

Codes throughout this section of the catalog represent major/field of study.

At press time, program information was current.  
For updated information, consult the college web site:  
www.cod.edu.

## Accounting

### AAS Degree, Three Certificates

The Accounting program is designed to provide the theoretical and practical background necessary for supervisory and administrative careers in accounting and accounting-related areas. This degree program consists of a minimum of 64 credits in general education, program requirements and program electives. The following list contains the required and elective courses.

### AAS Degree PROGRAM REQUIREMENTS

Code 3203

[	Accou	1110	Accounting Procedures	4
			OR	
	Accou	1140	Financial Accounting	4
	Accou	1150	Managerial Accounting	4
	Accou	2205	Federal Taxation I	3
	Accou	2241	Intermediate Accounting I	4
	Accou	2242	Intermediate Accounting II	4
	Accou	2251	Cost Accounting	3
	Busin	1100	Introduction to Business	3
[	Cis	1150	Introduction to Computer	3
			Information Systems	
			OR	
	Cis	1110	Using Computers: An Introduction	2
[	Ofiti	1100	Introduction to Computer	2
			Keyboarding	
			OR	
	Ofiti	1210	Word Processing I	3
	Econo	2201	Macroeconomics and the Global Economy	3
	Philo	1114	Business Ethics	3
				35 to 37

### Program Electives

Select at least 17 credits from below

Accou	1175	Microcomputer Accounting	2
Accou	2200	Income Tax Return Preparation	3
Accou	2206	Federal Taxation II	3
Accou	2260	Advanced Accounting	3
Accou	2265	Governmental and Not-for-Profit Accounting	3
Accou	2271	Auditing I	3
Accou	2272	Auditing II	3
Buslw	2211	Business Law I	3
Cis	1221	Introduction to Spreadsheets	3
Co-op	2861	Cooperative Education/ Internship I (Occupational)	1
Econo	2202	Microeconomics and the Global Economy	3

**General Education** .....12 to 16  
(In addition to courses listed above)

**Total Credits Required** .....64 to 70

### Certificates

The **Clerical Accounting certificate** requires a minimum of 16 credits in the courses listed below. Code 4205

[	Accou	1110	Accounting Procedures	4
			OR	
	Accou	1140	Financial Accounting	4
	Accou	1175	Microcomputer Accounting	2
[	Cis	1150	Introduction to Computer	3
			Information Systems	
			OR	
	Cis	1110	Using Computers: An Introduction	2
	Engli	1101	English Composition 1	3
	Math	1100	Business Mathematics	3
	Ofiti	1100	Introduction to Computer Keyboarding	2

The **Accounting certificate** requires a minimum of 32 credits in the courses listed below. Code 4207

[	Accou	1110	Accounting Procedures	4
			OR	
	Accou	1140	Financial Accounting	4
	Accou	1150	Managerial Accounting	4
	Accou	1175	Microcomputer Accounting	2
[	Accou	2205	Federal Taxation I	3
			OR	
	Accou	2251	Cost Accounting	3
			OR	
	Accou	2200	Income Tax Return Preparation	3
	Busin	1100	Introduction to Business	3
[	Cis	1150	Introduction to Computer	3
			Information Systems	
			OR	
	Cis	1110	Using Computers: An Introduction	2
	Cis	1221	Introduction to Spreadsheets	3
	Engli	1101	English Composition 1	3
	Math	1100	Business Mathematics	3
[	Ofiti	1100	Introduction to Computer	2
			Keyboarding	
	Ofiti	1210	Word Processing I	3

### Advanced Accounting certificate, Code 4209

Current Requirements to Sit for the Illinois CPA Examination

- To be admitted to take the CPA Examination, a candidate in Illinois must have successfully completed at least 150 semester hours of acceptable credit including a baccalaureate or higher degree, including a minimum number of hours in accounting and business courses. CPA Exam candidates having a non-accounting business degree who then earn the Advanced Accounting certificate will accumulate more than the minimum number of hours required. However, all of the courses required to earn this certificate are considered essential for successful CPA Exam candidates.

- (2) The Advanced Accounting certificate is designed for CPA Examination candidates who have already earned a degree with a business-related major (for example, management, marketing, etc.) other than accounting.
- (3) The Advanced Accounting certificate is also designed for CPA Examination candidates who have already earned a degree with a non-business major. However, to meet the minimum semester hours required in business courses to be eligible to sit for the exam, candidates are encouraged to choose from among the following courses (all of which are three credit hours): Business 1100 (Introduction to Business), Business 2210 (Principles of Finance), Business 2200 (Budgeting), Business 2255 (International Business), Business 2260 (International Finance), Economics 2201 (Economics I), Economics 2202 (Economics II), Management 2210 (Principles of Management), Management 2220 (Organizational Behavior), Marketing 2210 (Principles of Marketing), and Philosophy 1114 (Business Ethics).
- (4) A computer information systems course, which includes coverage of word processing and spreadsheet applications, will not count toward the accounting or business hours required, but is also considered essential.

The **Advanced Accounting certificate** requires a total of 43 credits that must be earned by successfully completing the following required courses:

Accou	1140	Financial Accounting	4
Accou	1150	Managerial Accounting	4
Accou	2205	Federal Taxation I	3
Accou	2206	Federal Taxation II	3
Accou	2241	Intermediate Accounting I	4
Accou	2242	Intermediate Accounting II	4
Accou	2251	Cost Accounting	3
Accou	2260	Advanced Accounting	3
Accou	2265	Governmental and Not-for-Profit Accounting	3
Accou	2271	Auditing I	3
Accou	2272	Auditing II	3
Buslw	2211	Business Law I	3
Buslw	2212	Business Law II	3

## Advertising, Design and Illustration

### AAS Degree, Five Certificates

The mission of the Advertising, Design and Illustration program is to help students develop skills necessary to build a portfolio that demonstrates their creative, problem-solving, and verbal presentation abilities, applicable to the professional fields of advertising, graphic design, and illustration. This portfolio can be used to seek entrance to a baccalaureate-granting institution or art school, or to represent talent and skill levels as the student seeks professional employment in a creative field.

The **Graphic Design and Illustration degree** consists of 20 credits in general education, and 48 hours in program requirements, totaling 68 credits. The following list contains the required courses.

### AAS Degree PROGRAM REQUIREMENTS

Code 3513			
Adsgn	1100	Drawing for Design 1	3
Adsgn	1102	Design 1	3
Adsgn	1104	Drawing for Design	3
Adsgn	1105	Design 2: Typography	3
Adsgn	1106	Three-Dimensional Design	3
Adsgn	1107	Image Creation and Composition	3
Adsgn	1108	Digital Illustration for Design	3
Adsgn	2201	Design 3	3
Adsgn	2202	Web/Interactive Design 1	3
Adsgn	2203	Design for Advertising	3
Adsgn	2204	Advanced Illustration	3
Adsgn	2205	Design 4	3
Adsgn	2206	Web/Interactive Design 2	3
Adsgn	2207	Media Campaign	3
Adsgn	2208	Portfolio Seminar	3
Graph	1102	Introduction to Graphic Publishing Applications	3
			48

**General Education** .....20  
(In addition to courses listed above)

**Total Credits Required** .....68

### Certificates

The **Advertising Design certificate** prepares students to be creative professionals and requires 24 in the courses listed below. Code 4515

Adsgn	1100	Drawing for Design 1	3
Adsgn	1102	Design 1	3
Adsgn	1105	Design 2: Typography	3
Adsgn	1104	Drawing for Design 2	3
Adsgn	2203	Design for Advertising	3
Adsgn	2207	Media Campaign	3
Adsgn	2208	Portfolio Seminar	3
Graph	1102	Introduction to Graphic Publishing Applications	3
			24

The **Advertising, Design and Illustration Foundation certificate** requires 24 credits in the courses listed below.

Code 4516			
Adsgn	1100	Drawing for Design 1	3
Adsgn	1102	Design 1	3
Adsgn	1104	Drawing for Design 2	3
Adsgn	1105	Design 2: Typography	3
Adsgn	1106	Three-Dimensional Design	3
Adsgn	1107	Image Creation and Composition	3
Adsgn	1108	Digital Illustration for Design	3
Graph	1102	Introduction to Graphic Publishing Applications	3
			24

The **Graphic Design and Illustration Advanced certificate** requires 24 credits in the courses listed below.  
Code 4517

Adsgn	2201	Design 3.....	3
Adsgn	2202	Web/Interactive Design 1.....	3
Adsgn	2203	Design for Advertising .....	3
Adsgn	2204	Advanced Illustration.....	3
Adsgn	2205	Design 4.....	3
Adsgn	2206	Web/Interactive Design 2.....	3
Adsgn	2207	Media Campaign .....	3
Adsgn	2208	Portfolio Seminar .....	3
			24

The **Web Design certificate** requires 21 credits in the courses listed below. Code 4520

Adsgn	1102	Design 1.....	3
Adsgn	1105	Design 2: Typography .....	3
Adsgn	1107	Image Creation and Composition.....	3
Adsgn	2202	Web/Interactive Design 1.....	3
Adsgn	2206	Web/Interactive Design 2.....	3
Adsgn	1108	Digital Illustration for Design .....	3
Graph	1102	Introduction to Graphic Publishing Applications .....	3
			21

The **Illustration certificate** is designed for students seeking a focus in Illustration and requires 24 credits in the courses listed below. Code 4521

Adsgn	1100	Drawing for Design 1 .....	3
Adsgn	1104	Drawing for Design 2 .....	3
Adsgn	2204	Advanced Illustration.....	3
Adsgn	2209	Anatomy and Figure.....	3
Adsgn	2210	Cartooning .....	3
Adsgn	1102	Design 1.....	3
Adsgn	1821	Selected Topics in Advertising, Design and Illustration.....	3
Adsgn	2208	Portfolio Seminar .....	3
			24

## Heating, Air Conditioning and Refrigeration

### AAS Degree, Two Certificates

The Heating, Air Conditioning and Refrigeration program offers training in current technology for diagnosing, servicing, repairing, installing and managing heating, air conditioning and refrigeration energy systems.

The **Service Technician degree** consists of a minimum of 64 credits in general education and program requirements. The following list contains the required courses.

### AAS Degree

#### PROGRAM REQUIREMENTS

Code 3902

Airc	1100	Refrigeration Principles.....	3
Airc	1105	Introduction to Safety, Materials and Equipment.....	3
Airc	1110	Introduction to Controls.....	3

Airc	1827	Special Topics.....	1
Airc	1180	Introduction to Heating .....	5
Airc	1186	Introduction to Hydronics .....	2
Airc	2201	Residential Air Conditioning .....	3
Airc	2202	Commercial Air Conditioning .....	3
Airc	2210	Commercial Refrigeration.....	5
Airc	2225	Troubleshooting Systems.....	3
Airc	2240	Load Calculations and Duct Design.....	5
			36

### Electives .....

Select 5 credits from any 1000 or 2000-level courses.

### Program Electives .....

Select at least 5 credits from the courses below.

Airc	1112	Residential Refrigeration.....	3
Airc	1161	Introduction to Sheet Metal .....	2
Airc	1187	Central Heating Plants .....	3
Airc	2205	Heat Pumps .....	2
Airc	2220	Installation.....	3
Airc	2230	Advanced Controls.....	3
Airc	2236	Central Cooling Plants.....	3
Airc	2241	Industrial Air Conditioning Design .....	3
Airc	2250	System Balancing.....	2
Co-op	2861	Cooperative Education/Internship (Occupational) .....	1

### General Education .....

(In addition to courses listed above)

### Total Credits Required .....

64 to 66

### Certificates

The **Stationary Operator certificate** requires a minimum of 31 credits in the course listed below.

Code 4901

Airc	1100	Refrigeration Principles.....	3
Airc	1105	Introduction to Safety, Materials and Equipment.....	3
Airc	1110	Introduction to Controls.....	3
Airc	1827	Special Topics.....	1
Airc	1180	Introduction to Heating .....	5
Airc	1186	Introduction to Hydronics .....	2
Airc	1187	Central Heating Plants .....	3
Airc	2202	Commercial Air Conditioning .....	3
Airc	2230	Advanced Controls.....	3
Airc	2236	Central Cooling Plants.....	3
Airc	2250	System Balancing.....	2
			31

The **Service Technician certificate** requires 34 credits in the courses listed below. Code 4902

Airc	1100	Refrigeration Principles.....	3
Airc	1105	Introduction to Safety, Materials and Equipment.....	3
Airc	1110	Introduction to Controls.....	3
Airc	1161	Introduction to Sheet Metal .....	2
Airc	1827	Special Topics.....	1
Airc	1180	Introduction to Heating .....	5
Airc	2201	Residential Air Conditioning .....	3
Airc	2202	Commercial Air Conditioning .....	3

Airc	2210	Commercial Refrigeration.....	5
Airc	2220	Installation.....	3
Airc	2225	Troubleshooting Systems.....	3
			<u>34</u>

## Allied Health

(See Health Sciences.)

## Architecture

Four AAS Degrees, Two Certificates

### Architectural Technology Degree Option

The Architectural Technology degree includes the core group of architecture courses as well as courses designed to prepare students for immediate entry into the workplace as a drafter. This degree program consists of a minimum of 66 required credits from courses listed below.

### PROGRAM REQUIREMENTS

Code 3921			
Arch	1100	Introduction to Architecture.....	3
Arch	1101	Basic Architectural Drafting.....	2
Arch	1111	Building Materials .....	4
Arch	1121	Architectural Design Communication.....	4
Arch	1131	Introduction to Architectural Design .....	4
Arch	2102	Frame and Masonry Construction.....	4
Arch	2103	Steel and Concrete Construction.....	4
Arch	2110	Advanced Architectural CADD.....	3
Arch	2210	Mechanical, Electrical and Plumbing Systems.....	3
Arch	2230	Structural Systems.....	3
Arch	2240	Codes, Specifications and Contracts.....	3
Cadd	1111	Basic Computer-Aided Drafting — AutoCad.....	3
Cadd	1112	Advanced Computer-Aided Drafting — AutoCad.....	3
Cadd	2220	Architectural Modeling.....	2
Engli	1101	English Composition I .....	3
Physi	1201	General Physics I.....	5
		OR	
Physi	1100	Physics.....	4
Math	1431	Precalculus I.....	5
			<u>57 to 58</u>

**General Education** .....9  
(In addition to courses listed above)

**Total Credits Required**.....66 to 67

### Pre-Architecture Degree Option

The Pre-Architecture degree includes the core group of architecture courses as well as courses designed to prepare students for transfer to baccalaureate or professional programs. The second year curriculum emphasizes portfolio production while the electives allow students to customize their curriculum to match the transfer institution. The degree program consists of a minimum of 65 credits from courses listed below.

### PROGRAM REQUIREMENTS

Code 3922			
Arch	1100	Introduction to Architecture.....	3
Arch	1111	Building Materials .....	4
Arch	1121	Architectural Design Communication.....	4
Arch	1131	Introduction to Architectural Design .....	4
Arch	2201	Architectural Design I .....	5
Arch	2202	Architectural Design II.....	5
Arch	2203	Introduction to Architectural Theory.....	3
Arch	2250	Architectural Presentation and Portfolio .....	3
Cadd	1111	Basic Computer-Aided Drafting — AutoCad .....	3
Cadd	2220	Architectural Modeling .....	2
Engli	1101	English Composition I .....	3
Math	1431	Precalculus I.....	5
			<u>44</u>

**Electives** .....9  
9 hours in any 1000- or 2000-level courses

**General Education** .....12 to 14  
(In addition to courses listed above)

**Total Credits Required**.....65 to 67

### Architecture: Historic Preservation Degree Option

The Historic Preservation degree is for those interested in working with older and/or historic structures. This degree program consists of a minimum of 64 credits from courses listed below.

### PROGRAM REQUIREMENTS

Code 3923			
Arch	1100	Introduction to Architecture.....	3
Arch	1101	Basic Architectural Drafting.....	2
Arch	1111	Building Materials .....	4
Arch	1105	Fundamentals of Historic Preservation .....	2
Arch	1115	Historic Preservation: Materials and Process.....	2
Arch	1121	Architectural Design Communication.....	4
Arch	2210	Mechanical, Electrical and Plumbing Systems .....	3
Arch	2215	Historic Preservation: Saving the Past .....	3
Arch	2230	Structural Systems.....	3
Arch	2240	Codes, Specifications and Contracts.....	3
Cadd	1111	Basic Computer-Aided Drafting — AutoCad.....	3
			<u>32</u>

**Program Electives** .....14  
Select 14 credits approved by Architectural Technology faculty adviser.

**General Education** .....18 to 22  
(In addition to courses listed above)

**Total Credits Required**.....64 to 68

### Construction Management Technology Degree Option

The Construction Management Technology degree combines a variety of architecture and business classes to prepare students for entry level positions in construction management and construction firms. The certificate

consists of a minimum of 66 credits from courses listed below.

**PROGRAM REQUIREMENTS**

Code 3924

Arch	1100	Introduction to Architecture.....	3
Arch	1111	Building Materials .....	4
Arch	1130	Blueprint Reading.....	2
Arch	1141	Construction Methods I.....	2
Arch	2142	Construction Methods II.....	2
Arch	2240	Codes, Specifications and Contracts.....	3
Arch	2260	Construction Estimating.....	3
Accou	1140	Financial Accounting.....	4
Manag	1100	Supervision.....	3
Manuf	2280	Industrial Safety.....	2
Engli	1101	English Composition I .....	3
Physi	1201	General Physics I.....	5
	OR		
Physi	1100	Physics.....	4
Math	1431	Precalculus I.....	5
Philo	1114	Business Ethics.....	3
Cis	1150	Introduction to Computer Information Systems .....	3
			46 to 47

**Program Electives** .....14 to 15

At least 14 hours in any of the following:

Arch	1101	Basic Architectural Drafting.....	2
Arch	2102	Frame and Masonry Construction.....	4
Arch	2103	Steel and Concrete Construction.....	4
Arch	2110	Advanced Architectural CADD.....	3
Arch	2150	Basic Surveying.....	2
Arch	2210	Mechanical, Electrical and Plumbing Systems.....	3
Arch	2230	Structural Systems.....	3
Cadd	1111	Basic Computer-Aided Drafting — AutoCad.....	3
Cadd	1112	Advanced Computer-Aided Drafting — AutoCad.....	3
Engli	1105	Introduction to Technical Writing.....	3
Engli	1110	Technical Writing .....	3
Facm	2202	Facility Systems — Electrical.....	3
Facm	2203	Facility Systems — Mechanical .....	3
Manuf	1160	Technical Static and Strength of Material .....	4
			14 to 15

**General Education** .....6

(In addition to courses listed above)

**Total Credits Required**.....66 to 67

**Certificates**

The **Architectural Rendering certificate** requires 18 credits in the courses listed below and gives students specific skills for preparing professional architectural presentations in a variety of media. Students should have a background in architecture or art. Code 4919

Arch	1121	Architectural Design Communication.....	4
Arch	2250	Architectural Presentation and Portfolio.....	3
Cadd	1112	Advanced Computer-Aided Drafting — AutoCad.....	3

Cadd	2220	Architectural Modeling.....	2
Photo	1201	Tools and Techniques for Digital Photography.....	3
Art	2221	Painting I.....	3

The **Architectural Technology certificate** requires 35 credits in the courses listed below and prepares students for entry level positions as drafters in architectural or construction firms. Code 4921

Arch	1101	Basic Architectural Drafting.....	2
Arch	1111	Building Materials .....	4
Arch	2102	Frame and Masonry Construction.....	4
Arch	2103	Steel and Concrete Construction.....	4
Arch	2110	Advanced Architectural CADD.....	3
Arch	2210	Mechanical, Electrical and Plumbing Systems.....	3
Arch	2230	Structural Systems.....	3
Arch	2240	Codes, Specifications and Contracts.....	3
Arch	2260	Construction Estimating.....	3
Cadd	1111	Basic Computer-Aided Drafting — AutoCad.....	3
Cadd	1112	Advanced Computer-Aided Drafting — AutoCad.....	3

**Automotive Service Technology**

**AAS Degree, Certificate**

The **Automotive Service Technology program** is designed to prepare students for career entry or career advancement in the automotive field. Students will learn skills in diagnosing, servicing and maintaining today's sophisticated vehicles. This program is NATEF-certified. This degree program consists of a minimum of 64 credits in general education, program requirements and electives. The following list contains the required courses.

**AAS Degree**

**PROGRAM REQUIREMENTS**

Code 3909

Auto	1110	Engine Design and Operation.....	4
Auto	1120	Manual Drive Train and Axles.....	4
Auto	1131	Automotive Basic Electricity.....	4
Auto	1140	Suspension, Steering and Alignment.....	4
Auto	1232	Automotive Engine Electricity.....	4
Auto	1240	Braking Systems .....	4
Auto	1250	Automotive Air Conditioning and Heating.....	4
Auto	1261	Engine Controls and Emissions I.....	4
Auto	2120	Automatic Transmission.....	4
Auto	2162	Engine Controls and Emissions II.....	4
Auto	2180	Automotive Service .....	6
			46

Complete a course from the Global Studies/Multicultural Studies or Contemporary Life Skills category.

**General Education** .....18 to 22

(In addition to courses listed above)

**Total Credits Required**.....64 to 68

**Certificate**

**The Automotive Service Technology certificate**

requires 46 credits in the courses listed below. Code 4909

Auto	1110	Engine Design and Operation	4
Auto	1120	Manual Drive Train and Axles	4
Auto	1131	Automotive Basic Electricity	4
Auto	1140	Suspension, Steering and Alignment	4
Auto	1232	Automotive Engine Electricity	4
Auto	1240	Braking Systems	4
Auto	1250	Automotive Air Conditioning and Heating	4
Auto	1261	Engine Controls and Emissions I	4
Auto	2120	Automatic Transmission	4
Auto	2162	Engine Controls and Emissions II	4
Auto	2180	Automotive Service	6
			<u>46</u>

**Computer Information Systems (CIS)**

**Two AAS Degree Options, 10 Certificates**

The Computer Information Systems program prepares students to work in the field of computer technology.

**AAS Degrees**

The **Microcomputer Specialist degree program** consists of a total of 64 to 68 credits in program requirements, program electives and general education. The following list contains the required courses, some of which may be used to meet general education requirements.

**PROGRAM REQUIREMENTS**

Code 3216

Cis	1120	The Internet	2
Cis	1130	Windows Basics	2
Cis	1150	Introduction to Computer Information Systems	3
Cis	1160	Windows Command Line (DOS)	2
Cis	1180	Introduction to Networking	3
Cis	1205	Office Suite Software and Integration	3
Cis	1221	Introduction to Spreadsheets	3
Cis	1222	Advanced Spreadsheets	2
Cis	1230	Microcomputer Database Application	3
Cis	1310	HTML and CSS	3
Cis	1400	Programming Logic and Technique	4
Cis	2770	Introduction to System Analysis and Design	3

[	Accou	1110	Accounting Procedures	4
			OR	
	Accou	1140	Financial Accounting	4
				<u>37</u>

**Program Electives**.....5 to 9

Select 5 to 9 hours from any CIS courses except CIS 1110

**General Education** .....18 to 22

(In addition to courses listed above)

**Total Credits Required**.....64 to 68

The **Application Programmer degree program** consists of a minimum of 64 credits in program requirements,

program electives, emphasis courses and general education. The following list contains the required courses, some of which may be used to meet general education requirements.

**PROGRAM REQUIREMENTS**

Code 3222

Cis	1150	Introduction to Computer Information Systems	3	
[	Cis	1160	Windows Command Line (DOS)	2
			OR	
	Cis	1230	Microcomputer Database Application	3
[	Cis	1310	HTML and CSS	3
			OR	
	Cis	1400	Programming Logic and Technique	4
	Cis	1450	Introduction to Linux/Unix Operating Systems	3
	Cis	2541	C++ Language Programming	4
	Cis	2542	Advanced C++ with Data Structure Applications	4
	Cis	2710	Database Management	4
	Cis	2770	Introduction to System Analysis and Design	3
	Cis	2790	Systems Analyst Simulation	3
				<u>29 to 31</u>

**Emphases Courses**

Choose Java, Visual Basic or C++ Emphasis.

Java Emphasis .....8

The following courses are required in addition to core program requirements.

Cis	2571	Introduction to Java	4
Cis	2572	Applications in Java	4

Visual Basic Emphasis .....10

The following courses are required in addition to core program requirements.

Cis	1130	Windows Basics	2
Cis	1510	Graphical User Interface Programming	4
Cis	2510	Advanced Graphical User Interface Programming	4

Visual C++ Emphasis.....8

The following courses are required in addition to core program requirements.

