A., Wartburg College
M.S., Iowa State University

Rick Simpson
Professor, Commercial Driver Training
Certificate, Indian Hills Community College

Clarence Slavens
Associate Professor, English/Theatre
A.A., East Central College
B.A., University of Missouri
M.A., University of Missouri
Ph.D., Michigan State University

Neric Smith
Associate Professor, Landscape and Turfgrass Technology
B.S., Iowa State University
M.A., Iowa State University

Marlene Sprouse
President
A.A., Indian Hills Community College
B.S., Northeast Missouri State University
M.A., Drake University
Ed.S., Drake University
Ed.D., Drake University

Victor Streeby
Associate Professor, English
A.A., Indian Hills Community College
B.A., University of Iowa
M.A., Iowa State University
Ph.D., University of Wisconsin-Milwaukee

Peter Sullivan
Instructor, Criminal Justice
B.A., Stockton College
M.A., New Mexico State University

Andy Summers
Associate Professor, Automotive Technology
A.A.S., Indian Hills Community College

Lorri Swarney
Academic Fieldwork Coordinator/Instructor, Occupational Therapy Assistant Program
A.A.S., Kirkwood Community College

Cheryl Talbert
Librarian
A.A., Indian Hills Community College
B.A., Buena Vista University
M.L.I.S., University of Wisconsin, Milwaukee

Tina Tennis
Professor, Clinical Nursing
A.A., Indian Hills Community College
B.A., Central College

Daniel Terrian
Associate Dean, Advanced Technologies
A.A.S., El Paso Community College
B.S., Park College
M.S., Drake University
Ed.S., Drake University

Matthew Thompson
Vice President, Academic Affairs and Institutional Effectiveness
B.A., Iowa State University
M.A., East Tennessee State University
Ph.D., Iowa State University

Kevin Throckmorton
Professor, Computer Software Development
A.A.S., Indian Hills Community College

Nathan Tillotson
Instructor, Computer Networks and Security
A.A.S., Indian Hills Community College
Mark Van Velsor  
*Associate Professor, Computer Software Development*
A.A.S., Indian Hills Community College  
A.A., Indian Hills Community College  
B.A., University of Northern Iowa

Nate VeVerka  
*Academy Instructor, Welding*
A.A.S., Iowa Central Community College  
B.S., William Penn University

Debra Vos  
*Associate Professor, Psychology*
B.A., Ottawa University  
M.A., Ottawa University  
M.E., Northern Arizona University  
Ed.S., Walden University

Olivia Voth  
*Lab Technician, Nursing*
A.A., Indian Hills Community College  
B.S.N., Graceland University

Rosa Walders  
*Professor, Clinical Nursing*
A.A., Indian Hills Community College  
A.A.S., Indian Hills Community College  
B.S.N., Marycrest University  
M.S.N., Clarkson College

Barbara Walker  
*Associate Professor, Biology*
B.S., Parsons College  
M.A., Northeast Missouri State University

Cam Walker  
*Professor, Physical Education/Head Baseball Coach and Assistant Athletic Director*
A.A., Indian Hills Community College  
B.A., Western Kentucky University  
M.A., United States Sports Academy

Camilla Walker  
*Professor, Mathematics*
A.A., Indian Hills Community College  
B.S., Northeast Missouri State University  
M.A., Northeast Missouri State University

Don Waltenberger  
*Department Chair, Arts & Sciences*
B.S., Southeast Missouri State University  
M.B.A., Lindenwood University  
M.S., Capella University

Janis Warden  
*Associate Professor, High School Health Occupations*
B.S.N., Columbia University School of Nursing

Martha Wick  
*Associate Dean, Governmental Affairs and Information*
B.A., Iowa Wesleyan College

Jody Williams  
*Program Director, Dental Hygiene*
A.A.S., Kalamazoo Valley Community College  
B.S., Spring Arbor University  
M.A., Central Michigan University

Andrew Wilson  
*Associate Professor, Computer Networks and Security*
A.A.S., Indian Hills Community College

Kara Wilson  
*Associate Professor, English*
A.A., Indian Hills Community College  
B.A., Evangel University  
M.A., Missouri State University

Nathan Wilson  
*Instructor, History*
B.A., Central College  
M.A., California State University

Shelley Wood  
*Instructor, Clinical Nursing*
A.A.S., Indian Hills Community College

Tim Wright  
*Professor, Mathematics*
B.S., University of Iowa  
M.S., University of Michigan

Susan Wylie  
*Professor, Academic Services/Developmental Studies*
B.A., Florida State University  
M.A., Iowa State University  
M.F.A., University of Alabama

Lee Wymore  
*Program Director, Science/Mathematics*
B.S., Colorado State University  
M.S., Colorado State University  
Ph.D., Cornell University

Carol Yochum  
*Professor, Health Information Technology*
A.A.S., Indian Hills Community College