

Associate in Applied Science Degree Programs

Curricula leading to the associate in applied science degree are for students planning to follow a career program to prepare for employment. In order to earn an associate in applied science degree, you must attain a minimum cumulative grade point average (GPA) of 2.0.

Certificate Programs

A certificate program is a sequence of courses in a specialized academic and/or technical area requiring approximately two or three years of part-time or one year full-time course work. Completion of the course work required for a specific program with a grade point average of 2.0 (C) or higher entitles the student to a certificate of achievement in that field of specialization.

Courses in certificate programs are offered in the evening as well as during the day to permit part-time evening students to meet their particular training needs and to reach an obtainable goal within a reasonable period of time.

ACCOUNTING ASSOCIATE

Associate in Applied Science Degree
 Accounting Associate Certificate
 Accounting Clerk Certificate
 Accounting-Payroll, State and Local Taxes Certificate
 Professional Accounting—CPA Preparation Certificate

ARCHITECTURAL STUDIES

Associate in Applied Science Degree
 Architectural Studies Design Certificate
 Architectural Studies Technology Certificate
 Architectural 2D CAD Certificate
 Architectural 3D CAD Certificate

BUILDING CODES AND ENFORCEMENT

Building Codes and Enforcement Certificate

BUSINESS ADMINISTRATION

Associate in Applied Science Degree (*pending ICCB approval*)

BUSINESS, OTHER

See Accounting Associate; Computer Information Systems;
 Financial Services; Hospitality Management; International Business;
 Management; Marketing; Mass Communication;
 Supply Chain Management

CARDIAC TECHNOLOGY

Associate in Applied Science Degree
 Cardiographic Technician Certificate

COMPUTER INFORMATION SYSTEMS

Associate in Applied Science Degree:
 Computers in Business
 Associate in Applied Science Degree:
 Computer Forensics and Security
 Associate in Applied Science Degree:
 Software Development
 Associate in Applied Science Degree: Web Development
 Accessible Web Design and Compliance Certificate
 Business Software Specialist Certificate
 Cisco Network Administration Certificate
 Cisco Network Professional Certificate
 Computer Forensics Certificate
 Computer Support Technician Certificate
 Computers in Business Certificate
 Database Management Certificate
 Graphic Arts Web Design Certificate (see Graphic Arts Technology)
 Linux Network Administration Certificate
 Microsoft Network Administration Certificate
 Network Security Certificate
 Network Support Technician Certificate
 Networking Fundamentals Certificate
 Software Development Certificate
 Web Development Certificate
 Web Visual Design Certificate

COSMETOLOGY

Cosmetology Certificate

DENTAL HYGIENE

Associate in Applied Science Degree

DIAGNOSTIC MEDICAL SONOGRAPHY

Associate in Applied Science Degree

DIETETIC TECHNICIAN

Associate in Applied Science Degree
 Dietary Manager Certificate

EARLY CHILDHOOD EDUCATION

Associate in Applied Science Degree
 Early Childhood Education:
 Before/After School Care Certificate
 Early Childhood Education: Family Child Care Certificate
 Early Childhood Education: Infant/Toddler Certificate
 Early Childhood Education:
 Special Education Paraprofessional Certificate
 Early Childhood Education Administrator Certificate
 Early Childhood Education Assistant Teacher Certificate
 Early Childhood Education Teacher Certificate

ELECTRONICS ENGINEERING TECHNOLOGY

Associate in Applied Science Degree
 Advanced Industrial Electronics Maintenance Certificate
 Alternative Electrical Energy Certificate
 Electrical Maintenance Certificate
 Electronics Certificate
 Industrial Electronics Maintenance Certificate
 Radio Frequency Identification (RFID) Electronics Certificate

EMERGENCY AND DISASTER MANAGEMENT

Associate in Applied Science Degree
 Emergency and Disaster Management Certificate
 Public Safety Dispatcher Certificate

EMERGENCY MEDICAL SERVICES

Associate in Applied Science Degree
 Emergency Medical Services: EMT Basic Certificate
 Paramedic Certificate

ENERGY (ALTERNATIVE/SOLAR/WIND)

See Electronics Engineering Technology

ENVIRONMENTAL HEALTH AND SAFETY

Associate in Applied Science Degree:
 Environmental Health
 Associate in Applied Science Degree:
 Occupational Health and Safety
 Environmental Health Certificate
 Occupational Health and Safety Certificate

FASHION DESIGN

Associate in Applied Science Degree
 Fashion Design Certificate
 Fashion Graphic Arts Certificate (see Graphic Arts Technology)

FASHION MERCHANDISING

Associate in Applied Science Degree

FINANCIAL SERVICES

Associate in Applied Science Degree
 Commercial Credit Management Certificate
 Financial Management Certificate

FIRE SCIENCE TECHNOLOGY

Associate in Applied Science Degree

FORENSIC SCIENCE

See Law Enforcement and Justice Administration

GRAPHIC ARTS TECHNOLOGY

Associate in Applied Science Degree
 Fashion Graphic Arts Certificate
 Graphic Arts Certificate
 Graphic Arts Design Certificate
 Graphic Arts Desktop Publishing Certificate
 Graphic Arts Digital Photography Certificate
 Graphic Arts Interactive Technology Certificate
 Graphic Arts Variable Data Certificate
 Graphic Arts Web Design Certificate

HEALTH INFORMATION TECHNOLOGY

Associate in Applied Science Degree
 Health Information Technology Certificate

HEATING, VENTILATION AND AIR CONDITIONING (HVAC)

Associate in Applied Science Degree: Refrigeration and Air Conditioning Technology
Domestic Refrigeration and Heating Certificate
Heating Services Certificate
Refrigeration Service Certificate
Refrigeration and Air Conditioning Service Certificate
Residential Comfort Systems Certificate

HOMELAND SECURITY

See Emergency and Disaster Management

HOSPITALITY MANAGEMENT

Associate in Applied Science Degree
Bread and Pastry Arts Certificate
Culinary Arts Certificate
Food Service Management Certificate
Hotel Management Certificate
ProStart Hospitality Management Certificate

HUMAN SERVICES

Associate in Applied Science Degree

INTERIOR DESIGN

Associate in Applied Science Degree
Advanced Interior Design Certificate
Interior Design Technology Certificate
Kitchen and Bath Specialty Certificate
Perspective and Rendering Certificate

INTERNATIONAL BUSINESS

Associate in Applied Science Degree
International Business Certificate

JOURNALISM

See Mass Communication

LAW ENFORCEMENT AND JUSTICE ADMINISTRATION

Associate in Applied Science Degree
Associate in Applied Science Degree:
Forensic Science Technician
Forensic Science Technician Certificate

MAINTENANCE

Associate in Applied Science Degree
Basic Maintenance Certificate
Commercial Maintenance Certificate
Manufacturing Basic Certificate
Supervisory Maintenance Certificate
Welding Maintenance Certificate

MANAGEMENT

Associate in Applied Science Degree
(To be withdrawn Spring 2012 pending ICCB approval)
Associate in Applied Science Degree:
Small Business Management
Advanced Management Certificate
General Management Certificate
Human Resource Management Certificate
Small Business Management Certificate

MARKETING

Associate in Applied Science Degree
E-Commerce Business Certificate
Marketing Certificate
Marketing Research Certificate
Retail Merchandising Certificate
Sales Management and Development Certificate

MASS COMMUNICATION

Associate in Applied Science Degree: Public Relations
Media Writing and Design Certificate
Online Communications Certificate
Public Relations Certificate
Public Relations for the Web Certificate

MEDICAL OFFICE ADMINISTRATION

Associate in Applied Science Degree:
Health Care Office Manager
Health Care Office Assistant Certificate
Health Insurance Specialist Certificate
Medical Assistant Certificate
Medical Transcriptionist Certificate

NANOSCIENCE TECHNOLOGY

Associate in Applied Science Degree

NURSING

Associate in Applied Science Degree
Certified Nursing Assistant Certificate
Practical Nursing Certificate

PARALEGAL STUDIES

Associate in Applied Science Degree
Paralegal Studies Certificate

PARAPROFESSIONAL EDUCATOR

Associate in Applied Science Degree
Paraprofessional Educator Certificate

PHLEBOTOMY

Phlebotomy Certificate

PUBLIC RELATIONS

See Mass Communication

RADIOLOGIC TECHNOLOGY

Associate in Applied Science Degree
Mammography Certificate

REFRIGERATION AND AIR CONDITIONING TECHNOLOGY

See Heating, Ventilation and Air Conditioning [HVAC]

SIGN LANGUAGE INTERPRETING

Sign Language Interpreting Certificate

SUPPLY CHAIN MANAGEMENT

Associate in Applied Science Degree
Inventory/Production Control Certificate
Physical Distribution Certificate
Purchasing Certificate
Supply Chain Management Certificate

WELDING

See Maintenance

ACCOUNTING ASSOCIATE

Associate in Applied Science Degree

This 61 credit-hour program is designed to prepare students for employment as junior accountants in business, industry and government.

The curriculum includes the study of accounting theory and practice, corporation accounting, and cost accounting. Required business course work provides for an overview of the corporate community and includes economics, business law and management classes. Computer information skills are essential to today's accountants and are also required in this degree.

FIRST YEAR

First Semester

ACC	101	Introduction to Financial Accounting.....	4
CIS	101	Introduction to Computer Information Systems.....	3
ENG	101	Composition or	
ENG	130	Business Writing	3
MGT	111	Introduction to Business Organization	3
		Mathematics elective ¹	<u>3-4</u>
			16-17

Second Semester

ACC	102	Introduction to Managerial Accounting.....	3
CIS	106	Computer Logic and Programming Technology or	
WEB	240	E-Commerce Development.....	3
ECO	200	Introduction to Economics or	
ECO	211	Microeconomics or	
ECO	212	Macroeconomics.....	3
		English elective ²	3
		Humanities elective [♦]	<u>3</u>
			15

SECOND YEAR

First Semester

ACC	201	Intermediate Accounting I.....	3
ACC	211	Business Law I.....	3
		Business elective ³	3
CAS	160 ⁴	Introduction to Business Software Packages.....	3
		Social Science elective [♦]	<u>3</u>
			15

Second Semester

ACC	202	Intermediate Accounting II	3
ACC	203	Introductory Cost Accounting.....	3
		Business electives ³	6
		ACC/CAS/CIS electives ⁵	<u>3</u>
			15

¹ Only MGT 150 or MTH 124 or higher will satisfy this requirement.

² Students may elect ENG 100, ENG 101, ENG 102, or ENG 130 depending on their test scores and advice of a Student Development Faculty Counselor.

³ Business electives (students must satisfy prerequisite for each course elected): ACC 212, ACC 213, BFC 215, MGT 218, MGT 225, MGT 270.

⁴ Students may substitute three (3) total credit hours from CAS 105, CAS 115, CAS 125 or CAS 215.

⁵ ACC/CAS/CIS electives (students must satisfy prerequisite for each course elected): ACC 155, ACC 250, ACC 251, ACC 253, ACC 254, ACC 256, ACC 295 (limit 4 hours), CAS 260, CIS 203.

[♦] At least one of the Humanities or Social Science requirements must also meet the World Cultures and Diversity graduation requirement.

ACCOUNTING ASSOCIATE

Accounting Associate Certificate

This 19 credit-hour certificate program is designed for persons interested in pursuing careers as junior accountants in business, government and industry. There is an acute shortage of persons with the training needed to be successful in accounting.

Required:

ACC	101	Introduction to Financial Accounting	4
ACC	102	Introduction to Managerial Accounting.....	3
CAS	160	Introduction to Business Software Packages.....	3
<i>Or three total credit hours from:</i>			
CAS	105	Word Processing Software (1)	
CAS	115	Spreadsheet Software (1)	
CAS	125	Database Software (1)	
CAS	215	Advanced Spreadsheet Software (1)	

Electives: Select any three courses from the following:

ACC	155	Tax and Payroll Accounting	4
ACC	201	Intermediate Accounting I	3
ACC	202	Intermediate Accounting II	3
ACC	203	Introductory Cost Accounting.....	3
ACC	250	Income Tax Accounting	3
ACC	251	Advanced Tax Accounting	3
ACC	253	Advanced Accounting I	3
ACC	254	Auditing	3
ACC	256	Enrolled Agent Exam Review	3

Accounting Clerk Certificate

This 10 credit-hour certificate program provides the student with the courses needed for an entry level position in such areas as accounts payable, accounts receivable and inventory accounting.

Required:

ACC	101	Introduction to Financial Accounting	4
ACC	102	Introduction to Managerial Accounting.....	3
CAS	160	Introduction to Business Software Packages.....	3
<i>Or three total credit hours from:</i>			
CAS	105	Word Processing Software (1)	
CAS	115	Spreadsheet Software (1)	
CAS	125	Database Software (1)	
CAS	215	Advanced Spreadsheet Software (1)	

ACCOUNTING ASSOCIATE

Accounting–Payroll, State and Local Taxes Certificate

This seven credit-hour certificate program will provide the student with the courses needed for an entry-level position in this particular area.

Required:

ACC	155	Tax and Payroll Accounting	4
CAS	160	Introduction to Business Software Packages.....	3
Or three total credit hours from:			
CAS	105	Word Processing Software (1)	
CAS	115	Spreadsheet Software (1)	
CAS	125	Database Software (1)	
CAS	215	Advanced Spreadsheet Software (1)	

Requirements for the Illinois CPA Certificate

To sit for the CPA examination in Illinois effective January 1, 2001, the candidate must have 150 hours of acceptable college level education including at least a bachelor's degree. Twenty-four semester hours must be in accounting; an additional 24 hours in business courses are required (business law is included here).

At William Rainey Harper College, acceptable accounting courses include: ACC 101, ACC 102, ACC 201, ACC 202, ACC 203, ACC 250, ACC 251, ACC 253 and ACC 254. A variety of business courses are offered including: ACC 211, ACC 212, ACC 213 and MGT 225.

Requirements for the CMA Certificate

The Certified Management Accountant (CMA) is a national program with no state affiliates. The candidate must have senior standing at an accredited college or university, or must hold a baccalaureate degree, in any field, or have passed the U.S. CPA examination. Anyone who has passed the U.S. CPA examination is given credit for part two of the CMA examination.

Recommended courses at Harper College include: ACC 101, ACC 102, ACC 201, ACC 202, ACC 203, ACC 211, ACC 212, ACC 251, ACC 253, ACC 254, BFC 215, CIS 101, ECO 210, ECO 211, ECO 212, MGT 111, MGT 218, MGT 225, MGT 270, MTH 124 and PHI 150.

Professional Accounting–CPA Preparation Certificate

This 28 credit-hour certificate is designed to provide individuals with the necessary accounting courses to qualify for the Certified Public Accountant (CPA) exam. The program is intended for individuals who already have a bachelor's degree and wish to transition to a career in the field of accounting. To qualify for the CPA exam, a candidate must have a bachelor's degree and a total of 150 semester hours of credit, including 24 hours in business and a minimum of 24 hours in accounting. (It is strongly recommended that the 24 business hours include at least three hours in business law; at Harper, ACC 211 [Business Law I] and ACC 213 [Legal Environment of Business] are available.) The Illinois Board of Examiners provides more detailed information on educational requirements at www.illinois-cpa-exam.com. Harper will accept up to 14 credit hours in equivalent courses from regionally accredited institutions.

Required:

ACC	101	Introduction to Financial Accounting	4
ACC	102	Introduction to Managerial Accounting.....	3
ACC	201	Intermediate Accounting I	3
ACC	202	Intermediate Accounting II	3
ACC	203	Introductory Cost Accounting.....	3
ACC	250	Income Tax Accounting	3
ACC	251	Advanced Tax Accounting	3
ACC	253	Advanced Accounting I	3
ACC	254	Auditing	3

ARCHITECTURAL STUDIES

Associate in Applied Science Degree

The curriculum emphasis is on architecture and construction but also includes general education courses. The program is available to those seeking immediate technical opportunities as well as those who desire more of a design education. The 62-64 credit-hour program graduates may be qualified for positions as architectural drafters, engineering interns in building construction, building materials and system details, specification writers and ancillary service professionals.

The degree's second year allows students to choose either technical-oriented coursework or courses with emphasis in building design and theory.

FIRST YEAR

First Semester

ART	110	Drawing I or	
ATE	elective ¹	.....	3
ATE	101	Introduction to Architecture and	
		Drawing Fundamentals	4
ATE	110	Presentation and Communication Tools	3
ENG	101	Composition	3
		Social Science elective ²	<u>3</u>
			16

Second Semester

ART	121 ²	Design I or	
ATE	215	Building Systems	3
ATE	103	Building Materials I	4
ATE	105	Architectural CAD I	3
ATE	106	Architectural CAD II	3
		Mathematics elective ³	<u>3</u>
			16

Second Semester (Optional)

ATE	200	Architectural Internship	3
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SECOND YEAR: Choose one of the specialized study areas:

TECHNICAL

First Semester

ATE	203	Building Materials II	4
ATE	205	Advanced Architectural CAD I	3
ATE	210	Cost Estimating	3
		Humanities elective ⁴	3
SPE	101 ⁴	Fundamentals of Speech Communication	<u>3</u>
			16

Second Semester

ATE	209	Construction Studio	4
ATE	213	Construction Management Process	3
		Humanities or Social Science elective ⁴	3
IND	250	Portfolio Review	1
		Recommended elective ^{1,5}	<u>3</u>
			14

ARCHITECTURAL STUDIES

Associate in Applied Science Degree...continued

DESIGN

First Semester

ATE	130	History of Architecture.....	3
ATE	201	Architectural Design Principles	4
MTH	140	Pre-Calculus	5
SPE	101 ⁴	Fundamentals of Speech Communication	<u>3</u>
			15

Second Semester

ATE	202	Architectural Design Studio.....	4
ATE	208	Structural Fundamentals.....	4
IND	250	Portfolio Review	1
PHY	121	Introductory Physics I.....	5
		Recommended elective ^{5,6}	<u>3</u>
			17

¹ Technical students should choose a technical elective from ATE 109, ATE 206, ATE 211 or ATE 216; Design students must choose ART 110

² Technical students must choose ATE 215; design students must choose ART 121.

³ A competency test, available in the Assessment and Testing Center, may be utilized to meet the mathematics requirement. Technical students must complete MTH 060 or higher; design students must complete MTH 103 as it is a prerequisite for MTH 140. Students in the program who utilize the competency test to meet the mathematics requirement must complete an additional three credit-hour ATE elective.

⁴ ENG 102 may be substituted in certain circumstances.

⁵ If ATE 200 was successfully completed, this elective is not required.

⁶ Recommended electives for design students: ART 122, ATE 205, ATE 209, ATE 211, ATE 215, ATE 216, ENG 102.

♦ At least one of the Humanities or Social Science requirements must also meet the World Cultures and Diversity graduation requirement.

Architectural Studies Design Certificate

This 20 credit-hour certificate program is designed to meet the educational and training needs of the student interested in design and design theory from both the historical perspective and from hands-on design. The emphasis of this certificate provides the training necessary for an entry level position in the field of architectural design. The certificate also includes an emphasis in sustainable design to introduce the student to the building design skills and materials selection required in today's changing environment.

Required:

ART	110	Drawing I.....	3
ART	121	Design I.....	3
ATE	130	History of Architecture.....	3
ATE	201	Architectural Design Principles	4
ATE	202	Architectural Design Studio.....	4
ATE	211	Principles of Sustainability	3

ARCHITECTURAL STUDIES

Architectural Studies Technology Certificate

This 21 credit-hour certificate program contains the core courses needed to gain an understanding of the basic information required for employment with an architect, contractor, sub-contractor or engineer. Students receive coursework in presentation of project information, computer drafting on industry standard software and knowledge for selecting responsible building materials and details for all but the largest projects. Upon completion of this certificate, students would be prepared for an entry-level position in this rewarding career.

Required:

ATE	101	Introduction to Architecture and Drawing Fundamentals	4
ATE	103	Building Materials I	4
ATE	105	Architectural CAD I	3
ATE	106	Architectural CAD II	3
ATE	110	Presentation and Communication Tools	3
ATE	203	Building Materials II.....	4

Architectural 2D CAD Certificate

This 6 credit-hour certificate program is designed for those just entering the field of architecture, as well as the practicing professional who desires to learn the necessary skills to be proficient in beginning CAD drafting. Courses include introductory two-dimensional drafting and proceed through advanced two-dimensional drafting, and proceed through advanced two-dimensional drafting to make work faster and more efficient. Students will learn, through hands-on experience using state of the art computer hardware, the CAD software packages in demand in today's workplace.

Required:

ATE	105	Architectural CAD I	3
ATE	106	Architectural CAD II	3

Architectural 3D CAD Certificate

This 6 credit-hour certificate program is designed for advanced three-dimensional CAD. Courses include three-dimensional drafting and photo realistic rendering of three-dimensional computer images. Add-on rendering packages will also be explored to do three-dimensional animation. Students will learn, through hands-on experience using state of the art computer hardware, the CAD software packages in demand in today's workplace.

Required:

ATE	205	Advanced Architectural CAD I	3
ATE	206	Advanced Architectural CAD II	3

BUILDING CODES AND ENFORCEMENT

Building Codes and Enforcement Certificate

This 24 credit-hour certificate program is designed to prepare students for direct employment in the building code enforcement industry. These technical courses are intended to provide students with the basic knowledge of building codes and enforcement. This program covers the latest international construction codes and sustainable green technology incorporated in modern industry.

Required:

BCE	101	Basic Construction for Building Codes.....	3
BCE	102	Basic Code Enforcement Techniques.....	3
BCE	104	Basic Mechanical and Energy Conservation Codes..	3
BCE	105	Basic Plumbing Codes.....	3
BCE	106	Basic Electrical Codes	3
BCE	201	Basic Building Codes	3
BCE	202	International Fire Codes.....	3
BCE	203	National Green Building Codes Standards	3

BUSINESS ADMINISTRATION *(PENDING ICCB APPROVAL)*

Associate in Applied Science Degree: Business Administration

This 61 credit-hour program is designed to assist students in a wide variety of business occupations. The curriculum is structured to meet the needs of individuals interested in gaining or improving business knowledge and management skills. The program develops abilities that will help organize, coordinate and evaluate the functions of a unit, department or branch of an organization in either an industrial or administrative management capacity. This degree also provides the fundamental management skills needed by the successful owner-manager of a business. Depending on the study area selected, students will gain knowledge and practical skills in international business, management, marketing, small business management or supply chain management.

Students must choose a specialization that fits their interests and needs and complete 12 credit hours of course work from the area of study.

Required General Education Courses:

ENG	101	Composition	3
		Humanities elective ⁴	3
MGT	150	Business Math or	
		Mathematics elective ¹	3
PSY	101	Introduction to Psychology	3
PSY	245	Industrial/Organizational Psychology	3
SPE	101	Fundamentals of Speech Communication	3

Required Core Courses:

ACC	101	Introduction to Financial Accounting	4
ACC	102	Introduction to Managerial Accounting	3
ACC	211	Business Law I	3
CIS	100	Computer Fundamentals or	
CIS	101	Introduction to Computer Information Systems	3
ECO	211	Microeconomics	3
ECO	212	Macroeconomics	3
MGT	111	Introduction to Business Organization	3
MGT	218	Introduction to Finance	3
MGT	270	Principles of Management	3
MKT	245	Principles of Marketing	3

Specialized Study Areas:

INTERNATIONAL BUSINESS

Required:

BFC	225	International Finance or	
		International Business elective ^{3, 8}	3
MGT	165	International Management	3
MKT	260	International Marketing	3
MKT	290 ²	Global Trade	3

MANAGEMENT

Required:

MGT	160	Principles of Supervision or	
		Management elective ^{4, 8}	3
MGT	265	Human Resources Management	3
MGT	280	Organizational Behavior	3
MGT	291 ²	Problems in Management and Supervision	3

MARKETING

Required:

MKT	140	Principles of Professional Selling	3
MKT	217	Advertising	3
MKT	247	Consumer Buying Behavior or	
		Marketing elective ^{5, 8}	3
MKT	280 ²	Marketing Problems of	
MKT	281 ²	Internship in Marketing	3

BUSINESS ADMINISTRATION *(PENDING ICCB APPROVAL)*

Associate in Applied Science Degree: Business Administration...continued

SMALL BUSINESS MANAGEMENT

Required:

MGT	154	Small Business Management	3
MGT	160	Principles of Supervision or	
		Small Business Management elective ^{6,8}	3
MGT	254	Small Business Formation	3
MGT	211 ²	Internship in Small Business.....	3

SUPPLY CHAIN MANAGEMENT

Required:

SCM	101	Supply Chain Management.....	3
SCM	120	Production Control Concepts	3
SCM	121	Principles of Physical Distribution or	
		Supply Chain Management elective ^{7,8}	3
SCM	281 ²	Topics in Supply Chain Management	1-3

¹ The mathematics elective must be MTH 103 or above. Students should meet with a Student Development Faculty Counselor or the program coordinator for an appropriate course.

² This course is considered the program's capstone and should be taken at the end of the student's course work.

³ International Business electives: MGT 154, MGT 160, MGT 254, MGT 265, MGT 280, MGT 291, MKT 140, MKT 192, MKT 193, MKT 217, MKT 240, MKT 247, MKT 280, MKT 281, MKT 285, SCM 101, SCM 120, SCM 121, SCM 281.

⁴ Management electives: MGT 115, MGT 154, MGT 254, MKT 140, MKT 193, MKT 217, MKT 240, MKT 247, MKT 280, MKT 281, MKT 285, MKT 290, SCM 101, SCM 120, SCM 121, SCM 281.

⁵ Marketing electives: MGT 115, MGT 154, MGT 160, MGT 254, MGT 265, MGT 280, MGT 285, MGT 291, MKT 192, MKT 217, MKT 240, MKT 251, MKT 290, SCM 101, SCM 120, SCM 121, SCM 281.

⁶ Small Business Management electives: MGT 115, MGT 160, MGT 265, MGT 280, MGT 291, MKT 140, MKT 193, MKT 280, MKT 281, MKT 285, MKT 290, SCM 101, SCM 120, SCM 121, SCM 281.