Cis	2551	Introduction to MS Visual C++ .NET Programming	4
Cis	2552	Object-oriented Program Development with VC++ .NET	4

**Program Electives**.....1 to 9

Select from any 1000- or 2000-level CIS courses except 1110 and 1205. The following courses are recommended:

Cis	1600	Fundamentals of Operating Systems	3
Cis	2420	Microprocessor Assembly Language	4

**General Education** .....18 to 22

(In addition to those listed above)

**Total Credits Required**.....64 to 67

**Certificates**

The **Microcomputer Software certificate** requires 35 credits in the courses listed below. Code 4924

Cis	1120	The Internet.....	2
Cis	1130	Windows Basics.....	2
Cis	1150	Introduction to Computer Information Systems .....	3
Cis	1160	Windows Command Line (DOS) .....	2
Cis	1180	Introduction to Networking .....	3
Cis	1205	Office Suite Software and Integration .....	3
Cis	1221	Introduction to Spreadsheets .....	3
Cis	1222	Advanced Spreadsheets .....	2
Cis	1230	Microcomputer Database Application .....	3
Cis	1240	Presentation Graphics — Windows Based .....	2
Cis	1310	HTML and CSS.....	3
Cis	1400	Programming Logic and Technique .....	4
Cis	1600	Fundamentals of Operating Systems .....	3

The **UNIX certificate** requires 16 credits in the courses listed below. Code 4929

**Program Requirements**

Cis	1150	Introduction to Computer Information Systems .....	3
Cis	1400	Programming Logic and Technique .....	4
Cis	1450	Introduction to Linux/Unix Operating Systems.....	3
Cis	2440	Shell Programming for UNIX/LINUX.....	3
Cis	2450	UNIX System Administration .....	3

The **Database Proficiency certificate** requires 16 credits in the courses listed below. Code 4932

Cis	1130	Windows Basics.....	2
Cis	1150	Introduction to Computer Information Systems .....	3
Cis	1230	Microcomputer Database Application .....	3
Cis	1290	Visual Basic for Applications in MSOffice .....	4
Cis	1400	Programming Logic and Technique .....	4

The **Spreadsheet Proficiency certificate** requires 17 credits in the courses listed below. Code 4933

Cis	1130	Windows Basics.....	2
Cis	1150	Introduction to Computer Information Systems .....	3
Cis	1205	Office Suite Software and Integration .....	3
Cis	1221	Introduction to Spreadsheets .....	3
Cis	1222	Advanced Spreadsheets .....	2
Cis	1400	Programming Logic and Technique .....	4

The **Web Programmer certificate** requires 31 credits in the courses listed below. Code 4934

Cis	1120	The Internet.....	2
Cis	1130	Windows Basics.....	2
Cis	1150	Introduction to Computer Information Systems .....	3
Cis	1180	Introduction to Networking .....	3
Cis	1300	Web Design Software .....	3
Cis	1310	HTML and CSS.....	3
Cis	1400	Programming Logic and Technique .....	4
Cis	2320	JavaScript and Advanced HTML.....	3
Cis	2571	Introduction to Java .....	4
Cis	2572	Applications in Java.....	4

The **Visual BASIC Language Proficiency certificate** requires 15 credits in the courses listed below. Code 4936

Cis	1150	Introduction to Computer Information Systems .....	3
Cis	1400	Programming Logic and Technique .....	4
Cis	1510	Graphical User Interface Programming .....	4
Cis	2510	Advanced Graphical User Interface Programming.....	4

The **C++ Language Proficiency certificate** requires 15 credits in the courses listed below. Code 4937

Cis	1150	Introduction to Computer Information Systems.....	3
Cis	1400	Programming Logic and Technique .....	4
Cis	2541	C++ Language Programming .....	4
Cis	2542	Advanced C++ with Data Structure Applications .....	4

The **Web Technician certificate** requires 20 credits in the courses listed below. Code 4939

Cis	1120	The Internet.....	2
Cis	1130	Windows Basics.....	2
Cis	1150	Introduction to Computer Information Systems .....	3
Cis	1300	Web Design Software .....	3
Cis	1310	HTML and CSS.....	3
Cis	1400	Programming Logic and Technique .....	4
Cis	2320	JavaScript and Advanced HTML.....	3

The **Visual C++ Language Proficiency certificate** requires 23 credits in the courses listed below. Code 4946

Cis	1150	Introduction to Computer Information Systems .....	3
Cis	1400	Programming Logic and Technique .....	4
Cis	2541	C++ Language Programming .....	4
Cis	2542	Advanced C++ with Data Structure Applications .....	4
Cis	2551	Introduction to MS Visual C++ . NET Programming.....	4
Cis	2552	Object-oriented Program Development with VC++ .NET.....	4

The **JAVA Language Proficiency certificate** requires 15 credits in the courses listed below. Code 4947

Cis	1150	Introduction to Computer Information Systems .....	3
Cis	1400	Programming Logic and Technique .....	4
Cis	2571	Introduction to Java .....	4
Cis	2572	Applications in Java.....	4

## **Computer and Internetworking Technologies (CIT)**

### **AAS Degree, Four Certificates**

The Computer and Internetworking Technologies program is designed to provide the student a broad exposure to electronic fundamentals with specialty training in the servicing and maintenance of digital and microprocessor-based equipment. Upon completion of

the program, the student will possess the skills and educational background needed by electronic professionals employed in various microprocessor and computer-related fields.

This program consists of a minimum of 67 credits in general education and program requirements. The following list contains the required courses, some of which may be used to meet general education requirements.

**AAS Degree PROGRAM REQUIREMENTS**

Code 3916

Elect	1100	Electricity and Electronics Fundamentals.....	2
Elect	1101	Electricity and Electronics Fundamentals.....	3
Elect	1102	Circuits II .....	4
Cit	1121	Networking Basics.....	3
Cit	1122	Routers and Routing Basics.....	3
Cit	1123	Switching Basics and Intermediate Routing .....	3
Cit	1124	WAN Technologies .....	3
Cit	1131	PC Maintenance and Upgrading.....	2
Cit	2231	Computer and Hardware Maintenance ...	3
Cit	2233	Advanced System Maintenance .....	3
Cit	2235	Data Communications and Networks .....	3
Physi	1100	Physics.....	4
Math	1431	Precalculus I .....	5
		AND	
Math	1432	Precalculus II: Trigonometry .....	3
Cis	1400	Programming Logic and Technique .....	4
			48
		<b>Program Electives</b> .....	7

Select at least seven credits from the following courses.

Cit	2241	Building Scalable Cisco Networks .....	4
Cit	2242	Building Cisco Remote Access Networks .....	4
Cit	2243	Building Cisco Multilayer Switched Networks .....	4
Cit	2244	Cisco Internetwork Troubleshooting .....	4
Elect	1120	Electronic Documentation.....	2
Elect	1130	Electronics Materials and Fabrication .....	2
Elect	1151	Electronic Devices and Applications I .....	4
Elmec	1300	Introduction to Fiber Optics.....	3

**General Education** ..... 12

(In addition to courses listed above)

**Total Credits Required**.....67

**Certificates**

The **Microcomputer Servicing Technician certificate** requires a minimum of 18 credits in the courses listed below. Code 4914

Elect	1100	Electricity and Electronics Fundamentals.....	2
Cit	1131	PC Maintenance and Upgrading.....	2
Cit	2231	Computer and Hardware Maintenance ...	3
Cit	2233	Advanced System Maintenance .....	3
Cit	2235	Data Communications and Networks .....	3

Math	1431	Precalculus I .....	5
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The **Network Professional certificate** requires a minimum of 16 credits in the courses listed below.

Code 4915

Cit	2241	Building Scalable Cisco Networks .....	4
Cit	2242	Building Cisco Remote Access Networks .....	4
Cit	2243	Building Cisco Multilayer Switched Networks .....	4
Cit	2244	Cisco Internetwork Troubleshooting .....	4

The **Computer and Internetworking Technologies certificate** requires a minimum of 44 credits in the courses listed below. Code 4916

Elect	1100	Electricity and Electronics Fundamentals.....	2
Elect	1101	Electricity and Electronics Fundamentals.....	3
Elect	1102	Circuits II.....	4
Cit	1121	Networking Basics.....	3
Cit	1122	Routers and Routing Basics.....	3
Cit	1123	Switching Basics and Intermediate Routing.....	3
Cit	1124	WAN Technologies .....	3
Cit	1131	PC Maintenance and Upgrading.....	2
Cit	2231	Computer and Hardware Maintenance ...	3
Cit	2233	Advanced System Maintenance.....	3
Cit	2235	Data Communications and Networks .....	3
Math	1431	Precalculus I .....	5
		AND	
Math	1432	Precalculus II: Trigonometry .....	3
Cis	1400	Programing Logic and Technique.....	4

The **Internetworking Technician certificate** requires a minimum of 12 credits in the courses listed below.

Code 4918

Cit	1121	Networking Basics.....	3
Cit	1122	Routers and Routing Basics.....	3
Cit	1123	Switching Basics and Intermediate Routing .....	3
Cit	1124	WAN Technologies .....	3

**Criminal Justice**

**AAS Degree, Certificate**

The Criminal Justice program is designed to prepare students for career entry or career advancement in law enforcement and criminal justice agencies. This program is particularly useful for those pursuing careers with local and state law enforcement agencies and it can also prepare students for entry-level correctional and private security positions. Also, an Associate in Arts (AA) transfer option is available in Criminal Justice. This degree consists of a minimum of 64 credits in courses listed below.

**PROGRAM REQUIREMENTS**

Code 3464

Crimj	1100	Introduction to Criminal Justice.....	3
Crimj	1151	Constitutional Law.....	3
			<hr/> 6

**Program Electives**.....15

Select from any 1000- or 2000-level Criminal Justice courses (except Crmj 1100 and Crmj 1151).

**Electives**.....21

(Select from any 1000- or 2000-level courses.)

**General Education**.....22

(In addition to courses listed above)

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**Total Credits Required**.....64**Certificates**The **Criminal Justice certificate** requires a minimum of 30 credits in the courses listed below. Code 4464

Crimj	1100	Introduction to Criminal Justice.....	3
Crimj	1151	Constitutional Law.....	3
Crimj	1152	Criminal Law.....	3
Crimj	1153	Rules of Evidence.....	3
Crimj	2230	Criminal Investigation.....	3
Crimj	2240	Juvenile Delinquency.....	3
Engli	1101	English Composition I.....	3
Pol S	1101	American Politics.....	3
Psych	1100	General Psychology.....	3
Socio	1100	Introduction to Sociology.....	3

**Dental Hygiene****AAS Degree**

The Dental Hygiene program prepares its graduates to provide comprehensive oral health care services in a variety of settings. Upon successful completion of the program and passing of the National Dental Hygiene Examination and Regional Board Examination, graduates will be eligible to apply for mandatory state licensure. This degree program consists of a minimum of 80 credits in general education and program requirements. The following list contains the required courses.

**PROGRAM REQUIREMENTS**

Code 3117

Anat&	1551	Human Anatomy and Physiology I.....	4
		AND	
Anat&	1552	Human Anatomy and Physiology II.....	4
		OR	
Anat&	1571	Anatomy and Physiology with Cadaver I.....	4
		AND	
Anat&	1572	Anatomy and Physiology with Cadaver II.....	4
		OR	
Chemi	1211	General Chemistry.....	5
		OR	
Chemi	1551	Principles of Chemistry I.....	5
Dehyg	1101	Principles in Dental Hygiene I.....	3
Dehyg	1102	Principles in Dental Hygiene II.....	2

Dehyg	1105	Dental Materials/Expanded Functions....	3
Dehyg	1112	Dental Radiology I.....	2
Dehyg	1115	Dental Tooth Anatomy and Morphology..	2
Dehyg	1120	Preclinical Dental Hygiene I.....	1
Dehyg	1121	Clinical Dental Hygiene I.....	1
Dehyg	1125	Head and Neck Anatomy: Histology and Embryology.....	2
Dehyg	1135	Applied Nutrition and Biochemistry for the Dental Hygienist.....	2
Dehyg	1136	General and Oral Pathology.....	2
Dehyg	1145	Medical Emergencies in a Dental Office....	1
Dehyg	2201	Dental Hygiene Theory I.....	2
Dehyg	2202	Dental Hygiene Theory II.....	2
Dehyg	2211	Periodontics I.....	2
Dehyg	2212	Periodontics II.....	2
Dehyg	2213	Dental Radiology II.....	2
Dehyg	2222	Clinical Dental Hygiene II.....	2
Dehyg	2223	Clinical Dental Hygiene III.....	2
Dehyg	2224	Clinical Dental Hygiene IV.....	2
Dehyg	2225	Review of Dental Literature.....	1
Dehyg	2232	Community Dental Health I.....	2
Dehyg	2233	Community Dental Health II.....	2
Dehyg	2235	Dental Pharmacology and Local Anesthetics.....	2
Dehyg	2245	Ethics and Jurisprudence: Practice Management for the Dental Hygienist..	2
Engli	1101	English Composition I.....	3
Math	1102	Mathematics for Health Sciences.....	3
Micro	1420	Microbiology.....	4
Psych	1100	General Psychology.....	3
Socio	1100	Introduction to Sociology.....	3
Speec	1100	Fundamentals of Speech Communication.....	3
			<hr/> 78

**General Education**.....2

(In addition to courses listed above complete two credits from courses listed in the Global/Multicultural Studies on Contemporary Life Skills category)

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**Total Credits Required**.....80**Diagnostic Medical Imaging  
Nuclear Medicine**

(Formerly Nuclear Medicine Technology)

**Certificate**

The **Nuclear Medicine Technology certificate** is a 15-month program that involves daytime and evening classes and clinical education three to four days a week. Upon successful completion, graduates become eligible to sit for the American Registry of Radiologic Technologists (ARRT) and the Nuclear Medicine Technologist Certification Board (NMTCB). The certificate program consists of 40 credits in the required courses listed below. Code 4173

Dmin	1100	Basics of Nuclear Medicine.....	3
Dmin	1101	Physics and Instrumentation In Nuclear Medicine.....	6

Dmin	1102	Nuclear Medicine Radiopharmacy.....	6
Dmin	1103	Radiation Biology and Radiation Safety Bridge.....	2
Dmin	1111	Clinical Nuclear Medicine I.....	3
Dmin	2200	Nuclear Medicine Procedures II.....	5
Dmin	2202	Nuclear Medicine Procedures III.....	5
Dmin	2211	Clinical Nuclear Medicine II.....	3
Dmin	2212	Clinical Nuclear Medicine III.....	3
Dmin	2221	Positron Emission Tomography I.....	3
Dmin	2222	Nuclear Medicine Review Seminar.....	1

Hlths	1110	Biomedical Terminology.....	4
Math	1102	Mathematics for Health Sciences.....	3
		OR	
Math	1115	Technical Mathematics I.....	3
Speec	1100	Fundamentals of Speech Communication.....	3
		OR	
Speec	1120	Small-Group Communication.....	3
Speec	1150	Introduction to Business Communication.....	3
		OR	

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## Diagnostic Medical Imaging Radiography

(Formerly Radiologic Technology)  
AAS Degree

Radiologic Technology is a 24-month program in diagnostic medical radiography (X-ray technology), including extensive clinical experience. The degree program consists of a total of 71 credits in general education, program requirements and program electives. The following list contains the required courses, some of which may be used to meet general education requirements. Fully accredited by the Joint Review Committee on Education in Radiologic Technology.

### PROGRAM REQUIREMENTS

Code 3172

Anat&	1500	Survey of Human Anatomy and Physiology.....	4
		OR	
Anat&	1551	Human Anatomy and Physiology I.....	4
		OR	
Anat&	1571	Anatomy and Physiology with Cadaver I.....	4
Cis	1110	Using Computers: An Introduction.....	2
Dmir	1111	Clinical Education I.....	2
Dmir	1112	Clinical Education II.....	2
Dmir	1113	Clinical Education III.....	2
Dmir	1121	Radiographic Equipment.....	4
Dmir	1122	Image Formation and Evaluation.....	4
Dmir	1131	Radiographic Procedures I.....	4
Dmir	1132	Radiographic Procedures II.....	3
Dmir	1133	Radiographic Procedures III.....	3
Dmir	1140	Ethics and Law in Diagnostic Medical Imaging.....	1
Dmir	1151	Basic Pharmacology.....	1
Dmir	2201	Radiation Physics, Biology and Protection.....	3
Dmir	2211	Clinical Education IV.....	3
Dmir	2212	Clinical Education V.....	3
Dmir	2213	Clinical Education VI.....	3
Dmir	2225	Basic Pathophysiology.....	3
Dmir	2235	Quality Management in Diagnostic Imaging.....	2
Dmir	2240	Critical Radiographic Image Evaluation..	3
Engl	1101	English Composition I.....	3
Engl	1102	English Composition II.....	3

General Education.....6  
(In addition to courses listed above)

Total Credits Required.....74

## Diagnostic Medical Imaging Sonography

Two Certificates

### Diagnostic Medical Imaging Sonography (Ultrasound)

is a 15-month advanced certificate program designed for graduates of accredited Medical Imaging programs in Radiology, Nuclear Medicine, Nursing, etc. Classes are conducted on Tuesday, Wednesday and Thursday evenings and occasional Saturdays. Clinical education is provided on weekdays at assigned clinical affiliates. Upon successful completion, graduates are eligible to take the American Registry of Diagnostic Medical Sonographers examination in OB/GYN, Abdomen, Superficial Structures and Physics. This certificate program consists of 63 credits in the required courses listed below.

Code 4142

Dmis	1100	Introduction to Diagnostic Medical Sonography.....	4
Dmis	1101	Sonographic Physics and Instrumentation I.....	4
Dmis	1102	Sonographic Physics and Instrumentation II.....	4
Dmis	1120	Sonographic Cross-Sectional Anatomy.....	4
Dmis	1111	Clinical Education I.....	2
Dmis	1112	Clinical Education II.....	6
Dmis	1113	Clinical Education III.....	6
Dmis	1114	Clinical Education IV.....	6
Dmis	1121	Fundamentals of OB/GYN I.....	4
Dmis	1122	Fundamentals of OB/GYN II.....	4
Dmis	1131	Abdomen/Superficial Structures I.....	4
Dmis	1132	Abdomen/Superficial Structures II.....	4
Dmis	1141	Case Study Critique I.....	1
Dmis	1142	Case Study Critique II.....	1
Dmis	1151	Abdominal/Superficial Structures and Obstetrics/Gynecology Hands-on Scanning Lab — 1.....	1
Dmis	1152	Abdominal/Superficial Structures and Obstetrics/Gynecology Hands-on Scanning Lab — 2.....	2
Dmis	1153	Abdominal/Superficial Structures and Obstetrics/Gynecology Hands-on Scanning Lab — 3.....	2

Dmis	2280	Sonographic Physics Registry and Review .....	2
Dmis	2285	Clinical Sonographic Registry and Review .....	2

The **Diagnostic Medical Vascular Sonography program** is an extension of the current Diagnostic Medical Imaging program designed to provide trained sonographers in the specialty of vascular imaging for the clinical institutions and clinics in the Chicago area.

This certificate program consists of 27 credits in the required courses listed below. Code 4143

Dmis	2200	Vascular Hemodynamics and Physics .....	3
Dmis	2201	Abdominal and Peripheral Arterial 1 .....	2
Dmis	2202	Abdominal and Peripheral Arterial 2 .....	2
Dmis	2203	Cerebrovascular Ultrasound .....	2
Dmis	2204	Abdominal and Peripheral Venous .....	2
Dmis	2212	Clinical Education 1 .....	6
Dmis	2213	Clinical Education 2 .....	6
Dmis	2221	Abdominal and Peripheral Art — Hands-on Lab .....	1
Dmis	2222	Abdominal and Peripheral Art — Hands-on Lab .....	1
Dmis	2223	Cerebrovascular Hands on Lab .....	1
Dmis	2224	Abdominal and Peripheral Venous — Hands-on Lab .....	1

**Early Childhood Education and Care**

**AAS Degree, Six Certificates**

The Early Childhood Education and Care program prepares students to enter the early childhood education and early childhood field. Students acquire the skills, knowledge and attitudes to work with infants, toddlers, preschool-age and school-age children. Jobs for degree and certificate graduates are widely available in child care centers, preschools, park districts and public schools. The degree program consists of a minimum of 64 credits in general education, program requirements and program electives. The following list contains the required courses.

**PROGRAM REQUIREMENTS**

Code 3623

Ecec	1100	Introduction to the Early Childhood Profession .....	3
Ecec	1101	Growth and Development of the Young Child .....	3
Ecec	1102	Child Guidance Practices .....	3
Ecec	1130	Methods: Discovery and the Physical World .....	3
Ecec	1140	Methods: Self-Expression and the Social World .....	3
Ecec	1151	Language and Literacy Development of the Young Child .....	3
Ecec	2211	Child Health, Safety and Nutrition .....	3
Ecec	2220	Child Care Practicum .....	4
Ecec	2251	Curriculum Planning for the Young Child .....	3
Ecec	2252	Child/Family/Community Relations .....	3

		and Resources .....	3
Ecec	2260	Early Childhood Professional .....	3
			<u>34</u>

**Program Electives**.....4

**Electives** .....2 to 6  
(Select from any 1000-or 2000- level courses)

**General Education** .....20 to 24  
(In addition to courses listed above)

**Total Credits Required**.....64 to 68

**Certificates**

The **Early Childhood Education and Care certificate** requires 34 credits in the courses listed below. Code 4623

Ecec	1100	Introduction to the Early Childhood Profession .....	3
Ecec	1101	Growth and Development of the Young Child .....	3
Ecec	1102	Child Guidance Practices .....	3
Ecec	1130	Methods: Discovery and the Physical World .....	3
Ecec	1140	Methods: Self-Expression and the Social World .....	3
Ecec	1151	Language and Literacy Development of the Young Child .....	3
Ecec	2211	Child Health, Safety and Nutrition .....	3
Ecec	2220	Child Care Practicum .....	4
Ecec	2251	Curriculum Planning for the Young Child .....	3
Ecec	2252	Child/Family/Community Relations .....	3
Ecec	2260	Early Childhood Professional .....	3

**The Infant, Toddler and 2-Year-Old Child Care**

**certificate.** Students choose this certificate to gain specific knowledge and skills in this early childhood specialty. Students may have previously received an early childhood certificate or degree or may choose this certificate to begin their early childhood education. This certificate requires 15 credits in the courses listed below. Code 4624

Ecec	1101	Growth and Development of the Young Child .....	3
Ecec	1102	Child Guidance Practices .....	3
Ecec	1116	Care of the Infant, Toddler and Two-Year Old Child I .....	3
Ecec	1117	Care of the Infant, Toddler and Two-Year-Old Child II .....	3
Ecec	2211	Child Health, Safety and Nutrition .....	3

**The Early Childhood Center Administration**

**certificate.** Students choose this certificate to gain specific knowledge and skills in this early childhood specialty. Students should have completed an early childhood certificate or degree or some other course of college study. This certificate requires 21 credits in the courses listed below. Code 4625

Ecec	1101	Growth and Development of the Young Child .....	3
Ecec	1102	Child Guidance Practices .....	3

Ecec 2211 Child Health, Safety and Nutrition .....3  
 Ecec 2251 Curriculum Planning for the  
 Young Child .....3  
 Ecec 2254 Administration of an Early Childhood  
 Center — Program Operations .....3  
 Ecec 2255 Administration of an Early Childhood  
 Center — Practices and Procedures ...3  
 Ecec 2256 Administration of an Early Childhood  
 Center — Staff, Families, and  
 Children .....3

The **Family Child Care Provider certificate**. Students choose this certificate to gain specific knowledge and skills in this early childhood specialty. Students may have previously received an early childhood certificate or degree or may choose this certificate to begin their early childhood education. This certificate requires 15 credits in the courses listed below. Code 4627

**Program Requirements** .....10  
 Ecec 1101 Growth and Development of the  
 Young Child .....3  
 Ecec 1120 Family Child Care Management .....2  
 Ecec 1121 Family Child Care Curriculum  
 and Guidance .....2  
 Ecec 2211 Child Health, Safety and Nutrition .....3  
**Program Electives** .....5

The **School-Age Child Care certificate**. Students choose this certificate to gain specific knowledge and skills in this early childhood specialty. Students may have previously received an early childhood certificate or degree or may choose this certificate to begin their early childhood education. This certificate requires 16 credits in the courses listed below. Code 4628

**Program Requirements** .....12  
 Ecec 2211 Child Health, Safety and Nutrition .....3  
 Ecec 2226 Development of the School-Age Child ....2  
 Ecec 2227 Guidance of the School-Age Child .....2  
 Ecec 2228 Activities for School-Age Children .....2  
 Ecec 2252 Child/Family/Community Relations  
 and Resources.....3  
**Program Electives** .....4

The **Multicultural Education and Care for the Young Child certificate**. Students choose this certificate to gain specific knowledge and skills working with diverse populations of children. Students will have previously received early childhood credits or may choose this certificate to begin their Early Childhood Education and Care studies. This certificate requires 14 credits in the courses listed below. Code 4629

Ecec 1101 Growth and Development of the  
 Young Child .....3  
 Ecec 1102 Child Guidance Practices .....3  
 Ecec 1161 Multicultural Curriculum for the  
 Young Child .....2  
 Ecec 1162 Multicultural Perspectives in Child  
 Development and Education .....2  
 Ecec 1163 Practicum: At-Risk Early Childhood  
 Programs .....1

Ecec 2252 Child/Family/Community Relations  
 and Resources.....3

## Electro-Mechanical Technology

### AAS Degree, Three Certificates

This program prepares students to enter the industrial and manufacturing workplace with knowledge and skill levels in three areas: programmable controllers, process control instrumentation and mechanical maintenance. A certificate in programmable controllers involves programming and maintenance of various programmable controllers. The certificate in process control instrumentation trains the student to inspect, calibrate, troubleshoot and repair various temperature, pressure, flow and level measurement instruments. Students earning the mechanical maintenance certificate learns skills in power trains, drive components, mechanical alignment of couplings, pumps and motors, and troubleshooting and repair of industrial components. Degree program consists of skills training in all three areas to provide the student with meaningful learning experiences to enter the workplace as a viable part of a plant engineering group, and/or maintenance or repair technician team. This program stresses both the electrical/electronic and mechanical aspect of industrial and manufacturing processes, it is also designed for those individuals who are presently employed in industrial maintenance or plant engineering and are seeking skills upgrading and/or cross training. Degree program consists of a minimum of 64 credits in general education and program requirements. The following list contains the required courses.