⁷ Supply Chain Management electives: MGT 115, MGT 154, MGT 160, MGT 254, MGT 265, MGT 280, MGT 291, MKT 140, MKT 193, MKT 217, MKT 240, MKT 280, MKT 281, MKT 285, MKT 290.

⁸ Business Administration electives: ACC 216, MCM 233, MGT 165, MGT 168, MGT 170, MGT 204, MGT 205, MGT 206, MGT 207, MGT 211, MGT 225, MGT 230, MGT 266, MGT 274, MGT 275, MGT 276, MKT 105, MKT 106, MKT 110, MKT 141, MKT 190, MKT 191, MKT 196, MKT 202, MKT 250, MKT 251, MKT 252, MKT 255, MKT 260, SCM 122, SCM 123, SCM 124, SCM 125, SCM 227, SCM 230, SCM 259.

♦ Students must take a course that meets the World Cultures and Diversity graduation requirement.

CARDIAC TECHNOLOGY*

Associate in Applied Science Degree*

This 67.5 credit-hour program prepares the graduate to be a diagnostic cardiac sonographer. A diagnostic cardiac sonographer is a highly skilled professional who uses specialized ultrasound equipment to record dynamic visual images of the heart and its circulation. They work in hospitals, clinics and physician offices producing these echocardiograms to assist the physician in diagnosing heart disease. This is one of several specialty areas in the field of diagnostic medical sonography. This degree program prepares the graduate to secure their American Registry of Diagnostic Medical Sonography credentials and entry-level work in the adult echo specialty area. The graduate also receives instruction in carotid and peripheral vascular ultrasound and EKG-related diagnostic testing. Four hundred (400) hours of clinical education is included during this program at area hospitals.

Because of the nature of clinical experiences and individualized instruction required in this program and specialized technology and the equipment necessary to offer this program, a higher tuition rate is assessed for career-specific courses including courses with the CTE/DMS prefix. Tuition for the courses in this program is 200 percent of the standard tuition rate.

Admission Requirements

For admission requirements, please contact the Admissions Outreach Office at 847.925.6700 or visit harpercollege.edu. Students who apply for this limited enrollment program are obligated to meet current admission requirements and follow program curriculum as defined at the time of acceptance to the program.

PREREQUISITES¹

BIO	160 ²	Human Anatomy	4
BIO	161 ²	Human Physiology	4
ENG	101	Composition	3
Mathematics ³		.....	<u>0</u>
			11

FIRST YEAR¹

First Semester

CTE	101	Electrocardiography	4
CTE	106	Ultrasound Physics and Instrumentation	4
HSC	104 ⁴	Health Care Technology and Informatics.....	2
HSC	107	Basic Health Care Skills.....	1
HSC	112	Medical Terminology.....	<u>2</u>
			13

Second Semester

CTE	102	ECG Surveillance and Stress Testing.....	2
DMS	202	Introduction to Ultrasound.....	2
DMS	222	Essentials of Vascular Sonography	3
DMS	223	Art of Vascular Sonography	2
HSC	165	Basic Pharmacology	1
HSC	213	Legal and Ethical Issues in Health Care	<u>2</u>
			12

Summer Semester (Optional)

CTE	112 ⁵	Laboratory Techniques III	1
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CARDIAC TECHNOLOGY*

Associate in Applied Science Degree*...continued

SECOND YEAR¹

First Semester

CTE	104	Cardiovascular Principles	3
CTE	107	Diagnostics I	4
CTE	109	Laboratory Techniques I	3
SPE	101	Fundamentals of Speech Communication	<u>3</u>
			13

Second Semester

CTE	105	Cardiac Pathophysiology	3
CTE	108	Diagnostics II	4
CTE	110	Laboratory Techniques II	3
CTE	120	Introduction to the Cardiac Technology Internship	1.5
Humanities or Social Science elective*			<u>3</u>
			14.5

Summer Semester

CTE	130 ⁶	Cardiac Technology Internship	4
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* Cardiac Technology is a limited enrollment program. See the Limited Enrollment Programs section of this catalog for details. Requirements subject to change. Contact the Admissions Outreach Office for updated information.

¹ A grade of C or better in all coursework is required for all students.

² Must be completed no earlier than five years prior to beginning the CTE program; time requirement may be waived for direct patient care providers with a minimum of a two-year allied health care degree.

³ Group 2 Math requirement is met by Cardiac Technology program admission requirements.

⁴ 2-3 credit hours of CAS/CIS courses successful completed within the last 5 years may be substituted.

⁵ This course is optional and not required for program completion.

⁶ Assignments will be based on site availability.

♦ Students need to choose a course to meet this requirement that also fulfills the World Cultures and Diversity graduation requirement.

CARDIAC TECHNOLOGY*

Cardiographic Technician Certificate*

This 28 credit-hour certificate is embedded in the Cardiac Technology AAS degree and prepares students as cardiographic technicians. Cardiographic technicians perform rhythm and 12 lead ECG, holter monitoring stress testing and telemetry surveillance in hospitals and cardiology offices to assist physicians in the diagnosis and monitoring of heart disease. Upon certificate completion, the student is prepared to take the Certified Cardiographic Technician (CCT) examination given through Cardiovascular Credentialing International (CCI).

Because of the nature of clinical experiences and individualized instruction required in this program, and specialized technology and the equipment necessary to offer this program, a higher tuition rate is assessed for career-specific courses including courses with the CTE/DMS prefix. Tuition for these courses in this program is 200 percent of the standard tuition rate.

Admission Requirements

For admission requirements, please contact the Admissions Outreach Office at 847.925.6700 or visit harpercollege.edu

Students who apply for this limited enrollment program are obligated to meet current admission requirements and follow program curriculum as defined **at the time of acceptance to the program.**

PREREQUISITES¹

	BIO 160 ²	Human Anatomy	4
	BIO 161 ²	Human Physiology	4
	ENG 101	Composition	3
	Mathematics ³	.....	<u>0</u>
			11

FIRST YEAR¹

First Semester

	CTE 101	Electrocardiography	4
	CTE 104	Cardiovascular Principles	3
	HSC 104 ⁴	Health Care Technology and Informatics.....	2
	HSC 107	Basic Health Care Skills.....	1
	HSC 112	Medical Terminology.....	<u>2</u>
			12

Second Semester

	CTE 102	ECG Surveillance and Stress Testing.....	2
	HSC 165	Basic Pharmacology	1
	HSC 213	Legal and Ethical Issues in Health Care	<u>2</u>
			5

* Cardiographic Technician is a limited enrollment program. See the Limited Enrollment Programs section of this catalog for details. Requirements subject to change. Contact the Admissions Outreach Office for updated information.

¹ A grade of C or better in all coursework is required for all students.

² Must be completed no earlier than five years prior to beginning the Cardiographic Technician program; time requirement may be waived for direct patient care providers with a minimum of a two-year allied health care degree.

³ Group 2 Math requirements are met by Cardiac Technology program admission requirements.

⁴ 2-3 credit hours of CAS/CIS courses successfully completed within the last 5 years may be substituted.

COMPUTER INFORMATION SYSTEMS

Associate in Applied Science Degree: Computers in Business

The 60-61 credit-hour technical curriculum prepares students for various positions in the field of computers. The student will take courses in business, computer information systems and general education. The student may choose from five specialized study areas: Applications, Computer Support, Database Management, Management Information Systems, and Network Administration. Graduates of the program may find employment as desktop support technicians, database administrators, information technology supervisors, network administrators, and consultants.

Required General Education Courses:

ENG	101	Composition	3
ENG	102	Composition or	
ENG	103	Technical and Report Writing or	
SPE	101	Fundamentals of Speech Communication	3
		Humanities, Natural Science, or Social Science electives ^{1,♦}	9
		Mathematics elective ²	3

Required Core Courses:

CAS	160	Introduction to Business Software Packages.....	3
CIS	101	Introduction to Computer Information Systems.....	3
NET	101	Windows or	
NET	106	Introduction to Linux.....	3

Specialized Study Areas:

APPLICATIONS

Required:

		Applications electives ³	12
CAS	110	Microsoft Word Certification	1
CAS	120	Microsoft Excel Certification	1
CAS	130	Microsoft Access Certification	1
CAS	135	Presentation Software	1
CAS	140	Microsoft PowerPoint Certification	1
CAS	150	Microsoft Outlook Certification	1
CAS	175	Desktop Publishing Software	1
CAS	215	Advanced Spreadsheet Software	1
CAS	225	Advanced Database Software	1
CAS	260	Office Application Development	3
NET	111	A+ Hardware	3
NET	112	A+ Operating Systems Technologies	3
NET	201	Help Desk/Soft Skills	3

COMPUTER SUPPORT

Required:

CAS	135	Presentation Software	1
CAS	215	Advanced Spreadsheet Software	1
CAS	225	Advanced Database Software	1
		Computer Support electives ⁴	9
NET	111	A+ Hardware	3
NET	112	A+ Operating Systems Technologies	3
NET	121	Introduction to Networking	3
NET	122	Internet Protocols	3
NET	201	Help Desk/Soft Skills	3
NET	211	Supporting Operating Systems	3
NET	231	Windows Scripting or	
NET	236	Linux Shell Scripting	3

COMPUTER INFORMATION SYSTEMS

Associate in Applied Science Degree: Computers in Business...continued

DATABASE MANAGEMENT

Required:

CIS	106	Computer Logic and Programming Technology	3
CIS	143	Introduction to Database Systems	3
CIS	243	Database Management	3
CIS	244	Database Design and Implementation	3
		Database Management electives ⁵	9
NET	111	A+ Hardware	3
NET	112	A+ Operating Systems Technologies	3
NET	121	Introduction to Networking	3
NET	122	Internet Protocols	3

MANAGEMENT INFORMATION SYSTEMS

Required:

ACC	101	Introduction to Financial Accounting	4
ACC	102	Introduction to Managerial Accounting	3
ACC	211	Business Law I	3
CIS	106	Computer Logic and Programming Technology	3
CIS	143	Introduction to Database Systems	3
CIS	211	IT Project Management	3
MGT	111	Introduction to Business Organization	3
MGT	270	Principles of Management	3
MKT	245	Principles of Marketing	3
NET	121	Introduction to Networking	3
WEB	240	E-Commerce Development	3

NETWORK ADMINISTRATION

Required:

NET	111	A+ Hardware	3
NET	112	A+ Operating Systems Technologies	3
NET	121	Introduction to Networking	3
NET	122	Internet Protocols	3
NET	141	Linux Administration	3
NET	201	Help Desk/Soft Skills	3
NET	231	Windows Scripting or	
NET	236	Linux Shell Scripting	3
NET	270	Cisco Networking (CCNA)	3
NET	280	Network Security Fundamentals	3
NET	299	Networking Capstone	3
		Network Administration elective ⁶	3

^{1,4} Students must take nine credit hours in a minimum of two of these areas; three hours must be in a course that meets the World Cultures and Diversity graduation requirement.

² Students must take at least three credit hours in a mathematics course at the level of MTH 101 or above.

³ Applications electives: ACC 101, CAS 216, CAS 226, MGT 111, NET 121, WEB 101, WEB 150, WEB 170, WEB 180, WEB 200 or WEB 220.

⁴ Computer Support electives: CIS 143, MGT 111, NET 141, NET 161, NET 241, NET 242, NET 261, NET 262, NET 263, WEB 150, WEB 170 or WEB 190.

⁵ Database Management electives: CIS 168, CIS 181, CIS 182, CIS 203, CIS 211, CIS 268, CIS 281, MGT 111, NET 141, NET 241, NET 242, NET 261, NET 262, NET 263, WEB 150, WEB 200 or WEB 250.

⁶ Network Administration electives: NET 211, NET 221, NET 222, NET 223, NET 241, NET 242, NET 261, NET 262, NET 263

COMPUTER INFORMATION SYSTEMS

Associate in Applied Science Degree: Computer Forensics and Security

The 60-61 credit-hour technical curriculum trains students for positions in the distinct field of computer forensics and security. The curriculum includes coursework that will enable students to not only identify security threats but also take appropriate action to prevent the threats and trace/track these computer crimes. Graduates of the program may find employment as entry-level computer forensic specialists or computer security specialists.

FIRST YEAR

First Semester

CIS	101	Introduction to Computer Information Systems.....	3
ENG	101	Composition	3
Mathematics	elective ¹	.....	3-4
NET	101	Windows or	
NET	106	Introduction to Linux.....	3
NET	121	Introduction to Networking	<u>3</u>
			15-16

Second Semester

ENG	103	Technical and Report Writing.....	3
NET	111	A+ Hardware	3
NET	112	A+ Operating Systems Technologies	3
NET	122	Internet Protocols.....	3
PHI	115	Ethics or	
PHI	150	Business Ethics.....	<u>3</u>
			15

SECOND YEAR

First Semester

NET	182	Computer Forensics.....	3
NET	231	Windows Scripting or	
NET	236	Linux Shell Scripting	3
NET	270	Cisco Networking (CCNA)	3
NET	280	Network Security Fundamentals	3
SOC	101 [♦]	Introduction to Sociology.....	<u>3</u>
			15

Second Semester

Humanities or	Natural Science	elective	3
LEJ	216 ²	Investigative Process	3
NET	283	Ethical Hacking	3
NET	284	Computer Security Incident Response	3
NET	289	Security Capstone.....	<u>3</u>
			15

¹ Students must take at least three credit hours in a mathematics course at the level of MTH 101 or higher.

² The prerequisite of LEJ 101 will be waived for Computer Forensics and Security AAS students.

[♦] This course meets the World Cultures and Diversity graduation requirement.

COMPUTER INFORMATION SYSTEMS

Associate in Applied Science Degree: Software Development

The 60 credit-hour curriculum prepares students for various programming positions in the field of computer information systems. The student will take courses in computer information systems, Java and Microsoft .NET software development, Web development, systems analysis and design, and general education. Graduates of the program may find employment as software developers, systems analysts, or consultants.

FIRST YEAR

First Semester

CAS	160	Introduction to Business Software Packages.....	3
CIS	101	Introduction to Computer Information Systems.....	3
CIS	106	Computer Logic and Programming Technology	3
ENG	101	Composition	3
		Mathematics elective ¹	<u>3</u>
			15

Second Semester

CIS	143	Introduction to Database Systems	3
CIS	181	Visual Basic Software Development or	
CIS	182	Visual C# Software Development	4
ENG	102	Composition or	
ENG	103	Technical and Report Writing or	
SPE	101	Fundamentals of Speech Communication	3
NET	101	Windows or	
NET	106	Introduction to Linux.....	3
WEB	150	Web Development I	<u>3</u>
			16

SECOND YEAR

First Semester

CIS	168	Java Software Development I	4
CIS	203	Systems Analysis and Design.....	3
		Computer Information Systems elective ²	3
		Humanities, Natural Science, or Social Science electives ^{3,♦}	<u>6</u>
			16

Second Semester

CIS	268	Java Software Development II or	
CIS	281	Microsoft .NET Web Development.....	4
CIS	299	Software Development Capstone	3
		Computer Information Systems elective ²	3
		Humanities, Natural Science, or Social Science elective ^{3,♦}	<u>3</u>
			13

¹ Students must take at least three credit hours in a mathematics course at the level of MTH 101 or above.

² Students must take at least six credit hours of electives selected from CAS 260, CIS 211, CIS 243, CIS 244, CIS 268, CIS 278, CIS 281, CIS 286, NET 121, WEB 200, WEB 240, or WEB 250.

^{3,♦} Students must take nine credit hours in a minimum of two of these areas; three hours must be in a course that meets the World Cultures and Diversity graduation requirement.

COMPUTER INFORMATION SYSTEMS

Associate in Applied Science Degree: Web Development

The 61 credit-hour technical curriculum trains students for various positions in the fields of Web design, Web development and e-learning development. The student may choose from four specialized study areas: E-Learning Development, Web Application Development, Web Interactive Multimedia or Web Visual Design. Graduates of the program may find employment as Web developers, Web designers, Web multimedia specialists, Web site managers, e-learning developers and consultants.

FIRST YEAR

First Semester

CIS	101	Introduction to Computer Information Systems.....	3
ENG	101	Composition	3
GRA	101	Introduction to Graphic Arts Technology.....	3
NET	101	Windows or	
NET	106	Introduction to Linux.....	3
WEB	150	Web Development I	<u>3</u>
			15

Second Semester

CAS	125	Database Software	1
ENG	102	Composition or	
ENG	103	Technical and Report Writing or	
SPE	101	Fundamentals of Speech Communication	3
		Humanities, Natural Science, or Social Science elective ^{1,♦}	3
WEB	180	Flash Multimedia I.....	3
WEB	190	Web Authoring Tools	3
WEB	200	Web Development II	<u>3</u>
			16

SECOND YEAR: Choose one of the specialized study areas:

E-LEARNING DEVELOPMENT

First Semester

EIT	200	E-Learning Tools and Technology.....	3
EIT	220	E-Learning Instructional Systems Design	3
		Humanities, Natural Science, or Social Science elective ^{1,♦}	3
WEB	170	Web Graphics	3
WEB	210	Web Accessibility	<u>3</u>
			15

Second Semester

		E-Learning Development electives ³	6
EIT	250	E-Learning Web Development.....	3
		Humanities, Natural Science, or Social Science elective ^{1,♦}	3
		Mathematics elective ²	<u>3</u>
			15

WEB APPLICATION DEVELOPMENT

First Semester

CIS	143	Introduction to Database Systems	3
		Humanities, Natural Science, or Social Science elective ^{1,♦}	3
NET	121	Introduction to Networking	3
WEB	210	Web Accessibility	3
WEB	235	Interactive Scripting or	
WEB	250	Server-Side Scripting.....	<u>3</u>
			15

Second Semester

		Humanities, Natural Science, or Social Science elective ^{1,♦}	3
		Mathematics elective ²	3
NET	122	Internet Protocols.....	3
WEB	240	E-Commerce Development.....	3
		Web Application Development elective ⁴	<u>3</u>
			15

COMPUTER INFORMATION SYSTEMS

Associate in Applied Science Degree: Web Development...continued

WEB INTERACTIVE MULTIMEDIA

First Semester

	Humanities, Natural Science, or Social Science elective ^{1,♦}		3
WEB 170	Web Graphics		3
WEB 185	Motion Graphics and Effects.....		3
WEB 210	Web Accessibility		3
WEB 220	Flash Multimedia II.....		<u>3</u>
			15

Second Semester

	Humanities, Natural Science, or Social Science elective ^{1,♦}		3
	Mathematics elective ²		3
MKT 245	Principles of Marketing or		
MKT 252	Internet Marketing.....		3
WEB 240	E-Commerce Development.....		3
WEB 260	Interactive Multimedia		<u>3</u>
			15

WEB VISUAL DESIGN

First Semester

	Humanities, Natural Science, or Social Science electives ^{1,♦}		6
MCM 120	Introduction to Mass Communication.....		3
WEB 170	Web Graphics		3
WEB 210	Web Accessibility		<u>3</u>
			15

Second Semester

	Mathematics elective ²		3
MKT 245	Principles of Marketing or		
MKT 252	Internet Marketing.....		3
WEB 240	E-Commerce Development.....		3
	Web Visual Design electives ⁵		<u>6</u>
			15

¹ Students must take nine (9) hours in a minimum of two of these areas; students in the Web Interactive Multimedia or Visual Design Specialization must take ART 105 and ART 121.

² Students must take at least three credit hours in a mathematics course at the level of MTH 101 or above.

³ E-Learning Development electives: ART 121, EDU 211, EDU 250, EIT 280, WEB 185, WEB 220, WEB 235, or WEB 299.

⁴ Web Application Development electives: MKT 245, MKT 252, or WEB 299.

⁵ Web Visual Design electives: GRA 103, EIT 250, NET 121, WEB 185, WEB 220, WEB 235, or WEB 299.

♦ At least one of the Humanities or Social Science requirements must also meet the World Cultures and Diversity graduation requirement.

Accessible Web Design and Compliance Certificate

This 6 credit-hour certificate program provides a foundation in Web design with an emphasis on best practices in compliance with federal, state and industry accessibility standards. This program will be useful to Web developers, Web designers, graphic designers, educators and instructional technologists who need to design and modify Web sites to comply with industry and legal accessibility requirements.

Required:

WEB 150	Web Site Development I		3
WEB 210	Web Accessibility		3

COMPUTER INFORMATION SYSTEMS

Business Software Specialist Certificate

This 15 credit-hour certificate program provides students with experience in a variety of business software applications including word processing, spreadsheets, database, presentation email, desktop publishing and basic operating system concepts. These courses will help students prepare for Microsoft certification and qualify for entry-level jobs as administrative assistants and office services assistants.

Required:

CAS	105	Word Processing Software (1) and	
CAS	115	Spreadsheet Software (1) and	
CAS	125	Database Software (1) or	
CAS	160	Introduction to Business Software Packages.....	3
CAS	110	Microsoft Word Certification.....	1
CAS	120	Microsoft Excel Certification.....	1
CAS	130	Microsoft Access Certification.....	1
CAS	135	Business Graphics.....	1
CAS	140	Microsoft PowerPoint Certification.....	1
CAS	150	Microsoft Outlook Certification.....	1
CAS	175	Desktop Publishing Software.....	1
CAS	215	Advanced Spreadsheet Software.....	1
CAS	225	Advanced Database Software.....	1
NET	101	Windows or	
NET	106	Introduction to Linux.....	3

Cisco Network Administration Certificate

This 12 credit-hour certificate program is designed for those students who choose to specialize in Cisco network administration. These courses will help prepare students for the Cisco CCNA certification exam as well as qualify them for entry-level jobs as associate network specialists/technicians. Students should have CompTIA A+ certification or similar experience before specializing in Cisco network administration.

Required:

NET	171	Cisco Networking Basics.....	3
NET	172	Cisco Routing Basics.....	3
NET	173	Cisco Switching Basics.....	3
NET	174	Cisco Network Design.....	3

Cisco Network Professional Certificate

This 12 credit-hour certificate program is for those students who are Cisco CCNA certified and choose to further specialize in Cisco network training. These courses will help students prepare for the Cisco CCNP certification exam as well as qualify them for more advanced jobs as associate network specialists/technicians.

Required:

NET	271	Cisco Advanced Routing.....	3
NET	272	Cisco Remote Access.....	3
NET	273	Cisco Multilayer Switching.....	3
NET	274	Cisco Network Troubleshooting.....	3

Computer Forensics Certificate

This 12 credit-hour certificate program is designed for those students who choose to specialize in computer forensics. These courses will help students for computer forensics and security certifications. Students should have CompTIA A+ and Network+ certification or similar experience before specializing in computer forensics.

Required:

LEJ	216 ¹	Investigative Process.....	3
NET	182	Computer Forensics.....	3
NET	280	Network Security Fundamentals (Security+).....	3
NET	284	Computer Security Incident Response.....	3

¹ Prerequisite of LEJ 101 will be waived for Computer Forensics Certificate students.

COMPUTER INFORMATION SYSTEMS

Computers in Business Certificate

This is a 15 credit-hour certificate program designed to familiarize a student with the business uses of computers. The student will gain exposure to computer concepts and computer software. This exposure will be useful to the person whose job or business requires the use of a computer.

Required:

CAS	105	Word Processing Software (1) and	
CAS	115	Spreadsheet Software (1) and	
CAS	125	Database Software (1) or	
CAS	160	Introduction to Business Software Packages.....	3
CIS	100	Computer Fundamentals or	
CIS	101	Introduction to Computer Information Systems.....	3

Electives: Select nine credit hours from the following:¹

CAS	110	Microsoft Word Certification.....	1
CAS	120	Microsoft Excel Certification.....	1
CAS	130	Microsoft Access Certification.....	1
CAS	135	Presentation Software.....	1
CAS	140	Microsoft PowerPoint Certification.....	1
CAS	150	Microsoft Outlook Certification.....	1
CAS	175	Desktop Publishing Software.....	1
CAS	215	Advanced Spreadsheet Software.....	1
CAS	216	Spreadsheet Macros and Other Advanced Topics.....	1
CAS	225	Advanced Database Software.....	1
CAS	226	Database Programming.....	3
CAS	260	Office Application Development.....	3
CIS	106	Computer Logic and Programming Technology.....	3
CIS	137	Computer Internship I.....	3
CIS	220	Topics in Computer Information Systems.....	3
CIS	230	Computer Programmer Internship.....	3
NET	100	Windows Fundamentals.....	3
NET	101	Windows.....	3
NET	111	A+ Hardware.....	3
NET	112	A+ Operating Systems Technologies.....	3
NET	121	Introduction to Networking.....	3
WEB	101	Internet Fundamentals.....	1
WEB	150	Web Development I.....	3
WEB	170	Web Graphics.....	3
WEB	180	Flash Multimedia I.....	3
WEB	220	Flash Multimedia II.....	3

¹ Students must satisfy prerequisites for each course selected.

Computer Support Technician Certificate

This 6 credit-hour certificate program provides students with experience installing, configuring, maintaining and troubleshooting computer hardware and operating systems. These courses will help students prepare for the Comp TIA A+ certification exams and qualify for entry-level jobs as computer support technicians.

Required:

NET	111	A+ Hardware.....	3
NET	112	A+ Operating Systems Technologies.....	3

Database Management Certificate

This 10-12 credit-hour certificate program provides students with experience designing, implementing and administering relational databases using Structured Query Language (SQL). These courses will help students prepare for entry-level jobs as database analysts.

Required:

CAS	125	Database Software (1) or	
CAS	160	Introduction to Business Software Packages (3).....	1-3
CIS	143	Introduction to Database Systems.....	3
CIS	243	Database Management.....	3
CIS	244	Database Design and Implementaton.....	3

COMPUTER INFORMATION SYSTEMS

Linux Network Administration Certificate

This 12 credit-hour certificate program is designed for those students who choose to specialize in Linux network administration. These courses will help students prepare for Linux certification exams as well as qualify them for entry-level jobs as associate network specialists/technicians. Students should have CompTIA A+ and Network+ certification or similar experience before specializing in Linux network administration.