### PROGRAM REQUIREMENTS

Code 3957

Elect 1100 Electricity and Electronics  
 Fundamentals.....2  
 Elect 1120 Electronic Documentation .....2  
 Elmec 1101 Survey of Automation .....2  
 Elmec 1110 Motor Fundamentals.....3  
 Elmec 1130 Industrial Electricity.....3  
 Elmec 1400 Maintenance Management Systems .....3  
 Elmec 1420 Drive Components .....2  
 Elmec 2410 Programmable Controller II (PLC II) .....3  
 Elmec 2510 Process and Automation Controls .....3  
 Manuf 1104 Technical Mechanics.....2  
 Manuf 1141 Hydraulics and Pneumatics.....3  
 Manuf 1171 Introduction to Robotic Technology .....3  
 Manuf 1180 Quality Control .....3  
 Manuf 1190 Introduction to Programmable  
 Logic Controllers.....3  
 37

### Program Electives .....9

Choose from the following courses.

Airc 1161 Introduction to Sheet Metal .....2  
 Cadd 1111 Basic Computer-Aided Drafting —  
 AutoCad .....3  
 Elect 1101 Circuits I.....3

Elect	1102	Circuits II .....	4
Elect	1130	Electronics Materials and Fabrication .....	2
Elect	1199	Cooperative Education/Internship I...1 to 6	
Elect	2220	Electronic Instruments, Measurements, and Control.....	3
Elect	2255	Industrial Controls.....	3
Elect	2299	Cooperative Education/ Internship II .....	1 to 6
Elmec	1120	Residential Wiring.....	3
Elmec	1150	National Electrical Code .....	3
Elmec	1410	Preventive and Predictive Maintenance.....	3
Elmec	2600	Motion Control: Servo and Stepper Motor Application and Control .....	2
Elmec	2610	Machine Vision and Artificial Intelligence.....	2
Elmec	2620	Critical Thinking in Technical Applications .....	2
Elmec	2630	Systems Troubleshooting.....	2
Manuf	1101	Industrial Design/CAD.....	3
Manuf	2251	Computer Numerical Control (CNC) .....	3
Weld	1100	Welding I.....	3

**Total Credits Required**.....64 to 68

**General Education** .....18 to 22  
(In addition to the courses listed above)

**Certificates**

The **Mechanical Maintenance certificate** requires 32 credits in the courses listed below. Code 4958

Elect	1100	Electricity and Electronics Fundamentals.....	2
Elmec	1101	Survey of Automation .....	2
Elmec	1110	Motor Fundamentals.....	3
Elmec	1130	Industrial Electricity.....	3
Elmec	1150	National Electrical Code .....	3
Elmec	1420	Drive Components .....	2
Manuf	1104	Technical Mechanics.....	2
Manuf	1141	Hydraulics and Pneumatics .....	3
Manuf	1151	Machine Shop I .....	3
Manuf	1171	Introduction to Robotic Technology .....	3
Manuf	1190	Introduction to Programmable Logic Controllers .....	3
Weld	1100	Welding I.....	3

The **Process Control Instrumentation certificate** requires 38 credits in the courses listed below. Code 4959

**Program Requirements**.....36

Elect	1100	Electricity and Electronics Fundamentals.....	2
Elect	1120	Electronic Documentation.....	2
Elect	2220	Electronic Instruments, Measurements, and Control.....	3
Elect	2255	Industrial Controls.....	3
Elmec	1101	Survey of Automation .....	2
Elmec	1110	Motor Fundamentals.....	3
Elmec	1130	Industrial Electricity.....	3
Elmec	2510	Process and Automation Controls .....	3

Elmec	2520	Advanced Process and Automation Controls.....	3
Manuf	1141	Hydraulics and Pneumatics.....	3
Manuf	1171	Introduction to Robotic Technology .....	3
Manuf	1180	Quality Control .....	3
Manuf	1190	Introduction to Programmable Logic Controllers .....	3
<b>Program Electives</b> .....			2

The **Programmable Controllers certificate** requires 34 credits in the courses listed below. Code 4960

Elect	1100	Electricity and Electronics Fundamentals.....	2
Elect	1120	Electronic Documentation .....	2
Elect	2255	Industrial Controls.....	3
Elmec	1101	Survey of Automation .....	2
Elmec	1110	Motor Fundamentals.....	3
Elmec	1130	Industrial Electricity.....	3
Elmec	1150	National Electrical Code .....	3
Elmec	2600	Motion Control: Servo and Stepper Motor Application and Control .....	2
Elmec	2410	Programmable Controller II (PLC II) .....	3
Manuf	1104	Technical Mechanics.....	2
Manuf	1171	Introduction to Robotic Technology .....	3
Manuf	1180	Quality Control .....	3
Manuf	1190	Introduction to Programmable Logic Controllers .....	3

**Electronics Technology**

**AAS Degree, Three Certificates**

The Electronics Technology program offers two-year degrees and one-year specialty certificates in the electronics field. The degree program is designed to provide the student with fundamentals of electricity and electronics, including digital electronics and microcomputers, specialized manufacturing electronics, industrial automation and electronic communications. The program also includes an Electronics Engineering Technology degree for transferring students. To learn is to experience. This program emphasizes a hands-on approach to learning through projects to reinforce the theoretical material. This degree program requires a minimum of 71 credits in courses listed below.

**AAS Degree PROGRAM REQUIREMENTS**  
Code 3912

Elect	1100	Electricity and Electronics Fundamentals.....	2
Elect	1101	Circuits I.....	3
Elect	1102	Circuits II.....	4
Elect	1118	Calculus for Electronics .....	2
Elect	1120	Electronic Documentation .....	2
Elect	1130	Electronics Materials and Fabrication .....	2
Elect	1141	Digital Fundamentals.....	3
Elect	1151	Electronic Devices and Applications I .....	4
Elect	1152	Electronic Devices and Applications II .....	4
Elect	1161	Electronic Communication I .....	4

Elect	1162	Electronic Communication II	4
Elect	2255	Industrial Controls	3
Cis	1400	Programming Logic and Technique	4
Physi	1201	General Physics I	5
Physi	1202	General Physics II	5
Math	1431	Precalculus I	5
Math	1432	Precalculus II: Trigonometry	3
Engli	1101	English Composition I	3
Speec	1100	Fundamentals of Speech Communication	3
			<hr/> 65

**General Education** .....6  
 (In addition to courses listed above complete two credits from Global Studies/Multicultural or Contemporary Life Skills category.)

**Total Credits Required**.....71

**Certificates**

The **Electronics Manufacturing certificate** requires 32 credits as listed below. Code 4912

Elect	1100	Electricity and Electronics Fundamentals	2
Elect	1101	Circuits I	3
Elect	2112	Motor Control	3
Elect	1120	Electronic Documentation	2
Elect	1130	Electronics Materials and Fabrication	2
Elect	1141	Digital Fundamentals	3
Elect	1151	Electronic Devices and Applications I	4
Elect	1161	Electronic Communication I	4
Elect	2255	Industrial Controls	3
Elect	2273	Real-Time Systems and Programming	3
Math	1428	College Algebra with Applications	3
			<hr/> 32

The **Controls and Automation certificate** requires 42 credits as listed below. Code 4913

Elect	1100	Electricity and Electronics Fundamentals	2
Elect	1101	Circuits I	3
Elect	2112	Motor Control	3
Elect	1120	Electronic Documentation	2
Elect	1130	Electronics Materials and Fabrication	2
Elect	1141	Digital Fundamentals	3
Elect	1151	Electronic Devices and Applications	4
Elect	1161	Electronic Communication I	4
Elect	2255	Industrial Controls	3
Elect	2273	Real-Time Systems and Programming	3
Math	1428	College Algebra with Applications	3
			<hr/> 32

The **Electronics Technology certificate** requires 42 credits as listed below. Code 4925

Elect	1100	Electricity and Electronics Fundamentals	2
Elect	1101	Circuits I	3
Elect	1102	Circuits II	4
Elect	1120	Electronic Documentation	2
Elect	1130	Electronics Materials and Fabrication	2
Elect	1141	Digital Fundamentals	3

Elect	1151	Electronic Devices and Applications I	4
Elect	1152	Electronic Devices and Applications II	4
Elect	1161	Electronic Communication I	4
Elect	1162	Electronic Communication II	4
Elect	2255	Industrial Controls	3
Math	1428	College Algebra with Applications	3
Cis	1400	Programming Logic and Technique	4

**English**

**Certificate**

The **English Technical Communication certificate** addresses the need to communicate technical information to a variety of audiences. It offers students the opportunity to use their technical skills to work in a variety of fields including business, industry, government, health care and technology. This certificate requires 24 credit hours in the courses listed below.

Code 4630

Engli	1105	Introduction to Technical Writing	3
Engli	1110	Technical Writing	3
Engli	1115	Writing for the Web	3
Graph	1102	Introduction to Graphic Publishing Applications	3
Speec	1150	Introduction to Business Communication	3
Co-op	2863	Cooperative Education/Internship (Occupational)	3
			<hr/> 18

**Electives**.....6

Choose six hours from the list below. Additional courses with coordinator approval.

Adsgn	1821	Selected Topics in Advertising, Design and Illustration	3
Adsgn	2203	Design for Advertising	3
Art	2266	Computer Art I	3
Cis	1150	Introduction to Computer Information Systems	3
Cis	1300	Web Design Software	3
Cis	1310	HTML and CSS	3
Cis	2320	JavaScript and Advanced HTML	3
Engli	2126	Modern English Grammar	3
Engli	2253	Creative Nonfiction Writing	3
Engli	2261	Writing for Publication	3
Graph	1101	Printing Methods and Processes	3
Journ	1105	News Reporting and Writing	3
Mptv	1011	Introduction to Motion Pictures and Television	3
Ofti	1130	Business Correspondence	3
Speec	1120	Small-Group Communication	3
Speec	1140	Public Relations	3

**Facility Management**

**AAS Degree**

The Facility Management program is designed to provide the student a broad exposure to the business area with

specialty training in the functions of facility management. Upon completion of this program, the student will possess the skills and educational background involved with managing facilities.

The program provides the student the entry-level job skills used by facilities managers. It provides for updating knowledge or learning new skills for those currently employed in the field.

This degree program consists of a minimum of 64 credits in general education and program requirements. The following list contains the required courses, some of which may be used to meet general education requirements.

**PROGRAM REQUIREMENTS**

Code 3228

Accou	1110	Accounting Procedures.....	4
	OR		
Accou	1140	Financial Accounting.....	4
Cadd	1111	Basic Computer-Aided Drafting —	3
		AutoCad .....	
Arch	1111	Building Materials .....	4
Arch	1130	Blueprint Reading.....	2
Buslw	2211	Business Law I.....	3
Facm	1100	Introduction to Facility Management.....	3
Facm	2202	Facility Systems — Electrical.....	3
Facm	2203	Facility Systems — Mechanical .....	3
Facm	2204	Interior Space Planning.....	3
Facm	2215	Facility and Property Management.....	3
Manag	2210	Principles of Management.....	3
Philo	1114	Business Ethics .....	3
Cis	1150	Introduction to Computer	3
		Information Systems .....	
			40

**Program Electives.....**5 to 9

Select credits from following list:

Accou	1150	Managerial Accounting .....	4
Airc	1180	Introduction to Heating .....	5
Airc	2232	Energy Audits/Economics.....	2
Arch	2240	Codes, Specifications and Contracts.....	3
Arch	2260	Construction Estimating.....	3
Art	1151	2-D Design.....	3
Art	1152	3-D Design.....	3
Busin	2210	Principles of Finance.....	3
Buslw	2205	Legal Environment of Business.....	3
Cadd	1110	Introduction to Computer-Aided	3
		Drafting — Microstation .....	
Cadd	2220	Architectural Modeling .....	2
Chemi	1211	General Chemistry .....	5
Chemi	1212	Survey of Organic Chemistry.....	5
Cis	1221	Introduction to Spreadsheets.....	3
Econo	2201	Macroeconomics and the Global	3
		Economy .....	
Elmec	1410	Preventive and Predictive	3
		Maintenance .....	
Engli	1101	English Composition I .....	3
Engli	1105	Introduction to Technical Writing .....	3
Fire	1100	Introduction to Fire Science .....	3
Fire	1111	Fire Prevention I.....	3
Fire	1120	Codes and Laws.....	3

Fire	2201	Extinguishing and Alarm Systems .....	3
Fire	2230	Hazardous Materials.....	3
Fire	2240	Industrial Safety.....	3
Foods	1110	Basic Nutrition .....	3
Foods	2220	Foodservice Sanitation .....	2
Hotel	1100	Introduction to the Hospitality Industry...3	
Hotel	2212	Hotel Facilities Operations Management ..3	
Hotel	2230	Law for the Hospitality Industry .....	2
Manag	1100	Supervision.....	3
Manag	2230	Purchasing.....	3
Manag	2240	Human Resource Management .....	3
Manuf	2280	Industrial Safety.....	2
Marke	2210	Principles of Marketing.....	3
Math	1635	Statistics.....	4
Orn H	1100	Introduction to Horticulture.....	3
Orn H	1112	Landscape Maintenance and	3
		Construction .....	
Orn H	2231	Turf Growth and Maintenance .....	3
Physi	1100	Physics .....	4
Pol S	1101	American Politics .....	3
Psych	2210	Industrial and Organizational	3
		Psychology .....	
Reale	1110	Real Estate Transactions .....	3
Reale	1128	Property Management.....	1
Speec	1150	Introduction to Business	3
		Communication .....	

**General Education .....**15 to 19  
(In addition to courses listed above)

The following mathematics course and one of the Social and Behavioral Science General Education courses are recommended:

Math	1100	Business Mathematics .....	3
Psych	1100	General Psychology.....	3
Socio	1100	Introduction to Sociology .....	3

**Total Credits Required.....**64 to 68

**Fashion Merchandising and Design**

**Two AAS Degree Options, Two Certificates**

The Fashion Merchandising and Design program studies the entire fashion world. In the Fashion Design degree option, students study for positions in the creation or construction of fashions, such as designer, pattern maker, sample maker, seamstress, alterations specialist, theater costumer, and product development. In the Fashion Merchandising option, students study for positions in sales and management, such as showroom personnel, manufacturer's representative or visual merchandiser.

The **Fashion Merchandising degree program** consists of a minimum of 64 credits in program requirements, program electives and general education in the courses listed below.

**PROGRAM REQUIREMENTS**

Code 3252

Fashi	1130	History of Costume I.....	3
Fashi	1131	History of Costume II.....	3
Fashi	2231	Fashion Marketing and Merchandi.....	3

Fashi	2235	Apparel Quality Analysis.....	3
Fashi	2251	Fashion Motivation.....	3
Fashi	1151	Principles of Textiles.....	3
Fashi	1120	Fashion Promotion.....	3
		OR	
Fashi	2220	Visual Merchandising.....	3
Busin	1100	Introduction to Business.....	3
Manag	1100	Supervision.....	3
Marke	2210	Principles of Marketing.....	3
Marke	2230	Retailing.....	3
			36

**Program Electives.....10**

Select credits from below and/or other Fashion, Business, Marketing or Management courses.

Co-op	2861	Cooperative Education/Internship I (Occupational).....	1
Fashi	1120	Fashion Promotion.....	3
Fashi	1180	Business Practices for the Fashion Entrepreneur.....	3
Fashi	1800	Experiential Special Topics in Fashion.....	1 to 3
Fashi	1820	Selected Topics in Fashion Merchand.....	3
Fashi	1840	Independent Study in Fashion.....	1 to 4
Fashi	2220	Visual Merchandising.....	3

**General Education.....18 to 22**  
(In addition to courses listed above)

**Total Credits Required.....64 to 68**

**The Fashion Design degree program** consists of a total of 64 to 68 credits in program requirements, program electives and general education in the courses listed below.

**PROGRAM REQUIREMENTS**

Code 3527

Fashi	1101	Flat Pattern Drafting I.....	3
Fashi	1102	Flat Pattern Drafting II.....	3
Fashi	1105	Design Principles in Apparel.....	3
Fashi	1130	History of Costume I.....	3
Fashi	1131	History of Costume II.....	3
Fashi	1151	Principles of Textiles.....	3
Fashi	1155	Clothing Construction I.....	3
Fashi	1156	Clothing Construction II.....	3
Fashi	1160	Tailoring.....	3
Fashi	2201	Draping.....	3
Fashi	2202	Design Studio: Apparel.....	3
Fashi	2211	Fashion Illustration.....	3
Fashi	2231	Fashion Marketing and Merchand.....	3
			39

**Program Electives.....5**

Select at least five credits from courses listed below.

Co-op	2861	Cooperative Education/Internship I (Occupational).....	1
Fashi	1110	Machine Knitting I.....	3
Fashi	1112	Machine Knitting II.....	3
Fashi	1114	Weaving I.....	3
Fashi	1116	Weaving II.....	3
Fashi	1120	Fashion Promotion.....	3

Fashi	1165	Clothing Construction for the Apparel Industry.....	3
Fashi	1180	Business Practices for the Fashion Entrepreneur.....	3
Fashi	1800	Experiential Special Topics in Fashion.....	1 to 3
Fashi	1820	Selected Topics in Fashion Merchand.....	3
Fashi	1821	Selected Topics in Fashion Design.....	3
Fashi	1840	Independent Study in Fashion.....	1 to 4
Fashi	2212	Advanced Fashion Illustration.....	3
Fashi	2222	Computer-Aided Apparel Design I.....	3
Fashi	2223	Computer-Aided Apparel Design II.....	3
Fashi	2224	Production Pattern Grading.....	3
Fashi	2235	Apparel Quality Analysis.....	3
Fashi	2251	Fashion Motivation.....	3
Fashi	2261	Textile Design I.....	3
Fashi	2262	Textile Design II.....	3

**Electives.....2**  
(Select any 1000- or 2000-level courses.)

**General Education.....18 to 22**  
(In addition to courses listed above complete two credits in Global/Multicultural Studies or Contemporary Life Skills category.)

**Total Credits Required.....64 to 68**

**Certificates**

The **Fashion Entrepreneurial certificate** requires 21 credits in the courses listed below. Code 4526

**PROGRAM REQUIREMENTS**

Fashi	1155	Clothing Construction I.....	3
Fashi	1156	Clothing Construction II.....	3
Fashi	1101	Flat Pattern Drafting I.....	3
Fashi	1102	Flat Pattern Drafting II.....	3
Fashi	1180	Business Practices for the Fashion Entrepreneur.....	3
			15

**Program Electives.....6**

Select six credits from below.

Busin	1100	Introduction to Business.....	3
Busin	1161	Entrepreneurship.....	3
Fashi	1120	Fashion Promotion.....	3
Fashi	1160	Tailoring.....	3
Fashi	1165	Clothing Construction for the Apparel Industry.....	3
Fashi	1821	Selected Topics in Fashion Design.....	3
Fashi	2201	Draping.....	3
Fashi	2202	Design Studio: Apparel.....	3
Fashi	2204	Bridal Couture: Bridal and Special Occasion.....	3
Fashi	2206	Bridal Couture II: Bridal and Special Occasion.....	3
Fashi	2208	Millinery Design I.....	3
Fashi	2210	Millinery Design II.....	3
Fashi	2211	Fashion Illustration.....	3
Fashi	2212	Advanced Fashion Illustration.....	3

For the **Fashion Design certificate** option, students study for positions in the creation or construction of fashions, such as designer, pattern maker, sample maker, seamstress, alterations specialist, theater costumer and product development. This certificate program consists of a total of 30 credits in program requirements and program electives. Code 4527

**PROGRAM REQUIREMENTS**

Fashi	1101	Flat Pattern Drafting I	3
Fashi	1102	Flat Pattern Drafting II	3
Fashi	1151	Principles of Textiles	3
Fashi	1155	Clothing Construction I	3
Fashi	1156	Clothing Construction II	3
Fashi	2201	Draping	3
Fashi	2202	Design Studio: Apparel	3
Fashi	2211	Fashion Illustration	3
			24

**Program Electives** .....6

Select six credits from below.

Fashi	1105	Design Principles in Apparel	3
Fashi	1120	Fashion Promotion	3
Fashi	1130	History of Costume I	3
Fashi	1131	History of Costume II	3
Fashi	1160	Tailoring	3
Fashi	1800	Experiential Special Topics in Fashion	1 to 3
Fashi	1821	Selected Topics in Fashion Design	3
Fashi	1840	Independent Study in Fashion	1 to 4
Fashi	2231	Fashion Marketing and Merchandising	3
Fashi	2251	Fashion Motivation	3

**Fire Science Technology**

Two Degree options, Five Certificates

The **Fire Science Technology program** encompasses both fire fighting and emergency medical services. The Fire Science degree focuses on the theory and techniques of fire fighting, inclusive of the Emergency Medical Technician curriculum, required by most fire departments. The new Emergency Medical Services degree focuses on emergency medical services and the administration of those services in any setting. The certificate programs target specific aspects of fire fighting and emergency care. This degree program requires a minimum of 65 credits in courses below.

**Degrees**

**Fire Science Degree Option**

**PROGRAM REQUIREMENTS**

Code 3427

Fire	1100	Introduction to Fire Science	3
Fire	1111	Fire Prevention I	3
Fire	2201	Extinguishing and Alarm Systems	3
Fire	2210	Fire Apparatus	3
Fire	2215	Building Construction	3
			15

**Program Electives** .....20

Select from the following courses:

Fire	1101	Fire Fighter II-A	4
Fire	1102	Fire Fighter II-B	4
Fire	1103	Fire Fighter II-C	4
Fire	1104	Fire Fighter III	8
Fire	1112	Fire Prevention II	3
Fire	1120	Codes and Laws	3
Fire	2211	Fire Apparatus Engineer	3
Fire	2221	Tactics I	3
Fire	2222	Tactics II	3
Fire	2230	Hazardous Materials	3
Fire	2231	Hazardous Materials Operations	3
Fire	2232	Hazardous Materials Technician A	3
Fire	2233	Hazardous Materials Technician B	3
Fire	2240	Industrial Safety	3
Fire	2251	Fire Management I	3
Fire	2252	Fire Management II	3
Fire	2253	Fire Management III	3
Fire	2254	Fire Management IV	3
Fire	2255	Fire Service Instructor I	3
Fire	2256	Fire Service Instructor II	3
Fire	2260	Fire Investigation	3
Fire	2261	Fire/Arson Investigation I	3
Fire	2262	Fire/Arson Investigation II	3
Fire	2263	Fire/Arson Investigation III	3
Fire	2271	Emergency Med Technician — Basic	8
Fire	2272	Paramedic Transition	3
Fire	2273	Vehicle and Machinery Operations	3
Fire	2282	EMT Instructor Training	3
Fire	2285	Trauma Patient Assessment	2

**Electives** .....12

Select from any 1000- or 2000-level courses.

**General Education** .....18 to 22  
(In addition to courses listed above)

**Total Credits Required** .....65 to 69

**EMS (Emergency Medical Services) Degree Option**

This degree program requires a minimum of 65 credits in courses listed below.

**PROGRAM REQUIREMENTS**

Code 3428

Anat&	1500	Survey of Human Anatomy and Physiology	4
Fire	2274	Paramedic I	8
Fire	2275	Paramedic II	8
Fire	2276	Paramedic III	8
Fire	2277	Paramedic IV	8
Engli	1101	English Composition I	3
Engli	1102	English Composition II	3
Psych	1100	General Psychology	3
Speec	1100	Fundamentals of Speech Communication	3
Manag	1100	Supervision	3
Manag	2210	Principles of Management	3
Manag	2240	Human Resource Management	3
Math	1102	Mathematics for Health Sciences	3

**General Education** .....8  
 (In addition to courses listed above complete two credits from the Global Studies/Multicultural or Contemporary Life Skills category.)

**Total Credits Required** .....65

**Certificates**

The **Paramedic certificate** requires 32 credits in the courses listed below. Code 4426

Fire	2274	Paramedic I	.....8
Fire	2275	Paramedic II	.....8
Fire	2276	Paramedic III	.....8
Fire	2277	Paramedic IV	.....8

The **Fire Fighter certificate** requires 18 credits in the courses listed below. Code 4427

Fire	1101	Fire Fighter II-A	.....4
Fire	1102	Fire Fighter II-B	.....4
Fire	1103	Fire Fighter II-C	.....4
Fire	2211	Fire Apparatus Engineer	.....3
Fire	2230	Hazardous Materials	.....3

The **Fire Prevention certificate** requires 27 credits in the courses listed below. Code 4428

Fire	1111	Fire Prevention I	.....3
Fire	1112	Fire Prevention II	.....3
Fire	2201	Extinguishing and Alarm Systems	.....3
Fire	2215	Building Construction	.....3
Fire	2230	Hazardous Materials	.....3
Fire	2251	Fire Management I	.....3
Fire	2260	Fire Investigation	.....3
Engli	1101	English Composition I	.....3
Speec	1100	Fundamentals of Speech Communication	.....3

The **Fire Officer certificate** requires a minimum of 33 credits in the courses listed below. Code 4429

Fire	1111	Fire Prevention I	.....3
Fire	2221	Tactics I	.....3
Fire	2222	Tactics II	.....3
Fire	2251	Fire Management I	.....3
Fire	2252	Fire Management II	.....3
Fire	2253	Fire Management III	.....3
Fire	2254	Fire Management IV	.....3
Fire	2255	Fire Service Instructor I	.....3
Fire	2256	Fire Service Instructor II	.....3
Engli	1101	English Composition I	.....3
Speec	1100	Fundamentals of Speech Communication	.....3

The **Emergency Medical Technician certificate** requires 8 credits in the course listed below. Code 4430

Fire	2271	Emergency Medical Technician	.....8
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**Foodservice Administration**

**Three Degrees, Four Certificates**

The Foodservice Administration program provides an opportunity for students to learn the necessary skills to begin or enhance a career in the hospitality industry, the nation's largest retail employer.

**AAS Degrees**

**Culinary Arts Degree Option**

The following degree program consists of a minimum of 65 credits in general education and program requirements. The following list contains the required courses.

**PROGRAM REQUIREMENTS**

Code 3231

Foods	1101	Culinary Arts: Quantity Food Preparation I	.....5
Foods	1102	Culinary Arts — Quantity Food Prep II	..5
Foods	1109	Nutrition for the Foodservice Professional	.....2
Foods	1151	Food and Beverage Service and Sales	.....2
Foods	1152	Food, Beverage and Equipment Purchasing	.....3
Foods	1153	Culinary Arts — Garde Manger	.....3
Foods	2201	Culinary Arts — Classical Cuisine	.....4
Foods	2205	Culinary Arts: International Cuisine	.....3
Foods	2220	Foodservice Sanitation	.....2
Foods	2251	Techniques of Supervision	.....2
Foods	2271	Pastry Arts — Baking and Patisserie I	....5
Foods	2272	Pastry Arts — Baking and Patisserie II	....5
Co-op	2864	Cooperative Education/Internship (Occupational)	.....4
			45

**Electives** .....2

Complete two credit hours from courses listed in the Global/Multicultural Studies or Contemporary Life Skills category.

(In addition to courses listed above select from any 1000- or 2000-level courses.)

**General Education** .....18 to 22  
 Select at least two credits from any 1000- or 2000-level course.)

**Total Credits Required** .....65 to 69

**Baking and Pastry Arts Degree Option**

A minimum of 64 credits is required for this degree from courses listed below.

**PROGRAM REQUIREMENTS**

Code 3232

Foods	2271	Pastry Arts — Baking and Patisserie I	....5
Foods	2272	Pastry Arts — Baking and Patisserie II	....5
Foods	2273	Pastry Arts — Baking and Patisserie III	....5
Foods	2270	Fundamentals of the Baking Industry	.....3
Foods	1104	Cake Decorating and Confectionery	.....2
Foods	1107	Cake Decorating and Confectionery II	....2
Foods	2220	Foodservice Sanitation	.....2
Foods	2251	Techniques of Supervision	.....2
Foods	1109	Nutrition for the Foodservice Professional	.....2
Foods	2202	Foodservice Merchandising	.....2
Foods	1152	Food, Beverage and Equipment Purchasing	.....3
Foods	1130	Hospitality Industry Accounting	.....3
Co-op	2864	Cooperative Education/Internship (Occupational)	.....4
			40

**Program Electives** .....6  
 (Minimum additional Foodservice Administration or Culinary Arts credits to meet graduation requirements.)

**General Education** .....18  
 (In addition to courses listed above complete at least two credits from the Contemporary Life Skills or Global/Multicultural Studies category.)

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**Total Credits Required** .....64

**Foodservice Administration Degree Option**

This degree program consists of a minimum of 64 credits in general education and program requirements. The following list contains the required courses.

**PROGRAM REQUIREMENTS**

Code 3235

Foods	1100	Introduction to the Hospitality Industry.....	3
Foods	1101	Culinary Arts: Quantity Food Preparation I.....	5
Foods	1102	Culinary Arts — Quantity Food Prep II.....	5
Foods	1109	Nutrition for the Foodservice Professional.....	2
Foods	1130	Hospitality Industry Accounting.....	3
Foods	1151	Food and Beverage Service and Sales.....	2
Foods	1152	Food, Beverage and Equipment Purchasing.....	3
Foods	2201	Culinary Arts — Classical Cuisine.....	4
Foods	2202	Foodservice Merchandising.....	2
Foods	2220	Foodservice Sanitation.....	2
Foods	2230	Law for the Hospitality Industry.....	2
Foods	2251	Techniques of Supervision.....	2
Co-op	2863	Cooperative Education/Internship (Occupational).....	3
			38

**Program Electives** .....8

Select eight credits from below. Other management and accounting courses may be taken as program electives. Consult with a faculty adviser for approval.

Foods	1105	Restaurant Concept Development.....	2
Foods	2203	Professional Catering and Banquet Management.....	3
Foods	2204	Wines of the World.....	2
Foods	2261	Beverage Management Operation.....	2
Foods	2262	Restaurant Beverage Service — Mixology.....	2
Foods	2270	Fundamentals of the Baking Industry.....	3
Hotel	2212	Hotel Facilities Operations Management.....	3

**General Education** .....18 to 22  
 (In addition to courses listed above complete at least two credits from the Global/Multicultural or Contemporary Life Skills category.)

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**Total Credits Required** .....64 to 68

**Certificates**

The **Pastry Arts certificate** requires 17 credits in the courses listed below. Code 4232

Foods	1104	Cake Decorating and Confectionery.....	2
Foods	2220	Foodservice Sanitation.....	2
Foods	2270	Fundamentals of the Baking Industry.....	3
Foods	2271	Pastry Arts — Baking and Patisserie I.....	5
Foods	2272	Pastry Arts — Baking and Patisserie II.....	5

The **Culinary Arts certificate** requires 45 hours in the courses listed below. Code 4233

Foods	1101	Culinary Arts: Quantity Food Preparation I.....	5
Foods	1102	Culinary Arts — Quantity Food Prep II.....	5
Foods	1109	Nutrition for the Foodservice Professional.....	2
Foods	1151	Food and Beverage Service and Sales.....	2
Foods	1152	Food, Beverage and Equipment Purchasing.....	3
Foods	1153	Culinary Arts — Garde Manger.....	3
Foods	2201	Culinary Arts — Classical Cuisine.....	4
Foods	2205	Culinary Arts: International Cuisine.....	3
Foods	2220	Foodservice Sanitation.....	2
Foods	2251	Techniques of Supervision.....	2
Foods	2271	Pastry Arts — Baking and Patisserie I.....	5
Foods	2272	Pastry Arts — Baking and Patisserie II.....	5
Co-op	2864	Cooperative Education/Internship (Occupational).....	4
			45

The **Foodservice Administration certificate** requires 36 credits in the courses listed below. Code 4235

Foods	1100	Introduction to the Hospitality Industry.....	3
Foods	1101	Culinary Arts: Quantity Food Preparation I.....	5
Foods	1102	Culinary Arts — Quantity Food Prep II.....	5
Foods	1109	Nutrition for the Foodservice Professional.....	2
Foods	1130	Hospitality Industry Accounting.....	3
Foods	1151	Food and Beverage Service and Sales.....	2
Foods	1152	Food, Beverage and Equipment Purchasing.....	3
Foods	2201	Culinary Arts — Classical Cuisine.....	4
Foods	2220	Foodservice Sanitation.....	2
Foods	2230	Law for the Hospitality Industry.....	2
Foods	2251	Techniques of Supervision.....	2
Co-op	2863	Cooperative Education/Internship (Occupational).....	3

The **Beverage Management certificate** requires 10 credits in the courses listed below. Code 4237

Foods	2202	Foodservice Merchandising.....	2
Foods	2204	Wines of the World.....	2
Foods	2251	Techniques of Supervision.....	2
Foods	2261	Beverage Management Operation.....	2
Foods	2262	Restaurant Beverage Service — Mixology.....	2

## Graphic Arts Technology

### Two AAS Degrees, Two Certificates

The Graphic Arts Technology program prepares students for jobs in printing and publishing industries.

#### AAS Degree, Print Production Option

This degree program consists of a minimum of 64 credits in program requirements, program electives and general education. The following list contains the required courses.

#### PROGRAM REQUIREMENTS

Code 3531

Graph	1101	Printing Methods and Processes	3
Graph	1102	Introduction to Graphic Publishing Applications	3
Graph	1103	Press Operation	3
Graph	1104	Binding and Finishing	2
Graph	1160	Color Reproduction Techniques	3
Graph	1183	Digital Page Layout: QuarkXPress	3
Graph	1186	Production Illustration: Adobe Illustrator	3
Graph	2201	Advanced Press Operation	4
Graph	2220	Digital Workflow and Preflight	2
Graph	2230	Graphic Arts Business Practices	3
Graph	2245	Digital Prepress Imaging: Adobe Photoshop	3
Graph	2265	Web Publishing	3
Graph	2275	Capstone: Print Production	4
			39
<b>Program Electives</b>			7

Select three credits in any 1000- or 2000-level Graphic Arts Technology course in addition to the Program Requirements listed above. Select four credits co-op or internship.

**General Education** .....18 to 22  
(In addition to courses listed above)

**Total Credits Required**.....64 to 68

#### AAS Degree, Digital Prepress Production Option

This degree program consists of a minimum of 64 credits in program requirements and general education. The following list contains the required courses.

#### PROGRAM REQUIREMENTS

Code 3535

Graph	1101	Printing Methods and Processes	3
Graph	1102	Introduction to Graphic Publishing Applications	3
Graph	1104	Binding and Finishing	2
Graph	1160	Color Reproduction Techniques	3
Graph	1183	Digital Page Layout: QuarkXPress	3
Graph	1186	Production Illustration: Adobe Illustrator	3
Graph	2220	Digital Workflow and Preflight	2
Graph	2230	Graphic Arts Business Practices	3
Graph	2240	Advanced Digital Page Layout: QuarkXPress	3

Graph	2245	Digital Prepress Imaging: Adobe Photoshop	3
Graph	2254	Advanced Digital Imaging: Adobe Photoshop	3
Graph	2265	Web Publishing	3
Graph	2266	Advanced Web Publishing	3
Graph	2270	Advanced Production Illustration: Adobe Illustrator	3
Graph	2280	Capstone: Digital Prepress Production	3
Adsgn	1102	Design 1	3
			46

**General Education** .....18 to 22  
(In addition to courses listed above)

**Total Credits Required**.....64 to 68

#### Certificates

The **Print Production certificate** requires a total of 36 credits in the courses listed below. Code 4531

Graph	1101	Printing Methods and Processes	3
Graph	1102	Introduction to Graphic Publishing Applications	3
Graph	1103	Press Operation	3
Graph	1104	Binding and Finishing	2
Graph	1160	Color Reproduction Techniques	3
Graph	1183	Digital Page Layout: QuarkXPress	3
Graph	1186	Production Illustration: Adobe Illustrator	3
Graph	2201	Advanced Press Operation	4
Graph	2220	Digital Workflow and Preflight	2
Graph	2230	Graphic Arts Business Practices	3
Graph	2245	Digital Prepress Imaging: Adobe Photoshop	3
Graph	2275	Capstone: Print Production	4

The **Digital Prepress Production certificate** requires a total of 41 credits in the courses listed below.

Code 4532

Graph	1101	Printing Methods and Processes	3
Graph	1102	Introduction to Graphic Publishing Applications	3
Graph	1160	Color Reproduction Techniques	3
Graph	1183	Digital Page Layout: QuarkXPress	3
Graph	1185	Digital Page Layout: Adobe InDesign	3
Graph	1186	Production Illustration: Adobe Illustrator	3
Graph	2220	Digital Workflow and Preflight	2
Graph	2230	Graphic Arts Business Practices	3
Graph	2240	Advanced Digital Page Layout: QuarkXPress	3
Graph	2245	Digital Prepress Imaging: Adobe Photoshop	3
Graph	2254	Advanced Digital Imaging: Adobe Photoshop	3
Graph	2270	Advanced Production Illustration: Adobe Illustrator	3
Graph	2280	Capstone: Digital Prepress Production	3
Adsgn	1102	Design 1	3

## Health Information Technology

### AAS Degree, Four Certificates

A health information professional collects, analyzes and manages the information that steers the health care industry. At the heart of the profession's information responsibilities are records, both computer-based and paper, of an individual's health care. The health information professional orchestrates the collection of many kinds of documentation from a variety of sources, monitors the integrity of the information, and ensures appropriate access to the individual record. The professional also manages aggregate data based on the care of patients. The professional collects health care data by abstracting and encoding information, by using computer programs to interpret data, and by putting in place quality controls to ensure the data's validity. This program is accredited by the Commission on Accreditation of Health Informatics and Information Management Education (CAHIIM). This degree program consists of a total of 68 credits in general education and program requirements. The following list contains the required courses, some of which may be used to meet general education requirements.

### AAS Degree PROGRAM REQUIREMENTS Code 3152

Anat&	1500	Survey of Human Anatomy and Physiology .....	4
Cis	1150	Introduction to Computer Information Systems .....	3
Engli	1101	English Composition I .....	3
Hit	1110	Biomedical Terminology .....	4
Hit	1101	Fundamentals of Health Information Technology .....	4
Hit	1102	Clinical Classification Systems .....	5
Hit	1103	Computerized Health Data and Statistics .....	4
Hit	1107	C. P. T. Coding .....	3
Hit	1125	Clinical Reimbursement Methodologies .....	3
Hit	2201	Legal and Qualitative Aspects of Health Information .....	5
Hit	2202	Management of Health Information .....	3
Hit	2203	Pharmacology for HIT Professionals .....	3
Hit	2211	Pathophysiology for Health Information .....	4
Hit	2221	Clinical I .....	3
Hit	2231	Clinical II .....	5
Math	1102	Mathematics for Health Sciences .....	3
Psych	1100	General Psychology .....	3
Speec	1100	Fundamentals of Speech Communication .....	3
		OR	
Speec	1120	Small-Group Communication .....	3
		OR	
Speec	1150	Introduction to Business Communication .....	3
			<b>65</b>

<b>General Education</b> .....	3
(In addition to courses listed above) The following course is recommended:	
Philo 1112 Biomedical Ethics .....	3

**Total Credits Required** .....

**Certificates**  
The **Medical Transcription certificate** prepares students to transcribe medical reports, e.g., surgical reports, consultation reports and discharge summaries. Medical transcriptionists are medical word specialists and are employed in hospitals, clinics, doctors' offices, other health care facilities, and even out of the home. Transcription students take courses in English, medical terminology, anatomy and physiology, pathophysiology, word processing and medical transcription. A medical transcriptionist must have above average typing skills and the ability to work with mechanical transcribing equipment. The program consists of 33 credits in courses in Health Information Technology, Office Technology Information, Health Sciences and English. The required courses are listed below. Code 4152

### PROGRAM REQUIREMENTS

Hlths	1110	Biomedical Terminology .....	4
Anat&	1500	Survey of Human Anatomy and Physiology .....	4
Hit	2223	Medical Transcription I .....	3
Ofti	1210	Word Processing I .....	3
Engli	1101	English Composition 1 .....	3
Hit	2224	Medical Transcription II .....	3
Ofti	2305	Word Processing Transcription .....	3
Hit	2203	Pharmacology for HIT Professionals .....	3
Hit	2211	Pathophysiology for Health Information .....	4
			<b>30</b>

### Electives

Select one of the following:		
Hit	1107 CPT Coding .....	3
Hit	1120 ICD Coding for Physicians .....	3

The **Physician Office Coding and Billing certificate** requires a total of 13 credit hours in the following courses. Code 4154

Hlths	1110	Biomedical Terminology .....	4
Hit	1107	CPT Coding .....	3
Hit	1120	Coding for Physicians .....	3
Hit	1121	Billing in Physician's Offices .....	3

The **Acute Healthcare Coding certificate** requires a total of 24 credit hours in the following courses. Code 4155

Hlths	1110	Biomedical Terminology .....	4
Hit	1101	Fundamentals of Health Information Technology .....	4
Anat&	1500	Survey of Human Anatomy and Physiology .....	4
Hit	2211	Pathophysiology for Health Information .....	4
Hit	1102	Clinical Classification Systems .....	5
Hit	1125	Clinical Reimbursement Methodologies .....	3

The **Ambulatory Coding certificate** requires a total of 24 credit hours in the following courses. Code 4156

Hlths	1110	Biomedical Terminology .....	4
Anat&	1500	Survey of Human Anatomy and Physiology .....	4
Hit	1101	Fundamentals of Health Information Technology.....	4
Hit	2211	Pathophysiology for Health Information..	4
Hit	1102	Clinical Classification Systems .....	5
Hit	1107	CPT Coding.....	3

**Health Sciences**

**Three Certificates**

The program in Health Science is designed to provide students with a broad background in health care. Students must earn a certificate in a Health Sciences Program at C.O.D. To pursue careers in Phlebotomy/EKG, Diagnostic Medical Imaging Nuclear Medicine (DMIN) or Diagnostic Medical Imaging Sonography (DMIS). Students working towards a certificate in Phlebotomy/EKG should contact Nancy Feulner for degree information at (630) 942-2124. Students working towards a certificate in Diagnostic Medical Imaging Nuclear Medicine should contact Joanne Metler for degree information at (630) 942-3065. Students working towards a certificate in Diagnostic Medical Imaging Sonography should contact Terri Ciez for degree information at (630) 942-2436.

**Certificates**

**Certified Nursing Assistant certificate**

Certified Nursing Assistants are entry-level providers of direct patient care in today's health care environment, including long-term care, hospitals, home health agencies, rehabilitation and hospice. Routine care and treatment are administered by the nursing assistant under the direct supervision of a nurse. Nurse aide training is completed in one term of instruction that is comprised of lecture, lab, and clinical. Both day and evening classes are offered.

The Certified Nursing Assistant program meets the guidelines set by federal and state government. Successful completion of this approved program qualifies the individual to sit for the state competency evaluation and to be entered on the Illinois Department of Public Health Nurse Aide Registry.

The Certified Nursing Assistant certificate requires a total of six credits obtained by the course listed below. Code 4158

Hlths	1105	Nurse Assistant.....	6
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**Phlebotomy/EKG certificate**

Phlebotomy is defined as the process of drawing blood for the purpose of evaluation, diagnosis and monitoring treatment of patients. Phlebotomists are presently employed in a variety of patient-care settings including hospitals, clinics, physician offices, and laboratories.

Electrocardiography (EKG) provides the physician with information about the electrical activity in the heart.

There are four courses required to complete the Phlebotomy/EKG Certificate Program. Hlths 1122, Basic Phlebotomy provides the student with theory and instruction for all basic phlebotomy procedures. Hlths 1126, Basic Electrocardiography (EKG) is a highly specialized and technical tool for assessing cardiac function. Hlths 1124 includes 120 hours of clinical instruction in phlebotomy. Hlths 1127 includes clinical instruction in basic cardiology procedures. Day and evening classes are available for both Hlths 1122 and 1126 with clinical instruction available during the day. Open enrollment is available for Hlths 1122 and 1126.

The Phlebotomy/EKG Program meets the guidelines set by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) and entitles students who complete the program to sit for the national exam to become a Certified Phlebotomist. The Phlebotomy/EKG certificate requires a total of nine credits in the courses listed below. Code 4162

Hlths	1122	Basic Phlebotomy Techniques .....	4
Hlths	1124	Phlebotomy Clinical .....	2
Hlths	1126	Basic Electrocardiology (EKG) .....	2
Hlths	1127	EKG Clinical.....	1

**Pharmacy Technician certificate**

This certificate program includes pharmacy abbreviation, calculations, drug classes, basic physiology, disease states and prescription processing. Students also receive hands-on compounding experience and instruction for preparation of the Pharmacy Technician Certification Board (PTCB) national exam. The Pharmacy Technician certificate requires a total of four credits in the course listed below. Code 4164

Hlths	1115	Pharmacy Technician.....	4
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**Hotel and Lodging Management**

**AAS Degree, Four Certificates**

The Hotel and Lodging Management program and courses are designed to develop career-building skills important for success in the lodging industry. The degree program consists of a minimum of 64 credits in general education, program requirements and program electives. The following list contains the required courses.

**AAS Degree PROGRAM REQUIREMENTS**

Code 3236

Hotel	1100	Introduction to the Hospitality Industry .....	3
Hotel	1130	Hospitality Industry Accounting .....	3
Hotel	2202	Hotel Marketing Management .....	3

Hotel	2211	Rooms Division Operations .....	3
Hotel	2212	Hotel Facilities Operations Management .....	3
Hotel	2230	Law for the Hospitality Industry .....	2
Hotel	2240	Quality Management of Service in the Hospitality Industry .....	3
Hotel	2251	Techniques of Supervision .....	2
Hotel	2253	Professional Meeting and Event Management .....	3
Hotel	2285	Advanced Hospitality Operations .....	3
Foods	1101	Culinary Arts: Quantity Food Preparation I .....	5
Foods	1102	Culinary Arts — Quantity Food Prep II .....	5
Foods	2220	Foodservice Sanitation .....	2
Co-op	2863	Cooperative Education/Internship (Occupational) .....	3
			<b>43</b>

**Program Electives** .....3

Select three credits in Foodservice Administration or Hotel and Lodging Management or Travel and Tourism programs. Please see faculty adviser prior to class selection for approval.

**General Education** .....18 to 22  
(In addition to courses listed above)

**Total Credits Required**.....64 to 68

**Certificates**

The **Hotel Foundations certificate** requires 11 credits in the courses listed below. Code 4234

Hotel	1100	Introduction to the Hospitality Industry .....	3
Hotel	2211	Rooms Division Operations .....	3
Hotel	2240	Quality Management of Service in the Hospitality Industry .....	3
Hotel	2251	Techniques of Supervision .....	2

The **Hotel Operations certificate** requires 31 credits in the courses listed below. Code 4236

Hotel	1100	Introduction to the Hospitality Industry .....	3
Hotel	2202	Hotel Marketing Management .....	3
Hotel	2211	Rooms Division Operations .....	3
Hotel	2212	Hotel Facilities Operations Management .....	3
Hotel	2240	Quality Management of Service in the Hospitality Industry .....	3
Hotel	2251	Techniques of Supervision .....	2
Hotel	2253	Professional Meeting and Event Management .....	3
Hotel	2285	Advanced Hospitality Operations .....	3
Foods	1101	Culinary Arts: Quantity Food Preparation I .....	5
Co-op	2863	Cooperative Education/Internship III (Occupational) .....	3

The **Hotel Food and Beverage certificate** requires 30 to 31 credits in the courses listed below. Code 4238

Hotel	2202	Hotel Marketing Management .....	3
Hotel	2240	Quality Management of Service in the Hospitality Industry .....	3
Hotel	2251	Techniques of Supervision .....	2
Foods	1101	Culinary Arts: Quantity Food Preparation I .....	5
Foods	1102	Culinary Arts — Quantity Food Prep II .....	5
Foods	1151	Food and Beverage Service and Sales .....	2
Foods	2203	Professional Catering and Banquet Management .....	3
Foods	1152	Food, Beverage and Equipment Purchasing .....	3
		OR	
Foods	2261	Beverage Management Operation .....	2
Foods	2220	Foodservice Sanitation .....	2
Co-op	2863	Cooperative Education/ Internship III (Occupational) .....	3

The **Hotel Sales and Marketing certificate** requires 26 credits in the courses listed below. Code 4239

Hotel	1100	Introduction to the Hospitality Industry .....	3
Hotel	2202	Hotel Marketing Management .....	3
Hotel	2211	Rooms Division Operations .....	3
Hotel	2240	Quality Management of Service in the Hospitality Industry .....	3
Hotel	2253	Professional Meeting and Event Management .....	3
Foods	1101	Culinary Arts: Quantity Food Preparation I .....	5
Foods	2203	Professional Catering and Banquet Management .....	3
Co-op	2863	Cooperative Education/Internship III (Occupational) .....	3

**Human Services**

**Seven AAS Degree Options, Four Certificates**

The Human Services program provides beginning professional training for human service agency jobs. In addition to degree options in Applied Gerontology, Addictions Counseling, Corrections Counseling, Developmental Disability, Domestic/Family Violence, Residential Child Care and Human Services Generalist, students may complete certificates in Human Services, Addictions Counseling, Applied Gerontology and Psychiatric Rehabilitation.