Required:

NET	141	Linux Administration.....	3
NET	236	Linux Shell Scripting	3
NET	241	Linux Networking	3
NET	242	Linux Security	3

Microsoft Network Administration Certificate

This 12 credit-hour certificate program is designed for those students who choose to specialize in Microsoft network administration. These courses will help students prepare for Microsoft MCTS certification exams as well as qualify them for entry-level jobs as associate network specialists/technicians. Students should have CompTIA A+ and Network+ certification or similar experience before specializing in Microsoft network administration.

Required:

NET	161	Windows Client Administration	3
NET	261	Windows Server Administration	3
NET	262	Windows Network Administration	3
NET	263	Windows Directory Services Administration	3

Network Security Certificate

This 12 credit-hour certificate program is designed for those students who choose to specialize in computer network security. These courses will help prepare students for security certifications. Students should have CompTIA A+ and Network+ certification or similar experience before specializing in network security.

Required:

NET	182	Computer Forensics.....	3
NET	280	Networking Security Fundamentals	3
NET	281	Networking Systems Security	3
NET	282	Network Defense and Countermeasures.....	3

Network Support Technician Certificate

This 6 credit-hour certificate program provides students with experience installing, configuring, maintaining and troubleshooting basic network infrastructure. These courses will help students prepare for the CompTIA Network+ certification exam and qualify for entry-level jobs as network support technicians.

Required:

NET	121	Introduction to Networking	3
NET	122	Internet Protocols.....	3

COMPUTER INFORMATION SYSTEMS

Networking Fundamentals Certificate

This 18 credit-hour certificate program provides students with experience installing, configuring, maintaining and troubleshooting computer hardware, operating systems, and basic network infrastructure. These courses will help students prepare for the CompTIA A+ and Network+ certification exams and qualify for entry-level jobs as computer and network support technicians.

Required:

NET	101	Windows or	
NET	106	Introduction to Linux.....	3
NET	111	A+ Hardware.....	3
NET	112	A+ Operating Systems Technologies	3
NET	121	Introduction to Networking	3
NET	122	Internet Protocols.....	3
NET	201	Help Desk/Soft Skills.....	3

Software Development Certificate

This 24-26 credit-hour certificate program is designed to prepare students for business software development using either Microsoft .NET or Sun Java. The student will be prepared for an entry-level software development position.

Required:

CAS	125	Database Software (1) or	
CAS	160	Introduction to Business Software Packages (3).....	1-3
CIS	101	Introduction to Computer Information Systems.....	3
CIS	106	Computer Logic and Programming Technology	3
CIS	143	Introduction to Database Systems.....	3
		Computer Information Systems elective ¹	3
WEB	150	Web Development I	3

Electives: Choose 8 credit hours from either:

CIS	168	Java Software Development I (4) and	
CIS	268	Java Software Development III (4).....	8
or			
CIS	181	Visual Basic Software Development (4) or	
CIS	182	Visual C# Software Development (4) and	
CIS	281	Microsoft .NET Web Development (4).....	8

¹ Students must take at least three credit hours of electives selected from CAS 260, CIS 211, CIS 243, CIS 244, CIS 268, CIS 278, CIS 281, CIS 286, NET 121, WEB 200, WEB 240, or WEB 250.

COMPUTER INFORMATION SYSTEMS

Web Development Certificate

This 22 credit-hour certificate program provides a background in Web development with an emphasis on scripting and programming techniques. Individuals seeking entry-level positions in the field of Web development and maintenance will find these skills helpful. This program will also be useful to individuals whose job scope has expanded to include Web site responsibilities.

Required:

CAS	125	Database Software	1
WEB	150	Web Development I	3
WEB	190	Web Authoring Tools	3
WEB	200	Web Development II	3
WEB	210	Web Accessibility	3
WEB	235	Interactive Scripting	3
WEB	240	E-Commerce Development.....	3
WEB	250	Server-Side Scripting.....	3

Web Visual Design Certificate

This 18 credit-hour certificate program provides a background in Web development with an emphasis on graphic and visual techniques. Individuals seeking entry-level positions in the field of Web development will find these skills helpful. This program will also be helpful to individuals whose job scope has expanded to include Web site responsibilities.

Required:

WEB	150	Web Development I	3
WEB	170	Web Graphics	3
WEB	180	Flash Multimedia I.....	3
WEB	190	Web Authoring Tools	3
WEB	200	Web Development II	3
WEB	210	Web Accessibility	3

DENTAL HYGIENE*

Associate in Applied Science Degree*

This program meets state guidelines and is accredited by the Commission on Dental Accreditation of the American Dental Association.

Because of the nature of clinical experiences and individualized instruction required in this program and specialized technology and the equipment necessary to offer this program, a higher tuition rate is assessed for career specific courses. These include courses with the prefix DHY. Tuition for these courses in this program is 200 percent of the standard tuition rate.

Prior to receiving a license in the practice of dental hygiene, graduates must successfully complete the program and pass the Dental Hygiene Written National Board exam and a Regional Clinical exam.

Admission Requirements

For admission requirements, please contact the Admissions Outreach Office at 847.925.6700 or visit harpercollege.edu

Students who apply for this limited enrollment program are obligated to meet current admission requirements and follow program curriculum as defined at the time of acceptance to the program.

PREREQUISITES¹

BIO	160 ²	Human Anatomy	4
BIO	161 ²	Human Physiology	4
CHM	100 ²	Chemistry for the Health Sciences.....	4
ENG	101	Composition	3
Mathematics elective ³			0
PSY	101	Introduction to Psychology.....	<u>3</u>
			18

FIRST YEAR¹

First Semester

BIO	130 ²	Microbiology	4
DHY	100	Pre-Clinic	5
DHY	159	Head and Neck Anatomy	3
DHY	161	Dental Anatomy	2
DIT	101 ²	Fundamentals of Nutrition.....	<u>3</u>
			17

Second Semester

DHY	101	Clinical Dental Hygiene I	5
DHY	111	Dental Radiology.....	3
DHY	190	General and Oral Pathology	2
SOC	101 [♦]	Introduction to Sociology.....	3
SPE	101	Fundamentals of Speech Communication	<u>3</u>
			16

Summer Semester

DHY	119	Oral Health Management of Special Needs Populations	2
DHY	151	Clinical Dental Hygiene II.....	2
DHY	269	Science of Dental Materials	1
DHY	270	Dental Material Laboratory Techniques.....	<u>1</u>
			6

DENTAL HYGIENE*

Associate in Applied Science Degree continued...

SECOND YEAR

First Semester

DHY	200	Periodontology	2
DHY	202	Radiology I	1
DHY	220	Community Dental Health I	2
DHY	230	Pain Management.....	2
DHY	240	Dental Pharmacology.....	2
DHY	250	Clinical Dental Hygiene III.....	<u>5</u>
			14

Second Semester

DHY	201	Ethics, Jurisprudence and Practice Management.....	2
DHY	203	Radiology II	1
DHY	221	Community Dental Health II	2
DHY	251	Clinical Dental Hygiene IV	<u>5</u>
			10

* Dental Hygiene is a limited enrollment program. See the Limited Enrollment Programs section of this catalog for details. Requirements subject to change. Contact the Admissions Outreach Office for updated information.

¹ A grade of C or better in all BIO, CHM, DHY and DIT courses is required for all students.

² Must be completed with a grade of C or better no earlier than five years prior to beginning the Dental Hygiene program.

³ Group 2 Math requirement is met by Dental Hygiene program admission requirements.

♦ This course meets the World Cultures and Diversity graduation requirement.

DIAGNOSTIC MEDICAL SONOGRAPHY*

Associate in Applied Science Degree*

This 65 credit-hour program prepares the graduate to be a diagnostic medical sonographer. A diagnostic medical sonographer is a highly skilled professional who uses specialized equipment to record dynamic visual images of organs, tissue or blood flow within the body. They work in hospitals, clinics and physician offices producing these sonograms to assist the physician in diagnosing disease. There are several areas of specialization in the field of sonography. This degree program prepares the graduate to secure their American Registry of Diagnostic Medical Sonography credentials and entry-level work in the abdominal and obstetric/gynecologic specialty areas imaging the abdominal organs, the pelvis, and the pregnant uterus. The graduate also receives instruction in small parts, carotid, and peripheral vascular ultrasound. Seven hundred twenty (720) hours of clinical education is included during this program at area hospitals.

Because of the nature of clinical experiences and individualized instruction required in this program and specialized technology and the equipment necessary to offer this program, a higher tuition rate is assessed for career-specific courses, including courses with the CTE or DMS prefix. Tuition for these courses in this program is 200 percent of the standard tuition rate.

A 920-hour clinical education rotation is included during this program at area hospitals.

Admission Requirements

For admission requirements, please contact the Admissions Outreach Office at 847.925.6700 or visit harpercollege.edu

Students who apply for this limited enrollment program are obligated to meet current admission requirements and follow program curriculum as defined at the time of acceptance to the program.

PREREQUISITES¹

BIO	160 ²	Human Anatomy	4
BIO	161 ²	Human Physiology	4
ENG	101	Composition	3
		Mathematics elective ³	<u>0</u>
			11

FIRST YEAR¹

First Semester

DMS	202	Introduction to Ultrasound	2
DMS	222	Essentials of Vascular Sonography	3
DMS	223	Art of Vascular Sonography	2
HSC	112	Medical Terminology	2
		Humanities or Social Science elective ⁴	<u>3</u>
			12

Second Semester

CTE	106	Ultrasound Physics and Instrumentation	4
HSC	104 ⁴	Health Care Technology and Informatics	2
HSC	107	Basic Health Care Skills	1
HSC	165	Basic Pharmacology	1
HSC	213	Legal and Ethical Issues in Health Care	2
SPE	101	Fundamentals of Speech Communication	<u>3</u>
			13

Summer Semester (Optional)

CTE	112 ⁵	Laboratory Techniques III	1
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DIAGNOSTIC MEDICAL SONOGRAPHY*

Associate in Applied Science Degree continued...

SECOND YEAR¹

First Semester

DMS	204	Essentials of Abdominal and Small Parts Sonography I....	4
DMS	205	Essentials of Obstetrical and Gynecological Ultrasound I .	3
DMS	206	Ultrasound Practicum I.....	<u>2</u>
			9

Second Semester

DMS	207 ⁶	Sonography Clinical Education I.....	6
DMS	208	Essentials of Abdominal and Small Parts Sonography II...	4
DMS	209	Ultrasound Practicum II.....	2
DMS	210	Essentials of Obstetrical and Gynecological Ultrasound II	<u>3</u>
			15

Summer Semester

DMS	211 ⁶	Sonography Clinical Education II.....	5
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* Diagnostic Medical Sonography is a limited enrollment program. See the Limited Enrollment Programs section of this catalog for details. Requirements subject to change. Contact the Admissions Outreach Office for updated information.

¹ A grade of C or better in all coursework is required for all students.

² Must be completed no earlier than five years prior to beginning the DMS program; time requirement may be waived for direct patient care providers with a minimum of a two-year allied health care degree.

³ Group 2 Math requirement is met by the Diagnostic Medical Sonography program admission requirements.

⁴ 2-3 credit hours of CAS/CIS courses successfully completed within the last five years may be substituted.

⁵ This course is optional and not required for program completion.

⁶ Assignments will be based on site availability.

♦ Students need to choose a course to meet this requirement that also fulfills the World Cultures and Diversity graduation requirement.

DIETETIC TECHNICIAN

Associate in Applied Science Degree

This 62 credit-hour program prepares graduates to work in partnership with a Registered Dietitian in a variety of settings such as hospitals, clinics, nursing homes, schools, community health programs, food companies and wellness centers. The dietetic technician screens clients for nutritional risk, assists in the provision of nutrition care including nutrition education and supervises food production and service.

The Dietetic Technician program is currently granted accreditation by the Commission on Accreditation for Dietetics Education of the American Dietetic Association, 120 Riverside Plaza, Chicago, IL, 60606-6995, 312.899.5400. Graduates of the program receive a verification statement and are eligible to take the registration examination for Dietetic Technicians to become a Dietetic Technician, Registered (DTR).

The Dietetic Technician program may be taken on a part-time basis and not all courses in the program are offered every semester. To help avoid scheduling conflicts a planning session with the coordinator is recommended.

FIRST YEAR¹

First Semester

BIO	135 ²	Introduction to Human Anatomy and Physiology	4
DIT	101	Fundamentals of Nutrition	3
DIT	220	Food Systems Administration	3
FSM	114	Food Standards and Sanitation	2
HSC	105	Introduction to Health Care Today	2
HSC	112	Medical Terminology	<u>2</u>
			16

Second Semester

BIO	136 ²	Introduction to Human Disease	3
DIT	102	Medical Nutrition Therapy	3
DIT	150 ⁴	Dietetic Clinical Laboratory I	5
ENG	101	Composition	3
		Mathematics elective ³	<u>3</u>
			17

SECOND YEAR

First Semester

DIT	110	Principles of Food Preparation	3
DIT	200 ^{4,5}	Dietetic Clinical Laboratory II	5
DIT	201 ⁶	Community Nutrition	3
FSM	212	Hospitality Supervision or	
MGT	160	Principles of Supervision	<u>3</u>
			14

Second Semester

DIT	202 ⁵	Nutrition Care Seminar	2
DIT	203 ⁵	Profession of Dietetics	1
DIT	205 [♦]	World Cultures and Food	3
DIT	250 ^{4,6}	Dietetic Clinical Laboratory III	3
PSY	101	Introduction to Psychology	3
SPE	101	Fundamentals of Speech Communication	<u>3</u>
			15

¹ A grade of C or better in all BIO, DIT, FSM, HSC and MGT courses is required for all students.

² BIO 160 and BIO 161 may be substituted for BIO 135 and BIO 136.

³ A competency test, available in the Assessment and Testing Center, may be utilized to meet the mathematics requirement. Students who utilize the competency test to meet the mathematics requirement must complete a three credit-hour elective.

⁴ Upon presentation of a verification statement from a dietetics program, a baccalaureate graduate may take the three clinical laboratory courses, (DIT 150, DIT 200 and DIT 250) to receive a verification statement to establish eligibility and take the registration examination for Dietetic Technicians.

⁵ Course offered in odd calendar years only.

⁶ Course offered in even calendar years only.

[♦] This course meets the World Cultures and Diversity graduation requirement.

DIETETIC TECHNICIAN

Dietary Manager Certificate

This 18 credit-hour certificate program is designed for persons who desire a position in health care food service supervision. Food service personnel working in nutrition related fields who would like to enhance their management and clinical skills and promotion opportunities may also benefit from this program of study.

A dietary manager performs supervisory and clinical duties necessary to meet the basic nutritional needs of individuals. Supervision of employees, assuring menu acceptance by clients and managing food production are several of the responsibilities of a dietary manager.

The curriculum is approved by the Dietary Manager Association. Students who complete the 18 credit-hour certificate are eligible to take a national certification examination.

First Semester¹

DIT	101	Fundamentals of Nutrition	3
DIT	220	Food Systems Administration	3
HSC	105	Introduction to Health Care Today	2
FSM	114	Food Standards and Sanitation	<u>2</u>
			10

Second Semester

DIT	102	Medical Nutrition Therapy	3
DIT	150	Dietetic Clinical Laboratory I	<u>5</u>
			8

¹ A grade of C or better in all DIT, FSM and HSC courses is required for all students.

EARLY CHILDHOOD EDUCATION

Associate in Applied Science Degree

The 60 credit-hour curriculum is designed to provide students with the requisite skills and theoretical knowledge to work in a variety of facilities for young children as a teacher or director for half-day and full day early childhood centers; a teacher's assistant in academic at-risk, special needs and public school classrooms; resource and referral agencies; before/after school care, recreational programs and related settings.

Students must choose a basic program of study as a teacher or director. Students earning an associate in applied science degree in early childhood education must complete the following required general education courses, required core courses, and 21 credit hours from the specialized study areas.

Upon completion of courses for the specialized area of director, and in order to qualify for the Illinois Director Credential, students will need to provide proof of First Aid/CPR certification, and verification of 1200 hours of management experience.

Required General Education Courses:

ENG	101	Composition	3
ENG	103	Technical and Report Writing or	
SPE	101	Fundamentals of Speech Communication	3
		Humanities elective [♦]	3
		Mathematics elective ¹	3
		Natural Science elective ²	3
PSY	101	Introduction to Psychology	3

Required Core Courses:

ECE	101	Introduction to Early Childhood Education	3
ECE	102	Child Development	3
ECE	115	Principles of Early Childhood Curriculum	3
ECE	226	Observation and Guidance of the Young Child	3
ECE	250	Health, Nutrition and Safety	3
ECE	252	Child-Family-Community	3
EDU	219	Students with Disabilities in School	3

Specialized Study Areas: Choose one of the specialized study areas:

Early Childhood Education: Teacher

Required:

ECE	111	Infant/Toddler Programs	3
ECE	209	Language Development and	
		Activities for the Young Child	3
ECE	210	Creative Activities for Young Children	3
ECE	221	Math and Science for the Young Child	3
ECE	291	Early Childhood Practicum I	3
ECE	292	Early Childhood Practicum II	3
ECE	electives ³	.....	3

Early Childhood Education: Director

Required:

ECE	253	Administration of Early Childhood Programs	3
ECE	254	Interpersonal Relations in	
		Early Childhood Education	1
ECE	293	Early Childhood Director Practicum	3
ECE	electives ³	.....	3
EDU	250	Introduction to Technology in Education	3
FSM	114	Food Standards and Sanitation	2
MGT	160	Principles of Supervision	3
MKT	245	Principles of Marketing	3

¹ A competency test, available in the Assessment and Testing Center, may be utilized to meet the mathematics requirement. Students in this program who utilize the competency test to meet the mathematics requirement must complete SOC 101 in order to have the 60 semester hours required for this degree.

² Natural Science elective: BIO 101, BIO 103, or BIO 105.

³ ECE electives: Any ECE course including ECE 140, ECE 143, ECE 144, ECE 146, ECE 149, ECE 151, ECE 152, ECE 153, ECE 154, ECE 155, ECE 156, ECE 230.

[♦] Humanities elective: HST 210, HUM 110, or MUS 104. All courses meet the World Cultures and Diversity graduation requirement.

EARLY CHILDHOOD EDUCATION

Early Childhood Education: Before/After School Care Certificate

This six credit-hour certificate program provides basic knowledge about developmentally appropriate programming and guidance for school age care.

Required:

ECE	226	Observation and Guidance of the Young Child.....	3
ECE	235	Principles of School Age Care	3

Early Childhood Education: Family Child Care Certificate

This nine credit-hour certificate program provides practical knowledge, including the legal requirements, for administering and running a family child care home.

Required:

ECE	140	Family Child Care Management	1
ECE	143	Safety for the Young Child	1
ECE	144	Nutrition for the Young Child	1
ECE	151	Communicating with Parents and Children.....	1
ECE	152	Principles of Child Growth and Development, Birth-5	1
ECE	153	Guiding Children and Managing the Classroom	1
ECE	154	Activities and Resources for Young Children I.....	1
ECE	155	Activities and Resources for Young Children II.....	1

Elective: Select one course from the following:

ECE	146	Programming for School Age Care	1
ECE	149	Topics in Early Childhood Education	1
ECE	156	Effective Teaching	1

Early Childhood Education: Infant/Toddler Certificate

This nine credit-hour certificate program provides theoretical and practical knowledge about infants and toddlers.

Required:

ECE	102	Child Development.....	3
ECE	111	Infant/Toddler Programs	3
ECE	112	Play and Assessment for the Young Child.....	3

Early Childhood Education: Special Education Paraprofessional Certificate

This six credit-hour certificate program will provide a paraprofessional in a special education facility with basic knowledge regarding characteristics of children with special needs, methods, and behavioral management techniques within the special education population.

Required:

ECE	120	Introduction to Special Education for Paraprofessionals	3
ECE	121	Behavioral Management in Special Education Setting	3

EARLY CHILDHOOD EDUCATION

Early Childhood Education: Administrator Certificate

This 19 credit-hour certificate program is designed specifically to meet the training/educational requirements of early childhood centers, as requested by the Illinois Department of Children and Family Services, Text of Adopted Rules.

Minimal education requirements for a director in a licensed child care center are two years of credit from an accredited college or university with 18 credit hours or equivalent quarter hours in courses related to child care and/or child development from birth to age six.

Required:

ECE	102	Child Development.....	3
ECE	115	Principles of Early Childhood Curriculum.....	3
ECE	226	Observation and Guidance of the Young Child.....	3
ECE	250	Health, Nutrition and Safety	3
ECE	252	Child-Family-Community.....	3
ECE	253	Administration of Early Childhood Programs	3
ECE	254	Interpersonal Relationships in Early Childhood Education.....	1

Early Childhood Education: Assistant Teacher Certificate

This six credit-hour certificate program will provide an assistant teacher in a licensed child care facility with basic knowledge regarding child growth/development and developmentally appropriate programming.

Required:

ECE	102	Child Development.....	3
ECE	115	Principles of Early Childhood Curriculum.....	3

Early Childhood Education: Teacher Certificate

This 30 credit-hour certificate program emphasizes a combination of theoretical and practical knowledge. It meets the minimal educational requirements established by the Illinois Department of Children and Family Services, for an early childhood teacher who has obtained one year's experience in a licensed center.

Required:

ECE	101	Introduction to Early Childhood Education.....	3
ECE	102	Child Development.....	3
ECE	115	Principles of Early Childhood Curriculum.....	3
ECE	209	Language Development and Activities for the Young Child	3
ECE	226	Observation and Guidance of the Young Child.....	3
ECE	250	Health, Nutrition and Safety	3
ECE	252	Child-Family-Community.....	3
ECE	291	Early Childhood Practicum I.....	3
EDU	219	Students with Disabilities in School	3
ENG	101	Composition	3

ELECTRONICS ENGINEERING TECHNOLOGY

Associate in Applied Science Degree

This 67 credit-hour program is designed to prepare students for careers in the field of electronics and other related technology industries. The curriculum satisfies general education requirements, and offers courses in mathematics, computer science and physics to cultivate student critical thinking skills. A broad range of electronics courses provides considerable emphasis on analysis and application, or applied technology. Specific electronics technology topics for this program include: electrical laws and principles, network analysis, semiconductor devices and circuits, digital and analog circuits, communications systems, and microprocessors and microcomputers. Additional courses in the industrial electronics area are also available.

Graduates of this program may find employment as technical sales specialists, applications engineers, engineering laboratory technicians, technical writers, manufacturing and quality control technicians, and customer service engineers.

FIRST YEAR

First Semester

		Communications elective ¹	3
ELT	101	DC Network Analysis	4
ELT	110	Introductory Electronics	4
		Humanities or Social Science elective ² ♦	3
MTH	103	College Algebra	<u>3</u>
			17

Second Semester

		Communications elective ¹	3
		CIS/CSC elective ³	3
ELT	102	AC Network Analysis	4
ELT	111	Semiconductor Devices and Circuits	2
MTH	140	Precalculus	<u>5</u>
			17

SECOND YEAR

First Semester

ELT	103	RF Network Analysis.....	4
ELT	203	Digital Electronics	4
		Humanities or Social Science elective ² ♦	3
PHY	121	Introductory Physics I.....	<u>5</u>
			16

Second Semester

ELT	204	Analog Electronics	4
ELT	207	Communications Systems	4
ELT	218	Microprocessors and Microcomputers	4
PHY	122 ⁴	Introductory Physics II.....	<u>5</u>
			17

¹ Communications electives must satisfy associate in applied science degree Group 1 requirement.

² Humanities and Social Science electives must satisfy associate in applied science degree Group 4 or 5 requirements.

³ CIS/CSC elective must be approved by the program coordinator.

⁴ Students may substitute any 5-6 hour combination of ELT 125, ELT 135, ELT 140, ELT 215 courses for PHY 122.

♦ At least one of the Humanities or Social Science requirements must also meet the World Cultures and Diversity graduation requirement.

ELECTRONICS ENGINEERING TECHNOLOGY

Advanced Industrial Electronics Maintenance Certificate

This 24 credit-hour certificate program is designed to prepare students for careers in the field of industrial electronics and facilities maintenance, and other related technology maintenance areas. The curriculum is tailored to provide advanced-level career training in the least amount of time. Emphasis is placed on equipment operation, application, installation and servicing. Courses specific to instruction include: basic electricity and electronics, residential/commercial electrical wiring and codes, and industrial control systems. Topics within these courses involve practical electrical concepts and measurements, digital and analog circuits, hydraulic and pneumatic controls, AC/DC motors, electrical and electronic controls, variable frequency drives, optics and sensors, and programmable logic controllers.

Students completing this program may find employment as electrical technicians, electricians, and facilities or plant maintenance technicians and supervisors.

Students may also continue their education by pursuing an associate in applied science degree. Students considering this option are encouraged to meet with the program coordinator and their Student Development Faculty Counselor prior to beginning the program, and also when planning their schedule each semester.

Required:

ELT	110	Introductory Electronics	4
ELT	120	Introductory Industrial Electronics Maintenance	2
ELT	140	Programmable Logic Controllers	2
ELT	142	Electrical Wiring	2
ELT	143	Advanced Electrical Wiring	2
ELT	215	Industrial Control Systems	4

Electives: Select 8 credit hours from the following courses:

ELT	125	Fiber Optics.....	2
ELT	135	Optics and Sensors.....	2
ELT	144	AC and DC Motors.....	2
ELT	145	Variable Frequency Drives.....	2
ELT	146	Industrial Motor Controls.....	2
ELT	147	Radio Frequency Identification Systems.....	2
ELT	161	Industrial Control Applications	4

Alternative Electrical Energy Certificate

This 24 credit-hour certificate program is designed to prepare students for careers in the emerging field of alternative electrical energy installation and service, and other related sustainable electrical power generation and distribution maintenance areas. The curriculum is tailored to provide entry-level career training in the least amount of time. Emphasis is placed on equipment operation, application, installation and servicing. Courses specific to instruction include: basic electricity and electronics, residential/commercial electrical wiring and codes, industrial control systems, and solar and wind power generation. Topics within these courses involve: practical electrical concepts and measurements, digital and analog circuits, hydraulic and pneumatic controls, AC/DC motors, variable frequency drives, industrial motor controls, optics and sensors, and programmable logic controllers.