**AAS Degrees**

The **Human Services Generalist degree program** consists of a minimum of 69 credits in general education and program requirements. The following list contains the required courses, some of which may be used to meet general education requirements. This program is approved by the Council on Standards in Human Service Education.

**PROGRAM REQUIREMENTS**

Code 3467

Human	1100	Introduction to Human Services.....	4
Human	1113	Interpersonal Dynamics .....	4
Human	1114	Contemporary Treatment Approaches .....	3
Human	1115	Behavior Modification .....	4
Human	1121	Cross-Cultural Communications.....	3
Human	1125	Introduction to Addictions .....	4
Human	2212	Group Dynamics .....	5
Human	2279	Ethics in Counseling.....	2
Human	2240	Family Education and Treatment Models .....	3
Human	2223	Generalist Practice I .....	2
Human	2251	Fieldwork I.....	4
Human	1170	Role of Advocacy in Human Services .....	2
Human	1175	Crisis Intervention .....	2
Human	1180	Domestic/Family Violence .....	4
Human	1141	Psychiatric Rehabilitation .....	4
OR			
Human	1165	Dynamics of Child Abuse.....	3
			49 to 50

**General Education** .....20  
(In addition to courses listed above)

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**Total Credits Required**.....69 to 70

The **Applied Gerontology degree program** consists of a minimum of 70 credits in general education and program requirements. The following list contains the required courses, some of which may be used to meet general education requirements. This program is approved by the Council on Standards in Human Service Education.

**PROGRAM REQUIREMENTS**

Code 3468

Human	1100	Introduction to Human Services.....	4
Human	1113	Interpersonal Dynamics .....	4
Human	1114	Contemporary Treatment Approaches .....	3
Human	1115	Behavior Modification .....	4
Human	1121	Cross-Cultural Communications.....	3
Human	1125	Introduction to Addictions .....	4
Human	2212	Group Dynamics .....	5
Human	2279	Ethics in Counseling.....	2
Human	2240	Family Education and Treatment Models .....	3
Human	2223	Generalist Practice I .....	2
Human	2251	Fieldwork I.....	4
Human	2213	Grief Counseling .....	3
Human	2214	Older Adult Care Management.....	4
Human	1170	Role of Advocacy in Human Services .....	2
Psych	2237	Developmental Psychology: The Life Span.....	3
			50

**General Education** .....20  
(In addition to courses listed above)

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**Total Credits Required**.....70

The **Addictions Counseling degree program** consists of a minimum of 68 credits in general education and program requirements. The following list contains the required courses, some of which may be used to meet general education requirements. This program is approved by the Council on Standards in Human Service Education.

**PROGRAM REQUIREMENTS**

Code 3469

Human	1100	Introduction to Human Services.....	4
Human	1113	Interpersonal Dynamics .....	4
Human	1114	Contemporary Treatment Approaches .....	3
Human	1115	Behavior Modification .....	4
Human	1121	Cross-Cultural Communications.....	3
Human	1125	Introduction to Addictions .....	4
Human	2212	Group Dynamics .....	5
Human	2279	Ethics in Counseling.....	2
Human	2240	Family Education and Treatment Models .....	3
Human	2223	Generalist Practice I .....	2
Human	2251	Fieldwork I.....	4
Human	1126	Psychopharmacology for Addictions Counselors.....	3
Human	2225	Addictions Counseling I.....	4
Human	2226	Addictions Counseling II .....	3
			48

**General Education** .....20  
(In addition to courses listed above)

**Program Electives**

Advanced degree requirements could include:

Human	2252	Fieldwork II.....	4
Human	2280	Addictions Counseling III.....	3

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**Total Credits Required** .....68

The **Corrections Counseling degree program** consists of a minimum of 70 credits in general education and program requirements. The following list contains the required courses, some of which may be used to meet general education requirements. This program is approved by the Council on Standards in Human Service Education.

**PROGRAM REQUIREMENTS**

Code 3470

Human	1100	Introduction to Human Services.....	4
Human	1113	Interpersonal Dynamics .....	4
Human	1114	Contemporary Treatment Approaches .....	3
Human	1115	Behavior Modification .....	4
Human	1121	Cross-Cultural Communications.....	3
Human	1125	Introduction to Addictions .....	4
Human	2212	Group Dynamics .....	5
Human	2279	Ethics in Counseling.....	2
Human	2240	Family Education and Treatment Models .....	3
Human	2223	Generalist Practice I .....	2
Human	2251	Fieldwork I.....	4
Human	2200	Introduction to the Juvenile Justice System.....	4
Human	1170	Role of Advocacy in Human Services.....	2

Crimj	1100	Introduction to Criminal Justice.....	3
Psych	2237	Developmental Psychology: The Life Span.....	3
			<hr/>
			50

**General Education** .....20  
(In addition to courses listed above)

**Total Credits Required**.....70

The **Developmental Disability degree program** consists of a minimum of 70 credits in general education and program requirements. The following list contains the required courses, some of which may be used to meet general education requirements. This program is approved by the Council on Standards in Human Service Education.

#### PROGRAM REQUIREMENTS

Code 3471

Human	1100	Introduction to Human Services.....	4
Human	1113	Interpersonal Dynamics.....	4
Human	1114	Contemporary Treatment Approaches.....	3
Human	1115	Behavior Modification.....	4
Human	1121	Cross-Cultural Communications.....	3
Human	1125	Introduction to Addictions.....	4
Human	2212	Group Dynamics.....	5
Human	2279	Ethics in Counseling.....	2
Human	2240	Family Education and Treatment Models.....	3
Human	2223	Generalist Practice I.....	2
Human	2251	Fieldwork I.....	4
Human	1190	Introduction to Developmental Disabilities.....	5
Human	1170	Role of Advocacy in Human Services.....	2
Human	1175	Crisis Intervention.....	2
Psych	2237	Developmental Psychology: The Life Span.....	3
			<hr/>
			50

**General Education** .....20  
(In addition to courses listed above)

**Total Credits Required**.....70

The **Residential Child Care degree program** consists of a total of 67 credits in general education and program requirements. The following list contains the required courses, some of which may be used to meet general education requirements. This program is approved by the Council on Standards in Human Service Education.

#### PROGRAM REQUIREMENTS

Code 3473

Human	1100	Introduction to Human Services.....	4
Human	1113	Interpersonal Dynamics.....	4
Human	1114	Contemporary Treatment Approaches.....	3
Human	1115	Behavior Modification.....	4
Human	1121	Cross-Cultural Communications.....	3
Human	1125	Introduction to Addictions.....	4
Human	2212	Group Dynamics.....	5
Human	2279	Ethics in Counseling.....	2

Human	2240	Family Education and Treatment Models.....	3
Human	2223	Generalist Practice I.....	2
Human	2251	Fieldwork I.....	4
Human	1160	Residential Child Care.....	2
Human	1165	Dynamics of Child Abuse.....	3
Human	1170	Role of Advocacy in Human Services.....	2
Human	1175	Crisis Intervention.....	2
			<hr/>
			47

**General Education** .....20  
(In addition to courses listed above)

**Total Credits Required**.....67

The **Domestic/Family Violence degree program** consists of a total of 72 credits in general education and program requirements. The following list contains the required courses, some of which may be used to meet general education requirements. This program is approved by the Council on Standards in Human Service Education.

#### PROGRAM REQUIREMENTS

Code 3474

Human	1100	Introduction to Human Services.....	4
Human	1113	Interpersonal Dynamics.....	4
Human	1114	Contemporary Treatment Approaches.....	3
Human	1115	Behavior Modification.....	4
Human	1121	Cross-Cultural Communications.....	3
Human	1125	Introduction to Addictions.....	4
Human	2212	Group Dynamics.....	5
Human	2279	Ethics in Counseling.....	2
Human	2240	Family Education and Treatment Models.....	3
Human	2223	Generalist Practice I.....	2
Human	2251	Fieldwork I.....	4
Human	1165	Dynamics of Child Abuse.....	3
Human	1170	Role of Advocacy in Human Services.....	2
Human	1175	Crisis Intervention.....	2
Human	1180	Domestic/Family Violence.....	4
Psych	2237	Developmental Psychology: The Life Span.....	3
			<hr/>
			52

**General Education** .....20  
(In addition to courses listed above)

**Total Credits Required**.....72

#### Certificates

The **Human Services Domestic/Family Violence certificate** requires a minimum of 49 credits in the courses listed below. Code 4474

Human	1100	Introduction to Human Services.....	4
Human	1113	Interpersonal Dynamics.....	4
Human	1114	Contemporary Treatment Approaches.....	3
Human	1115	Behavior Modification.....	4
Human	1121	Cross-Cultural Communications.....	3
Human	1125	Introduction to Addictions.....	4
Human	2212	Group Dynamics.....	5
Human	2279	Ethics in Counseling.....	2

Human	2240	Family Education and Treatment Models.....	3
Human	2223	Generalist Practice I.....	2
Human	2251	Fieldwork I.....	4
Human	1170	Role of Advocacy in Human Services.....	2
Human	1175	Crisis Intervention.....	2
Human	1180	Domestic/Family Violence.....	4
Human	1141	Psychiatric Rehabilitation.....	4
		OR	
Human	1165	Dynamics of Child Abuse.....	3

**The Applied Gerontology certificate** requires 50 credits in the courses listed below. Code 4468

Human	1100	Introduction to Human Services.....	4
Human	1113	Interpersonal Dynamics.....	4
Human	1114	Contemporary Treatment Approaches.....	3
Human	1115	Behavior Modification.....	4
Human	1121	Cross-Cultural Communications.....	3
Human	1125	Introduction to Addictions.....	4
Human	2212	Group Dynamics.....	5
Human	2279	Ethics in Counseling.....	2
Human	2240	Family Education and Treatment Models.....	3
Human	2223	Generalist Practice I.....	2
Human	2251	Fieldwork I.....	4
Human	2213	Grief Counseling.....	3
Human	2214	Older Adult Care Management.....	4
Human	1170	Role of Advocacy in Human Services.....	2
Psych	2237	Developmental Psychology: The Life Span.....	3

**The Addictions Counseling certificate** requires 48 credits in the courses listed below. Code 4469

Human	1100	Introduction to Human Services.....	4
Human	1113	Interpersonal Dynamics.....	4
Human	1114	Contemporary Treatment Approaches.....	3
Human	1115	Behavior Modification.....	4
Human	1121	Cross-Cultural Communications.....	3
Human	1125	Introduction to Addictions.....	4
Human	1126	Psychopharmacology for Addictions Counselors.....	3
Human	2212	Group Dynamics.....	5
Human	2279	Ethics in Counseling.....	2
Human	2240	Family Education and Treatment Models.....	3
Human	2223	Generalist Practice I.....	2
Human	2251	Fieldwork I.....	4
Human	2225	Addictions Counseling I.....	4
Human	2226	Addictions Counseling II.....	3

**Program Electives**

Advanced Certificate Standing (optional)  
 Complete the following additional seven credit hours.

Human	2252	Fieldwork II.....	4
Human	2280	Addictions Counseling III.....	3

The **Psychiatric Rehabilitation certificate** requires 20 credits in the courses listed below. Code 4476

Human	1141	Psychiatric Rehabilitation.....	4
Human	1142	Psychiatric Rehabilitation Skills.....	4

Human	1143	Health Skills for Psychiatric Rehabilitation.....	4
Human	1144	Vocational and Community Living Skills.....	4
Human	2251	Fieldwork I.....	4

**Interior Design**

**AAS Degree, Three Certificates**

Interior designers are responsible for the health, safety and welfare of the public by improving the quality of life related to interior spaces and the design of functional environments. The professional interior designer is qualified by education, experience and examination (NCIDQ) to perform a variety of tasks including: analyzing the client's needs, goals and life/safety requirements; formulating preliminary design concepts that are appropriate, functional and aesthetic; developing and presenting working drawings (for non-load bearing walls) floor plans, lighting plans and furniture plans; specifying furniture surface materials and finishes; and preparing and administering bids, contracts and professional services necessary to successful implementation of final design solution. The Interior Design AAS degree consists of a minimum of 69 credits. This total combines Interior Design courses and general education requirements.

**PROGRAM REQUIREMENTS**

Code 3539

Inter	1110	Drafting Interiors.....	3
Inter	1120	Interior Systems.....	2
Inter	1130	Perspective Techniques.....	2
Inter	1140	Color Rendering.....	2
Inter	1151	Architecture and Design History I.....	3
Inter	1152	Architecture and Design History II.....	3
Inter	1160	Environmental Textiles.....	2
Inter	1170	Environmental Materials and Applications.....	3
Inter	1180	Professional Practice and Ethics.....	2
Inter	1190	Barrier-Free and Life-Safety Codes.....	3
Inter	2211	Computer Applications I.....	3
Inter	2220	Interior Architectural Details.....	2
Inter	2311	Lighting I.....	3
Inter	2410	Residential Design Studio.....	3
Inter	2420	Universal Design Studio.....	3
Inter	2430	Contract Design Studio.....	3
Inter	2440	Office Design Studio.....	3
Inter	2610	Portfolio Review.....	3
Psych	1100	General Psychology.....	3
Art	1151	2-D Design.....	3
Math	1100	Business Mathematics.....	3

**Program Electives.....3**

Select three credits from courses listed below

Co-op	2870	Cooperative Education/Internship (Transfer).....	1 to 4
Co-op	2871	Cooperative Education/Internship Advanced (Transfer).....	1 to 4

Inter	1153	Architecture and Design History: Non-Western Cultures.....	3
Inter	1821	Selected Topics I.....	3
Inter	1840	Independent Study — Individualized .....	1 to 4
Inter	2212	Computer Applications II .....	3
Inter	2213	Computer Applications III .....	3
Inter	2312	Lighting II.....	3
Inter	2450	Senior Design Studio .....	3
Inter	2511	Kitchen and Bath Design I .....	3
Inter	2512	Kitchen and Bath Design II .....	3
Inter	2515	Kitchen and Bath Computer Applications .....	3
Inter	2520	Furniture Design .....	3
Inter	2821	Advanced Selected Topics I.....	3
<b>General Education .....</b>			<b>9 to 11</b>
(In addition to courses listed above)			
<b>Total Credits Required.....</b>			<b>69 to 71</b>

**Certificates**

**The Advanced Kitchen and Bath Design certificate** requires 44 to 47 credits. Any required courses or prerequisite courses may be transferred from Interior Design AAS degree credits or may be met through review of Interior Design professional portfolio skills and consent of coordinator. Code 4535

Inter	1110	Drafting Interiors.....	3
Inter	1120	Interior Systems.....	2
Inter	1130	Perspective Techniques.....	2
Inter	1151	Architecture and Design History I .....	3
Inter	1152	Architecture and Design History II .....	3
Inter	1160	Environmental Textiles.....	2
Inter	1170	Environmental Materials and Applications .....	3
Inter	1180	Professional Practice and Ethics .....	2
Inter	1190	Barrier-Free and Life-Safety Codes .....	3
Inter	2211	Computer Applications I.....	3
Inter	2220	Interior Architectural Details.....	2
Inter	2311	Lighting I.....	3
Inter	2410	Residential Design Studio .....	3
Inter	2511	Kitchen and Bath Design I .....	3
Inter	2512	Kitchen and Bath Design II .....	3
Inter	2515	Kitchen and Bath Computer Applications .....	3
Co-op	2870	Cooperative Education/Internship (Transfer) .....	1 to 4

**The Advanced Computer Applications certificate** requires 21 credits. Any required courses or prerequisite courses may be transferred from Interior Design AAS degree credits or may be met through review of Interior Design professional portfolio skills and consent of coordinator. Code 4536

Inter	1110	Drafting Interiors.....	3
Inter	1120	Interior Systems.....	2
Inter	1130	Perspective Techniques.....	2
Inter	1190	Barrier-Free and Life-Safety Codes .....	3
Inter	2211	Computer Applications I.....	3
Inter	2212	Computer Applications II .....	3

Inter	2213	Computer Applications III .....	3
Inter	2220	Interior Architectural Details .....	2

**The Advanced Lighting certificate** requires 27 credits. Any required courses or prerequisite courses may be transferred from Interior Design AAS degree credits or may be met through review of Interior Design professional portfolio skills and consent of coordinator. Code 4540

Inter	1110	Drafting Interiors.....	3
Inter	1120	Interior Systems.....	2
Inter	1130	Perspective Techniques.....	2
Inter	1190	Barrier-Free and Life-Safety Codes .....	3
Inter	2211	Computer Applications I.....	3
Inter	2212	Computer Applications II .....	3
Inter	2213	Computer Applications III .....	3
Inter	2220	Interior Architectural Details .....	2
Inter	2311	Lighting I.....	3
Inter	2312	Lighting II.....	3

**Library Technical Assistant**

**AAS Degree, Certificate**

The **Library Technology program** prepares students for paraprofessional levels of library service. Courses are designed for beginning students with no previous experience, for those returning to the work force, or those upgrading skills. The degree program consists of a minimum of 64 credits in general education and program requirements, and a test. The following list contains the required courses.

**AAS Degree PROGRAM REQUIREMENTS**

Code 3651

Libra	1101	Introduction to Libraries and the Information Age .....	3
Libra	1102	Introduction to Reference and Information Services .....	4
Libra	1103	Acquisition of Library Materials .....	3
Libra	1820	Selected Topics in Librarianship.....	3
Libra	2100	Introduction to Cataloging and Classification .....	4
Libra	1104	Essential Library Workplace Skills .....	3
Libra	2200	Serving the Public in Today's Libraries....	4
Libra	2300	Multimedia services and equipment in today's library.....	3
Libra	2600	Library Practicum.....	4
Manag	2220	Organizational Behavior.....	3
Cis	1150	Introduction to Computer Information Systems .....	3
			<b>37</b>

**Electives** .....9  
Select nine credits from any 1000- or 2000-level courses.

**General Education** .....18 to 22  
(In addition to courses listed above)

**Total Credits Required**.....64 to 68

**Certificates**

The **Library Technical Assistant certificate** requires 31 credits in the courses listed below, and a keyboarding proficiency exam. Code 4651

Libra	1101	Introduction to Libraries and the Information Age .....	3
Libra	1102	Introduction to Reference and Information Services .....	4
Libra	1103	Acquisition of Library Materials .....	3
Libra	1820	Selected Topics in Librarianship.....	3
Libra	2100	Introduction to Cataloging and Classification.....	4
Libra	1104	Essential Library Workplace Skills .....	3
Libra	2200	Serving the Public in Today's Libraries....	4
Libra	2300	Multimedia Services and Equipment in Today's Library .....	3
Libra	2600	Library Practicum.....	4

**Long-Term Care Administration**

**Certificate**

The **Long-Term Care Administration certificate** requires 13 credits in the courses listed below. Code 4197

Ltc	1140	Introduction to Long-Term Care Administration.....	3
Ltc	1151	Nursing Home Administrative Practices I .....	3
Ltc	1152	Nursing Home Administrative Practices II .....	3
Ltc	1161	Aging and Long-term Care I .....	2
Ltc	1162	Aging and Long-term Care II.....	2

**Management**

**AAS Degree, Four Certificates**

The Management program prepares students for management and supervisory careers in business and industry. Graduates may enter lower- to middle-management positions directly from college or may elect to establish their own businesses. Employment opportunities include positions as production managers or supervisors.

This degree program consists of a minimum of 64 credits in program requirements, general education and program electives. The following list contains the required courses, some of which may be used to meet general education requirements.

**AAS Degree**

**PROGRAM REQUIREMENTS**

Code 3202

Busin	1100	Introduction to Business .....	3
Accou	1140	Financial Accounting.....	4
Manag	2210	Principles of Management.....	3
Manag	2220	Organizational Behavior.....	3
Manag	2240	Human Resource Management.....	3
Cis	1221	Introduction to Spreadsheets.....	3
Marke	2210	Principles of Marketing.....	3
Buslw	2211	Business Law I.....	3

Philo	1114	Business Ethics .....	3
Econo	2201	Macroeconomics and the Global Economy.....	3
		OR	
Psych	1100	General Psychology.....	3
Cis	1150	Introduction to Computer Information Systems .....	3
			<b>34</b>

**Program Electives**.....18

Select from the courses listed below.

Busin	1120	Fundamentals of Personal Investing.....	3
Busin	1161	Entrepreneurship .....	3
Busin	2200	Business Budgeting.....	3
Busin	2210	Principles of Finance.....	3
Busin	2255	International Business .....	3
Busin	2260	International Finance .....	3
Manag	1100	Supervision.....	3
Manag	1161	Small Business Management .....	3
Manag	1820	Selected Topics in Management.....	3
Manag	2170	Project Management.....	3
Manag	2215	Leadership .....	3
Manag	2230	Purchasing.....	3
Manag	2250	Operation/Production Management .....	3
Manag	2260	International Management.....	3

**General Education** .....12 to 16

(In addition to courses listed above)

**Total Credits Required**.....64 to 68

**Certificates**

The **E-Commerce certificate** requires 17 to 18 credits in the courses listed below. Code 4201

**PROGRAM REQUIREMENTS**

Busin	1100	Introduction to Business .....	3
		OR	
Manag	1100	Supervision.....	3
		OR	
Marke	1100	Consumer Marketing .....	3
Marke	1175	Customer Relationship Management .....	3
Busin	1170	Electronic Business/Commerce.....	3
			<b>9</b>

**Program Electives**.....8 to 9

I. Select two of the courses below:

Manag	2170	Project Management.....	3
Marke	1170	E-Marketing.....	3
Marke	1171	Database Marketing.....	3

II. In addition to (I) above, select one of the following courses:

Adsgn	2202	Web/Interactive Design 1 .....	3
Cis	1120	The Internet.....	2
Cis	1230	Microcomputer Database Application.....	3
Cis	1300	Web Design Software .....	3
Cis	1310	HTML and CSS.....	3
Graph	1102	Introduction to Graphic Publishing Applications .....	3
Photo	1201	Tools and Techniques for Digital Photography .....	3

The **Management certificate** requires 31 credits in the courses listed below. Code 4202

**PROGRAM REQUIREMENTS**

Busin	1100	Introduction to Business	3
Accou	1140	Financial Accounting	4
Manag	2210	Principles of Management	3
Manag	2220	Organizational Behavior	3
Manag	2240	Human Resource Management	3
Marke	2210	Principles of Marketing	3
Buslw	2211	Business Law I	3
Cis	1150	Introduction to Computer Information Systems	3
			25

**Program Electives** .....6

Select from the courses listed below:

Busin	2200	Business Budgeting	3
Busin	2255	International Business	3
Cis	1221	Introduction to Spreadsheets	3
Manag	1100	Supervision	3
Manag	1161	Small Business Management	3
Manag	2170	Project Management	3
Manag	2215	Leadership	3
Manag	2230	Purchasing	3
Manag	2250	Operation/Production Management	3
Manag	2260	International Management	3

The **Supervision certificate** requires 12 credits in the courses listed below. Code 4208

Manag	1100	Supervision	3
Busin	1100	Introduction to Business	3
Manag	2220	Organizational Behavior	3
Cis	1150	Introduction to Computer Information Systems	3

The **Entrepreneurship certificate** requires 12 credits in the courses listed below. Code 4210

**PROGRAM REQUIREMENTS**

Busin	1161	Entrepreneurship	3
Manag	1161	Small Business Management	3
			6

**Program Electives** .....6

Select from the following courses:

Accou	1110	Accounting Procedures	4
Accou	1175	Microcomputer Accounting	2
Buslw	2211	Business Law I	3
Manag	1100	Supervision	3
Marke	1100	Consumer Marketing	3

**Manufacturing Technology**

**Four AAS Degree Options, Six Certificates**

The Manufacturing Technology program provides training in a wide variety of skill areas of product manufacturing and services. The four degree options in the program are Automated Manufacturing Systems, Drafting/Design, Manufacturing Technology and Manufacturing Engineering Technology. Automated

Manufacturing is designed to prepare the student for careers in computer-aided manufacturing, robotics and numerical control. Drafting/Design prepares the student for careers in the drafting and computer-aided design areas. Manufacturing Technology provides the student with a broad background in the areas of machining, drafting and fluid systems so as to prepare them for entry level positions as machine operators, machine maintenance personnel and quality control personnel. The Manufacturing Engineering Technology degree prepares students for entry-level engineering technician positions in manufacturing.