Students completing this program may find employment as electrical technicians, electrician apprentices, electricians, and facilities or plant maintenance technicians in alternative electrical energy or related fields.

Students may also continue their education by pursuing an associate in applied science degree. Students considering this option are encouraged to meet with the program coordinator and their Student Development Faculty Counselor prior to beginning the program and also when planning their schedule each semester.

Required:

ELT	110	Introductory Electronics	4
ELT	135	Optics and Sensors.....	2
ELT	140	Programmable Logic Controllers	2
ELT	142	Electrical Wiring	2
ELT	143	Advanced Electrical Wiring	2
ELT	144	AC and DC Motors.....	2
ELT	145	Variable Frequency Drives.....	2
ELT	150	Solar Power Generation Systems.....	2
ELT	151	Wind Power Generation Systems	2
ELT	215	Industrial Control Systems	4

ELECTRONICS ENGINEERING TECHNOLOGY

Electrical Maintenance Certificate

This 10 credit-hour certificate program is designed to prepare students for careers in the field of electrical installation and service, and other related facilities or industrial electronics maintenance areas. The curriculum is tailored to provide entry-level career training in the least amount of time. Emphasis is placed on equipment operation, application, installation and servicing. Courses specific to instruction include: basic electricity and electronics, residential/commercial electrical wiring and codes, and industrial control systems. Topics within these courses involve: practical electrical concepts and measurements, digital and analog circuits, hydraulic and pneumatic controls, AC/DC motors, optics and sensors, and programmable logic controllers.

Students completing this program may find employment as electrical technicians, electrician apprentices, electricians, and facilities or plant maintenance technicians.

Students may also continue their education by pursuing an associate in applied science degree. Students considering this option are encouraged to meet with the program coordinator and their Student Development Faculty Counselor prior to beginning the program, and also when planning their schedule each semester.

Required:

ELT	110	Introductory Electronics	4
ELT	142	Electrical Wiring	2
ELT	215	Industrial Control Systems	4

Electronics Certificate

This 16 credit-hour certificate program is designed to prepare students for careers in the field of electronics and other related technology industries. The curriculum is very flexible as it allows students to choose from a number of electronics courses in many diverse technology areas and is tailored to provide entry-level career training in a relatively short time. A broad range of electronics courses provides considerable emphasis on analysis, operation, application, installation and servicing. Many courses do not require a prerequisite. However, for those courses that do, please consult with the program coordinator.

Students completing this program may find employment in various entry-level positions in technical sales, manufacturing and quality control, and customer service.

Students may also continue their education by pursuing an associate in applied science degree. Students considering this option are encouraged to meet with the program coordinator and a Student Development Faculty Counselor prior to beginning the program and also when planning their schedule each semester.

Electives: Select 16 credit hours from the following courses, provided the combination has program coordinator approval.

ELT	101	DC Network Analysis	4
ELT	102	AC Network Analysis	4
ELT	103	RF Network Analysis.....	4
ELT	110	Introductory Electronics	4
ELT	111	Semiconductor Devices and Circuits	2
ELT	203	Digital Electronics	4
ELT	204	Analog Electronics	4
ELT	207	Communications Systems	4
ELT	208	Advanced Communications Systems	4
ELT	215	Industrial Control Systems	4
ELT	218	Microprocessors and Microcomputers	4
ELT	281	Topics in Electronics Engineering Technology	1-4

ELECTRONICS ENGINEERING TECHNOLOGY

Industrial Electronics Maintenance

This 16 credit-hour certificate program is designed to prepare students for careers in the field of industrial electronics and facilities maintenance, and other related technology maintenance areas. The curriculum is tailored to provide intermediate-level career training in the least amount of time. Emphasis is placed on equipment operation, application, installation and servicing. Courses specific to instruction include: basic electricity and electronics, residential/commercial electrical wiring and codes, and industrial control systems. Topics within these courses involve: practical electrical concepts and measurements, digital and analog circuits, hydraulic and pneumatic controls, AC/DC motors, electrical and electronic controls, variable frequency drives, optics and sensors, and programmable logic controllers.

Students completing this program may find employment as electrical technicians, electrician apprentices, electricians, and facilities or plant maintenance technicians.

Students may also continue their education by pursuing an associate in applied science degree. Students considering this option are encouraged to meet with the program coordinator and their Student Development Faculty Counselor prior to beginning the program and also when planning their schedule each semester.

Required:

ELT	110	Introductory Electronics	4
ELT	142	Electrical Wiring	2
ELT	215	Industrial Control Systems	4

Electives: Select six credit hours from the following:

ELT	120	Introductory Industrial Electronics Maintenance	2
ELT	135	Optics and Sensors.....	2
ELT	140	Programmable Logic Controllers	2
ELT	143	Advanced Electrical Wiring	2
ELT	144	AC and DC Motors.....	2
ELT	146	Industrial Motor Controls.....	2

Radio Frequency Identification (RFID) Electronics Certificate

This 16 credit-hour certificate program is designed to prepare students for careers in the field of radio frequency identification (RFID) systems and other related technology industries. A broad range of courses provides the student with a solid foundation in electronics, industrial controls and maintenance techniques, wireless communications systems and radio frequency identification systems. Contemporary RFID applications relevant to current industry needs such as material handling and transportation, electronic warehousing, inventory tracking and control, and potential homeland security applications are also examined. The curriculum is tailored to provide entry-level career training in a relatively short time. Emphasis is placed on system analysis, and equipment operation, application, installation and servicing while focusing on radio frequency and microwave technologies.

Students completing this program may find employment in various entry-level positions in technical sales, applications engineering, and customer or field service.

Students may also continue their education by pursuing as associate in applied science degree. Students considering this option are encouraged to meet with the program coordinator and a Student Development Faculty Counselor prior to beginning the program and also when planning their schedule each semester.

Required:

ELT	110	Introductory Electronics	4
ELT	120	Introductory Industrial Electronics Maintenance	2
ELT	147	Radio Frequency Identification Systems.....	2
ELT	207	Communications Systems	4
ELT	215	Industrial Control Systems	4

EMERGENCY AND DISASTER MANAGEMENT

Associate in Applied Science Degree

This 61-63 credit-hour program is intended to meet the needs of men and women in emergency management roles at the local, state and federal levels in order to advance in the emergency management career field. Opportunities for graduates include Emergency Manager Specialist, Emergency Management Planner, Emergency Operations Director, Environmental Compliance Planner, and Emergency Disaster Coordinator.

Required General Education Courses:

ENG	101	Composition	3
		Humanities elective [†]	3
		Mathematics elective ²	3-4
		Natural Science elective	3-4
PSY	101	Introduction to Psychology	3
SPE	101	Fundamentals of Speech Communication	3

Required Core Courses:¹

EMG	101	Introduction to Emergency Management	3
EMG	107	Incident Management Systems	3
EMG	150	Public Information, Education and Community Relations	3
EMG	155	Social Dimensions of Disaster	3
EMG	253	Ideologies of Terrorism	3
EMG	299	Emergency Management Systems Practicum	3
FIS	260	Emergency Services Safety	3

Electives:¹ Select at least 24 credit hours from the following courses:

EMG	103	Leadership, Influence, Decision Making and Problem Solving	3
EMG	151	Emergency Management Policy and Planning	3
EMG	153	Hazard Analysis and Planning	3
EMG	205	Crisis Exercise Design and Evaluation	3
EMG	251	Select Problems in Emergency Management	3
FIS	102	Fire Service Management I	3
FIS	103	Fire Strategies and Tactics I	3
FIS	121	Fire Behavior and Combustion	3
FIS	123	Advanced Fire Prevention Principles	3
FIS	132	Hazardous Materials I	3
FIS	230	Fire and Emergency Services Law	3
FIS	250	Industrial Fire Protection	3
LEJ	101	Introduction to Criminal Justice	3
LEJ	122	Principles of Policing	3

¹ A grade of C or better in all EMG courses is required for all students.

² Students must take at least three credit hours in a mathematics course at the level of MTH 080 or above, or MGT 150.

[†] Students need to choose a course to meet this requirement that also fulfills the World Cultures and Diversity graduation requirement.

EMERGENCY AND DISASTER MANAGEMENT

Emergency and Disaster Management Certificate

This 31 credit-hour certificate program is intended to meet the needs of men and women in emergency management roles at the local, state and federal levels in order to enter the emergency management career field. Opportunities for graduates include Emergency Manager Specialist, Emergency Services Manager, Emergency Operations Director, Environmental Compliance Planner, and Emergency Disaster Coordinator.

Required:¹

EMG	101	Introduction to Emergency Management	3
EMG	107	Incident Management Systems.....	3
EMG	150	Public Information, Education and Community Relations.....	3
EMG	155	Social Dimensions of Disaster	3
EMG	253	Ideologies of Terrorism	3
EMG	299	Emergency Management Systems Practicum	1
FIS	260	Emergency Services Safety.....	3

Electives:¹ Select at least 12 credit hours from the following courses:

EMG	103	Leadership, Influence, Decision Making and Problem Solving.....	3
EMG	151	Emergency Management Policy and Planning	3
EMG	153	Hazard Analysis and Planning	3
EMG	205	Crisis Exercise Design and Evaluation	3
EMG	251	Select Problems in Emergency Management.....	3
FIS	102	Fire Service Management I.....	3
FIS	103	Fire Strategies and Tactics I.....	3
FIS	121	Fire Behavior and Combustion	3
FIS	123	Advanced Fire Prevention Principles	3
FIS	132	Hazardous Materials I.....	3
FIS	230	Fire and Emergency Services Law	3
FIS	250	Industrial Fire Protection	3
LEJ	101	Introduction to Criminal Justice.....	3
LEJ	122	Principles of Policing.....	3

¹ A grade of C or better in all EMG courses is required for all students.

Public Safety Dispatcher Certificate

This 6 credit-hour certificate program is intended to meet the needs of men and women in public safety dispatching roles at the local, state and federal levels and to prepare others to enter the public safety dispatcher career field. This certificate program meets the requirements of the Illinois Law Enforcement Training and Standards Board (ILETSB) Public Safety Dispatcher minimum standards, Association of Police Communications Officers (APCO) Project 25 Public Safety Dispatcher minimum standards, and the National Fire Protection Association of NFPA 1061 Public Safety Dispatcher job requirements.

Required:¹

EMG	131	Public Safety Dispatcher I.....	3
EMG	231	Public Safety Dispatcher II.....	3

¹ A grade of C or better in all EMG courses is required for all students.

EMERGENCY MEDICAL SERVICES*

Associate in Applied Science Degree*

This 61 credit-hour program is a joint educational venture with Northwest Community Healthcare, the Emergency Medical Services (EMS) Department and Harper College. Emergency Medical Technician-Paramedic (EMT-P) program fulfills prescribed requirements by the Illinois Department of Public Health (IDPH) to practice the art and science of pre-hospital care under the direct supervision of a licensed physician or a registered professional nurse credentialed in emergency care. Where authorized, EMT-P function under the direction of an EMS medical director in an Illinois Department of Public Health approved Advanced Life Support (ALS) provider agency. EMT-P follows strict guidelines for procedures that can be performed and for those procedures that provide extensive pre-hospital care. Paramedics are accountable to medical directors, their peers, the health care team and the public.

Paramedics are professional providers whose goal is to prevent and reduce mortality and morbidity due to illness and injury. They are expected to assess and recognize medical, traumatic, emotional and psychological emergencies, as well as render basic life support care through advanced life support care in a wide variety of environmental conditions to people of all ages. They are responsible for transporting patients to medical facilities for further care and attention.

Working conditions vary. Paramedics work both indoors and outdoors. Openings occur for all working shifts including working on weekends and holidays. Many employers in this field require employees to be on call. Competition for jobs will be excellent in fire, police, or rescue squad departments, hospitals and private ambulance service due to attractive pay, benefits and job security. Many job openings occur due to replacement needs. Employment is projected to grow rapidly as paid emergency medical technician positions replace unpaid volunteers.

Admission Requirements

For admission requirements, please contact the Admissions Outreach Office at 847.925.6700 or visit harpercollege.edu

Students who apply for this limited enrollment program are obligated to meet current admission requirements and follow program curriculum as defined at the time of acceptance to the program.

Required Core Courses:¹

EMS	110	Emergency Medical Technician Training	7
EMS	210	Paramedic I—Preparatory	6
EMS	211	Paramedic II—Medical Emergencies I	6
EMS	212	Paramedic II—Medical Emergencies II	6
EMS	213	Paramedic III—Trauma Emergencies and Special Clients	3
EMS	214	Paramedic—Hospital Internship	2
EMS	215	Paramedic—Field Internship	3
EMS	216	Paramedic Seminar	3

Required General Education and Support Courses:¹

BIO	160	Human Anatomy	4
BIO	161	Human Physiology	4
Electives ²		.....	4
ENG	101	Composition	3
HSC	112	Medical Terminology	2
Mathematics ³		.....	0
NUR	210	Physical Assessment	2
SOC	101 [♦]	Introduction to Sociology	3
SPE	101	Fundamentals of Speech Communication	3

* Emergency Medical Services is a limited enrollment program. See the Limited Enrollment Programs section of this catalog for details. Requirements subject to change. Contact the Admissions Outreach Office for updated information. Courses with an EMS prefix are limited enrollment.

¹ A grade of C or better in all BIO, EMS, (EMS 214 and EMS 215 with a grade of P), HSC and NUR courses is required for all students.

² Electives: BIO 130, CHM 100, HSC 104, or HSC 213.

³ Group 2 Math requirement is met by the Emergency Medical Services admission requirements.

[♦] This course meets the World Cultures and Diversity graduation requirement.

EMERGENCY MEDICAL SERVICES*

Emergency Medical Services: EMT Basic Certificate*

The 7 credit-hour certificate program provides entry-level emergency medical care knowledge and skills associated with the delivery of Basic Life Support (BLS) as defined by the State of Illinois EMS Act and the EMS Rules. Meets all requirements of the Federal Department of Transportation EMT-B training curriculum and has been approved by the Illinois Department of Public Health (IDPH) Division of EMS and Highway Safety. This program is offered at Northwest Community Hospital.

Admission Requirements

For admission requirements, please contact the Admissions Outreach Office at 847.925.6700 or visit harpercollege.edu

Students who apply for this limited enrollment program are obligated to meet current admission requirements and follow program curriculum as defined at the time of acceptance to the program.

Required:

EMS	110 ¹	Emergency Medical Technician Training	7
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* Emergency Medical Services: EMT Basic is a limited enrollment program. See Limited Enrollment Programs section of this catalog for details. Requirements subject to change. Contact the Admissions Outreach Office for updated information.

¹ A grade of C or better in EMS 110 is required for all students.

Paramedic Certificate*

The 29 credit-hour certificate program is to be offered in two semesters starting in August (fall semester) and concluding the following May (spring semester). The program is designed to expand the entry-level knowledge and skills initially acquired through Emergency Medical Technician-Basics (EMT-B) or Emergency Medical Technician-Intermediate (EMT-I) training. Paramedics reach that status through successful completion of either EMT-B or EMT-I training that includes classroom instruction, hospital-based, and field-based clinical experiences under the direct supervision of a preceptor. The Paramedic program exposes the students to a wide variety of emergency situations, including direct patient care in one of the involved EMS system hospitals and on emergency vehicles. Instructional content and design is based on the cognitive, psychomotor, and affective standard objectives specified in the U.S. Department of Transportation, 1998 National Emergency Medical Technician-Paramedic Curriculum. The Illinois Department of Public Health, Division of EMS and Highway Safety accredits the Paramedic program.

The Paramedic program course work including the internships are administered through Northwest Community Healthcare, Emergency Medical Services Department. Hospital internships are completed at eight area-wide hospitals while the field internship is completed at the Advanced Life Support (ALS) provider agency with which the student is either employed or has a participation agreement. After completion of the program, candidates are eligible to take the EMT-Paramedic licensure exam in the State of Illinois.

Admission Requirements

For admission requirements, please contact the Admissions Outreach Office at 847.925.6700 or check the Web site: harpercollege.edu

Students who apply for this limited enrollment program are obligated to meet current admission requirements and follow program curriculum as defined at the time of acceptance to the program.

Required:¹

EMS	210	Paramedic I-Preparatory	6
EMS	211	Paramedic II-Medical Emergencies I	6
EMS	212	Paramedic II-Medical Emergencies II	6
EMS	213	Paramedic III-Trauma Emergencies and Special Clients	3
EMS	214	Paramedic-Hospital Internship	2
EMS	215	Paramedic-Field Internship	3
EMS	216	Paramedic Seminar	3
			29

* Paramedic is a limited enrollment program. See Limited Enrollment Programs section of this catalog for details. Requirements subject to change. Contact the Admissions Outreach Office for updated information.

¹ A grade of C or better in all EMS courses (EMS 214 and EMS 215 with a grade of P) is required for all students.

ENERGY (ALTERNATIVE/SOLAR/WIND)

See: Electronics Engineering Technology

ENVIRONMENTAL HEALTH AND SAFETY

Associate in Applied Science Degree: Environmental Health

This 63-64 credit hour program is intended to provide students with the knowledge and skills necessary to accurately and competently guide companies and entities in environmental protection compliance. Opportunities for graduates include environmental health technician, environmental technician, and environmental services supervisor.

FIRST YEAR¹

First Semester

BIO	135	Introduction to Anatomy and Physiology.....	4
ENG	101	Composition	3
		Mathematics elective ²	3-4
SOC	101 [♦]	Introduction to Sociology.....	3
SPE	101	Fundamentals of Speech Communication	<u>3</u>
			16-17

Second Semester

BIO	130	Microbiology.....	4
CHM	121	General Chemistry I.....	5
EHS	115	Health Data and Injury Trend Analysis	4
		Humanities elective	<u>3</u>
			16

SECOND YEAR¹

First Semester

CHM	122	General Chemistry II.....	5
EHS	110	Environmental Health Practice.....	3
EHS	200	Environmental Toxicology.....	4
FIS	132	Hazardous Materials I.....	<u>3</u>
			15

Second Semester

EMG	153	Hazard Assessment and Mitigation	3
EHS	120	Environmental Sampling and Monitoring	4
EHS	210	Waste Management.....	3
EHS	215	Air and Water Quality.....	3
FIS	133	Hazardous Materials II.....	<u>3</u>
			16

¹ A grade of C or better in all BIO, CHM, EHS, FIS, and MTH courses is required for all students.

² Students must take at least three credit hours in a mathematics course at the level of MTH 080 or above.

[♦] This course meets the World Cultures and Diversity graduation requirement.

ENVIRONMENTAL HEALTH AND SAFETY

Associate in Applied Science Degree: Occupational Health and Safety

This 64-65 credit hour program is intended to provide students with the knowledge and skills necessary to accurately and competently guide companies and entities in workplace safety regulations and best industry practice. Opportunities for graduates include safety representative, safety technician, and industrial hygienist.

FIRST YEAR¹

First Semester

BIO	135	Introduction to Anatomy and Physiology.....	4
ENG	101	Composition	3
		Mathematics elective ²	3-4
SOC	101 [♦]	Introduction to Sociology.....	3
SPE	101	Fundamentals of Speech Communication	<u>3</u>
			16-17

Second Semester

BIO	130	Microbiology.....	4
CHM	121	General Chemistry I.....	5
EHS	115	Health Data and Injury Trend Analysis	4
		Humanities elective	<u>3</u>
			16

SECOND YEAR¹

First Semester

EHS	130	Investigation and Risk Assessment	3
EHS	150	Occupational Health Practice.....	3
FIS	122	Introduction to Fire Prevention Principles	3
FIS	132	Hazardous Materials I.....	3
MGT	168	OHSA Standards and Compliance Procedures	<u>3</u>
			15

Second Semester

EHS	250	Industrial Hygiene Sampling/Procedures.....	4
EHS	280	Construction Safety.....	4
EMG	101	Introduction to Emergency Management	3
FIS	123	Advanced Fire Prevention Principles	3
FIS	133	Hazardous Materials II	<u>3</u>
			16

¹ A grade of C or better in all BIO, EHS, FIS, and MTH courses is required for all students.

² Students must take at least three credit hours in a mathematics course at the level of MTH 080 or above.

[♦] This course meets the World Cultures and Diversity graduation requirement.

ENVIRONMENTAL HEALTH AND SAFETY

Environmental Health Certificate

This 31 credit-hour program is intended to provide students with the knowledge and skills necessary to accurately and competently guide companies in environmental protection compliance. Opportunities for graduates include environmental health technician, and environmental technician. Certificate program applicants are required to have a bachelor degree or an associate degree in a related field (biology, chemistry) prior to program acceptance.

FIRST YEAR¹

First Semester

CHM	121	General Chemistry I	5
EHS	110	Environmental Health Practice.....	3
EHS	200 ²	Environmental Toxicology.....	4
FIS	132	Hazardous Materials I.....	<u>3</u>
			15

Second Semester

EHS	120 ²	Environmental Sampling and Monitoring	4
EHS	210 ²	Waste Management.....	3
EHS	215	Air and Water Quality.....	3
EMG	153	Hazard Assessment and Mitigation	3
FIS	133	Hazardous Materials II.....	<u>3</u>
			16

¹ A grade of C or better in all EHS, EMG, and FIS courses is required for all students.

² Students must satisfy prerequisites for each course selected.

Occupational Health and Safety Certificate

This 32 credit-hour program is intended to provide students with the knowledge and skills necessary to accurately and competently guide companies in the management of safety regulations. Opportunities for graduates include safety technician, industrial hygienist and other industry-related positions.

FIRST YEAR¹

First Semester

EHS	130	Investigation and Risk Assessment	3
EHS	150 ²	Occupational Health Practice.....	4
FIS	122	Introduction to Fire Prevention Principles	3
FIS	132	Hazardous Materials I.....	3
MGT	168	OSHA Standards and Compliance Procedures	<u>3</u>
			16

Second Semester

EHS	250	Industrial Hygiene Sampling/Procedures.....	4
EHS	280	Construction Safety.....	3
EMG	101	Introduction to Emergency Management.....	3
FIS	123	Advanced Fire Prevention Principles	3
FIS	133	Hazardous Materials II.....	<u>3</u>
			16

¹ A grade of C or better in all EHS, EMG, and FIS courses is required for all students.

² The prerequisite for EHS 150 is MTH 080 with a grade of C or higher or a required placement test score into MTH 101 (taken in the Assessment and Testing Center).

FASHION DESIGN

Associate in Applied Science Degree

This 67 credit-hour program is designed to provide students with entry level skills in apparel design, flat pattern design, draping, fashion illustrating and professional design room practices of tailoring. Facilities will simulate the professional atmosphere of the fashion industry. Students enrolled in the program need to demonstrate mastery of basic sewing. For individuals who do not possess these skills, Harper College offers the following courses: FAS 100 and FAS 113 (see Fashion Design course information).

FIRST YEAR

First Semester

English elective ¹			3
FAS 101	Flat Pattern Design and Draping I		3
FAS 103	Apparel Design and Construction I		3
FAS 105	Fashion Design Illustration I		1
FAS 110	Costume History		2
FAS 112	Fashion Basics		3
Mathematics elective ²			<u>3</u>
			18

Second Semester

English elective ¹			3
FAS 102	Flat Pattern Design and Draping II		4
FAS 104	Apparel Design and Construction II		4
FAS 106	Fashion Design Illustration II		1
FAS 107	Textiles I		2
Humanities elective ³ ♦			<u>3</u>
			17

SECOND YEAR

First Semester

FAS 201	Advanced Flat Pattern Design and Draping I		4
FAS 203	Advanced Diversified Apparel Design I		4
FAS 205	Tailoring Techniques I		2
FAS 209	Advanced Fashion Illustration I		1
FAS 212	Visual Fashion Merchandising		2
Social Science elective ♦			<u>3</u>
			16

Second Semester

FAS 108	Textiles II		2
FAS 109	Fashion Arts and Design		2
FAS 202	Advanced Flat Pattern Design and Draping II		4
FAS 204	Advanced Diversified Apparel Design II		4
FAS 210	Advanced Fashion Illustration II		1
Humanities elective ♦			<u>3</u>
			16

¹ Students may elect ENG 100, ENG 101 or ENG 102, depending on their test scores and advice of a Student Development Faculty Counselor.

² A competency test, available in the Assessment and Testing Center, may be utilized to meet the mathematics elective requirement. Students in this program who utilize the competency test to meet the mathematics requirement must complete MKT 106.

³ ART 105 is recommended.

♦ At least one of the Humanities or Social Science requirements must also meet the World Cultures and Diversity graduation requirement.

FASHION DESIGN

Fashion Design Certificate

This 15 credit-hour certificate program is designed to prepare students with entry level skills in apparel design, flat pattern design, draping, fashion illustrating and professional design room practices of tailoring. Students enrolled in the program need to demonstrate mastery of basic sewing. For individuals who do not possess these skills, FAS 100 and FAS 113 are strongly recommended.

Students may also continue their education by pursuing an associate in applied science degree. Students considering this option are encouraged to meet with the program coordinator and a Student Development Faculty Counselor prior to beginning the program and also when planning their schedule each semester.

Electives: Select 15 credit hours from the following courses, provided the combination has program coordinator approval.