**AAS Degree Options**

The **Manufacturing Technology degree** requires a minimum of 64 credits in program requirements, program electives and general education in the courses listed below.

**PROGRAM REQUIREMENTS**

Code 3940

Manuf	1101	Industrial Design/CAD	3
Manuf	1104	Technical Mechanics	2
Manuf	1180	Quality Control	3
Manuf	1141	Hydraulics and Pneumatics	3
Manuf	1151	Machine Shop I	3
Manuf	1153	Advanced Machine Processes	3
Manuf	2251	Computer Numerical Control (CNC)	3
Elect	1100	Electricity and Electronics Fundamentals	2
Weld	1100	Welding I	3
Manuf	1110	Metrology	3
			28

**Program Electives** .....16

Select from the courses listed below:

Manuf	1121	Physical Metallurgy	3
Manuf	1171	Introduction to Robotic Technology	3
Manuf	2201	Geometric Dimensioning and Tolerancing	3
Manuf	2202	Solid Modeling and Design	3
Weld	1112	Oxy-Fuel, Welding, Plasma Cutting, and Brazing	3
Weld	1122	Shielded Metal Arc (SMAW)	3
Weld	1132	Gas Metal Arc (MIG)	3
Weld	1142	Gas Tungsten Arc (TIG)	3

**General Education** .....20  
(In addition to courses listed above)

**Total Credits Required** .....64

The **Automated Manufacturing Systems degree** requires a minimum of 65 credits in program requirements, program electives and general education in the courses listed below.

**PROGRAM REQUIREMENTS**

Code 3941

Manuf	1101	Industrial Design/CAD	3
Manuf	1104	Technical Mechanics	2
Manuf	1121	Physical Metallurgy	3

Manuf	1180	Quality Control .....	3
Elect	1100	Electricity and Electronics Fundamentals.....	2
Manuf	1190	Introduction to Programmable Logic Controllers .....	3
Manuf	1141	Hydraulics and Pneumatics .....	3
Manuf	1110	Metrology .....	3
Manuf	1171	Introduction to Robotic Technology .....	3
Manuf	2202	Solid Modeling and Design .....	3
Manuf	2251	Computer Numerical Control (CNC) .....	3
Manuf	2253	Computer-Aided Manufacturing (CAM) .....	3
Manuf	1151	Machine Shop I .....	3
Manuf	2280	Industrial Safety.....	2
			<hr/> 39

**Program Electives**.....6

Select from courses below.

Manuf	1153	Advanced Machine Processes .....	3
Manuf	1160	Technical Static and Strength of Material .....	4
Manuf	2201	Geometric Dimensioning and Tolerancing .....	3
Manuf	2202	Solid Modeling and Design .....	3
Manuf	2203	Manufacturing Processes and Design .....	3
Manuf	2206	Mechanical Computer-Aided Drafting/Design .....	3
Manuf	2207	Tool Design .....	3
Manuf	2271	Robotic Application .....	3
Manuf	2280	Industrial Safety.....	2

**General Education** .....20  
(In addition to courses listed above)

**Total Credits Required**.....65

The **Drafting/Design degree** requires a minimum of 64 credits in program requirements, program electives and general education from the courses listed below.

**PROGRAM REQUIREMENTS**

Code 3942

Manuf	1101	Industrial Design/CAD.....	3
Elect	1100	Electricity and Electronics Fundamentals.....	2
Manuf	1104	Technical Mechanics.....	2
Manuf	1180	Quality Control .....	3
Manuf	1151	Machine Shop I .....	3
Manuf	2202	Solid Modeling and Design .....	3
Manuf	2203	Manufacturing Processes and Design .....	3
Manuf	2206	Mechanical Computer-Aided Drafting/Design .....	3
Manuf	2207	Tool Design .....	3
Manuf	2208	Mechanical Design Portfolio.....	3
Manuf	1121	Physical Metallurgy .....	3
			<hr/> 31

**Program Electives**.....13

Select credits from courses below.

Manuf	1110	Metrology .....	3
Manuf	1141	Hydraulics and Pneumatics .....	3
Manuf	1171	Introduction to Robotic Technology .....	3

Manuf	1190	Introduction to Programmable Logic Controllers .....	3
Manuf	2201	Geometric Dimensioning and Tolerancing .....	3
Manuf	2251	Computer Numerical Control (CNC) .....	3
Manuf	2280	Industrial Safety.....	2
Manuf	2281	Cost Analysis .....	2
Weld	1100	Welding I.....	3

**General Education** .....20 to 22  
(In addition to courses listed above)

**Total Credits Required**.....64

**The Manufacturing Engineering Technology degree**

requires a minimum of 64 credits in program requirements and general education from the courses below.

**PROGRAM REQUIREMENTS**

Code 3943

Manuf	1101	Industrial Design/CAD.....	3
Manuf	1121	Physical Metallurgy .....	3
Manuf	1141	Hydraulics and Pneumatics.....	3
Manuf	1151	Machine Shop I.....	3
Manuf	1160	Technical Static and Strength of Material.....	4
Manuf	2202	Solid Modeling and Design .....	3
Manuf	2203	Manufacturing Processes and Design .....	3
Manuf	2251	Computer Numerical Control (CNC) .....	3
Manuf	2253	Computer-aided Manufacturing (CAM) .....	3
Manuf	2281	Cost Analysis .....	2
Elect	1100	Electricity and Electronics Fundamentals.....	2
Math	1431	Precalculus I.....	5
Math	1432	Precalculus II: Trigonometry .....	3
Math	1635	Statistics.....	4
Physi	1201	General Physics I.....	5
Manuf	1180	Quality Control .....	3
			<hr/> 52

**General Education** .....12  
(In addition to courses listed above)

**Total Credits Required**.....64

**Certificates**

**The Manufacturing Technology certificate** requires 34 credits in program requirements and program electives from the courses listed below. Code 4940

**PROGRAM REQUIREMENTS**

Manuf	1101	Industrial Design/CAD.....	3
Manuf	1104	Technical Mechanics.....	2
Manuf	1110	Metrology .....	3
Manuf	1121	Physical Metallurgy .....	3
Manuf	1141	Hydraulics and Pneumatics.....	3
Manuf	1151	Machine Shop I.....	3
Manuf	1153	Advanced Machine Processes .....	3
Manuf	1180	Quality Control .....	3
Elect	1100	Electricity and Electronics Fundamentals.....	2

[	Weld	1100	Welding I.....	3
			OR	
	Math	1115	Technical Mathematics I.....	3
				<u>28</u>

**Program Electives**.....6

Select from the courses below.

Manuf	1171	Introduction to Robotic Technology .....	3
Manuf	2201	Geometric Dimensioning and Tolerancing .....	3
Manuf	2251	Computer Numerical Control (CNC) .....	3
Manuf	2253	Computer-aided Manufacturing (CAM) .....	3
Weld	1122	Shielded Metal Arc (SMAW).....	3
Weld	1132	Gas Metal Arc (MIG).....	3
Weld	1142	Gas Tungsten Arc (TIG) .....	3

The **Automated Manufacturing Systems certificate**

requires 34 credits in the courses listed below.

Code 4941

Manuf	1101	Industrial Design/CAD.....	3
Manuf	1104	Technical Mechanics.....	2
Manuf	1141	Hydraulics and Pneumatics .....	3
Manuf	1151	Machine Shop I .....	3
Manuf	1171	Introduction to Robotic Technology .....	3
Manuf	1180	Quality Control .....	3
Manuf	1190	Introduction to Programmable Logic Controllers .....	3
Manuf	2251	Computer Numerical Control (CNC) .....	3
Manuf	2253	Computer-aided Manufacturing (CAM) .....	3
Elect	1100	Electricity and Electronics Fundamentals.....	2
Weld	1100	Welding I.....	3
Math	1115	Technical Mathematics I.....	3

The **Drafting/Design certificate** requires 37 credits in the courses listed below. Code 4942

Manuf	1101	Industrial Design/CAD.....	3
Manuf	1104	Technical Mechanics.....	2
Manuf	1141	Hydraulics and Pneumatics .....	3
Elect	1100	Electricity and Electronics Fundamentals.....	2
Manuf	1151	Machine Shop I .....	3
Manuf	1180	Quality Control .....	3
Manuf	2202	Solid Modeling and Design .....	3
Manuf	2203	Manufacturing Processes and Design .....	3
Manuf	2206	Mechanical Computer-Aided Drafting/Design .....	3
Manuf	2207	Tool Design .....	3
Manuf	2208	Mechanical Design Portfolio .....	3
Manuf	2201	Geometric Dimensioning and Tolerancing .....	3
Math	1115	Technical Mathematics I.....	3

The **Computer-Aided Design certificate** requires 24 credits in program requirements and program electives from the courses listed below. Code 4944

**PROGRAM REQUIREMENTS**

Manuf	1101	Industrial Design/CAD.....	3
Manuf	2202	Solid Modeling and Design .....	3
Manuf	2203	Manufacturing Processes and Design .....	3
Manuf	2206	Mechanical Computer-Aided Drafting/Design .....	3
Manuf	2207	Tool Design .....	3
Manuf	2208	Mechanical Design Portfolio .....	3
			<u>18</u>

**Program Electives**.....6

Select credits from courses below.

Elect	1100	Electricity and Electronics Fundamentals.....	2
Manuf	1110	Metrology .....	3
Manuf	1121	Physical Metallurgy .....	3
Manuf	1141	Hydraulics and Pneumatics.....	3
Manuf	2201	Geometric Dimensioning and Tolerancing .....	3
Manuf	2280	Industrial Safety.....	2
Manuf	2281	Cost Analysis .....	2
Plast	1101	Introduction to Plastics Industry .....	3

The **Tool and Die Making certificate** requires 31 credits from the courses listed below. Code 4984

Math	1115	Technical Mathematics I.....	3
Math	1116	Technical Mathematics II.....	5
Manuf	1127	Engineering Materials of Industry .....	3
Manuf	2200	Machine Tool Technology .....	4
Manuf	2261	Basic Die Making I.....	4
Manuf	2262	Basic Die Making II .....	4
Manuf	2272	Advanced Die Making and Engineering I..	4
Manuf	2274	Advanced Die Making and Engineering II.....	4

The **Mold Making certificate** requires 31 credits from the courses listed below. Code 4986

Math	1115	Technical Mathematics I.....	3
Manuf	1127	Engineering Materials of Industry .....	3
Manuf	2200	Machine Tool Technology .....	4
Math	1116	Technical Mathematics II.....	5
Manuf	2265	Mold Making I.....	4
Manuf	2267	Mold Making II.....	4
Manuf	2276	Advanced Mold Making and Engineering I.....	4
Manuf	2277	Advanced Mold Making and Engineering II.....	4

**Marketing**

**AAS Degree, Two Certificates**

The Marketing program provides the academic and practical background for a successful career in this dynamic field. Graduates have many employment opportunities including inside and outside sales, customer services, consumer marketing, business-to-business marketing, e-commerce and promotions. The Marketing degree requires a minimum of 64 credits in program requirements, program electives and general education from the courses listed below.

**PROGRAM REQUIREMENTS**

Code 3204

Busin	1100	Introduction to Business	3
Accou	1140	Financial Accounting	4
Marke	1170	E-Marketing	3
Marke	2210	Principles of Marketing	3
Marke	2220	Sales	3
Marke	2230	Retailing	3
Marke	2240	Advertising	3
Manag	2210	Principles of Management	3
Buslw	2211	Business Law I	3
Cis	1150	Introduction to Computer Information Systems	3
Cis	1221	Introduction to Spreadsheets	3
Philo	1114	Business Ethics	3
Econo	2201	Macroeconomics and the Global Economy	3
OR			
Psych	1100	General Psychology	3
			40

**Program Electives** ..... 12

Select credits from the courses below.

Busin	1170	Electronic Business/Commerce	3
Busin	2255	International Business	3
Marke	1100	Consumer Marketing	3
Marke	1171	Database Marketing	3
Marke	1175	Customer Relationship Management	3
Marke	1820	Special Topics	1 to 3
Marke	2250	Business to Business	3
Marke	2260	International Marketing	3

**General Education** ..... 12 to 16

(In addition to courses listed above)

**Total Credits Required**.....64 to 68

**Certificates**

The **Marketing certificate** requires 31 credits in program requirements and program electives from the courses listed below. Code 4204

**PROGRAM REQUIREMENTS**

Busin	1100	Introduction to Business	3
Accou	1140	Financial Accounting	4
Marke	1170	E-Marketing	3
Manag	2210	Principles of Management	3
Marke	2210	Principles of Marketing	3
Cis	1150	Introduction to Computer Information Systems	3
			19

**Program Electives** ..... 12

Select credits from the courses below.

Busin	1170	Electronic Business/Commerce	3
Marke	1100	Consumer Marketing	3
Marke	1171	Database Marketing	3
Marke	1175	Customer Relationship Management	3
Marke	2220	Sales	3
Marke	2230	Retailing	3
Marke	2240	Advertising	3
Marke	2250	Business to Business	3
Marke	2260	International Marketing	3

The **Consumer Marketing certificate** requires 12 credits in program requirements and program electives from the courses listed below. Code 4216

**PROGRAM REQUIREMENTS**

Busin	1100	Introduction to Business	3
Marke	1100	Consumer Marketing	3
Marke	2210	Principles of Marketing	3
			9

**Program Electives** ..... 3

Select one of the following courses.

Cis	1150	Introduction to Computer Information Systems	3
Marke	2220	Sales	3
Marke	2240	Advertising	3

**Mecomtronics (Integrated Engineering Technology)**

**AAS Degree**

Mecomtronics (Integrated Engineering Technology) is a two-year program that leads to an AAS degree. It is an innovative program designed to meet industry needs for multifunctional technicians competent in mechanics, computer, telecommunications and electronics technology. As an engineering technician, students may work individually or as a member of a professional team, applying aspects of scientific and engineering concepts to the implementation of existing technologies and the creation of new technologies. After completion of the program, students may work in an engineering technology field in an area such as wireless telecommunications, or transfer to a four-year institution. This new and innovative program is an activity-based approach to learning. Students work in teams on real industrial projects. Mathematics, speech, English and technical subject components are applied and integrated into the same context. This degree program consists of a total of 69 credits in the courses listed below.

**PROGRAM REQUIREMENTS**

Code 3914

Elect	1101	Circuits I	3
Elect	1141	Digital Fundamentals	3
Elect	1151	Electronic Devices and Applications I	4
Elect	1161	Electronic Communication I	4
Elect	2241	Wireless Telecommunications I	3
Elect	2242	Wireless Telecommunications II	3
Elect	2273	Real-Time Systems and Programming	3
Elect	2255	Industrial Controls	3
Physi	1100	Physics	4
Physi	1201	General Physics I	5
Manuf	1101	Industrial Design/CAD	3
Manuf	1104	Technical Mechanics	2
Manuf	1180	Quality Control	3
Manuf	1190	Introduction to Programmable Logic Controllers	3
Engli	1101	English Composition I	3
Engli	1102	English Composition II	3

Speec	1100	Fundamentals of Speech Communication .....	3
Math	1115	Technical Mathematics I .....	3
Math	1116	Technical Mathematics II .....	5
			63
<b>General Education</b> .....			6
Select six additional credits, three in Humanities and three in Social and Behavioral Sciences			
<b>Total Credits Required</b> .....			69

## Motion Picture/Television

(formerly Multimedia Arts)

### Two AAS Degree Options, Certificate

The Motion Picture/Television program specializes in preparing students for employment and/or transfer in the fields of film, video, television, animation and audio production. Graduates find jobs in industry, education and government, although a knowledge of motion picture or television production is also helpful for those seeking careers in advertising, public relations and other related fields. A hands-on approach to learning is emphasized. Several courses are transfer oriented.

### AAS Degrees

The **Television Production degree program** requires a minimum of 64 credits, including 30 hours of program requirements, 15 hours of program electives and 19 hours of general education requirements in the five following categories: Communications, Physical and Life Sciences, Mathematics, Humanities and Fine Arts and Social and Behavioral Sciences. Motion Picture/Television 1011 fulfills the Contemporary Life Skills requirement. The following list contains the required courses.

### PROGRAM REQUIREMENTS

Code 3695

Mptv	1011	Introduction to Motion Pictures and Television .....	3
Mptv	1020	Editing for Motion Pictures and Television .....	3
Mptv	1022	Audio for Motion Pictures and Television .....	3
Mptv	1220	Introduction to Television Production .....	3
Mptv	1311	Two-Dimensional Animation I .....	3
Mptv	2031	Pre-Production for Motion Pictures and Television .....	3
Mptv	2231	Photojournalism for Television .....	3
Mptv	2233	Documentary Production .....	3
Mptv	2240	Advanced Television Production .....	3
Journ	1120	Introduction to Broadcasting .....	3
			30

### Program Electives

Select from the courses below.

Mptv	1111	Film/Video Production Aesthetics .....	2
Mptv	1113	Film/Video Production History .....	2
Mptv	1120	Cinematography .....	3
Mptv	1122	Screenwriting for Short Film Production .....	3

Mptv	1320	Two-Dimensional Animation II .....	3
Mptv	1822	Selected Topics .....	3
Mptv	2131	Film/Video Production .....	3
Mptv	2133	Directing for Film/Video .....	3
Mptv	2140	Advanced Film/Video Production .....	3
Mptv	2331	Three-Dimensional Animation I .....	3
Mptv	2340	Three-Dimensional Animation II .....	3
Mptv	2822	Advanced Selected Topics .....	3

### General Education

(In addition to courses listed above)

### Total Credits Required

The **Film/Video Production degree program** requires a minimum of 64 credits, including 31 hours of program requirements, 14 hours of program electives and 19 hours of general education requirements in the five following categories: Communications, Physical and Life Sciences, Mathematics, Humanities and Fine Arts and Social and Behavioral Sciences. Motion Picture/Television 1011 fulfills the Contemporary Life Skills requirement. The following list contains the required courses.

### PROGRAM REQUIREMENTS

Code 3696

Mptv	1011	Introduction to Motion Pictures and Television .....	3
Mptv	1020	Editing for Motion Pictures and Television .....	3
Mptv	1022	Audio for Motion Pictures and Television .....	3
Mptv	1111	Film/Video Production Aesthetics .....	2
Mptv	1113	Film/Video Production History .....	2
Mptv	1120	Cinematography .....	3
Mptv	1122	Screenwriting for Short Film Production .....	3
Mptv	2031	Pre-Production for Motion Pictures and Television .....	3
Mptv	2131	Film/Video Production .....	3
Mptv	2133	Directing for Film/Video .....	3
Mptv	2140	Advanced Film/Video Production .....	3
			31

### Program Electives

Select from the courses below.

Mptv	1220	Introduction to Television Production .....	3
Mptv	1311	Two-Dimensional Animation I .....	3
Mptv	1320	Two-Dimensional Animation II .....	3
Mptv	1822	Selected Topics .....	3
Mptv	2231	Photojournalism for Television .....	3
Mptv	2233	Documentary Production .....	3
Mptv	2240	Advanced Television Production .....	3
Mptv	2331	Three-Dimensional Animation I .....	3
Mptv	2340	Three-Dimensional Animation II .....	3
Mptv	2822	Advanced Selected Topics .....	3

### General Education

(In addition to courses listed above)

### Total Credits Required

**Certificate**

The **Motion Picture/Television certificate** requires 44 credits, 29 in program requirements plus 15 in program electives. Code 4695

**PROGRAM REQUIREMENTS**

Mptv	1011	Introduction to Motion Pictures and Television .....	3
Mptv	1020	Editing for Motion Pictures and Television .....	3
Mptv	1022	Audio for Motion Pictures and Television .....	3
Mptv	1111	Film/Video Production Aesthetics .....	2
Mptv	1120	Cinematography .....	3
Mptv	1122	Screenwriting for Short Film Production .....	3
Mptv	1220	Introduction to Television Production .....	3
Mptv	2031	Pre-Production for Motion Pictures and Television .....	3
Mptv	2133	Directing for Film/Video .....	3
AND			
Mptv	2140	Advanced Film/Video Production .....	3
OR			
Mptv	2231	Photojournalism for Television .....	3
AND			
Mptv	2240	Advanced Television Production .....	3
<b>Program Electives</b> .....			15
Select from the courses below.			
Mptv	1113	Film/Video Production History .....	2
Mptv	1311	Two-Dimensional Animation I .....	3
Mptv	1320	Two-Dimensional Animation II .....	3
Mptv	1822	Selected Topics .....	3
Mptv	2233	Documentary Production .....	3
Mptv	2331	Three-Dimensional Animation I .....	3
Mptv	2340	Three-Dimensional Animation II .....	3
Mptv	2822	Advanced Selected Topics .....	3

**Nursing (ADN)**

**AAS Degree**

The Associate Degree Nursing program prepares its graduates to deliver nursing care in various health care environments. The graduates are eligible to take the state licensure examination for RNs. This program requires a minimum 66 credits in general education and program requirements. The following list contains the required courses, some of which may be used to meet general education requirements.

**PROGRAM REQUIREMENTS**

Code 3156

Anat&	1551	Human Anatomy and Physiology I .....	4
AND			
Anat&	1552	Human Anatomy and Physiology II .....	4
OR			
Anat&	1571	Anatomy and Physiology with Cadaver I .....	4
AND			
Anat&	1572	Anatomy and Physiology with Cadaver II .....	4

Micro	1420	Microbiology .....	4
Engli	1101	English Composition I .....	3
Speec	1100	Fundamentals of Speech Communication .....	3
OR			
Speec	1120	Small-Group Communication .....	3
Foods	1110	Basic Nutrition .....	3
Nursi	1101	Nursing I: Fundamentals .....	3
Nursi	1102	Nursing 2: Mental Health .....	3
Nursi	1103	Nursing 3: Perioperative/Fluid and Electrolytes/Shock/ Musculoskeletal .....	3
Nursi	1204	Nursing 4: Integumentary/Geriatrics/ Oncology/Death and Dying/Reproductive Health .....	4
Nursi	1205	Nursing 5: Childbearing Family .....	4
Nursi	2106	Nursing 6: Cardiac/Respiratory/ Hospitalized Child .....	4
Nursi	2110	Contemporary Issues in Nursing .....	2
Nursi	2209	Nursing 9: Hematology/Immunology/ Emergency/Disaster .....	3
Nursi	2210	Nursing 10: Community/Burns/ Domestic Violence .....	2
Psych	2230	Developmental Psychology: Childhood ..	3
OR			
Psych	2237	Developmental Psychology: The Life Span .....	3
Nursi	2107	Nursing 7: Renal/Endocrine/Diabetes/ Hepatic/Biliary/Pancreatic .....	4
Nursi	2208	Nursing 8: Gastrointestinal/ Neurological/Eye/Ear .....	4

60

**General Education** ..... 6  
(In addition to courses listed above)

**Total Credits Required** ..... 66

**Occupational Therapy Assistant**

**AAS Degree**

The Occupational Therapy Assistant program prepares graduates to provide training to clients in those tasks and roles essential to productive living, i.e., self-care, leisure and work. Clientele at fieldwork sites include those impaired by physical illness or injury, psychosocial disabilities, developmental deficits and aging.

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, P.O. Box 31220, Bethesda, MD 20824-1220, (301) 652-AOTA (2682).

This degree program consists of a minimum of 64 credits in program requirements and general education. The following list contains the required courses, some of which may be used to meet general education requirements.

**PROGRAM REQUIREMENTS**

Code 3181

Ota	1100	Introduction to Occupational Therapy	.....2
Ota	1110	Occupational Therapy Evaluations	.....3
Ota	1120	Therapeutic Media	.....2
Ota	1130	Activities of Daily Living	.....2
Ota	1150	Occupational Therapy Group Process	.....2
Ota	2110	Documentation	.....2
Ota	2100	Occupational Therapy in Pediatrics	.....3
Ota	1140	Occupational Therapy Interventions	.....1
Ota	2120	Occupational Therapy in Physical Disabilities	.....4
Ota	2130	Level I Clerkship A	.....1
Ota	2125	Occupational Therapy in Psychiatry	.....3
Ota	2135	Level I Clerkship B	.....1
Ota	2140	Occupational Therapy in Geriatrics	.....2
Ota	2145	Management Perspectives	.....2
Ota	2150	Level II Fieldwork A	.....5
Ota	2155	Level II Fieldwork B	.....5
Hlths	1110	Biomedical Technology	.....4
			44.5

**Program Elective** .....0.5

Ota 2180 Certification Exam Review .....0.5

**General Education** .....20 to 22  
(Minimum of 20 credits in addition to courses listed above)

**Total Minimum Credits Required** .....64

**Office Technology Information**

**Two AAS Degree Options, Four Certificates**

The Office Technology Information program prepares students by developing and enhancing their skills using current technologies in today's office. Courses are designed for students entering the Office Technology Information curriculum for the first time and for students preparing for a return to the work force.

**AAS Degrees**

The **Administrative Assistant degree program** requires a minimum of 64 credits in program requirements, electives and general education. The following list contains the required courses.

**PROGRAM REQUIREMENTS**

Code 3276

Ofti	1110	Keyboarding and Document Formatting	..3
Ofti	1120	Speed Development Keyboarding	.....2
Ofti	1130	Business Correspondence	.....3
Ofti	1200	MS Office for Professional Staff	.....2
Ofti	1203	Microsoft Outlook	.....2
Ofti	1210	Word Processing I	.....3
Ofti	1215	Word Processing II	.....2
Ofti	1218	MS Word Desktop Publishing	.....2
Ofti	1250	Electronic Presentations for Business Professionals	.....2
Ofti	2205	Keyboarding and Integrated Applications	.....3
Ofti	2305	Word Processing Transcription	.....3

Ofti	2600	Professional Development	.....3
Ofti	2605	Professional Office Procedures	.....3
			33

**Electives** .....13

Select 13 credits from any 1000- or 2000-level courses.

**General Education** .....18 to 22  
(In addition to courses listed above)

**Total Credits Required** .....64 to 68

The **Executive Assistant degree program** consists of a total of 64 credits in general education and program requirements. The following list contains the required courses.

**PROGRAM REQUIREMENTS**

Code 3291

Ofti	1110	Keyboarding and Document Formatting	..3
Ofti	1120	Speed Development Keyboarding	.....2
Ofti	1130	Business Correspondence	.....3
Ofti	1200	MS Office for Professional Staff	.....2
Ofti	1203	Microsoft Outlook	.....2
Ofti	1210	Word Processing I	.....3
Ofti	1215	Word Processing II	.....2
Ofti	1218	MS Word Desktop Publishing	.....2
Ofti	1250	Electronic Presentations for Business Professionals	.....2
Ofti	2205	Keyboarding and Integrated Applications	.....3
Ofti	2305	Word Processing Transcription	.....3
Ofti	2600	Professional Development	.....3
Ofti	2605	Professional Office Procedures	.....3
Accou	1140	Financial Accounting	.....4
Busin	1100	Introduction to Business	.....3
Buslw	2211	Business Law I	.....3
Manag	2210	Principles of Management	.....3
			46

**General Education** .....18  
(In addition to courses listed above)

**Total Credits Required** .....64

**Certificates**

The **Executive Assistant certificate** requires 46 credits in the courses listed below. Code 4275

Ofti	1110	Keyboarding and Document Formatting	.....3
Ofti	1120	Speed Development Keyboarding	.....2
Ofti	1130	Business Correspondence	.....3
Ofti	1200	MS Office for Professional Staff	.....2
Ofti	1203	Microsoft Outlook	.....2
Ofti	1210	Word Processing I	.....3
Ofti	1215	Word Processing II	.....2
Ofti	1218	MS Word Desktop Publishing	.....2
Ofti	1250	Electronic Presentations for Business Professionals	.....2
Ofti	2205	Keyboarding and Integrated Applications	.....3
Ofti	2305	Word Processing Transcription	.....3

Ofti	2600	Professional Development .....	3
Ofti	2605	Professional Office Procedures .....	3
Accou	1140	Financial Accounting .....	4
Busin	1100	Introduction to Business .....	3
Buslw	2211	Business Law I .....	3
Manag	2210	Principles of Management.....	3

The **Administrative Assistant certificate** requires 33 credits in the courses listed below. Code 4276

Ofti	1110	Keyboarding and Document Formatting.....	3
Ofti	1120	Speed Development Keyboarding.....	2
Ofti	1130	Business Correspondence .....	3
Ofti	1200	MS Office for Professional Staff.....	2
Ofti	1203	Microsoft Outlook.....	2
Ofti	1210	Word Processing I.....	3
Ofti	1215	Word Processing II.....	2
Ofti	1218	MS Word Desktop Publishing .....	2
Ofti	1250	Electronic Presentations for Business Professionals.....	2
Ofti	2205	Keyboarding and Integrated Applications .....	3
Ofti	2305	Word Processing Transcription .....	3
Ofti	2600	Professional Development .....	3
Ofti	2605	Professional Office Procedures .....	3

The **Office Technology Information Essentials certificate** requires 20 credits in the courses listed below. Code 4277

[	Ofti	1100	Introduction to Computer Keyboarding .....	2
	OR			
Ofti	1120	Speed Development Keyboarding.....	2	
Ofti	1110	Keyboarding and Document Formatting.....	3	
Ofti	1130	Business Correspondence .....	3	
Ofti	1200	MS Office for Professional Staff.....	2	
Ofti	1203	Microsoft Outlook.....	2	
Ofti	1210	Word Processing I.....	3	
Ofti	1215	Word Processing II.....	2	
Ofti	2600	Professional Development .....	3	

The **Word Specialist certificate** requires seven credits in the courses listed below. Code 4290

Ofti	1210	Word Processing I.....	3
Ofti	1215	Word Processing II.....	2
Ofti	1218	MS Word Desktop Publishing .....	2

## Ornamental Horticulture

### AAS Degree, Six Certificates

The Ornamental Horticulture program meets the needs of students entering the horticulture industry as well as those presently employed who wish to continue their professional growth. Besides providing horticultural knowledge and skills, the program emphasizes the business and management proficiency necessary to compete successfully in the horticulture industry.

### AAS Degree

The **Ornamental Horticulture degree program** consists of a total of 64 credits in program requirements, program electives and general education. The following list contains the required courses, some of which may be used to meet general education requirements.

### PROGRAM REQUIREMENTS

Code 3336

Orn H	1100	Introduction to Horticulture.....	3	
Orn H	1101	Soils and Fertilizers .....	3	
Orn H	1110	Applied Plant Taxonomy .....	3	
[	Orn H	1130	Horticulture Business (recommended).....	3
	OR			
Busin	1100	Introduction to Business .....	3	
Orn H	2221	Plant Propagation .....	3	
Co-op	2863	Cooperative Education/Internship I (Occupational) .....	3	
[	Biolo	1151	Principles of Biological Science.....	5
	OR			
Chem	1211	General Chemistry .....	5	
Math	1104	Mathematics for Horticulture .....	3	
			26	

### Program Electives.....

Select a minimum of 24 credits from the courses listed below.

Orn H	1105	Floral Design I.....	3
Orn H	1111	Landscape Design I.....	3
Orn H	1112	Landscape Maintenance and Construction .....	3
Orn H	1115	Floral Design II.....	3
Orn H	1140	Landscape Graphics .....	2
Orn H	1185	Arboriculture.....	3
Orn H	1820	Selected Topics in Ornamental Horticulture.....	3
Orn H	1821	Selected Topics in Ornamental Horticulture.....	3
Orn H	1824	Selected Topics in Ornamental Horticulture.....	2
Orn H	1826	Selected Topics in Ornamental Horticulture.....	1
Orn H	1827	Selected Topics in Ornamental Horticulture.....	1
Orn H	2225	Specialty Floral Design.....	3
Orn H	2231	Turf Science and Management.....	3
Orn H	2241	Landscape Plants I.....	3
Orn H	2242	Landscape Plants II .....	3
Orn H	2244	Herbaceous Perennials.....	3
Orn H	2251	Diseases of Ornamental Plants.....	3
Orn H	2253	Greenhouse Operations and Procedures.....	3
Orn H	2255	Greenhouse Crop Production.....	3
Orn H	2257	Bedding Plant Production .....	3
Orn H	2261	Insects of Ornamental Plants .....	3
Orn H	2271	Landscape Design II .....	3
Orn H	2840	Experimental Pilot Class.....	1 to 6

When selecting program electives, students may include up to 8 credits in any combination from the additional courses listed below.

Cadd	1111	Basic Computer-Aided Drafting — AutoCad .....	3
Co-op	2867	Cooperative Education/Internship (Occupational) .....	2
		OR	
Co-op	2868	Cooperative Education/Internship (Occupational) .....	3
Orn H	1800	Experiential Special Topics .....	1 to 3

**General Education** .....12  
(In addition to courses listed above)

**Total Credits Required** .....64

**Certificates**

The **Ornamental Horticulture certificate** requires 15 credits in the courses listed below. Code 4336

Orn H	1100	Introduction to Horticulture.....	3
Orn H	1101	Soils and Fertilizers .....	3
Orn H	1110	Applied Plant Taxonomy .....	3
Orn H	1130	Horticulture Business.....	3
Orn H	2221	Plant Propagation.....	3

The **Floral Shop Management certificate** requires 24 credits in the courses listed below. Code 4337

**PROGRAM REQUIREMENTS**

Orn H	1100	Introduction to Horticulture.....	3
Co-op	1130	Horticulture Business (recommended) ...	3
		OR	
Busin	1100	Introduction to Business .....	3
Orn H	1105	Floral Design I.....	3
Orn H	1115	Floral Design II.....	3
Orn H	2225	Specialty Floral Design.....	3
Orn H	2244	Herbaceous Perennials.....	3
Co-op	2863	Cooperative Education/Internship (Occupational) .....	3
			21

**Electives** .....3

Select three credits from any 1000- or 2000-level courses.  
Suggested electives:

Fashi	2220	Visual Merchandising.....	3
Orn H	2257	Bedding Plant Production .....	3

The **Landscape Design and Construction certificate** requires 35 credits in the courses listed below. Code 4338

Orn H	1100	Introduction to Horticulture.....	3
Orn H	1101	Soils and Fertilizers .....	3
Orn H	1111	Landscape Design I .....	3
Orn H	1112	Landscape Maintenance and Construction .....	3
Orn H	1140	Landscape Graphics .....	2
Orn H	2241	Landscape Plants I.....	3
Orn H	2242	Landscape Plants II .....	3
Orn H	2244	Herbaceous Perennials .....	3
Orn H	2271	Landscape Design II .....	3
Math	1104	Mathematics for Horticulture .....	3
Co-op	2863	Cooperative Education/Internship (Occupational) .....	3
Cadd	1111	Basic Computer-Aided Drafting — AutoCad .....	3

The **Greenhouse Management certificate** requires 24 credits in the courses listed below. Code 4339

Orn H	1100	Introduction to Horticulture.....	3
Orn H	1101	Soils and Fertilizers .....	3
Orn H	1130	Horticulture Business (recommended) ....	3
		OR	
Busin	1100	Introduction to Business .....	3
Orn H	2221	Plant Propagation.....	3
Orn H	2253	Greenhouse Operations and Procedures.....	3
Orn H	2255	Greenhouse Crop Production.....	3
Orn H	1257	Bedding Plant Production .....	3
Co-op	2863	Cooperative Education/Internship (Occupational) .....	3

The **Landscape and Turf Maintenance certificate**

requires a total of 33 credits in the courses listed below.  
Code 4341

**PROGRAM REQUIREMENTS**

Orn H	1100	Introduction to Horticulture.....	3
Orn H	1101	Soils and Fertilizers .....	3
Orn H	1110	Applied Plant Taxonomy .....	3
Orn H	1112	Landscape Maintenance and Construction .....	3
		OR	
Orn H	2231	Turf Science and Management.....	3
Orn H	2251	Diseases of Ornamental Plants.....	3
Orn H	2261	Insects of Ornamental Plants .....	3
Co-op	2863	Cooperative Education/Internship (Occupational) .....	3
Math	1104	Mathematics for Horticulture .....	3
			27

**Program Electives** .....6

Select any two of the following courses.

Orn H	1185	Arboriculture.....	3
Orn H	2241	Landscape Plants I.....	3
Orn H	2242	Landscape Plants II .....	3
Orn H	2244	Herbaceous Perennials .....	3

The **Nursery and Garden Center Management certificate** requires a total of 33 credits in the courses listed below. Code 4342

Orn H	1100	Introduction to Horticulture.....	3
Orn H	1101	Soils and Fertilizers .....	3
Orn H	1130	Horticulture Business (recommended) ....	3
		OR	
Busin	1100	Introduction to Business .....	3
Orn H	2221	Plant Propagation.....	3
Orn H	2241	Landscape Plants I.....	3
Orn H	2242	Landscape Plants II .....	3
Orn H	2244	Herbaceous Perennials .....	3
Orn H	2251	Diseases of Ornamental Plants.....	3
Orn H	2261	Insects of Ornamental Plants .....	3
Co-op	2863	Cooperative Education/Internship (Occupational) .....	3
Math	1104	Mathematics for Horticulture .....	3

## Photography

### AAS Degree, Certificate

The Photography program is designed to provide the student with a broad working knowledge and the fundamental skills to create and produce high quality black-and-white, color, and digital images. The degree program consists of a minimum of 64 credits in program requirements, program electives and general education. The following list contains the required courses.

#### AAS Degree

##### PROGRAM REQUIREMENTS

Code 3564

Photo	1100	Fundamentals of Photography.....	3
Photo	1101	Foundations of Digital Photography .....	3
Photo	1102	Foundations of Film Photography.....	3
Photo	1105	History of Photography.....	3
Photo	1200	Intermediate Photography .....	3
Photo	1201	Tools and Techniques for Digital Photography .....	3
		OR	
Photo	1202	Tools and Techniques for Film Photography .....	3
Photo	1300	Studio Photography 1.....	3
Photo	1400	Color Photography 1.....	3
Photo	2100	Extended Photographic Project .....	3
Photo	2400	Color Photography 2.....	3
Photo	2700	Professional Photographic Practices .....	3
Photo	2750	Portfolio Presentation .....	3
			<hr/> 36

#### Program Electives.....10

Select from the courses below.

Co-op	2861	Cooperative Education/Internship (Occupational) .....	1
Co-op	2862	Cooperative Education/Internship (Occupational) .....	2
Photo	1170	Underwater Photography.....	3
Photo	1201	Tools and Techniques for Digital Photography .....	3
Photo	1202	Tools and Techniques for Film Photography .....	3
Photo	1250	Advanced Digital Imaging.....	3
Photo	1260	Alternative Photographic Processes.....	3
Photo	1450	Nature Photography.....	3
Photo	1500	Photojournalism.....	3
Photo	1820	Selected Topics 1.....	1
Photo	1821	Selected Topics 2.....	2
Photo	1840	Independent Study — Individualized .....	1 to 4
Photo	2200	Portrait Photography.....	3
Photo	2300	Studio Photography 2.....	3
Photo	2350	Studio Photography 3.....	3
Photo	2375	Studio Digital Capture .....	3

#### General Education .....18

(In addition to courses listed above)

#### Total Credits Required.....64

### Certificate

The **Photography Technology certificate** requires 46 credits in the courses listed below. Code 4564

#### PROGRAM REQUIREMENTS

Photo	1100	Fundamentals of Photography.....	3
Photo	1101	Foundations of Digital Photography .....	3
Photo	1105	History of Photography.....	3
Photo	1102	Foundations of Film Photography.....	3
Photo	1200	Intermediate Photography .....	3
Photo	1201	Tools and Techniques for Digital Photography .....	3
		OR	
Photo	1202	Tools and Techniques for Film Photography .....	3
Photo	1300	Studio Photography 1.....	3
Photo	1400	Color Photography 1.....	3
Photo	2100	Extended Photographic Project .....	3
Photo	2400	Color Photography 2.....	3
Photo	2700	Professional Photographic Practices .....	3
Photo	2750	Portfolio Presentation .....	3
			<hr/> 36

#### Program Electives.....10

Select from the following courses.

Co-op	2861	Cooperative Education/Internship (Occupational) .....	1
Co-op	2862	Cooperative Education/Internship (Occupational) .....	2
Photo	1170	Underwater Photography.....	3
Photo	1201	Tools and Techniques for Digital Photography .....	3
Photo	1202	Tools and Techniques for Film Photography .....	3
Photo	1250	Advanced Digital Imaging.....	3
Photo	1260	Alternative Photographic Processes.....	3
Photo	1450	Nature Photography.....	3
Photo	1500	Photojournalism.....	3
Photo	1820	Selected Topics 1.....	1
Photo	1821	Selected Topics 2.....	2
Photo	1840	Independent Study — Individualized .....	1 to 4
Photo	2200	Portrait Photography.....	3
Photo	2300	Studio Photography 2.....	3
Photo	2350	Studio Photography 3.....	3
Photo	2375	Studio Digital Capture.....	3

## Physical Therapist Assistant

### AAS Degree

The Physical Therapist Assistant program prepares its graduates to provide skilled direct patient care under the direction and supervision of a licensed physical therapist. Goals of treatment include relieving pain, improving strength and mobility, and helping patients to attain maximum function. Physical therapist assistants are employed in a variety of settings, including hospitals, rehabilitation centers, long-term care facilities, sports medicine clinics and home health care agencies.

Graduates must take the state licensure examination for physical therapist assistants.

This degree program requires a minimum of 72 credits in general education and program requirements. The Physical Therapist Assistant program is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE).

**AAS Degree  
PROGRAM REQUIREMENTS**

Code 3186

Anat&	1551	Human Anatomy and Physiology I.....4	
		AND	
Anat&	1552	Human Anatomy and Physiology II.....4	
		OR	
Anat&	1571	Anatomy and Physiology with Cadaver I.....4	
		AND	
Anat&	1572	Anatomy and Physiology with Cadaver II.....4	
Hlths	1110	Biomedical Terminology.....4	
Phyta	1100	Introduction to Physical Therapy.....2	
Phyta	1107	PTA Pathophysiology.....2	
Phyta	1109	Basic Health Care Skills and Principles of Soft Tissue Techniques.....3	
Phyta	1110	PTA Documentation.....1	
Phyta	1114	PTA Total Patient Care.....1	
Phyta	1111	PTA Kinesiology I.....2	
Phyta	1112	PTA Kinesiology II.....3	
Phyta	1201	PTA Therapeutic Modalities.....5	
Phyta	1211	PTA Therapeutic Assessment and Basic Intervention.....5	
Phyta	1202	PTA Therapeutic Exercise.....2	
Phyta	1221	PTA Clinical Practicum I.....1	
Phyta	2203	PTA Neuromuscular and Cardiopulmonary Rehabilitation.....3	
Phyta	2204	PTA Special Patient Populations.....2	
Phyta	2212	PTA Advanced Orthopedic Rehabilitation.....4	
Phyta	2222	PTA Clinical Practicum II.....2	
Phyta	2223	PTA Clinical Practicum III.....6	
Phyta	2214	PTA Professional Issues.....1	
			57

**General Education** .....15 to 17  
(In addition to courses listed above)

**Total Credits Required**.....72 to 74

**Plastics Technology**

**AAS Degree, Certificate**

The Plastics Technology program provides a complete technical understanding of the plastics industry. Graduates will be employable as technicians in plastic molding, extrusion, estimating, laboratory field service and finishing.

**AAS Degree**

This degree program consists of a minimum of 66 credits in program requirements, program electives and general education. The following list contains the required courses.

**PROGRAM REQUIREMENTS**

Code 3980

Plast	1101	Introduction to Plastics Industry.....3	
Plast	1700	Fundamentals of Plastics and Plastic Products.....3	
Plast	1400	Molding.....3	
Plast	1410	Extrusion.....3	
Plast	2700	Plastics Engineering.....3	
Plast	1420	Plastics Finishing.....3	
Chemi	1211	General Chemistry.....5	
			23

**Program Electives**.....23

Select 23 credits from courses below. Consult with a program adviser for selection of courses.

Chemi	1212	Survey of Organic Chemistry.....5	
Elmec	1101	Survey of Automation.....2	
Elmec	1110	Motor Fundamentals.....3	
Elmec	1130	Industrial Electricity.....3	
Elmec	1150	National Electrical Code.....3	
Elmec	1400	Maintenance Management Systems.....3	
Elmec	1410	Preventive and Predictive Maintenance.....3	
Elmec	1420	Drive Components.....2	
Elmec	2410	Programmable Controller II (PLC II).....3	
Elmec	2510	Process and Automation Controls.....3	
Elmec	2510	Process and Automation Controls.....3	
Elmec	2600	Motion Control: Servo and Stepper Motor Application and Control.....2	
Elmec	2610	Machine Vision and Artificial Intelligence.....2	
Manuf	1104	Technical Mechanics.....2	
Manuf	1141	Hydraulics and Pneumatics.....3	
Manuf	1151	Machine Shop I.....3	
Manuf	1171	Introduction to Robotic Technology.....3	
Manuf	1180	Quality Control.....3	
Manuf	1190	Introduction to Programmable Logic Controllers.....3	
Manuf	2251	Computer Numerical Control (CNC).....3	
Plast	2200	Production and Quality Control.....3	
Plast	2300	Testing of Polymers and Plastic Products.....3	

**General Education** .....18 to 22  
(In addition to courses listed above)

**Total Credits Required**.....64 to 68

**Certificate**

The **Plastics Technology certificate** requires a total of 31 credits in the courses listed below. Code 4980

**PROGRAM REQUIREMENTS**

Plast	1101	Introduction to Plastics Industry.....3	
Plast	1700	Fundamentals of Plastics and Plastic Products.....3	
Plast	1400	Molding.....3	

Plast	1410	Extrusion .....	3
Plast	2700	Plastics Engineering .....	3
Plast	1420	Plastics Finishing .....	3
Chemi	1211	General Chemistry .....	5
			23
<b>Program Electives</b> .....			8
Select eight credits from the list of courses below.			
Consult with a program adviser for selection of courses.			
Chemi	1212	Survey of Organic Chemistry .....	5
Elmec	1110	Motor Fundamentals .....	3
Elmec	1130	Industrial Electricity .....	3
Elmec	2510	Process and Automation Controls .....	3
Manuf	1141	Hydraulics and Pneumatics .....	3
Manuf	1180	Quality Control .....	3
Manuf	1190	Introduction to Programmable Logic Controllers .....	3
Plast	2200	Production and Quality Control .....	3
Plast	2300	Testing of Polymers and Plastic Products .....	3

## Real Estate

### AAS Degree, Certificate

The Real Estate program meets the needs of students entering the real estate business as well as those already employed in the field who wish to continue their professional growth. In addition, the program fulfills the academic requirements for students taking the Illinois Real Estate Salesperson and Broker License Examinations.

### AAS Degree

The **Real Estate degree program** consists of a minimum of 64 credits in program requirements, program electives and general education. The following list contains the required courses.

### PROGRAM REQUIREMENTS

Code 3272

Reale	1110	Real Estate Transactions .....	3
Reale	1120	Advanced Principles 2000 .....	1
Reale	1122	Contracts and Conveyances .....	1
Reale	1124	Brokerage Administration .....	1
Reale	1126	Financing .....	1
Reale	1128	Property Management .....	1
Accou	1140	Financial Accounting .....	4
Busin	1100	Introduction to Business .....	3
Busin	1161	Entrepreneurship .....	3
Buslw	2211	Business Law I .....	3
Cis	1150	Introduction to Computer Information Systems .....	3
Manag	1100	Supervision .....	3
Manag	1161	Small Business Management .....	3
Marke	2210	Principles of Marketing .....	3
Ofiti	1130	Business Correspondence .....	3
			36

### Program Electives

Select a minimum of 10 credit hours from the courses below.

Busin	1120	Fundamentals of Personal Investing .....	3
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Buslw	2212	Business Law II .....	3
Econo	1110	Consumer Economics and Personal Finance .....	3
Marke	1100	Consumer Marketing .....	3
Marke	1175	Customer Relationship Management .....	3
Marke	2240	Advertising .....	3
Ofiti	1200	MS Office for Professional Staff .....	2
Reale	1152	Foundations of Real Estate Appraisal .....	2
Reale	1820	Selected Topics I .....	3

**General Education** ..... 18 to 22  
(In addition to courses listed above)

**Total Credits Required** ..... 64 to 68

### Certificate

The **Real Estate Appraisal certificate** requires eight credits in the courses listed below. Code 4273

Reale	1110	Real Estate Transactions .....	3
Reale	1151	Appraisal Standards .....	1
Reale	1152	Foundations of Real Estate Appraisal .....	2
Reale	1153	Appraising the Single Family Residence .....	2

## Respiratory Care

### AAS Degree

**Respiratory Care** health professionals are responsible for life support and related systems as applied to the management of patients with cardiopulmonary disease. The Respiratory Care program prepares eligible students to provide entry-level and advanced level management of respiratory care to patients primarily seen in hospitals, intensive care units, emergency rooms and diagnostic laboratories. Classroom, laboratory and clinical instruction train the student in diagnostic, therapeutic, technologic and administrative arts as applied to the critically ill adult, neonatal and pediatric patient. The Associate in Applied Science degree consists of a minimum of 73 credits, 55 in Respiratory Care and a minimum of 18 in General Education.