FAS	100	Industrial Sewing Methods.....	3
FAS	101	Flat Pattern Design and Draping I.....	3
FAS	102	Flat Pattern Design and Draping II.....	4
FAS	103	Apparel Design and Construction I.....	3
FAS	104	Apparel Design and Construction II.....	4
FAS	105	Fashion Design Illustration I.....	1
FAS	106	Fashion Design Illustration II.....	1
FAS	107	Textiles I.....	2
FAS	108	Textiles II.....	2
FAS	109	Fashion Arts and Design.....	2
FAS	110	Costume History.....	2
FAS	112	Fashion Basics.....	3
FAS	113	Advanced Industrial Sewing Methods.....	3
FAS	201	Advanced Flat Pattern Design and Draping I.....	4
FAS	202	Advanced Flat Pattern Design and Draping II.....	4
FAS	203	Advanced Diversified Apparel Design I.....	4
FAS	204	Advanced Diversified Apparel Design II.....	4
FAS	205	Tailoring Techniques I.....	2
FAS	209	Advanced Fashion Illustration I.....	1
FAS	210	Advanced Fashion Illustration II.....	1
FAS	212	Visual Fashion Merchandising.....	2
FAS	245	Topics in Fashion Design.....	1-3

FASHION MERCHANDISING

Associate in Applied Science Degree

This 66 credit-hour curriculum provides all the phases of fashion merchandising, not only in business aspects, but also in aesthetic and creative sides of fashion, such as window display, fashion basics and textile. Students will study fashion history and trends as well as their influence on our lives. In addition, they will survey the development of style leading up to contemporary design. Students will also take courses in English composition, computer information systems, sociology and introductory psychology.

An educational background in fashion merchandising opens the door to various careers, such as fashion coordinating, fashion promoting, fashion advertising, fashion displaying, fashion copywriting, fashion photographing, fashion buying and store managing.

FIRST YEAR

First Semester

ENG	101	Composition	3
FAS	110	Costume History	2
FAS	112	Fashion Basics	3
MGT	111	Introduction to Business Organization	3
MGT	150	Business Math	3
MKT	106	Retail Merchandising	<u>3</u>
			17

Second Semester

ART	105	Introduction to Arts	3
ENG	102	Composition	3
FAS	107	Textiles I	2
FAS	111	20th Century Costume and Trends	3
PSY	101	Introduction to Psychology	3
SPE	101	Fundamentals of Speech Communication	<u>3</u>
			17

SECOND YEAR

First Semester

FAS	212	Visual Fashion Merchandising	2
FAS	229	Promotion of Fashion	3
MKT	140	Principles of Professional Selling	3
MKT	245	Principles of Marketing	3
MKT	250	Retailing	3
SOC	101♦	Introduction to Sociology	<u>3</u>
			17

Second Semester

CIS	101	Introduction to Computer Information Systems	3
FAS	230	Fashion Forecasting	3
FAS	116	Fashion Industries Career Practicum and Seminar or	
FAS	240	Fashion Projects	3
MKT	247	Consumer Buying Behavior	3
MKT	251	Retail Merchandise Management	<u>3</u>
			15

♦ This course meets the World Cultures and Diversity graduation requirement.

FINANCIAL SERVICES

Associate in Applied Science Degree

This 60 credit-hour curriculum is designed for persons interested in preparing for positions in the dynamic field of finance.

Career opportunities in finance are quite extensive and diversified. Career objectives of persons completing this program would be in the areas of banking, commercial credit and collections, and finance.

Students can choose a basic program of study in finance or one of the specialized study areas. Students earning an associate in applied science degree in financial services must complete the general education courses, required core courses and course work from the specialized study areas.

Required General Education Courses:

ENG	101	Composition	3
ENG	102	Composition or	
ENG	130	Business Writing or	
SPE	101	Fundamentals of Speech Communication	3
		Humanities elective [♦]	3
MGT	150	Business Math	3

Required Core Courses:

ACC	101	Introduction to Financial Accounting	4
ACC	102	Introduction to Managerial Accounting.....	3
ACC	211	Business Law I.....	3
CAS	160	Introduction to Business Software Packages.....	3
ECO	115	Consumer Economics or	
ECO	211	Microeconomics	3
ECO	200	Introduction to Economics or	
ECO	212	Macroeconomics	3
MGT	111	Introduction to Business Organization	3
MGT	218	Introduction to Finance	3

Specialized Study Area:

Depending on the student's career needs, he/she may choose from the following specialized study areas. It is recommended that students pursue one of the following specialized areas and consult with the program coordinator or a Student Development Faculty Counselor.

BANKING

Required:

BFC	101	Principles of Financial Institution Operations	3
BFC	115	Advanced Principles of	
		Financial Institution Operations.....	3
BFC	215	Financial Statements Interpretation and Analysis.....	3
BFC	225	International Finance	3
ECO	210	Money and Banking	3
		Electives ¹	5
MKT	245	Principles of Marketing.....	3

FINANCIAL SERVICES

Associate in Applied Science Degree continued...

COMMERCIAL CREDIT MANAGEMENT

Required:

BFC	101	Principles of Financial Institution Operations	3
BFC	201	Commercial Credit and Collection Principles	3
BFC	202	Advanced Commercial Credit and Collection	3
BFC	215	Financial Statement Interpretations and Analysis	3
Electives ²		.....	8
MKT	245	Principles of Marketing	3

FINANCE

Required:

BFC	101	Principles of Financial Institution Operations	3
BFC	200	Investment Management	3
BFC	215	Financial Statements Interpretation and Analysis	3
BFC	225	International Finance	3
ECO	210	Money and Banking	3
Electives ³		.....	8

¹ Select at least five credit hours from the following: BFC 200, BFC 211, BFC 212, BFC 225, BFC 235, BFC 240, CAS 115, CAS 125, CAS 135, CAS 215, MGT 270.

² Select at least eight credit hours from the following: ACC 201, BFC 200, BFC 225, BFC 240, CAS 115, CAS 125, CAS 135, CAS 215, ECO 210, MGT 225, MGT 270.

³ Select at least eight credit hours from the following: BFC 201, BFC 212, BFC 240, CAS 115, CAS 125, CAS 135, CAS 215, MGT 270.

♦ Students need to choose a course to meet this requirement that also meets the World Cultures and Diversity graduation requirement.

Commercial Credit Management Certificate

This 16 credit-hour certificate program is designed for those currently employed in, or seeking employment in the credit and collection field. The curriculum emphasizes developing the competencies necessary to effectively implement sound collection practices. Students may apply this entire program toward the two-year associate degree in Financial Services.

Required:

ACC	101	Introduction to Financial Accounting	4
BFC	201	Commercial Credit and Collection Principles	3
BFC	202	Advanced Commercial Credit and Collection	3
BFC	215	Financial Statements Interpretation and Analysis	3
Elective ¹		.....	3

¹ Electives: BFC 200, BFC 225, ECO 210, MGT 111.

Financial Management Certificate

This 19 credit-hour certificate program is designed for those currently employed in, or seeking employment in finance departments, banks, investment companies or other finance-related enterprises. The curriculum emphasizes developing the competencies necessary for supervisory and public contact positions in the finance field.

Required:

ACC	101	Introduction to Financial Accounting	4
BFC	101	Principles of Financial Institution Operations	3
BFC	215	Financial Statements Interpretation and Analysis	3
MGT	111	Introduction to Business Organization	3
MGT	218	Introduction to Finance	3
Electives ¹		.....	3

¹ Electives: BFC 200 or MGT 170, MGT 150.

FIRE SCIENCE TECHNOLOGY

Associate in Applied Science Degree

This 60-62 credit-hour program is applicable to both current firefighters and fire officers, as well as those wishing to enter the fire service. Some fire departments require a two-year degree in fire science before the student is eligible for entry-level positions, while other departments offer promotional and salary incentives to associate degree program graduates.

Many of the courses offered are articulated with the Office of the Illinois State Fire Marshal and count toward requirements for Instructor I, Instructor II, Fire Officer I, Fire Officer II, Fire Apparatus Engineer, Hazardous Materials First Responder and Technician. Other areas of employment for fire science graduates include fire equipment sales and service, municipal fire protection, fire prevention and inspection in industry and private insurance companies, and emergency medical services.

Students wishing to pursue a career in fire science should discuss these opportunities with the program coordinator or a Student Development Faculty Counselor before entering the program.

Required General Education Courses:

ENG	101	Composition	3
		Humanities elective [♦]	3
		Mathematics elective ¹	3-4
		Natural Science elective	3-4
PSY	101	Introduction to Psychology	3
SPE	101	Fundamentals of Speech Communication	3

Required Core Courses:

FIS	100	Fundamentals of Fire Protection	3
FIS	102	Fire Service Management I	3
FIS	103	Fire Strategies and Tactics I	3
FIS	104	Building Construction for Fire Protection	3
FIS	121	Fire Behavior and Combustion	3
FIS	122	Introduction to Fire Prevention Principles	3
FIS	132	Hazardous Materials I	3
FIS	145	Fire and Emergency Service Instructor I	3

Electives:

Select at least 18 credit hours from the following courses:			
EMG	101	Introduction to Emergency Management	3
EMG	107	Incident Management Systems	3
EMG	253	Ideologies of Terrorism	3
EMS	110	Emergency Medical Technician Training	7
FIS	106	Fire Service Career Exploration Practicum	1
FIS	109	Firefighter II Certification	12
FIS	123	Advanced Fire Prevention Principles	3
FIS	133	Hazardous Materials II	3
FIS	200	Fire Service Internship	3
FIS	202	Fire Service Management II	3
FIS	203	Fire Strategies and Tactics II	3
FIS	210	Fire-Arson Investigation	3
FIS	212	Fire Protection Systems	3
FIS	220	Fire and Emergency Services Instructor II	3
FIS	230	Fire and Emergency Services Law	3
FIS	240	Fire Apparatus Engineer	3
FIS	250	Industrial Fire Protection	3
FIS	260	Emergency Services Safety	3

¹ Students must take MTH 080 or above, or MGT 150 or MGT 225.

[♦] Students need to choose a course to meet this requirement that also meets the World Cultures and Diversity graduation requirement.

FORENSIC SCIENCE TECHNICIAN

See: Law Enforcement and Justice Administration

GRAPHIC ARTS TECHNOLOGY

Associate in Applied Science Degree

This 60-61 credit-hour program is designed to prepare students for a wide range of employment opportunities in the graphic arts industry. The program provides a well-rounded foundation of knowledge and skills to prepare students for new jobs as well as provide career advancement opportunities. This degree covers all of the latest computer software and print production techniques. Emphasis is on digital prepress and print production or graphic design for print and the fulfillment of the creative needs of the industry. All students in the program complete similar first-year sequences of classes and then select one of two specialties for the second year coursework: Print Production (Technical) or Creative Design.

FIRST YEAR

First Semester

ENG	101	Composition	3
GRA	101	Introduction to Graphic Arts Technology.....	3
GRA	102	Graphic Arts Desktop Publishing	3
GRA	103	Digital Imaging I	3
GRA	112	Digital Illustration I.....	<u>3</u>
			15

Second Semester

ENG	102	Composition	3
GRA	105	Color Management	3
GRA	113	Digital Imaging II	3
		Humanities elective ¹	3
WEB	150	Web Development I	<u>3</u>
			15

SECOND YEAR: Choose one of the specialized study areas:

CREATIVE DESIGN

First Semester

GRA	120	Graphic Design I	3
GRA	130	Introduction to Photography	2
GRA	229	Page Layout.....	3
		Mathematics elective ²	3
MKT	245	Principles of Marketing.....	3
		Social Science elective ⁴	<u>3</u>
			17

Second Semester

GRA	131	Digital Photography I.....	3
GRA	220	Graphic Design II	3
GRA	221	Graphic Portfolio Design	2
		Graphic Arts elective ³	3
		Social Science elective ⁴	<u>3</u>
			14

GRAPHIC ARTS TECHNOLOGY

Associate in Applied Science Degree...continued

PRINT PRODUCTION

First Semester

GRA 111	Press Operations	3
GRA 211	Project Management, Scheduling and Estimating	3
GRA 229	Page Layout.....	3
	Mathematics elective ²	3
	Social Science elective [♦]	<u>3</u>
		15

Second Semester

GRA 202	Advanced Color Management	3
GRA 213	Bindery and Finishing Operations.....	3
GRA 230	Prepress Production	3
GRA 231	Variable Data Technologies.....	3
	Social Science elective [♦]	<u>3</u>
		15

¹ ART 121 is required for the Creative Design specialization.

² A competency test, available in the Assessment and Testing Center, may be utilized to meet the mathematics requirement. Students in this program who utilize the competency test to meet the mathematics requirement must complete an additional three credit-hour graphic arts course. See program coordinator for recommended courses.

³ Graphic Arts electives: GRA 111, GRA 202, GRA 211, GRA 214, GRA 230, GRA 231, GRA 232, or MCM 136.

[♦] At least one of the Humanities or Social Science requirements must also meet the World Cultures and Diversity graduation requirement.

Graphic Arts Certificate

This 27 credit-hour certificate program is designed to prepare students for direct employment in the printing industry. These technical courses are designed to provide students with basic knowledge of the graphic arts industry. This program covers the latest computer software and production techniques.

Required:

GRA 101	Introduction to Graphic Arts Technology.....	3
GRA 102	Graphic Arts Desktop Publishing	3
GRA 103	Digital Imaging I	3
GRA 111	Press Operations	3
GRA 112	Digital Illustration I.....	3
GRA 211	Project Management, Scheduling & Estimating.....	3
GRA 213	Bindery and Finishing Operations.....	3
GRA 229	Page Layout.....	3
WEB 150	Web Development I	3

GRAPHIC ARTS TECHNOLOGY

Fashion Graphic Arts Certificate

This 19 credit-hour certificate program is designed to prepare students for direct employment in the Graphic Arts/Fashion industry with a fashion illustration specialty. These Graphic Arts and Fashion courses are designed to provide students with basic knowledge of the Graphic Arts industry for print as well as the illustration needs of the fashion industry. This program covers the latest computer software, illustration and production techniques.

Required:

FAS	105	Fashion Design Illustration I.....	1
FAS	106	Fashion Design Illustration II.....	1
FAS	209	Advanced Fashion Illustration I.....	1
FAS	210	Advanced Fashion Illustration II.....	1
GRA	101	Introduction to Graphic Arts Technology.....	3
GRA	102	Graphic Arts Desktop Publishing	3
GRA	103	Digital Imaging I	3
GRA	112	Digital Illustration I.....	3
GRA	120	Graphic Design I	3

Graphic Arts Design Certificate

This 34 credit-hour certificate program is designed to provide students with the skills to gain creative understanding and design materials for print production. This program covers type and graphic design, page layout, computer graphics, and the production needs of good design.

Required:

ART	121	Design I.....	3
GRA	101	Introduction to Graphic Arts Technology.....	3
GRA	102	Graphic Arts Desktop Publishing	3
GRA	103	Digital Imaging I	3
GRA	105	Color Management	3
GRA	112	Digital Illustration I.....	3
GRA	120	Graphic Design I	3
GRA	130	Introduction to Photography.....	2
GRA	131	Digital Photography I.....	3
GRA	220	Graphic Design II	3
GRA	221	Graphic Portfolio Design	2
WEB	150	Web Development I	3

GRAPHIC ARTS TECHNOLOGY

Graphic Arts Desktop Publishing Certificate

This 30 credit-hour certificate program is designed for students interested in specializing in electronic prepress highlighting the latest software. This program will highlight the latest software. This certificate will enhance a student's current employment position, as well as provide new employment opportunities.

Required:

GRA	101	Introduction to Graphic Arts Technology.....	3
GRA	102	Graphic Arts Desktop Publishing	3
GRA	103	Digital Imaging I	3
GRA	105	Color Management	3
GRA	111	Press Operations	3
GRA	112	Digital Illustration I.....	3
GRA	202	Advanced Color Management	3
GRA	229	Page Layout.....	3
GRA	230	Prepress Production	3
WEB	150	Web Development I	3

Graphic Arts Digital Photography Certificate

This 23 credit-hour certificate program is designed for students interested in specializing in digital photography. This certificate will enhance a student's current employment position as well as provide new employment opportunities in the graphic arts industry.

Required:

GRA	101	Introduction to Graphic Arts Technology.....	3
GRA	103	Digital Imaging I	3
GRA	105	Color Management	3
GRA	113	Digital Imaging II	3
GRA	130	Introduction to Photography.....	2
GRA	131	Digital Photography I.....	3
GRA	202	Advanced Color Management	3
GRA	232	Digital Photography II.....	3

Graphic Arts Interactive Technology Certificate

This 30 credit-hour certificate program is designed to provide students with a foundation in skills encompassing visual design and scripting to develop websites, rich internet applications (RIAs) and interactive multimedia. Individuals seeking entry-level positions in the field of graphic design, web design and interactive multimedia design will find these skills helpful.

Required:

GRA	101	Introduction to Graphic Arts Technology.....	3
GRA	102	Graphic Arts Desktop Publishing	3
GRA	103	Digital Imaging I	3
GRA	120	Graphic Design I	3
WEB	150	Web Site Development I	3
WEB	170	Web Graphics	3
WEB	180	Flash Multimedia I.....	3
WEB	185	Motion Graphics and Effects.....	3
WEB	220	Flash Multimedia III.....	3
WEB	260	Interactive Multimedia	3

Graphic Arts Variable Data Certificate

This 30 credit-hour certificate program is designed to provide students with a foundation in skills to understand the graphic arts industries Web-to-print solutions and the importance of personalization and customization in print promotions. This certificate will provide training in basic graphic technologies utilizing variable data applications and digital print production. It will instruct on how to implement a successful Web-to-print workflow as well as analysis of data, digital graphic files, and delivery of the variable printed piece.

Required:

CAS	160	Introduction to Business Software	3
CIS	143	Introduction to Database Management.....	3
GRA	101	Introduction to Graphic Arts Technology.....	3
GRA	102	Graphic Arts Desktop Publishing	3
GRA	103	Digital Imaging I	3
GRA	229	Page Layout.....	3
GRA	230	Prepress Operations	3
GRA	231	Variable Data Technologies.....	3
WEB	150	Web Development I	3
WEB	200	Web Development II	3

GRAPHIC ARTS TECHNOLOGY

Graphic Arts Web Design Certificate

This 30 credit-hour certificate program is designed to provide students with a foundation in skills to design materials for print and Web media. Individuals seeking graphic designer entry-level positions will find these skills helpful. The program introduces graphic design, page layout, print and Web graphics, and the software for Web and desktop publishing.

Required:

ART	121	Design I.....	3
GRA	101	Introduction to Graphic Arts Technology.....	3
GRA	102	Graphic Arts Desktop Publishing	3
GRA	103	Digital Imaging I	3
GRA	112	Digital Illustration I.....	3
GRA	120	Graphic Design I	3
WEB	150	Web Development I	3
WEB	170	Web Graphics	3
WEB	180	Flash Multimedia I.....	3
WEB	190	Web Authoring Tools	3

HEALTH INFORMATION TECHNOLOGY

Associate in Applied Science Degree

This 62 credit-hour program prepares the graduate to enter a career which blends two rapidly expanding fields, healthcare and information technology. Health information technicians ensure the quality of medical records by verifying their completeness, accuracy, and proper entry into computer systems. They also use computer systems to analyze patient data for the purpose of improving patient care or controlling costs.

Health information technicians (RHITs) may specialize in coding diagnoses and procedures in patient records for reimbursement and research. Health information technicians work in hospitals, long-term care facilities, cancer registries, mental health facilities, managed care organizations, and physician offices or as consultants.

Graduates of the Health Information Technology program are qualified to take the national certification exam to become a registered health information technician (RHIT) given by the American Health Information Management Association (AHIMA). This program requires a 160-hour externship at an area hospital.

FIRST YEAR¹

First Semester

BIO	135	Introduction to Human Anatomy and Physiology	4
CIS	101	Introduction to Computer Information Systems.....	3
ENG	101	Composition	3
HSC	104	Health Care Technology and Informatics.....	2
HSC	112	Medical Terminology.....	2
Humanities or Social Science elective*			3
			17

Second Semester

BIO	136	Introduction to Human Disease.....	3
CAS	160	Introduction to Business Software Packages.....	3
ENG	102	Composition or	
ENG	103	Technical and Report Writing or	
SPE	101	Fundamentals of Speech Communication	3
HIT	200	Introduction to Health Care Information Systems	3
Mathematics elective ²			3
			15

SECOND YEAR¹

First Semester

CIS	143	Introduction to Database Systems	3
HIT	196	Current Procedural Terminology (CPT) Coding	3
HIT	220	Health Care Information Management.....	3
HIT	225	Electronic Health Records	3
HIT	250	Law for Health Information.....	3
			15

Second Semester

CIS	211	IT Project Management Design	3
HIT	197	International Classification of Diseases (ICD) Coding	3
HIT	210	Inpatient Billing and Coding	3
HIT	230	Health Care Information Analysis	3
HIT	240	Health Information Technology Externship	3
			15

¹ A grade of C or better is required in all courses.

² MTH 101 or higher with a grade of C or better.

♦ Students must choose a humanities or social science course that fulfills the World Cultures and Diversity graduation requirement.

HEALTH INFORMATION TECHNOLOGY

Health Information Technology Certificate

This 30 credit-hour certificate program prepares the graduate to enter a career which blends two rapidly expanding fields, healthcare and information technology. Health information technicians ensure the quality of medical records by verifying their completeness, accuracy, and proper entry into computer systems. They also use computer systems to analyze patient data for the purpose of improving patient care or controlling costs.

Health information technicians work in hospitals, long-term care facilities, cancer registries, mental health facilities, managed care organizations, and physician office and as consultants.

Students electing to earn a certificate in health information technology are eligible to apply credits earned toward completion of the associate in applied science degree.

FIRST YEAR¹

First Semester

BIO	135	Introduction to Human Anatomy and Physiology	4
BIO	136	Introduction to Human Disease.....	3
CIS	101	Introduction to Computer Information Systems.....	3
HSC	112	Medical Terminology.....	2
HIT	200	Introduction to Health Care Information Systems	<u>3</u>
			15

Second Semester

CAS	160	Introduction to Business Software Packages.....	3
ENG	101	Composition	3
HIT	220	Health Care Information Management.....	3
HIT	225	Electronic Health Records	3
HIT	250	Law for Health Information.....	<u>3</u>
			15

¹ A grade of C or better is required in all courses.

HEATING, VENTILATION AND AIR CONDITIONING (HVAC)

Associate in Applied Science Degree: Refrigeration and Air Conditioning Technology

The courses in this curriculum are theory design and service oriented. Theory courses deal with energy conversions. Service courses are strongly related to a hands-on philosophy. Emphasis is placed upon operating, servicing and installing equipment.

Graduates from this 62-63 credit-hour program may be employed as engineering laboratory assistants, equipment salesmen, heating and refrigeration service people, estimators and system designers.

FIRST YEAR

First Semester

English elective ¹		.....	3
RAC 101		Refrigeration Fundamentals.....	4
RAC 102		Refrigeration Systems.....	4
RAC 103		Heating Principles.....	<u>4</u>
			15

Second Semester

ELT 145		Variable Frequency Drives.....	2
PHS 111		Introduction to Physical Science.....	4
RAC 104		Residential Comfort Systems.....	3
RAC 105		Heating and Cooling Controls.....	4
RAC 108		Domestic Refrigeration Appliances.....	<u>4</u>
			17

SECOND YEAR

First Semester

English elective ¹		.....	3
RAC 106		Advanced Controls.....	4
RAC 201		Refrigeration System Design I.....	4
RAC 203		Air Conditioning Principles.....	<u>3</u>
			14

Second Semester

ELT 215		Industrial Control Systems or	
RAC 202		Refrigeration System Design II.....	4
Humanities elective [♦]		3
Mathematics elective ²		.....	3-4
RAC 204		Air Distribution.....	3
Social Science elective [♦]		<u>3</u>
			16-17

¹ Students may take ENG 100 or ENG 101 the first semester, depending upon their test scores and the advice of a Student Development Faculty Counselor. ENG 102, ENG 103, or ENG 130 are suggested second semester electives.

² A competency test, available in the Assessment and Testing Center, may be utilized to meet the mathematics requirement. Students in this program who utilize the competency test to meet the mathematics requirement must take ELT 144 and MNT 110.

[♦] At least one of the Humanities or Social Science requirements must also meet the World Cultures and Diversity graduation requirement.

HEATING, VENTILATION AND AIR CONDITIONING (HVAC)

The following certificate programs are designed to prepare the students for servicing refrigeration and heating equipment or selling environment equipment to contractors and/or servicemen.

Domestic Refrigeration and Heating Certificate

This 16 credit-hour certificate program provides the necessary training for installation, maintenance and repair of domestic refrigeration and heating systems. Special attention is given to home heating devices and to domestic refrigeration appliances.

Required:

RAC	101	Refrigeration Fundamentals.....	4
RAC	103	Heating Principles.....	4
RAC	105	Heating and Cooling Controls.....	4
RAC	108	Domestic Refrigeration Appliances.....	4

Heating Services Certificate

This 12 credit-hour certificate program allows individuals to concentrate solely on heating systems. In addition to fundamental principles, the students will study basic and advanced heating and cooling controls.

Required:

RAC	103	Heating Principles.....	4
RAC	105	Heating and Cooling Controls.....	4
RAC	106	Advanced Controls.....	4

Refrigeration Service Certificate

This 16 credit-hour certificate program focuses solely on refrigeration. Students concentrate on mastering the fundamentals of installing, maintaining and repairing a variety of commercial refrigeration systems. Special consideration is given to the conservation, recovery and recycling of refrigerants including chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs).

Required:

RAC	101	Refrigeration Fundamentals.....	4
RAC	102	Refrigeration Systems.....	4
RAC	105	Heating and Cooling Controls.....	4
RAC	106	Advanced Controls.....	4

Refrigeration/Air Conditioning Service Certificate

This 27 credit-hour certificate program provides a broad spectrum of the HVAC industry. Students train and learn to install, service and repair residential, industrial and commercial refrigeration systems.

Required:

ELT	144	AC and DC Motors.....	2
ELT	145	Variable Frequency Drives.....	2
RAC	101	Refrigeration Fundamentals.....	4
RAC	102	Refrigeration Systems.....	4
RAC	103	Heating Principles.....	4
RAC	104	Residential Comfort Systems.....	3
RAC	105	Heating and Cooling Controls.....	4
RAC	106	Advanced Controls.....	4

Residential Comfort Systems Certificate

This 19 credit-hour certificate program focuses on residential comfort. In addition to mastering the ins and outs of residential comfort systems, candidates for this certificate also learn refrigeration and advanced heating and cooling controls.