### AAS Degree

### PROGRAM REQUIREMENTS

Code 3182

Resp	1101	Basic Respiratory Care 3	
Resp	1102	Intermediate Respiratory Care .....	3
Resp	1103	Advanced Respiratory Care .....	3
Resp	1105	Respiratory Assessment and Procedures .....	4
Resp	1111	Clinical Practice I .....	4
Resp	1112	Clinical Practice II .....	4
Resp	1113	Intensive Respiratory Care Clinical Practice .....	3
Resp	1120	Applied Cardiopulmonary Anatomy and Physiology .....	4
Resp	1121	Applied Science for Respiratory Care .....	4
Resp	2201	Advanced Life Support, Monitoring and Trends .....	3
Resp	2202	Pulmonary Function Testing .....	3

Resp	2205	Neonatal and Pediatric Intensive Respiratory Care.....	3
Resp	2206	Advanced Intensive Respiratory Care — Adult .....	4
Resp	2207	Advanced Intensive Respiratory Care — Neonatal-Pediatric .....	3
Resp	2250	Respiratory Care Board Review.....	3
Resp	2280	Advanced Clinical Assessment and Protocol .....	4
			55

**General Education** .....18  
(Select a minimum of 18 credits in addition to those courses listed above.)

**Total Credits Required**.....73

**Speech-Language Pathology Assistant**

**AAS Degree**

The **Speech Language Pathology Assistant (SLPA) program** prepares students for employment as support personnel under the supervision of a certified Speech Language Pathologist in acute hospitals, subacute physical rehabilitation units, inpatient and outpatient physical rehabilitation clinics, long-term care settings, and schools. Graduates of the SLPA program will be eligible to apply for licensure through Illinois Department of Professional Regulations.

This degree program consists of a minimum of 64 credits in program requirements, program electives and general education. The following list contains the required courses, some of which may be used to meet general education requirements.

**PROGRAM REQUIREMENTS**

Code 3132

Slpa	1101	Introduction to Speech Language Pathology.....	4
Slpa	1105	Phonetics .....	3
Slpa	1106	Speech Disorders and Intervention across the Lifespan I.....	4
Slpa	1107	Speech Disorders and Intervention across the Lifespan II.....	2
Slpa	1109	Language Development.....	3
Slpa	1110	Language Disorders and Intervention across the Lifespan .....	4
Slpa	1112	Introduction to Audiology .....	2
Slpa	2101	Clinical Methods and Documentation....	4
Slpa	2102	Professional Issues and the SLPA.....	4
Slpa	2104	Augmentative and Alternative Communication .....	3
Slpa	2112	Clinical Practicum.....	6
			39

**Program Electives**.....7

Select a minimum of seven credits from the following courses or other related courses in different disciplines.

Slpa	1301	Sign Language I .....	3
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Slpa	1821	Selected Topics I.....	1
Slpa	1822	Selected Topics II .....	2
Slpa	2301	Sign Language II.....	3

**General Education** .....18 to 22  
(In addition to courses listed above)

**Total Credits Required**.....64 to 68

**Surgical Technology**

**AAS Degree, Certificate**

The **Surgical Technology program** teaches students to set up the operating room, prepare surgical instruments and assist in their use, prepare patients for surgery and perform other tasks that ensure a safe surgical environment and contribute to and support the operating team's efficiency. Surgical technologists (STs) are employed in hospital operating rooms, delivery rooms, emergency departments and ambulatory care areas.

**AAS Degree**

This degree program requires a minimum of 71 credits in general education and program requirements. The following list contains the required courses, some of which may be used to meet general education requirements.

**PROGRAM REQUIREMENTS**

Code 3192

Anat&	1551	Human Anatomy and Physiology I.....	4
	AND		
Anat&	1552	Human Anatomy and Physiology II.....	4
	OR		
Anat&	1571	Anatomy and Physiology with Cadaver I .....	4
	AND		
Anat&	1572	Anatomy and Physiology with Cadaver II .....	4
	AND		
Surgt	1100	Introduction to Surgical Technology and the Environment .....	13
Surgt	1120	Surgical Terminology .....	3
Surgt	1130	Patient Care Concepts.....	6
Surgt	1140	Clinical Practicum I.....	3
Surgt	1150	Biomedical Sciences with Clinical Review .....	2
Surgt	1160	Microbiology, Asepsis, Infection Control and Instrumentation.....	2
Surgt	1170	Personal and Professional Relations with Clinical Review .....	2
Surgt	1180	Clinical Practicum II .....	3
Surgt	1190	Surgical Specialty .....	14
			56

**General Education** .....15  
(In addition to courses listed above)

**Total Credits Required**.....71

**Certificate**

The **Surgical Technology certificate** requires 56 credits in the courses listed below. Code 4192

Anat&	1551	Human Anatomy and Physiology I.....4	
	AND		
Anat&	1552	Human Anatomy and Physiology II.....4	
	OR		
Anat&	1571	Anatomy and Physiology with Cadaver I .....4	
	AND		
Anat&	1572	Anatomy and Physiology with Cadaver II.....4	
Surgt	1100	Introduction to Surgical Technology and the Environment .....13	
Surgt	1120	Surgical Terminology .....3	
Surgt	1130	Patient Care Concepts.....6	
Surgt	1140	Clinical Practicum I.....3	
Surgt	1150	Biomedical Sciences with Clinical Review .....2	
Surgt	1160	Microbiology, Asepsis, Infection Control and Instrumentation.....2	
Surgt	1170	Personal and Professional Relations with Clinical Review .....2	
Surgt	1180	Clinical Practicum II .....3	
Surgt	1190	Surgical Specialty .....14	

**Therapeutic Massage**

**AAS Degree, Certificate**

Massage therapists use massage techniques, strokes and therapies to relax muscles, improve blood circulation, reduce stress and avoid injuries. Massage therapy is being integrated into the mainstream of medical practice and health maintenance. Massage therapists get referrals from health care providers and/or are employed directly by chiropractic, osteopathic and orthopedic physicians, sports medicine clinics and physical therapists. Massage therapists also work in hospitals and nursing homes. The degree program requires a minimum of 64 credits in program requirements, program electives and general education. The following list contains the required courses, some of which may be used to meet general education requirements.

**AAS Degree**

**PROGRAM REQUIREMENTS**

Code 3168

Tmass	1100	Introduction to Palpation and Superficial Anatomy .....1	
Tmass	1101	Introduction to Massage Therapy and Bodywork .....1	
Tmass	1102	Fundamental Massage Techniques.....4	
Tmass	1103	Physiological Basis of Massage.....4	
Tmass	1104	Major Muscles and Movement.....5	
Tmass	1105	Concepts of Holistic Health .....1	
Tmass	1107	Range of Motion in Massage .....1	
Tmass	1108	Professional Practice in Massage Therapy .....1	
Tmass	1111	Documentation for Massage Therapists .....2	

Tmass	1112	Myofascial Massage .....3	
Tmass	1120	Clinical Experience in Massage Therapy I .....1	
Tmass	1121	Clinical Experience in Massage Therapy II.....1	
Tmass	2106	Body/Mind Connection in Health.....2	
Tmass	2109	Deep Tissue Massage Techniques.....4	
Tmass	2110	Somatic Techniques .....0.5	
Tmass	2111	Case Studies in Massage Therapy .....1	
Tmass	2112	Survey of Bodywork Styles.....1	
			33.5

**Program Electives**.....8.5

Completion of the **Therapeutic Massage certificate** is required for the AAS degree. Select 8.5 Therapeutic Massage elective credits in addition to courses listed as program requirements.

**General Education** .....22  
(In addition to courses listed above)

**Total Credits Required** .....66

**Certificate**

The **Therapeutic Massage certificate** requires 27 credits in the courses listed below. Code 4168

**PROGRAM REQUIREMENTS**

Tmass	1100	Introduction to Palpation and Superficial Anatomy .....1	
Tmass	1101	Introduction to Massage Therapy and Bodywork .....1	
Tmass	1102	Fundamental Massage Techniques.....4	
Tmass	1103	Physiological Basis of Massage.....4	
Tmass	1104	Major Muscles and Movement.....5	
Tmass	1105	Concepts of Holistic Health .....1	
Tmass	1107	Range of Motion in Massage .....1	
Tmass	1108	Professional Practice in Massage Therapy .....1	
Tmass	1111	Documentation for Massage Therapists .....2	
Tmass	1112	Myofascial Massage .....3	
Tmass	1120	Clinical Experience in Massage Therapy I .....1	
Tmass	1121	Clinical Experience in Massage Therapy II.....1	
			25

**Program Electives**.....2

Select from the courses listed below.

Tmass	1136	Prenatal Massage Techniques .....1	
Tmass	1138	Geriatric Massage Techniques .....0.5	
Tmass	1139	Introduction to Skin Diseases .....0.5	
Tmass	1140	Basic Seated Massage Techniques.....0.5	
Tmass	1141	Introduction to Sports Massage Techniques .....2	
Tmass	1142	Positional Release and Massage .....1	
Tmass	1143	Active Isolated Stretching .....0.5	
Tmass	1144	Art of Intuitive Massage .....0.5	
Tmass	1148	Pressure Sensitivity Techniques.....0.5	
Tmass	1152	Introduction to Ortho-Bionomy .....1	
Tmass	1153	Introduction to Jin Shin Do Bodymind Accupressure .....1	

Tmass 1154 Introduction to Shiatsu .....1  
 Tmass 1158 Presence, Energy and Intention .....0.5  
 Tmass 1161 Introduction to Reflexology .....1

**Travel and Tourism**

**Two AAS Degrees, Six Certificates**

The Travel and Tourism program is designed for individuals who plan to enter the travel, tourism or meetings industries or professionals who desire to update their skills. Career opportunities are available in an exciting variety of areas including meeting planning, tourist boards, convention and visitors bureaus, hoteliers, airlines, rental car companies, travel agencies, receptive tourism, destination management companies, consolidators, cruise lines, tour operators and as home-based/outside sales independent contractors.

**AAS Degrees**

The **Travel and Tourism Professional degree** requires a minimum of 64 hours in program requirements and program electives

**PROGRAM REQUIREMENTS**

Code 3281

Trav 1121 Introduction to the Travel, Tourism, and Meetings Industries .....3  
 Trav 1122 Introduction to World Destinations .....3  
 Trav 1123 Introduction to Travel Documentation .....3  
 Trav 1124 Introduction to Travel Communication and Business Etiquette .....2  
 Trav 1202 Business Management for the Travel Professional .....3  
 Trav 2207 Marketing for the Travel, Tourism, and Meetings Industries .....3  
 Trav 2220 Internet Navigation Skills for the Travel Professional .....3  
 Trav 2221 World Cultures and International Tourism Issues .....3  
 Trav 2229 Advanced Travel Documentation .....3  
 Trav 2230 Travel Sales and Customer Service .....2  
 Busin 1100 Introduction to Business .....3  
 Cis 1110 Using Computers: An Introduction .....2  
 Earth 1140 Fundamentals of Earth Science .....4  
 Engli 1101 English Composition I .....3  
 Math 1100 Business Mathematics .....3  
 Philo 1114 Business Ethics .....3  
 Psych 1150 Adjustment .....3  
 Speec 1100 Fundamentals of Speech Communication .....3

52

**Program Electives** .....12

Select courses from below.

Co-op 2860 Cooperative Education/Internship (Occupational) .....1 to 4  
 Hotel 1100 Introduction to the Hospitality Industry .....3  
 Hotel 2253 Professional Meeting and Event Management .....3  
 Trav 1126 North American Destinations .....1

Trav 1127 European Destinations .....1  
 Trav 1128 Asian and South Pacific Destinations .....1  
 Trav 1129 Central and South American Destinations .....1  
 Trav 1130 African Destinations .....1  
 Trav 1150 Outside Sales for the Home-Based and Independent Contractor .....2  
 Trav 1210 Introduction to Global Distribution Systems .....3  
 Trav 1820 Selected Topics .....3  
 Trav 2130 Airline Operations and Security Procedures .....2  
 Trav 2201 Fundamentals of Meeting and Event Planning .....3  
 Trav 2203 Incentive Travel and Planning .....3  
 Trav 2205 Advanced Meeting and Event Planning .....3  
 Trav 2210 Advanced Global Distribution Systems .....3  
 Trav 2236 Cruise Industry Sales Specialization .....3  
 Trav 2240 Tour Escorting, Planning, and Operations .....3  
 Trav 2820 Advanced Selected Topics .....3

**Total Credits Required** .....64

The **Meeting and Event Planning degree** can benefit all levels of meeting and event professionals by focusing on management issues critical to the meeting industry. The Meeting and Event Planning degree requires a minimum of 64 hours in program requirements and program electives.

**PROGRAM REQUIREMENTS**

Code 3282

Trav 1121 Introduction to the Travel, Tourism, and Meetings Industries .....3  
 Trav 1124 Introduction to Travel Communication and Business Etiquette .....2  
 Trav 2201 Fundamentals of Meeting and Event Planning .....3  
 Trav 2203 Incentive Travel and Planning .....3  
 Trav 2205 Advanced Meeting and Event Planning .....3  
 Trav 2207 Marketing for the Travel, Tourism, and Meetings Industries .....3  
 Trav 2221 World Cultures and International Tourism Issues .....3  
 Hotel 1100 Introduction to the Hospitality Industry .....3  
 Foods 2203 Professional Catering and Banquet Management .....3  
 Hotel 2253 Professional Meeting and Event Management .....3  
 Busin 1100 Introduction to Business .....3  
 Cis 1110 Using Computers: An Introduction .....2  
 Earth 1140 Fundamentals of Earth Science .....4  
 Engli 1101 English Composition I .....3  
 Math 1100 Business Mathematics .....3  
 Philo 1114 Business Ethics .....3  
 Psych 1150 Adjustment .....3

Speec	1100	Fundamentals of Speech Communication .....	3
			<u>53</u>
<b>Program Electives</b> .....			11
Select courses from below.			
Co-op	2861	Cooperative Education/Internship (Occupational) .....	1
Hotel	2211	Rooms Division Operations .....	3
Hotel	2240	Quality Management of Service in the Hospitality Industry .....	3
Trav	1122	Introduction to World Destinations .....	3
Trav	1123	Introduction to Travel Documentation .....	3
Trav	1126	North American Destinations .....	1
Trav	1127	European Destinations .....	1
Trav	1128	Asian and South Pacific Destinations .....	1
Trav	1129	Central and South American Destinations .....	1
Trav	1130	African Destinations .....	1
Trav	1202	Business Management for the Travel Professional .....	3
Trav	1210	Introduction to Global Distribution Systems .....	3
Trav	1820	Selected Topics .....	3
Trav	2130	Airline Operations and Security Procedures .....	2
Trav	2220	Internet Navigation Skills for the Travel Professional .....	3
Trav	2229	Advanced Travel Documentation .....	3
Trav	2230	Travel Sales and Customer Service .....	2
Trav	2236	Cruise Industry Sales Specialization .....	3
Trav	2240	Tour Escorting, Planning, and Operations .....	3
Trav	2820	Advanced Selected Topics .....	3

**Total Credits Required** .....64

**Certificates**

The **Meeting and Event Planning certificate** requires a total of 23 credit hours from the list below. Code 4279

**PROGRAM REQUIREMENTS**

Trav	1121	Introduction to the Travel, Tourism, and Meetings Industries .....	3
Trav	1122	Introduction to World Destinations .....	3
Trav	2201	Fundamentals of Meeting and Event Planning .....	3
Trav	2203	Incentive Travel and Planning .....	3
Trav	2205	Advanced Meeting and Event Planning .....	3
Trav	2207	Marketing for the Travel, Tourism, and Meetings Industries .....	3

**Program Electives**

Students must choose five credits of electives from the list below:

Co-op	2860	Cooperative Education/Internship (Occupational) .....	1 to 4
Foods	2203	Professional Catering and Banquet Management .....	3
Hotel	1100	Introduction to the Hospitality Industry .....	3

Hotel	2211	Rooms Division Operations .....	3
Hotel	2240	Quality Management of Service in the Hospitality Industry .....	3
Hotel	2253	Professional Meeting and Event Management .....	3
Trav	1123	Introduction to Travel Documentation .....	3
Trav	1124	Introduction to Travel Documentation and Business Etiquette .....	2
Trav	1126	North American Destinations .....	1
Trav	1127	European Destinations .....	1
Trav	1128	Asian and South Pacific Destinations .....	1
Trav	1129	Central and South American Destinations .....	1
Trav	1130	African Destinations .....	1
Trav	1202	Business Management for the Travel Professional .....	3
Trav	1210	Introduction to Global Distribution Systems .....	3
Trav	1820	Selected Topics .....	3
Trav	2130	Airline Operations and Security Procedures .....	2
Trav	2220	Internet Navigation Skills for the Travel Professional .....	3
Trav	2221	World Cultures and International Tourism Issues .....	3
Trav	2229	Advanced Travel Documentation .....	3
Trav	2230	Travel Sales and Customer Service .....	2
Trav	2236	Cruise Industry Sales Specialization .....	3
Trav	2240	Tour Escorting, Planning, and Operations .....	3
Trav	2820	Advanced Selected Topics .....	3

The **Travel and Tourism Professional certificate** requires 20 credits in the courses listed below. Code 4281

**PROGRAM REQUIREMENTS**

Trav	1202	Business Management for the Travel Professional .....	3
Trav	1210	Introduction to Global Distribution Systems .....	3
Trav	2220	Internet Navigation Skills for the Travel Professional .....	3
Trav	2221	World Cultures and International Tourism Issues .....	3
Trav	2230	Travel Sales and Customer Service .....	2
			<u>14</u>

**Program Electives** .....

Select from the list below.

Co-op	2860	Cooperative Education/Internship (Occupational) .....	1 to 4
Hotel	1100	Introduction to the Hospitality Industry .....	3
Hotel	2253	Professional Meeting and Event Management .....	3
Trav	1126	North American Destinations .....	1
Trav	1127	European Destinations .....	1
Trav	1128	Asian and South Pacific Destinations .....	1
Trav	1129	Central and South American Destinations .....	1
Trav	1130	African Destinations .....	1

Trav	1150	Outside Sales for the Home-Based and Independent Contractor .....	2
Trav	1820	Selected Topics .....	3
Trav	2130	Airline Operations and Security Procedures .....	2
Trav	2201	Fundamentals of Meeting and Event Planning .....	3
Trav	2203	Incentive Travel and Planning .....	3
Trav	2205	Advanced Meeting and Event Planning .....	3
Trav	2207	Marketing for the Travel, Tourism, and Meetings Industries .....	3
Trav	2210	Advanced Global Distribution Systems .....	3
Trav	2229	Advanced Travel Documentation .....	3
Trav	2236	Cruise Industry Sales Specialization .....	3
Trav	2240	Tour Escorting, Planning, and Operations .....	3
Trav	2820	Advanced Selected Topics .....	3

The **E-Travel and Tourism certificate** requires 16 credits in the courses listed below. Code 4282

**Program Requirements**

Trav	1210	Introduction to Global Distribution Systems .....	3
Trav	2210	Advanced Global Distribution Systems .....	3
Trav	2220	Internet Navigation Skills for the Travel Professional .....	3
			<u>9</u>

**Program Electives** .....

Select from the list below.

Co-op	2860	Cooperative Education/Internship (Occupational) .....	1 to 4
Trav	1150	Outside Sales for the Home-Based and Independent Contractor .....	2
Trav	1202	Business Management for the Travel Professional .....	3
Trav	1820	Selected Topics .....	3
Trav	2130	Airline Operations and Security Procedures .....	2
Trav	2201	Fundamentals of Meeting and Event Planning .....	3
Trav	2203	Incentive Travel and Planning .....	3
Trav	2205	Advanced Meeting and Event Planning .....	3
Trav	2207	Marketing for the Travel, Tourism, and Meetings Industries .....	3
Trav	2221	World Cultures and International Tourism Issues .....	3
Trav	2229	Advanced Travel Documentation .....	3
Trav	2230	Travel Sales and Customer Service .....	2
Trav	2236	Cruise Industry Sales Specialization .....	3
Trav	2240	Tour Escorting, Planning, and Operations .....	3
Trav	2820	Advanced Selected Topics .....	3

The **Tour Escort certificate** requires a total of 16 credits in the courses listed below. Code 4286

**PROGRAM REQUIREMENTS**

Trav	1122	Introduction to World Destinations .....	3
Trav	1124	Introduction to Travel Communication and Business Etiquette .....	2
Trav	2240	Tour Escorting, Planning, and Operations .....	3
			<u>8</u>

**Program Electives** .....

Select courses from the list below.

Co-op	2860	Cooperative Education/Internship (Occupational) .....	1 to 4
Trav	1123	Introduction to Travel Documentation .....	3
Trav	1126	North American Destinations .....	1
Trav	112	European Destinations .....	1
Trav	1128	Asian and South Pacific Destinations .....	1
Trav	112	Central and South American Destinations .....	1
Trav	1130	African Destinations .....	1
Trav	1150	Outside Sales for the Home-Based and Independent Contractor .....	2
Trav	1202	Business Management for the Travel Professional .....	3
Trav	1210	Introduction to Global Distribution Systems .....	3
Trav	1820	Selected Topics .....	3
Trav	2130	Airline Operations and Security Procedures .....	2
Trav	2207	Marketing for the Travel, Tourism, and Meetings Industries .....	3
Trav	2210	Advanced Global Distribution Systems .....	3
Trav	2220	Internet Navigation Skills for the Travel Professional .....	3
Trav	2221	World Cultures and International Tourism Issues .....	3
Trav	2229	Advanced Travel Documentation .....	3
Trav	2230	Travel Sales and Customer Service .....	2
Trav	2236	Cruise Industry Sales Specialization .....	3
Trav	2820	Advanced Selected Topics .....	3

The **Fundamentals of Travel and Tourism certificate** requires 16 credits in the courses listed below. Code 4289

**PROGRAM REQUIREMENTS**

Trav	1121	Introduction to the Travel, Tourism, and Meetings Industries .....	3
Trav	1122	Introduction to World Destinations .....	3
Trav	1123	Introduction to Travel Documentation .....	3
Trav	1124	Introduction to Travel Communication and Business Etiquette .....	2
			<u>11</u>

**Program Electives** .....

Select courses from the list below.

Co-op	2860	Cooperative Education/Internship (Occupational) .....	1 to 4
Trav	1126	North American Destinations .....	1
Trav	1127	European Destinations .....	1
Trav	1128	Asian and South Pacific Destinations .....	1
Trav	1129	Central and South American Destinations .....	1
Trav	1130	African Destinations .....	1

Trav	1150	Outside Sales for the Home-Based and Independent Contractor .....	2
Trav	1202	Business Management for the Travel Professional .....	3
Trav	1210	Introduction to Global Distribution Systems .....	3
Trav	1820	Selected Topics .....	3
Trav	2130	Airline Operations and Security Procedures .....	2
Trav	2207	Marketing for the Travel, Tourism, and Meetings Industries .....	3
Trav	2210	Advanced Global Distribution Systems ...	3
Trav	2220	Internet Navigation Skills for the Travel Professional .....	3
Trav	2221	World Cultures and International Tourism Issues .....	3
Trav	2229	Advanced Travel Documentation .....	3
Trav	2230	Travel Sales and Customer Service .....	2
Trav	2236	Cruise Industry Sales Specialization .....	3
Trav	2240	Tour Escorting, Planning, and Operations .....	3
Trav	2820	Advanced Selected Topics .....	3

The **Travel Geography Specialist certificate** requires a total of 18 credit hours in the courses listed below.  
Code 4292

**PROGRAM REQUIREMENTS**

Trav	1122	Introduction to World Destinations .....	3
Trav	2207	Marketing for the Travel, Tourism, and Meetings Industries .....	3
Trav	2220	Internet Navigation Skills for the Travel Professional .....	3
Trav	2221	World Cultures and International Tourism Issues .....	3
			12

**Program Electives** .....

Select three credits from the list below:

Trav	1126	North American Destinations .....	1
Trav	1127	European Destinations .....	1
Trav	1128	Asian and South Pacific Destinations .....	1

Trav	1129	Central and South American Destinations .....	1
Trav	1130	African Destinations .....	1
Select three credits from the list below:			
Trav	1150	Outside Sales for the Home-Based and Independent Contractor .....	2
Trav	1202	Business Management for the Travel Professional .....	3
Trav	1820	Selected Topics .....	3
Trav	2130	Airline Operations and Security Procedures .....	2
Trav	2230	Travel Sales and Customer Service .....	2
Trav	2236	Cruise Industry Sales Specialization .....	3
Trav	2820	Advanced Selected Topics .....	3

**Welding**

**Certificate**

The Welding program provides a competency-based, individualized method of instruction. This program provides training at various levels of competency in the four most common methods of metal joining: shielded metal arc (stick), gas tungsten arc (TIG), oxyacetylene (gas) and gas metal arc (MIG). Plasma welding and cutting, both manual and semi-automatic are included in various courses. This certificate requires 30 credits in the courses listed below. Code 4995

Weld	1100	Welding I .....	3
Weld	1112	Oxy-Fuel, Welding, Plasma Cutting, and Brazing .....	3
Weld	1122	Shielded Metal Arc (SMAW) .....	3
Weld	1132	Gas Metal Arc (MIG) .....	3
Manuf	1101	Industrial Design/CAD .....	3
Weld	1142	Gas Tungsten Arc (TIG) .....	3
Manuf	1151	Machine Shop I .....	3
Weld	1151	Pipe Welding and Fabrication .....	3
Weld	1160	Skill Assessment .....	3
Math	1115	Technical Mathematics I .....	3