Required:

RAC	101	Refrigeration Fundamentals.....	4
RAC	103	Heating Principles.....	4
RAC	104	Residential Comfort Systems.....	3
RAC	105	Heating and Cooling Controls.....	4
RAC	106	Advanced Controls.....	4

HOMELAND SECURITY

See: Emergency and Disaster Management

HOSPITALITY MANAGEMENT

Associate in Applied Science Degree

Emphasis is placed on the techniques and technology of the hospitality industry from a management point of view. Graduates of this 60-61 credit-hour curriculum will be qualified to assume positions as supervisors, management trainees and small unit managers. Upon successful completion of specific hospitality management courses, students may be award a ManageFirst™ certificate of completion from the Educational Foundation of the National Restaurant Association, or a certificate of completion from the Educational Institute of the American Hotel and Lodging Association. Contact the Hospitality Management coordinator for details.

Students must choose a program of study in one of the specialized areas, Food Service Operations Management or Hotel Operations Management.

Required General Education Courses:

DIT	101	Fundamentals of Nutrition	3
ENG	101	Composition	3
ENG	102	Composition	3
		Humanities elective [♦]	3
		Mathematics elective ¹	3
PSY	101	Introduction to Psychology	3

Required Core Courses:

FSM	109	Introduction to Food Preparation/Production	4
FSM	111	Introduction to the Hospitality Industry	3
FSM	113	Dining Room Operations	3
FSM	114	Food Standards and Sanitation	2
FSM	115	Menu Planning	3
FSM	211	Purchasing and Storage	3
FSM	212	Hospitality Supervision	3
FSM	213	Seminar and Internship	3
FSM	214	Hospitality Operations Analysis	3

Specialized Study Areas:

It is recommended that students pursue one of the specialized study areas and consult with the program coordinator.

FOOD SERVICE OPERATIONS MANAGEMENT

Electives: Select at least 15 credit hours from the courses listed below:

CIS	100	Computer Fundamentals	3
FSM	215	Restaurant Layout and Equipment	3
FSM	216	Introduction to Wines, Spirits and Beverage Management	3
FSM	220	Hospitality Promotions	3
FSM	230	Hospitality Law and Risk Management	3
FSM	299	Topics in Hospitality Management .....	.5-3

HOTEL OPERATIONS MANAGEMENT

Electives: Select at least 15 credit hours from the courses listed below:

CIS	100	Computer Fundamentals	3
FSM	120	Front Office Operations	3
FSM	210	Hospitality Facility Maintenance	3
FSM	220	Hospitality Promotions	3
FSM	230	Hospitality Law and Risk Management	3
FSM	299	Topics in Hospitality Management .....	.5-3

¹ A competency test, available in the Assessment and Testing Center, may be utilized to meet the mathematics elective requirement. Students in this program who utilize the competency test to meet the mathematics requirement must complete a three credit-hour elective approved by the program coordinator.

[♦] Students must choose a humanities course that meets the World Cultures and Diversity graduation requirement.

HOSPITALITY MANAGEMENT

Bread and Pastry Arts Certificate

This is a 26 credit-hour certificate program planned to prepare students for entrance into the food service industry. Graduates may be able to secure positions as qualified bakers and bakers' assistants in institutional, retail and commercial bakeries.

Required:

FSM	107	Basic Quantity Bread and Pastry Arts.....	4
FSM	108	Advanced Quantity Bread and Pastry Arts	4
FSM	114	Food Standards and Sanitation	2
FSM	115	Menu Planning	3
FSM	172	Classical Baking.....	2
FSM	173	Cake Decoration	2

Electives: Select at least 9 credit hours from the following:

FSM	109	Introduction to Food Preparation/Production	4
FSM	111	Introduction to the Hospitality Industry.....	3
FSM	113	Dining Room Operations.....	3
FSM	163	Garde Manger.....	2
FSM	211	Purchasing and Storage	3
FSM	212	Hospitality Supervision.....	3
FSM	214	Hospitality Operations Analysis	3
FSM	215	Restaurant Layout and Design	3
FSM	216	Introduction to Wine, Spirits, and Beverage Management.....	3
FSM	220	Hospitality Promotions	3

Culinary Arts Certificate

This is a 32 credit-hour certificate program that is designed to better prepare students for entrance into the food service industry. Graduates may be able to secure positions as cooks, assistant cooks, specialty cooks, or chef's assistants.

Required:

FSM	107	Basic Quantity Bread and Pastry Arts.....	4
FSM	109	Introduction to Food Preparation/Production	4
FSM	110	Advanced Quantity Culinary Arts	4
FSM	113	Dining Room Operations.....	3
FSM	114	Food Standards and Sanitation	2
FSM	115	Menu Planning	3
FSM	162	Classical Cuisine.....	4
FSM	163	Garde Manger.....	2

Electives: Select at least 6 credit hours from the following:

FSM	111	Introduction to the Hospitality Industry.....	3
FSM	172	Classical Baking.....	2
FSM	173	Cake Decoration	2
FSM	211	Purchasing and Storage	3
FSM	212	Hospitality Supervision.....	3
FSM	214	Hospitality Operations Analysis	3
FSM	215	Restaurant Layout and Design	3
FSM	216	Introduction to Wines, Spirits and Beverage Management.....	3
FSM	220	Hospitality Promotions	3

HOSPITALITY MANAGEMENT

Food Service Management Certificate

This is a 26 credit-hour certificate program designed for people wanting to upgrade their management skills enabling them to assume more responsible positions. Upon successful completion of specific courses within this program, students may also be awarded a ManageFirst™ certificate of completion from the Educational Foundation of the National Restaurant Association. Contact the Hospitality Management coordinator for details.

Required:

FSM	111	Introduction to the Hospitality Industry.....	3
FSM	113	Dining Room Operations.....	3
FSM	114	Food Standards and Sanitation	2
FSM	115	Menu Planning.....	3
FSM	211	Purchasing and Storage	3
FSM	212	Hospitality Supervision.....	3
FSM	214	Hospitality Operations Analysis	3
FSM	215	Restaurant Layout and Equipment	3
FSM	230	Hospitality Law and Risk Management.....	3

Hotel Management Certificate

This 20 credit-hour certificate program is designed for people wanting to upgrade their management skills to assume more responsible positions. Upon successful completion of specific courses within this program, students may be awarded a certificate of completion from the Educational Institute of the American Hotel and Motel Association. Contact the Hospitality Management coordinator for details.

Required:

FSM	120	Front Office Operations.....	3
FSM	210	Hospitality Facility Maintenance.....	3
FSM	212	Hospitality Supervision.....	3
FSM	220	Hospitality Promotions	3
FSM	230	Hospitality Law and Risk Management.....	3

Electives: Select at least five credit hours from the following:

CIS	100	Computer Fundamentals	3
FSM	111	Introduction to the Hospitality Industry.....	3
FSM	113	Dining Room Operations.....	3
FSM	114	Food Standards and Sanitation	2
FSM	211	Purchasing and Storage	3
FSM	214	Hospitality Operations Analysis	3
FSM	216	Introduction to Wines, Spirits and Beverage Management.....	3

ProStart Hospitality Management Certificate

This 16 credit-hour certificate program is designed to give students the necessary skills for entry-level jobs in the foodservice industry as hostesses, waitstaff, and cooks. The curriculum is specifically designed for dual credit high school students and is endorsed by the National Restaurant Association.

FIRST YEAR

First Semester

FSM	121	ProStart I.....	4
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Second Semester

FSM	122	ProStart II.....	3
FSM	140	ProStart Internship I.....	1

SECOND YEAR

First Semester

FSM	123	ProStart III.....	3
FSM	141	ProStart Internship II.....	1

Second Semester

FSM	124	ProStart IV.....	3
FSM	142	ProStart Internship III.....	1

HUMAN SERVICES

Associate in Applied Science Degree

This 61-62 credit-hour program prepares students to work in a variety of therapeutic, recreational, and learning environments including residential and day programs, shelters for abused women or the homeless, programs for the developmentally disabled, mental health and crisis centers, geriatric centers, and hospice care. Courses in this program help students develop knowledge and skills in counseling and interviewing, leading and facilitating groups, and professional ethics.

FIRST YEAR

First Semester

ENG	101	Composition	3
HMS	101	Introduction to Human Services	3
HMS	102	Helping Skills in Human Services	3
PSY	101	Introduction to Psychology	3
SOC	101	Introduction to Sociology	3
			<u>15</u>

Second Semester

HMS	112	Group Work in Human Services	3
HMS	121 [♦]	Multiculturalism in Human Services	3
PED	205	Drugs in Our Culture	3
PSY	230	Abnormal Psychology	3
SPE	101	Fundamentals of Speech Communication	3
			<u>15</u>

SECOND YEAR

First Semester

HMS	211	Crisis Intervention	3
HMS	221	Introduction to Gerontology	3
		Humanities elective	3
		Mathematics elective ¹	3-4
PSY	228	Psychology of Human Development	3
			<u>15-16</u>

Second Semester

HMS	232	Law and Ethics in Human Services	3
HMS	241	Disabilities and Human Service	3
HMS	251	Family Issues and Interventions	3
HMS	290	Field Experience and Seminar	4
SOC	215	Introduction to Social Psychology	3
			<u>16</u>

¹A competency test, available in the Assessment and Testing Center, may be utilized to meet the mathematics requirement. Students who utilize the competency test to meet the mathematics requirement must complete an additional three-hour approved elective course.

[♦]This course meets the World Cultures and Diversity graduation requirement.

INTERIOR DESIGN

Associate in Applied Science Degree

This 72 credit-hour program is designed for students interested in careers in the furnishing and design industry. The program offers creative, artistic and challenging career opportunities. Graduates are trained to work as kitchen and bath designers, retail designers/salespersons, interior design assistants, assistant buyers of home furnishings, manufacturers' representatives or Merchandise Mart showroom managers.

Periodic field trips are required and will help students learn about current design trends. Students are encouraged to have computers at home although campus computer labs are available for student use. AutoCAD and CAD Studio courses are required courses and several other courses are offered online.

The associate in applied science degree in Interior Design may be used to meet the interior design education requirement for registration of Interior Designers in the State of Illinois. The program is endorsed by the National Kitchen and Bath Association (NKBA). In addition, the curriculum provides an overview of topics tested by the National Council for Interior Design Qualification (NCIDQ) exam, which must be completed before interior designers may be registered by the State of Illinois.

FIRST YEAR*

First Semester

ART	121	Design I.....	3
IND	100	Theory and Fundamentals of Design.....	2
IND	101	Interior Design Studio I.....	3
IND	103	History of Furniture and Interior Architecture.....	3
IND	106	Materials and Sources.....	3
IND	110	Problem Solving and Design Communication.....	<u>2</u>
			16

Second Semester

ART	130	History of Art I or	
ART	131	History of Art II or	
ART	132	History of Art III.....	3
ATE	105	Architectural CAD I.....	3
IND	102	Interior Design Studio II.....	3
IND	107	Interior Perspective and Rendering.....	3
IND	114	Codes for Interior Designers.....	2
IND	116	Interior Detailing and Construction Drawing.....	<u>3</u>
			17

Summer Semester

ENG	101 ¹	Composition.....	3
SPE	101	Fundamentals of Speech Communication.....	<u>3</u>
			6

SECOND YEAR

First Semester

IND	203	3-D Design Studio.....	3
IND	205	Historic Styles Studio.....	3
IND	206	Architectural Lighting.....	3
IND	220	CAD Studio.....	3
IND	230	Kitchen Design Studio.....	<u>3</u>
			15

Second Semester

IND	207	Interior Design Internship.....	3
IND	209	Contract Design Studio.....	3
IND	211	Professional Practices for Interior Design.....	3
IND	233	Bathroom Design Studio.....	2
IND	250	Portfolio Review.....	<u>1</u>
			12

Summer Semester

		Mathematics elective ²	3
		Social Science elective.....	<u>3</u>
			6

* By completing all required courses in this program, the World Cultures and Diversity graduation requirement has been met for this AAS degree.

¹ An assessment test, available in the Assessment and Testing Center, must be taken before registering for ENG 101.

² A competency test, available in the Assessment and Testing Center, may be utilized to meet the mathematics requirement.

INTERIOR DESIGN

Advanced Interior Design Certificate

This 11-12 credit-hour certificate program is designed to give students the opportunity to earn credits which are applicable to the requirements for taking the interior design licensing exam (NCIDQ) in the State of Illinois. The coursework is intended for students who are highly advanced in an Interior Design program and people already working in interior design who want additional educational opportunities.

Required:

IND	215	Topics in Interior Design (2-3) or	
IND	217 ¹	Advanced Sketching and Perspective Drawing	2-3
IND	281	Environmental Design Studio.....	3
IND	283	Interior Design Studio III	3
IND	285	Contract Design Studio II	3

¹ Must complete ART 121 and IND 107 prior to enrollment in IND 217.

Interior Design Technology Certificate

This 28-credit hour certificate program is designed to give students the opportunity to specialize in the technology area of interior design. Students pursuing the Interior Design AAS degree and working designers will benefit from the technical aspects of this curriculum as computer expertise is invaluable to the interior design industry in today's market.

Required:

ATE	105	Architectural CAD I	3
GRA	103	Digital Imaging I	3
IND	100	Theory and Fundamentals of Design.....	2
IND	101	Interior Design Studio I	3
IND	114	Codes for Interior Designers	2
IND	116	Interior Detailing and Construction Drawing	3
IND	220	CAD Studio	3
IND	221	3-Dimensional CAD for Interior Designers.....	3
IND	222	3-Dimensional Presentation.....	3
IND	232	Kitchen and Bath CAD Studio.....	3

Kitchen and Bath Specialty Certificate

This 29 credit-hour certificate program is designed to give students the opportunity to benchmark their progress through the interior design program. Upon completion, students will be qualified to become employed in the kitchen and bath design field.

Required:

IND	100	Theory and Fundamentals of Design.....	2
IND	101	Interior Design Studio I	3
IND	102	Interior Design Studio II	3
IND	106	Materials and Sources	3
IND	110	Problem Solving and Design Communication.....	2
IND	114	Codes for Interior Designers	2
IND	116	Interior Detailing and Construction Drawing	3
IND	207	Interior Design Internship (in Kitchen and Bath)	3
IND	230	Kitchen Design Studio.....	3
IND	232	Kitchen and Bath CAD Studio.....	3
IND	233	Bath Design Studio	2

Perspective and Rendering Certificate

This 15 credit-hour certificate program is designed to give students a benchmark while going through the Interior Design program. This certificate's intent is for those students who want to specialize in the perspective and rendering areas of design.

Required:

ART	121	Design I.....	3
IND	100	Theory and Fundamentals of Design.....	2
IND	101	Interior Design Studio I	3
IND	107	Interior Perspective and Rendering	3
IND	110	Problem Solving and Design Communication.....	2
IND	217	Advanced Sketching and Perspective Drawing	2

INTERNATIONAL BUSINESS

Associate in Applied Science Degree

Completing this 65 credit-hour program will prepare students to secure employment in the dynamic and growing field of international business. Specific vocational opportunity areas would include international marketing, finance, management and distribution. Businesses hiring graduates from this program include airlines, banks, export/import management companies, freight forwarders and the retailing industry.

FIRST YEAR

First Semester

ECO	200	Introduction to Economics.....	3
GEG	101 [♦]	World Geography.....	3
MGT	111	Introduction to Business Organization.....	3
MGT	115	Introduction to International Business.....	3
SPE	101	Fundamentals of Speech Communication.....	<u>3</u>
			15

Second Semester

ACC	101	Introduction to Financial Accounting.....	4
		Mathematics elective ¹	3
MGT	165	International Management.....	3
MKT	245	Principles of Marketing.....	3
MKT	260	International Marketing.....	<u>3</u>
			16

SECOND YEAR

First Semester

BFC	225	International Finance.....	3
CIS	100	Computer Fundamentals or	
CIS	101	Introduction to Computer Information Systems.....	3
ENG	130	Business Writing.....	3
MKT	190	Export Documentation.....	3
MKT	290	Principles of Exporting and Importing.....	3
SCM	101	Supply Chain Management.....	<u>3</u>
			18

Second Semester

		Electives ²	9
		Foreign Language elective.....	4
GEG	210	Economic Geography or	
HST	243 [♦]	The Far East in the Modern World.....	<u>3</u>
			16

¹ A competency test, available in the Assessment and Testing Center, may be utilized to meet the mathematics requirement. Students who utilize the competency test to meet the mathematics requirement must complete a three credit-hour elective or must complete a three credit-hour MKT elective.

² Electives: MKT 191, MKT 193, MKT 196, MKT 252, SCM 230.

[♦] These courses meet the World Cultures and Diversity graduation requirement.

INTERNATIONAL BUSINESS

International Business Certificate

This 19 credit-hour certificate program will prepare students beginning their business careers for entry level positions in the international business field. For students who have completed their college degrees and/or who have previous business experience, this program will provide opportunities for re-assignment into the international field of their present companies or provide new employment opportunities.

The specific goal of this program is to provide students with sufficient competencies in international business to allow them to qualify for and succeed in positions with firms such as international freight forwarders, export and import management companies, insurance companies, manufacturers and financial institutions dealing with companies engaged in the business of international trade.

Required:¹

ACC	101	Introduction to Financial Accounting	4
MGT	115	Introduction to International Business	3
MKT	190	Export Documentation	3
MKT	260	International Marketing	3
MKT	290	Principles of Exporting and Importing	3

Electives: Select three credit hours from the following:^{1, 2}

BFC	225	International Finance	3
MKT	191	Business in the European Union.....	3
MKT	193	Business in Asia.....	3
MKT	196	Business in Latin America.....	3
MKT	252	Internet Marketing	3
SCM	230	International Supply Chain Management.....	3

¹ Students are reminded that not all courses are offered each semester. In determining course selection, the student should consult with a Student Development faculty member or program coordinator.

² Students must satisfy the prerequisites for each course selected.

JOURNALISM

See: *Mass Communication*

LAW ENFORCEMENT AND JUSTICE ADMINISTRATION

Associate in Applied Science Degree

This 61-62 credit hour program is designed to serve the needs of individuals who are seeking a career in law enforcement and to meet the specific entry-level requirements to be a law enforcement officer in the State of Illinois.

This multi-disciplinary curriculum provides a general education as well as specialized training. Students who successfully complete the initial 30-31 credit hours of this program may continue on with the law enforcement career track (Year 2). Enrollment in second-year courses will require a grade of C or better for LEJ courses.

FIRST YEAR

First Semester

ENG	101	Composition	3
LEJ	101	Introduction to Criminal Justice	3
LEJ	122	Principles of Policing	3
		Mathematics elective ¹	3-4
SOC	101*	Introduction to Sociology	3
			15-16

Second Semester

LEJ	201	Criminal Law	3
LEJ	205	Juvenile Justice	3
PHI	101	Critical Thinking	3
SOC	205	Social Problems	3
SPE	101	Fundamentals of Speech Communication	3
			15

SECOND YEAR

First Semester

LEJ	107	Vice and Drug Control	3
LEJ	135	Patrol Procedures	4
LEJ	210	Criminology	3
LEJ	214	Community Policing	3
LEJ	216	Investigative Process	3
			16

Second Semester

LEJ	111	Traffic Enforcement and Investigation	3
LEJ	200	Leadership and Ethics for Law Enforcement	3
LEJ	202	Criminal Procedures	3
		Electives ²	6
			15

¹ A competency test, available in the Assessment and Testing Center, may be utilized to meet the mathematics requirement (MTH 060). Students who utilize the competency test to meet the mathematics requirement must complete an additional three credit hour elective.

² Electives: EMG 107, LEJ 104, LEJ 116, LEJ 138, LEJ 230, LEJ 281, LEJ 299.

♦ This course meets the World Cultures and Diversity graduation requirement.

LAW ENFORCEMENT AND JUSTICE ADMINISTRATION

Associate in Applied Science Degree: Forensic Science

This 60-61 credit hour program will provide instruction to students in the proper techniques of identifying, collecting and packaging physical evidence associated with crime scenes and understanding the importance of proper evidence handling. The forensic science technician is responsible for processing evidence at crime scenes, identifying, collecting, and preserving physical evidence to support law enforcement activities. Graduates may be employed as forensic technicians, property and identification custodians, arson investigators and investigators for local law enforcement and fire services, federal agencies, local, regional and national crime labs, as well as in private industry such as insurance companies, etc.

FIRST YEAR¹

First Semester

ENG	101	Composition	3
FIS	122	Introduction to Fire Prevention Principles	3
LEJ	101	Introduction to Criminal Justice	3
LEJ	116	Forensics I	3
		Mathematics elective ²	<u>3-4</u>
			15-16

Second Semester

CHM	100	Chemistry for the Health Sciences or	
CHM	110	Fundamentals of Chemistry	4
ENG	103	Technical and Report Writing	3
LEJ	202	Criminal Procedures	3
LEJ	217	Forensics II	<u>4</u>
			14

SECOND YEAR¹

First Semester

ANT	215	Introduction to Forensic Anthropology	3
CIS	100	Computer Fundamentals	3
FIS	121	Fire Behavior and Combustion	3
FIS	132	Hazardous Materials I	3
LEJ	218	Forensics III	<u>4</u>
			16

Second Semester

FIS	210	Fire Arson Investigation	3
LEJ	216	Investigative Process	3
LEJ	295	Forensics IV	3
PHI	101	Critical Thinking	3
SOC	101 [♦]	Introduction to Sociology	<u>3</u>
			15

¹ A grade of C or better in all CHM, FIS, LEJ, and MTH courses is required for all students.

² Students must take at least three credit hours in a mathematics course at the level of MTH 080 or above.

[♦] This course meets the World Cultures and Diversity graduation requirement.

Forensic Science Technician Certificate

This 14 credit-hour certificate program will provide advanced instruction to the person with select degrees or experience in public safety who wants specialized training. The program focuses on the proper techniques of identifying, collecting, and packaging physical evidence associated with crime scenes and understanding the importance of proper evidence handling. A forensic science technician is responsible for processing evidence at crime scenes, identifying, collecting, and preserving physical evidence to support law enforcement activities.

Required¹:

LEJ	116	Forensics I	3
LEJ	217	Forensics II	4
LEJ	218	Forensics III	4
LEJ	295	Forensics IV	3

¹ A grade of C or better in all LEJ courses is required for all students.

MAINTENANCE TECHNOLOGY

Associate in Applied Science Degree

This 65 credit hour program prepares students for employment in the fast growing building maintenance service sector of urban society. Graduates may be employed directly in building maintenance as directors, managers or operators for industrial and commercial properties. Other graduates may find employment as assistants in residential properties managed through associations including assisted living housing for the elderly.

FIRST YEAR

First Semester

Communications elective	3
ELT 142 Electrical Wiring	2
Mathematics elective ¹	4
MNT 110 Basic Welding	3
MNT 111 Prints and Schematics	2
MNT 115 Basic Carpentry	2
	16

Second Semester

CIS 100 ² Computer Fundamentals	3
Communications elective	3
MNT 125 Basic Plumbing	2
MNT 210 Advanced Welding	3
MNT 215 Commercial Carpentry	2
Natural Science or Social Science elective [♦]	3
	16

SECOND YEAR

First Semester

FIS 122 Introduction to Fire Prevention Principles	3
MNT 225 Commercial Plumbing	2
MNT 255 Belts/Bearings and Mechanical Drives	2
Natural Science or Social Science elective [♦]	3
RAC 101 Refrigeration Fundamentals	4
Technical electives ³	3
	17

Second Semester

Humanities elective [♦]	3
MGT 160 Principles of Supervision	3
MNT 235 Maintenance Troubleshooting Skills	3
Technical electives ³	7
	16

¹ A competency test, available in the Assessment and Testing Center, may be utilized to meet the mathematics requirement.

² A proficiency test, available in the Assessment and Testing Center, may be utilized to meet the computer requirement.

³ Technical electives: ACC 099, ATE 210, ATE 213, BCE 104, ELT 120, ELT 140, ELT 143, ELT 144, ELT 145, MNT 105, MNT 120, MNT 210, MNT 211, MNT 212, MNT 281, RAC 103, RAC 104.

[♦] At least one of the Humanities or Social Science requirements must also meet the World Cultures and Diversity graduation requirement.

MAINTENANCE TECHNOLOGY

Basic Maintenance Certificate

This 16 credit-hour certificate program provides the basic knowledge and skill for entry-level jobs in building and residential maintenance.

Electives: Select 16 credit hours from the following courses:

CIS	100	Computer Fundamentals	3
ELT	142	Electrical Wiring	2
MNT	105	Machining Processes I	3
MNT	110	Basic Welding	3
MNT	111	Prints and Schematics	2
MNT	115	Basic Carpentry	2
MNT	125	Basic Plumbing	2
RAC	101	Refrigeration Fundamentals.....	4

Commercial Maintenance Certificate

This 16 credit-hour certificate program builds on the Basic Maintenance certificate to prepare students for more advanced maintenance jobs in commercial or industrial maintenance.

Electives: Select 16 credit hours from the following courses:

BCE	104	Basic Mechanical and Energy Conservation Codes..	3
ELT	120	Introductory Industrial Electronics Maintenance	2
ELT	143	Advanced Electrical Wiring	2
ELT	144	AC and DC Motors.....	2
MNT	120	Machining Processes II.....	3
MNT	210	Advanced Welding	3
MNT	211	Welding III	4
MNT	212	Welding IV.....	4
MNT	215	Commercial Carpentry	2
MNT	225	Commercial Plumbing.....	2
MNT	235	Maintenance Troubleshooting Skills	2
RAC	103	Heating Principles.....	4

Manufacturing Basic Certificate

This 14 credit-hour certificate program is designed to give students skills in welding and machining to prepare them for entry-level employment in manufacturing. The program of study will emphasize welding theory and extensive practice in major arc welding process including OAW, SMAW, GMAW, and GTAW. Students will learn the fundamentals of machine shop theory and the practical application to the maintenance and fabrication industry. Students will work from blueprints and will be able to fabricate and repair small parts used in a variety of industrial applications.

Required:

MNT	105	Machining Processes I.....	3
MNT	110	Basic Welding	3
MNT	111	Prints and Schematics	2
MNT	120	Machining Processes II.....	3
MNT	210	Advanced Welding.....	3

MAINTENANCE TECHNOLOGY

Supervisory Maintenance Certificate

This 16 credit-hour certificate program builds on the Basic Maintenance and Commercial Maintenance certificates to prepare students for supervisory positions in commercial, industrial or residential maintenance.

Electives: Select 16 credit hours from the following courses:

ACC	099	Business Recordkeeping	3
ATE	210	Costing Estimating	3
ATE	213	Construction Management Process	3
ELT	140	Programmable Logic Controllers	2
FIS	122	Introduction to Fire Prevention Principles	3
MGT	160	Principles of Supervision.....	3
MNT	255	Belts/Bearings and Mechanical Drives	2
SPE	205	Group Discussion.....	3

Welding Maintenance Certificate

This 16 credit-hour certificate program is designed to give students entry level skills in welding repairs. The program of study will emphasize advanced welding theory, extensive practice in major arc welding process, and out-of-position and multi-pass arc welding including GMAW, SMAW, and GTAW. Students will work from blueprints and develop the welding skills necessary to pass welder qualification tests. Upon completion this certificate, students should be prepared to pass guided bend tests to become 'certified welders' in accordance with AWS (American Welding Society) D1.1 Structural Welding Code.

Required:

MNT	110	Basic Welding	3
MNT	111	Prints and Schematics	2
MNT	210	Advanced Welding	3
MNT	211	Welding III	4
MNT	212	Welding IV	4

MANAGEMENT

Associate in Applied Science Degree: Management

This 64 credit-hour program is designed to assist students in a wide variety of business occupations. The curriculum is structured to meet the needs of individuals interested in gaining or improving management skills. The program not only develops abilities to organize, coordinate and evaluate the functions of a unit, department or branch of an organization in either an industrial or an administrative management capacity, but also provides the fundamental management skills needed by the successful owner-manager of a business.

FIRST YEAR

First Semester

ACC	101	Introduction to Financial Accounting	4
ENG	101	Composition	3
MGT	111	Introduction to Business Organization	3
MGT	150 ¹	Business Math	3
MGT	160	Principles of Supervision.....	3
PSY	101	Introduction to Psychology.....	<u>3</u>
			19

Second Semester

ACC	102	Introduction to Managerial Accounting.....	3
CIS	101	Introduction to Computer Information Systems.....	3
English	elective	.....	3
MGT	270	Principles of Management	3
PSY	245	Industrial/Organizational Psychology	<u>3</u>
			15

SECOND YEAR

First Semester

ACC	211	Business Law I.....	3
ECO	200	Introduction to Economics.....	3
Electives ²		.....	6
MKT	245	Principles of Marketing.....	<u>3</u>
			15

Second Semester

Electives ²		.....	6
Humanities elective [♦]		3
MGT	218	Introduction to Finance	3
MGT	291	Problems in Management and Supervision	<u>3</u>
			15

¹ A proficiency test, available in the Assessment and Testing Center, may be utilized to meet the MGT 150 requirement.

² Electives: ACC 216, MGT 115, MGT 154, MGT 165, MGT 168, MGT 170, MGT 204, MGT 205, MGT 206, MGT 207, MGT 211, MGT 225, MGT 230, MGT 254, MGT 265, MGT 266, MGT 274, MGT 275, MGT 276, MGT 280.

[♦] Students need to choose a course to meet this requirement that also meets the World Cultures and Diversity graduation requirement.

MANAGEMENT

Associate in Applied Science Degree: Small Business Management

This 60 credit-hour program is designed as pre-service training for those people planning a career in small business. Additionally, the program may provide in-service training for people working in the field.

FIRST YEAR

First Semester

ACC	101	Introduction to Financial Accounting	4
ENG	101	Composition	3
MGT	111	Introduction to Business Organization	3
MGT	150	Business Math	3
PSY	101	Introduction to Psychology	3
			16

Second Semester

ACC	211	Business Law I	3
CAS	105	Word Processing Software	1
CAS	125	Database Software	1
Elective ¹		.....	3
ENG	130	Business Writing	3
MGT	154	Small Business Management	3
			14

SECOND YEAR

First Semester

CAS	215	Advanced Spreadsheet Software	1
Elective ¹		.....	3
MGT	160	Principles of Supervision.....	3
PHI	150	Business Ethics.....	3
PSY	245	Industrial/Organizational Psychology.....	3
SOC	101 [♦]	Introduction to Sociology or	
SOC	215 [♦]	Introductory Social Psychology.....	3
			16

Second Semester

Electives ¹		.....	8
MGT	254	Small Business Formation	3
MKT	245	Principles of Marketing.....	3
			14

¹ Electives: ECO 115, MGT 115, MGT 165, MGT 205, MGT 206, MGT 207, MGT 211, MGT 230, MGT 265, MGT 270, MGT 274, MGT 275, MGT 280, MKT 106, MKT 140, MKT 217, MKT 240, MKT 250, SCM 101.

[♦] Select one course, both courses meet the World Cultures and Diversity graduation requirement.

Advanced Management Certificate

This 18 credit-hour certificate program continues the development of management skills learned in the General Management certificate. It is designed for those students who wish to further explore the specific qualifications and requirements necessary for mid- to upper level management positions.

Required:

MGT	111	Introduction to Business Organization	3
MGT	160	Principles of Supervision.....	3
MGT	270	Principles of Management	3

Electives: Select at least nine credit hours from the following courses:

MGT	150	Business Math	3
MGT	168	OSHA Standards and Compliance Procedures	3
MGT	205	Leadership Foundation	1
MGT	206	Leadership Skills.....	1
MGT	207	Leadership Trends	1
MGT	218	Introduction to Finance	3
MGT	225	Applied General Statistics	4
MGT	230	Topics in Business	5-3
MGT	274	Operation Management	3
MGT	280	Organizational Behavior.....	3
MGT	291	Problems of Management and Supervision	3

MANAGEMENT

General Management Certificate

This 12 credit-hour certificate program offers the student the opportunity to receive fundamental management skills for entry-level management positions.

Required:

MGT 111	Introduction to Business Organization	3
MGT 160	Principles of Supervision.....	3
MGT 270	Principles of Management	3
Elective ¹	.....	3

¹ Electives: MGT 150, MGT 205, MGT 206, MGT 207, MGT 280, MGT 291.

Human Resource Management Certificate

This 18 credit-hour certificate program is designed for those individuals interested in employment in the human resource field.

Required:

MGT 111	Introduction to Business Organization	3
MGT 265	Human Resource Management.....	3

Electives: Select 12 credit hours from the following courses:

ACC 216	Employment Law	3
MGT 204	Training and Development.....	3
MGT 266	Wage Analysis and Administration	3
MGT 275	Labor-Management Relations.....	3
MGT 276	Collective Bargaining	3
MGT 280	Organizational Behavior.....	3

Small Business Management Certificate

This 15 credit-hour certificate program is designed for those individuals who want to develop management skills to be used in small businesses.

Required:

MGT 154	Small Business Management	3
MGT 254	Small Business Formation	3

Electives: Select a minimum of nine credit hours from the following courses:

ACC 101	Introduction to Financial Accounting	4
BFC 215	Financial Statements Interpretation and Analysis.....	3
MGT 211	Internship in Small Business.....	3
MKT 245	Principles of Marketing.....	3

MARKETING

Associate in Applied Science Degree

This 61-62 credit-hour program is designed for persons interested in preparing for positions in the dynamic field of marketing.

Career opportunities in marketing are quite extensive and diversified. Career objectives of persons completing this program would be in the areas of advertising, sales, sales promotion, market research, product development, pricing, wholesaling, direct marketing, retailing and merchandising.

Students can choose a basic program of study in marketing or one of the specialized study areas. Students earning an associate in applied science degree in marketing must complete the following required general education courses, required core courses and 21 credit hours of course work from the specialized study areas. Students are reminded that every course is not offered every semester; please consult a Student Development Faculty Counselor or the program coordinator.

Required General Education Courses:

ENG	101	Composition	3
ENG	102	Composition or	
ENG	130	Business Writing I or	
SPE	101	Fundamentals of Speech Communication	3
		Humanities elective [†]	3
MGT	150	Business Math (3) or	
		Mathematics elective ¹ (3-4).....	3-4
PSY	101	Introduction to Psychology	3
PSY	245	Industrial/Organizational Psychology	3

Required Core Courses:

ACC	101	Introduction to Financial Accounting	4
ACC	102 ²	Introduction to Managerial Accounting or	
ACC	211	Business Law I.....	3
CIS	100 ²	Computer Fundamentals or	
CIS	101	Introduction to Computer Information Systems.....	3
ECO	200 ²	Introduction to Economics or	
ECO	211	Microeconomics	3
MGT	111	Introduction to Business Organization	3
MGT	270	Principles of Management	3
MKT	245	Principles of Marketing.....	3

MARKETING

Associate in Applied Science Degree continued...

Specialized Study Areas:

Depending on the student's career needs, he/she may choose courses from the following specialized study areas. It is recommended that students pursue one of the following specialized areas and consult with the program coordinator or Student Development Faculty Counselor.

MARKETING

Electives:³ Select 21 credit hours from the following courses:

MKT 105	Sports Marketing.....	3
MKT 106	Retail Merchandising	3
MKT 140	Principles of Professional Selling.....	3
MKT 202	Marketing for Non-Profit Organizations.....	3
MKT 217	Advertising	3
MKT 240	Advanced Sales Skills.....	3
MKT 246	Business to Business Marketing	3
MKT 247	Consumer Buying Behavior	3
MKT 248	Direct Marketing.....	3
MKT 250	Retailing	3
MKT 252	Internet Marketing	3
MKT 255	Marketing Research.....	3
MKT 260	International Marketing	3
MKT 280	Marketing Problems	3
MKT 281	Internship in Marketing.....	3
MKT 285	Topics in Marketing.....	.5-3
MKT 290	Principles of Exporting and Importing	3

RETAILING

Required:³

FAS 212	Visual Fashion Merchandising or	
MKT 110	Retail Store Layout and Imaging.....	2
MKT 106	Retail Merchandising	3
MKT 120	Customer Service	1
MKT 250	Retailing	3
MKT 251	Retail Merchandise Management	3

Electives:³ Select at least nine credit hours from the following courses:

MGT 154	Small Business Management	3
MGT 160	Principles of Supervision.....	3
MKT 140	Principles of Professional Selling.....	3
MKT 217	Advertising.....	3
MKT 247	Consumer Buying Behavior	3
MKT 252	Internet Marketing	3
MKT 248	Direct Marketing.....	3
MKT 281	Internship in Marketing.....	3
MKT 285	Topics in Marketing.....	.5-3

MARKETING

Associate in Applied Science Degree continued...

SALES

Required:³

MKT	140	Principles of Professional Selling.....	3
MKT	141	Sales Management.....	3
MKT	240	Advanced Sales Strategies.....	3
MKT	247	Consumer Buying Behavior.....	3

Electives:³ Select at least nine credit hours from the following:

MGT	160	Principles of Supervision.....	3
MKT	105	Sports Marketing.....	3
MKT	106	Retail Merchandising or	
SCM	125	Purchasing.....	3
MKT	120	Customer Service.....	1
MKT	202	Marketing for Non-Profit Organizations.....	3
MKT	246	Business to Business Marketing.....	3
MKT	248	Direct Marketing.....	3
MKT	252	Internet Marketing.....	3
MKT	281	Internship in Marketing.....	3
MKT	285	Topics in Marketing.....	.5-3

MARKETING COMMUNICATIONS

Required:³

MCM	232	Introduction to Advertising or	
MKT	217	Advertising.....	3
MCM	233	Introduction to Public Relations.....	3
MKT	255	Marketing Research.....	3

Electives:³ Select at least 12 credit hours from the following:

MCM	136	Broadcast Writing.....	3
MCM	235	Publications Editing and Design.....	3
MKT	105	Sports Marketing.....	3
MKT	140	Principles of Professional Selling.....	3
MKT	202	Marketing for Non-Profit Organizations.....	3
MKT	246	Business to Business Marketing.....	3
MKT	247	Consumer Buying Behavior.....	3
MKT	248	Direct Marketing.....	3
MKT	252	Internet Marketing.....	3
MKT	260	International Marketing.....	3
MKT	281	Marketing Internship.....	3

¹ Mathematics elective: MTH 103, MTH 124, MTH 134, MTH 165. Meet with Student Development faculty member or program coordinator for appropriate course.

² Meet with Student Development Faculty Counselor or program coordinator for appropriate ACC, CIS or ECO course.

³ Students must satisfy the prerequisites for each course selected.

♦ Students need to choose a course to meet this requirement that also meets the World Cultures and Diversity graduation requirement.

MARKETING

E-Commerce Business Certificate

This 15 credit-hour certificate program is designed to give individuals with little technical or business training the skills necessary to start and manage viable Web-based businesses or consult with others on e-commerce business start-ups. The principles learned in this program could also be applied to existing businesses wishing to expand by offering a Web-based alternative.

Required:

MGT	154	Small Business Management	3
MKT	252	Internet Marketing.....	3
WEB	240	E-Commerce Development.....	3

Electives: Select six credit hours from the following:

CIS	100	Computer Fundamentals or	
CIS	101	Introduction to Computer Information Systems.....	3
MKT	245	Principles of Marketing.....	3
MKT	247	Consumer Behavior	3
MKT	255	Marketing Research.....	3
PLS	222	Intellectual Property	3
WEB	150	Web Development I	3

Marketing Certificate

This 12 credit-hour certificate program is designed for those interested in obtaining basic marketing skills that can be used in entry-level marketing positions.

Required:

MKT	245	Principles of Marketing.....	3
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Electives: Select nine credit hours from the following:

MKT	105	Sports Marketing.....	3
MKT	140	Principles of Professional Selling.....	3
MKT	202	Marketing for Non-Profit Organizations.....	3
MKT	217	Advertising	3
MKT	247	Consumer Buying Behavior	3
MKT	252	Internet Marketing.....	3
MKT	255	Marketing Research.....	3
MKT	281	Internship in Marketing.....	3

Marketing Research Certificate

This 6 credit-hour certificate program is designed to give individuals with little or no formal training the skills necessary to function as a market research analyst. The principles learned in these classes will help individuals efficiently target markets, design research instruments, and identify potential markets for new and existing products and services.

Required:

GEG	151	Geographic Information Systems I.....	3
MKT	255	Market Research.....	3

MARKETING

Retail Merchandising Certificate

This is a 17-18 credit-hour certificate program designed for individuals with career interests in the retail management field. It is especially appropriate for those individuals employed in retailing who are seeking skills and knowledge which may prepare them for career advancement.

Required:

FAS	212	Visual Fashion Merchandising (2) or	
MKT	217	Advertising (3).....	2-3
MKT	106	Retail Merchandising	3
MKT	250	Retailing	3
MKT	251	Retail Merchandise Management	3

Electives: Select at least six credit hours from the following courses:

ACC	099	Business Recordkeeping (3) or	
ACC	101	Introduction to Financial Accounting (4).....	3-4
MGT	111	Introduction to Business Organization	3
MGT	154	Small Business Management	3
MGT	160	Principles of Supervision.....	3
MKT	140	Principles of Professional Selling.....	3
MKT	245	Principles of Marketing.....	3

Sales Management and Development Certificate

This 15 credit-hour certificate program is designed to provide in-service and pre-service training and development for industrial sales and sales management personnel representing manufacturers, service marketers, wholesalers or other marketing middlemen. Through the selection of courses, this program can satisfy both the career needs of individuals seeking to develop and expand their selling and account servicing skills and individuals preparing for sales management responsibilities. This certificate program would be especially appropriate for individuals who are entering the professional field without a formal sales or marketing education.

Program requirements are satisfied by completing six hours from Group I and nine hours from Group II for a total minimum of 15 credit hours. To achieve an individual program designed to complement the student's industrial and educational background, the selection of courses should be made in consultation with the coordinator.

Electives: Group I (Select six credit hours from the following):

MKT	140	Principles of Professional Selling.....	3
MKT	141	Sales Management	3
MKT	240	Advanced Sales Strategies.....	3
MKT	247	Consumer Buying Behavior	3

Electives: Group II (Select nine credit hours from the following):

ACC	211	Business Law I.....	3
MGT	111	Introduction to Business Organization	3
MGT	160	Principles of Supervision.....	3
MKT	141	Sales Management	3
MKT	240	Advanced Sales Strategies.....	3
MKT	245	Principles of Marketing.....	3
MKT	246	Business to Business Marketing.....	3
SCM	125	Purchasing.....	3

MASS COMMUNICATION

Associate in Applied Science Degree: Public Relations

This 60-credit hour program is designed for persons interested in preparing for positions in the growing and dynamic field of public relations. Additionally, the program may provide in-service training for people already working in the field. Students will learn valuable marketing, advertising and journalistic knowledge and skills, including writing for various media and communication vehicles, interviewing, special event planning and public relations campaign management.

FIRST YEAR

First Semester

ENG	101	Composition	3
		Humanities elective	3
MCM	120	Introduction to Mass Communication.....	3
MCM	130	Introduction to Journalism.....	3
MGT	150	Business Math	<u>3</u>
			15

Second Semester

MCM	131	News Reporting and Writing	3
MCM	233	Introduction to Public Relations	3
MGT	111	Introduction to Business Organization	3
SOC	101 [♦]	Introduction to Sociology.....	3
		Social Science elective	<u>3</u>
			15

SECOND YEAR

First Semester

	Elective ¹	.....	3
MCM	137	Media Writing	3
MCM	250	Public Relations Writing and Production.....	3
MCM	251	Media Interviewing	3
MKT	245	Principles of Marketing.....	<u>3</u>
			15

Second Semester

	Electives ¹	.....	6
MCM	252	Special Events and Promotions	3
MCM	260	Campaign Communication and Message Design.....	3
MKT	217	Advertising	<u>3</u>
			15

¹ Choose 9 credit hours from MGT 280, SPE 101, or any MCM or MKT course.

[♦] This course meets the World Cultures and Diversity graduation requirement.

MASS COMMUNICATION

Media Writing and Design Certificate

This is a 21 credit-hour certificate program designed for those students seeking to obtain skills in both media writing and design. The preparation is suitable for certain entry level jobs in magazine and newsletter design, marketing, public relations and advertising as well as those interested in free-lance careers. It is also appropriate for students changing careers who have a background in another field.

Required:

MCM	120	Introduction to Mass Communication.....	3
MCM	130	Introduction to Journalism.....	3
MCM	140	Writing, Editing, and Design for the Internet	3
MCM	230 ¹	Graphic Design Communication	3
MCM	232	Introduction to Advertising	3

Electives: Select six credit hours from the following:

ART	121	Design I.....	3
MCM	126	Introduction to Broadcasting	3
MCM	131	News Reporting and Writing	3
MCM	133	Feature Writing	3
MCM	136	Broadcast Writing.....	3
MCM	141	Basic News Editing	3
MCM	233	Introduction to Public Relations	3
MCM	235	Magazine Editing and Design	3
MCM	240	Topics in Mass Communication	1-6

¹ This course is strongly recommended before taking MCM 232, MCM 233, or MCM 235.

Online Communications Certificate

This is an 18-19 credit-hour certificate program that provides a background in writing, editing, and design.

Required:

MCM	130	Introduction to Journalism.....	3
MCM	140	Writing, Editing, and Design for the Internet	3
MCM	230	Graphic Design Communications	3
MCM	241	Online Magazine Publishing	3
MCM	243	Communication Web Site Applications	3
WEB	101	Internet Fundamentals	1

Electives: Select one course from the following:

MCM	120	Introduction to Mass Communication.....	3
MCM	131	News Reporting and Writing	3
MCM	133	Feature Writing	3
MCM	232	Introduction to Advertising	3
MCM	233	Introduction to Public Relations	3
MCM	242	Using the Internet as a Communications Tool.....	2
WEB	150	Web Site Development I	2

MASS COMMUNICATION

Public Relations Certificate

This 21 credit-hour certificate program offers the student the opportunity to gain valuable knowledge and skill in mass communication with an emphasis on public relations.

Required:

MCM	120	Introduction to Mass Communications.....	3
MCM	130	Introduction to Journalism.....	3
MCM	233	Introduction to Public Relations.....	3
MCM	250	Public Relations Writing and Production.....	3
MCM	251	Media Interviewing.....	3
MCM	252	Special Events and Promotions.....	3
MCM	260	Campaign Communication and Message Design.....	3

Public Relations for the Web Certificate

This 22 credit-hour certificate program combines skills in two growing and dynamic areas: public relations and internet communications.

Required:

Electives ¹		.....	6
MCM	120	Introduction to Mass Communications.....	3
MCM	130	Introduction to Journalism.....	3
MCM	140	Writing, Editing and Design for the Internet.....	3
MCM	233	Introduction to Public Relations.....	3
WEB	101	Internet Fundamentals.....	1
WEB	150	Web Development I.....	3

¹ Choose two courses from MCM 241, MCM 242, MCM 243, or MKT 252.

MEDICAL OFFICE ADMINISTRATION

Please contact the program coordinator for current name(s) and pertinent information regarding the national professional organization(s) affiliated with the programs in the Medical Office Administration department.

Associate in Applied Science Degree: Health Care Office Manager

This 61-62 credit-hour program is designed for individuals interested in expanding previous general office experience or health care training in order to gain the necessary skills to supervise a health care facility. Career options are plentiful and diversified, and include employment in an extended care facility, home health care agency, pharmaceutical house, medical supply company or various departments with acute-care settings.

The student must complete the general education courses and health care core courses. Additionally, the student has the option to specialize in health care skills and in business-related course work, depending on the student's career objectives.

A minimum keyboarding speed of 30 words per minute is recommended to enter the program; 40 words per minute is expected in order to progress through externship. The program may be taken part-time and some courses are available on an evening schedule. An orientation and planning session is recommended by the coordinator; detailed information is available on the website, harpercollege.edu.

Required:¹

BIO	135	Introduction to Anatomy and Physiology or	
BIO	160 ²	Human Anatomy	4
BIO	136	Introduction to Human Disease (3) or	
BIO	161 ²	Human Physiology (4).....	3-4
Communications elective			3
ENG	101	Composition.....	3
HSC	104	Health Care Technology and Informatics.....	2
HSC	105	Introduction to Health Care Today	2
HSC	112	Medical Terminology.....	2
HSC	165	Basic Pharmacology	1
HSC	213	Legal and Ethical Issues in Health Care	2
Humanities or Social Science elective ⁴			3
Mathematics elective ³			3
MGT	111	Introduction to Business Organization	3
MGT	270	Principles of Management	3
MOA	145	Health Care Records Management	2
MOA	150	Math Applications in Health Care.....	1
MOA	195	Principles of Health Insurance Billing.....	3
MOA	235 ⁶	Health Care Office Procedures	3
MOA	245 ⁷	Health Care Office Management	3
MOA	299 ^{4,7}	Medical Office Capstone.....	3

MEDICAL OFFICE ADMINISTRATION

Associate in Applied Science Degree: Health Care Office Manager continued...

Electives:¹ Group I (Select any combination of a minimum of six credit hours from the following courses:)

MOA	196	Current Procedural Terminology (CPT) Coding	3
MOA	197	International Classification of Disease (ICD) Coding	3
MOA	215 ^{4,6}	Clinical Procedures	8
MOA	240	Medical Transcription I	3
MOA	242	Medical Transcription II	3

Electives: Group II (Select any combination of a minimum of six credit hours from the following courses:)

ACC	101	Introduction to Financial Accounting	4
CIS	101	Introduction to Computer Information Systems	3
ECO	200 ⁵	Introduction to Economics	3
HSC	106	Health Occupations Career Observation	1.5
MGT	205	Leadership Foundations	1
MGT	206	Leadership Skills	1
MGT	207	Leadership Trends	1
MGT	265	Human Resource Management	3
PSY	245 ⁴	Industrial/Organizational Psychology	3

¹ A grade of C or better in all BIO, HSC and MOA courses is required for all students.

² Students may take BIO 135 and BIO 136 or BIO 160 and BIO 161 or BIO 160 and BIO 136.

³ A competency test, available in the Assessment and Testing Center, may be utilized to meet the mathematics elective requirement.

⁴ Students must satisfy prerequisites for each course selected.

⁵ May be used to fulfill general education requirement(s); meet with program coordinator or Student Development Faculty Counselor for advice on electives.

⁶ Offered during fall semester only.

⁷ Offered during spring semester only.

♦ Students need to choose a course to meet this requirement that also meets the World Cultures and Diversity graduation requirement.

MEDICAL OFFICE ADMINISTRATION

Health Care Office Assistant Certificate

This 20 credit-hour certificate program is designed for the individual who is interested in working in a medical facility at the front desk. The certificate offers the skills necessary to work as an office assistant in a medical office or any other health care-related facility.

Administrative duties could include patient and visitor reception, appointment scheduling, appointment confirmation calls, maintaining files, insurance verification, insurance claims processing, billing and collections, health care records management, and other clerical front desk duties.

Students should have a keyboarding speed of at least 30 words per minute. The program may be taken full-time or part-time with courses offered during the day, in the evening, or (some) online. A 160-hour externship in a medical facility is offered during the spring semester only and is usually the student's last semester of the program. Students should attend a program information session and also arrange a planning session with the program coordinator when possible.

Required:¹

HSC	104	Health Care Technology and Informatics.....	2
HSC	105	Introduction to Health Care Today.....	2
HSC	112	Medical Terminology.....	2
MOA	145 ²	Health Care Records Management.....	2
MOA	195 ^{2,3}	Principles of Health Insurance Billing.....	3
MOA	235 ^{2,4}	Health Care Office Procedures.....	3
MOA	240 ³	Medical Transcription I.....	3
MOA	265 ⁵	Medical Office Administration Externship.....	3

¹ A grade of C or better in all BIO, HSC and MOA courses is required for all students.

² Students must satisfy prerequisites for each course selected.

³ Prerequisite waivers for BIO 135 and BIO 136 will be issued for Health Care Office Assistant students.

⁴ Offered during fall semester only.

⁵ Offered during spring semester only.

Health Insurance Specialist Certificate

This concentrated 32 credit-hour certificate program is designed for the individual who is interested in becoming an insurance billing specialist in a large health care facility or a claims approver in an insurance company. The program provides a generalized orientation to the health care field, plus specific training in International Classification of Diseases (ICD) and Current Procedural Terminology (CPT) coding, billing reimbursement and collections procedures.

Some keyboarding skills and knowledge of computers is recommended.

Professional Certification:

Students in the Health Insurance Specialist program are encouraged to join the local chapter of the American Association of Procedural Coders (AAPC) and the American Health Information Management Association (AHIMA). An experienced coder is eligible to sit for the national examination in order to become a Certified Procedural Coder (CPC).

Required:¹

BIO	135	Introduction to Human Anatomy and Physiology.....	4
BIO	136	Introduction to Human Disease.....	3
HSC	104	Health Care Technology and Informatics.....	2
HSC	105	Introduction to Health Care Today.....	2
HSC	112	Medical Terminology.....	2
HSC	213	Legal and Ethical Issues in Health Care.....	2
MOA	145 ²	Health Care Records Management.....	2
MOA	195 ²	Principles of Health Insurance Billing.....	3
MOA	196 ²	Current Procedural Terminology (CPT) Coding.....	3
MOA	197 ²	International Classification of Disease (ICD) Coding.....	3
MOA	235 ^{2,3}	Health Care Office Procedures.....	3
MOA	265 ^{2,4}	Medical Office Administration Externship.....	3

¹ A grade of C or better in all BIO, HSC and MOA courses is required for all students.

² Students must satisfy prerequisites for each course selected.

³ Offered during fall semester only.

⁴ Offered during spring semester only.

MEDICAL OFFICE ADMINISTRATION

Medical Assistant Certificate

This concentrated 40 credit-hour certificate program is designed for the individual who is interested in becoming a medical assistant in a physician's office or other outpatient health care setting. The curriculum provides training in a variety of administrative and clinical tasks to facilitate the work of the physician. Administrative duties include patient communication, computer skills and record keeping. Clinical duties include assisting with examinations, treatments, diagnostic testing, patient education, and preparation and administration of medications.

A minimum keyboarding speed of 30 words per minute is recommended to enter the program; 40 words per minute is expected in order to progress through externship. The program may be taken part-time and many courses are available on an evening schedule. An orientation and planning session is recommended by the coordinator; detailed information is available on the website, harpercollege.edu.

Professional Accreditation and Certification:

The Medical Assistant certificate and degree programs at Harper College have been accredited by the Commission on the Accreditation of Allied Health Educational Programs (CAAHEP). Graduates of the programs are eligible to sit for the national certification examination sponsored by the American Association of Medical Assistants (AAMA). The MOA graduate who successfully completes this national examination is credentialed as a Certified Medical Assistant (CMA).

Required:¹

BIO	135 ²	Introduction to Human Anatomy and Physiology	4
HSC	104	Health Care Technology and Informatics.....	2
HSC	105	Introduction to Health Care Today	2
HSC	107	Basic Health Care Skills.....	1
HSC	112	Medical Terminology	2
HSC	165	Basic Pharmacology	1
HSC	213	Legal and Ethical Issues in Health Care	2
MOA	145 ²	Health Care Records Management	2
MOA	150	Math Applications in Health Care.....	1
MOA	195 ^{2,3}	Principles of Health Insurance Billing.....	3
MOA	215 ^{2,4,5}	Clinical Procedures	8
MOA	235 ⁵	Health Care Office Procedures	3
MOA	245 ^{2,6}	Health Care Office Management	3
MOA	280 ^{2,4,6}	Medical Assistant Externship	3
PSY	101	Introduction to Psychology.....	3

¹ A grade of C or better in all BIO, HSC and MOA courses is required for all students.

² Students must satisfy prerequisites for each course selected.

³ Prerequisite of BIO136 waived for Medical Assistant Certificate students.

⁴ Students must submit an American Heart Association Cardiopulmonary Resuscitation for the Health Care Provider (CPR) certificate before entering externship.

⁵ Offered during fall semester only.

⁶ Offered during spring semester only.

MEDICAL OFFICE ADMINISTRATION

Medical Transcriptionist Certificate

This concentrated 27 credit-hour certificate program is designed for the individual who is interested in expanding her/his previous health care and/or secretarial experience in order to become a medical transcriptionist. A medical transcriptionist is the health information specialist who transcribes patients' records in a hospital, large health care practice, HMO or clinic. Transcribed records are used in follow-up treatment, by insurance companies to verify claims, to authenticate legal documents, and by medical research specialists in the development of new treatment and diagnostic methods.

The curriculum provides the training needed to understand the various types of dictation utilized. Medical transcriptionists must possess excellent keyboarding skills and the ability to memorize spellings and meanings of the health care language. A minimum keyboarding speed of 50 words per minute is recommended to enter the program; however, experienced medical transcriptionists frequently reach keyboarding speeds in excess of 80-100 words per minute; 60 words per minute is expected in order to progress through externship. The program may be taken part-time and some courses are available on an evening schedule. An orientation and planning session is recommended by the coordinator; detailed information is available on the website, harpercollege.edu.

Professional Accreditation and Certification:

Graduates of the Medical Transcriptionist program are eligible to sit for the national certification examination offered by the American Association for Medical Transcription (AAMT). The medical transcriptionist who successfully completes the national examination is credentialed as a Certified Medical Transcriptionist (CMT). Students in the Medical Transcriptionist program are encouraged to join the local chapter of the AAMT.

Required:¹

BIO	135	Introduction to Human Anatomy and Physiology	4
BIO	136	Introduction to Human Disease.....	3
ENG	101	Composition	3
HSC	104	Health Care Technology and Informatics.....	2
HSC	105	Introduction to Health Care Today	2
HSC	112	Medical Terminology	2
MOA	145	Health Care Records Management	2
MOA	240	Medical Transcription I.....	3
MOA	242	Medical Transcription II.....	3
MOA	265 ²	Medical Office Administration Externship	3

¹ A grade of C or better in all BIO, HSC and MOA courses is required for all students.

² Offered during spring semester only.

NANOSCIENCE TECHNOLOGY

Associate in Applied Science Degree

Nanoscience Technology provides a program for students to become skilled technicians in this cutting-edge, emerging field. Nanotechnology is the science of manipulating atoms and molecules at the nanometer scale (1-100 nanometers). Graduates of this 64-66 credit hour degree program will be prepared to work as technicians and manufacturing and production workers within industries using nanoscience and microscience technologies, including areas of research and development, production, manufacturing, and sales.

FIRST YEAR

First Semester

	CHM 121	General Chemistry I	5
	ENG 101	Composition	3
	MTH 140	Precalculus	5
	NAN 121	Fundamentals of Nanoscience I	<u>3</u>
			16

Second Semester

	BIO 110	Principles of Biology.....	4
	MTH 165	Elementary Statistics	4
	NAN 122	Fundamentals of Nanoscience II	3
	PHY 121	Introductory Physics I.....	<u>5</u>
			16

Summer Semester

	PHY 122	Introductory Physics II.....	<u>5</u>
			5

SECOND YEAR

First Semester

		Humanities or Social Science elective [♦]	3
	NAN 211	Micro to Nanosystems	3
	NAN 221	Nanobiotechnology	3
	NAN 231	Materials Technology.....	<u>3</u>
			12

Second Semester

		Approved elective ¹	3
	NAN 295	Independent Research or	
		Approved electives ¹	3-5
	NAN 299	Nanoscience Internship or	
		Approved electives ¹	6
	SPE 101	Fundamentals of Speech Communication	<u>3</u>
			15-17

¹ Select courses from BIO, CHM, EGR, or ELT with the consent of the program coordinator.

[♦] This elective must also meet the World Cultures and Diversity graduation requirement.

NETWORKING

See: *Computer Information Systems*

NURSING*

Associate in Applied Science Degree*

This 72 credit-hour program is designed to enable students to receive an associate in applied science degree in nursing at the completion of the two-year sequence. The program is approved by the Illinois Department of Professional Regulation and accredited by the National League for Nursing Accrediting Commission.

The associate in applied science degree in Nursing qualifies the graduate for NCLEX-RN and application for Illinois licensure as a registered nurse. Legal limitations could prohibit an individual from taking this licensing examination. Questions regarding these restrictions should be directed to the Illinois Department of Finance and Professional Regulations at 217.782.8556. Positions are available in a variety of health care settings.

Because of the nature of clinical experiences and individual instruction required in this program, specialized technology and the equipment necessary to offer this program, a higher tuition rate is assessed for career-specific courses. These include courses with the NUR prefix. Tuition for these courses in this program is 200 percent of the standard tuition rate.

Admission Requirements

For admission requirements, please contact the Admissions Outreach Office at 847.925.6700 or visit harpercollege.edu

Students who apply for this limited enrollment program are obligated to meet current admission requirements and follow program curriculum as defined at the time of acceptance to the program.

PREREQUISITES¹

BIO	160 ²	Human Anatomy	4
BIO	161 ²	Human Physiology	4
ENG	101	Composition	3
Mathematics ³		.....	0
PSY	101	Introduction to Psychology.....	3
			<u>14</u>

FIRST YEAR¹

First Semester

BIO	130 ²	Microbiology	4
NUR	110	Nursing Concepts and Practice	2
NUR	111	Introduction to Nursing Roles.....	2
NUR	112	Nursing Roles Clinical.....	2
NUR	180	Pathophysiology.....	3
PSY	228	Psychology of Human Development.....	3
			<u>16</u>

Second Semester

HSC	201 ²	Advanced Pharmacology	2
NUR	140	Adult Health Concepts I	2
NUR	141	Adult Health Clinical I.....	3
NUR	150	Psychosocial Concepts.....	2
NUR	151	Psychosocial Concepts Clinical	2
NUR	210	Physical Assessment.....	2
			<u>13</u>

Elective (Optional):

NUR	199 ⁴	Bridge to Advanced Nursing	3
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NURSING*

Associate in Applied Science Degree continued...

SECOND YEAR¹

First Semester

NUR	201	Child Bearing Concepts	2
NUR	202	Adult Health Concepts II	2
NUR	205	Pediatric Health Concepts	2
NUR	220	Child Bearing Clinical.....	2
NUR	240	Adult Health Clinical II.....	2
NUR	250	Pediatric Health Clinical	2
SPE	101	Fundamentals of Speech Communication	<u>3</u>
			15

Second Semester

NUR	216	Adult Health Concepts III	2
NUR	218	Role Transition Seminar	1
NUR	260	Adult Health Clinical III.....	3
NUR	280	Role Transition Practicum.....	5
Social Science or Humanities elective [♦]			<u>3</u>
			14

* Nursing is a limited enrollment program. See the Limited Enrollment Programs section of this catalog for details. Requirements subject to change. Contact the Admissions Outreach Office for updated information.

¹ A grade of C or better in all coursework is required for all students.

² Must be completed no earlier than five years prior to beginning the Nursing program.

³ Group 2 Math requirement is met by Nursing program admission requirements.

⁴ For Advanced Placement Nursing students only.

[♦] Students need to choose a course to meet this requirement that also meets the World Cultures and Diversity graduation requirement.

NURSING*

Practical Nursing Certificate*

This 35 credit-hour certificate program is designed to educate the student to become a practical nurse.

The Practical Nursing certificate qualifies the graduate to sit for the NCLEX-PN and application for Illinois licensure as a practical nurse. Legal limitations could prohibit an individual from taking this licensing examination. Questions regarding these restrictions should be directed to the Illinois Department of Financial and Professional Regulations at 217.782.8556. Positions in practical nursing are available in a variety of health care settings.

Because of the nature of clinical experiences and individual instruction required in this program, specialized technology and equipment necessary to offer this program, a higher tuition rate is assessed for career specific courses. These include courses with the NUR prefix. Tuition for these courses in this program is 200 percent of the standard tuition rate.

Admission Requirements

For admission requirements, please contact the Admissions Outreach Office at 847.925.6700 or visit harpercollege.edu

Students who apply for this limited enrollment program are obligated to meet current admission requirements and follow program curriculum as defined **at the time of acceptance to the program**.

PREREQUISITES

ENG	101	Composition	3
CNA	101 ¹	Nursing Assistant Training	<u>6</u>
			9

FIRST YEAR¹

Summer Semester

BIO	160 ²	Human Anatomy	4
PSY	101	Introduction to Psychology	<u>3</u>
			7

Fall Semester

BIO	161 ²	Human Physiology	4
NUR	101	PN Fundamentals	7
NUR	105 ³	PN Pharmacology	<u>1</u>
			12

Spring Semester

NUR	102	Lifespan Nursing for the PN	8
NUR	108	PN Mental Health Nursing	1
PSY	228	Psychology of Human Development	<u>3</u>
			12

SECOND YEAR¹

Summer Semester

NUR	104	PN Field Experience	4
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* Practical Nursing is a limited enrollment program. See Limited Enrollment Programs section of this catalog for details. Requirements subject to change. Contact the Admissions Outreach Office for updated information.

¹ A grade of C or better in all BIO, CNA and NUR courses is required for all students.

² Must be taken within five years of the required semester.

³ Must be taken during fall semester.

NURSING

Certified Nursing Assistant Certificate

This six credit-hour certificate program provides theory and training in the basic skills essential to the practice of health care workers who will assist the nurse in the care of patients in a variety of health care settings. Includes simulated practice and opportunity for clinical application. The course is approved by the Illinois Department of Public Health, Office of Health Regulations. Successful completion is required for application for the Nurse Aide Competency Exam. NOTE: All students must have a valid Social Security number, pass a criminal background check and meet health requirements. Special fees apply.

Opportunities for employment are found in settings such as long-term care facilities, home health agencies, hospitals, and private duty.

This program is part of Harper's Dual Credit Career Partnership. Applicants from this high school Dual Credit Career Partnership must have completed the 11th grade prior to entering and must also meet the program's special admission requirements. Special admission requirement options include ENG 100 or 101 with a grade of C or better, or ESL 073 with a grade of B or better, RDG 090 or RDG 099 with a grade of C or better, an ACT Reading score of 20 or higher, or required placement test scores.

Required:¹

CNA 101 Nursing Assistant Training 6

¹ A grade of C or better in all coursework is required for all students.

OCCUPATIONAL HEALTH AND SAFETY

See: Environmental Health

PARALEGAL STUDIES

Associate in Applied Science Degree

The 63 credit-hour program is designed to prepare men and women as technically qualified assistants to a lawyer. Under the supervision of a lawyer, the paralegal may perform such functions as legal research, investigation, detail work with regard to probate matters, preparation of tax forms and returns, searching public and court records, office management, library service, bookkeeping, serving and filing legal documents and preparing legal forms.

FIRST YEAR

First Semester

ENG	101	Composition	3
		Humanities elective ¹	3
PLS	101	Introduction to Paralegal Studies	3
PSY	101	Introduction to Psychology	3
SOC	101 [♦]	Introduction to Sociology	3
			<u>15</u>

Second Semester

ENG	103	Technical and Report Writing	3
PLS	102	Fundamentals of Legal Research	3
PLS	103	Litigation	3
PLS	105	Family Law	3
PLS	123	Real Property Law	3
			<u>15</u>

SECOND YEAR

First Semester

		Mathematics elective ²	3
PLS	201	Tort and Insurance Law	3
PLS	205	Contract Law	3
PLS	210	Corporate and Securities Law	3
PSC	101	American Politics and Government	3
			<u>15</u>

Second Semester

CAS	160	Introduction to Business Software Packages	3
		Electives ³	9
PLS	208 ⁴	Internship in Paralegal Studies	3
PLS	223	Computer-Assisted Legal Research	3
			<u>18</u>

¹ Humanities electives must be chosen from the following ABA-approved humanities, listed with the requirements for AAS degrees: ART 105, ART 114, ART 130, ART 131, ART 132, any FRN, any GER, any HST, any HUM, any JPN, any LIT, LNG 105, MUS 103, MUS 104, MUS 120, any PHI but not PHI 160, any SPA, or either SPE 107 or SPE 111.

² Only 100 level or higher mathematics courses are acceptable for the mathematics elective.

³ LEJ 201 or LEJ 202 (prerequisite of LEJ 101 will be waived for Paralegal Studies degree students), PLS 200, PLS 202, PLS 206, PLS 212, PLS 220, PLS 221, PLS 222, PLS 224, PLS 230.

⁴ Required for individuals without any legal experience. Individuals with legal experience may substitute another PLS course with coordinator approval.

[♦] This course meets the World Cultures and Diversity graduation requirement.

PARALEGAL STUDIES

Paralegal Studies Certificate

This 24 credit-hour certificate program is designed for those individuals who are currently employed or employable in the legal field or those who, because of legal experience, could benefit from these specialty options. The various choices available allow the student to develop special interests and skills.

To receive a certificate in Paralegal Studies, students must have earned an associate in applied science degree, an associate in arts degree, or a bachelor's degree which include general education courses equivalent to those required in Harper College's associate in applied science degree in paralegal studies. Verifications of the degree must be submitted before the certificate will be awarded.

Students who complete the 24 credit-hour certificate are eligible to use our computerized placement service and otherwise work as paralegals for a practicing attorney. Students should be aware that there are legal restrictions on the practice of law by laymen.

Students electing to earn a certificate in paralegal studies are eligible to apply credits earned toward completion of the associate in applied science degree.

Required:

PLS	101	Introduction to Paralegal Studies	3
PLS	102	Fundamentals of Legal Research	3
PLS	103	Litigation.....	3
PLS	223	Computer-Assisted Legal Research	3

Electives: Select at least 12 credit hours from the following courses, providing the combination has the approval of the coordinator or a Student Development faculty member.

LEJ	201 ¹	Criminal Law or	
LEJ	202	Criminal Procedures	3
PLS	105	Family Law.....	3
PLS	123	Real Property Law	3
PLS	200	Probate	3
PLS	201	Tort and Insurance Law	3
PLS	202	Estate Planning.....	3
PLS	205	Contract Law.....	3
PLS	206	Environmental Law	3
PLS	208	Internship in Paralegal Studies	3
PLS	210	Corporate and Securities Law.....	3
PLS	212	Law Office Systems	3
PLS	220	Community Law	3
PLS	221	Bankruptcy Law	3
PLS	222	Intellectual Property	3
PLS	224	Commercial Real Estate Law.....	3
PLS	230	Topics in Paralegal Studies	3

¹ Students may take LEJ 201 or LEJ 202, but not both. Prerequisite of LEJ 101 will be waived for Paralegal Studies certificate students.

PARAMEDIC

See: Emergency Medical Services

PARAPROFESSIONAL EDUCATOR

Associate in Applied Science Degree

This 62 credit-hour program is designed to promote the development of skills necessary when working with children in Title 1 programs in the K-12 public or private school classrooms. Students must complete both the required courses for the program and 18 hours of approved electives.

Required General Education Courses:

ENG	101	Composition	3
		Humanities elective	3
MTH	130	Mathematics for Elementary Teaching I	4
PSC	101	American Politics and Governments	3
PSY	101	Introduction to Psychology	3
SPE	101	Fundamentals of Speech Communication	3

Required Core Courses:

ECE	102	Child Development	3
EDU	201	Introduction to Education	3
EDU	202	Pre-Student Teaching Clinical Experience	1
EDU	211	Educational Psychology	3
EDU	219	Students with Disabilities in School	3
EDU	220*	Diversity in Schools and Society	3
EDU	230	Introduction to Language Arts in Elementary/Middle School Teaching	3
EDU	250	Introduction to Technology in Education	3
LIT	219	Children's Literature	3

Electives: Select 18 credit-hours from the following courses:

ANT	101	Introduction to Anthropology	3
ANT	202	Cultural Anthropology	3
ART	105	Introduction to the Arts or	
ART	130	History of Art I	3
ECE	120	Introduction to Special Education for Paraprofessionals	3
ECE	121	Behavioral Management in Special Education Setting	3
ENG	102	Composition	3
GEG	101	World/Regional Geography	3
HST	111	The American Experience to 1877	3
HST	112	The American Experience Since 1877	3
LNG	105	Introduction to Language and Linguistics	3
MTH	131	Mathematics for Elementary Teaching II	4
PHS	111	Introduction to Physical Science or	
PHS	112	Exploring the Earth and Universe	4
PSY	217	Adolescent Psychology or	
PSY	228	Psychology of Human Development	3
SGN	101	American Sign Language	4

*This course meets the World Cultures and Diversity graduation requirement.

PARAPROFESSIONAL EDUCATOR

Paraprofessional Educator Certificate

This 32 credit-hour program is designed to promote the skills necessary when working with children in non-title 1 positions in K-12 public of private schools. Individuals can also use the certificate program toward completion of the Paraprofessional Education associate in applied science degree.

Required:

ECE	102	Child Development.....	3
EDU	201	Introduction to Education	3
EDU	202	Pre-Student Teaching Clinical Experience	1
EDU	211	Educational Psychology.....	3
EDU	219	Students with Disabilities in School	3
EDU	220	Diversity in Schools and Society.....	3
EDU	230	Introduction to Language Arts in Elementary/Middle School Teaching	3
EDU	250	Introduction to Technology in Education.....	3
LIT	219	Children's Literature	3
MTH	130	Mathematics for Elementary Teaching I	4
PSY	101	Introduction to Psychology.....	3

PHLEBOTOMY

Phlebotomy Certificate

This 8 credit-hour certificate program consists of lectures, student laboratories and clinical internship arranged in a local health care facility. This certificate is useful for a number of health care professionals interested in developing the skills and techniques involved in the collection of blood from patients or donors for diagnostic testing. In addition, ethical and legal responsibilities, effective communication skills and safe practice are studied. Phlebotomists are employed in hospitals, hospital laboratories, physician offices, clinics, blood banks, commercial laboratories, or similar facilities. Phlebotomy has become a fast-growing health occupation and is considered a profession with a standardized educational curriculum and accepted routes for national certification.

Required:¹

HSC	112	Medical Terminology	2
PHB	101	Phlebotomy Principles and Practice	4
PHB	102	Phlebotomy Internship	2

¹ A grade of C or better in all HSC and PHB courses is required for all students.

PUBLIC RELATIONS

See: Mass Communication

RADIOLOGIC TECHNOLOGY*

Associate in Applied Science Degree*

This 72 credit-hour full-time curriculum prepares radiographers to produce radiographic images of parts of the human body for use in diagnosing medical problems. Additional duties may include processing and evaluating images, evaluating radiology equipment, and providing relevant patient care and education. The program provides both classroom and clinical instruction in anatomy and physiology, radiobiology, pathology, medical imaging and processing, radiation physics, positioning of patients, patient care procedures, radiation protection, and medical ethics.

Radiographers are employed in health care facilities including hospitals and clinics, specialized imaging centers; urgent care clinics, physician offices and government offices. Some radiographers are employed in educational institutions and in industry.

Because of the nature of clinical experiences and individualized instruction in this program, and specialized technology and the equipment necessary to offer this program, a higher tuition rate is assessed for career specific courses. These include courses with the RAD prefix. Tuition for these courses in this program is 200 percent of the standard tuition rate.

Admission Requirements

For admission requirements, please contact the Admissions Outreach Office at 847.925.6700 or visit harpercollege.edu

Students who apply for this limited enrollment program are obligated to meet current admission requirements and follow program curriculum as defined at the time of acceptance to the program.

PREREQUISITES¹

BIO	160 ²	Human Anatomy	4
BIO	161 ²	Human Physiology	4
ENG	101	Composition	3
Mathematics ³		.....	<u>0</u>
			11

FIRST YEAR¹

First Semester

HSC	104	Health Care Technology and Informatics.....	2
HSC	107	Basic Health Care Skills.....	1
HSC	112	Medical Terminology.....	2
RAD	101	Introduction to Radiologic Technology.....	2
RAD	102	Radiologic Procedures I.....	3
RAD	103	Radiologic Principles I.....	<u>3</u>
			13

Second Semester

HSC	165	Basic Pharmacology	1
HSC	213	Legal and Ethical Issues in Health Care	2
RAD	105	Radiologic Procedures II.....	3
RAD	106	Radiologic Principles II.....	3
RAD	107	Radiologic Clinical Education I.....	2
SOC	101 [♦]	Introduction to Sociology.....	<u>3</u>
			14

Summer Semester

RAD	201	Radiologic Clinical Education II.....	2
RAD	202	Radiologic Procedures III.....	<u>1</u>
			3

RADIOLOGIC TECHNOLOGY*

Associate in Applied Science Degree continued...

SECOND YEAR¹

First Semester

RAD	222	Radiologic Procedures IV	3
RAD	223	Advanced Radiologic Principles.....	3
RAD	224	Radiobiology	2
RAD	225	Radiologic Clinical Education III.....	3
SPE	101	Fundamentals of Speech Communication	<u>3</u>
			14

Second Semester

RAD	228	Digital Imaging	1
RAD	236	Radiologic Pathology	3
RAD	237	Radiologic Quality Assurance	1
RAD	238	Sectional Anatomy for Imaging	2
RAD	239	Radiologic Special Procedures	3
RAD	240	Radiologic Clinical Education IV	<u>3</u>
			13

Summer Semester

RAD	251	Radiologic Clinical Education V	3
RAD	258	Radiologic Seminar	<u>1</u>
			4

* Radiologic Technology is a limited enrollment program and has specific admission requirements. Please contact the Admissions Outreach Office at 847.925.6700 or view the requirements online at harpercollege.edu/apply/limitedenrollment

¹ A grade of C or better in all coursework is required for all students.

² Must be completed no earlier than five years prior to beginning the Radiologic Technology program.

³ Group 2 Math requirement is met by Radiologic Technology program admission requirements.

♦ This course meets the World Cultures and Diversity graduation requirement.

Mammography Certificate*

This four credit-hour certificate program will provide the American Registry of Radiologic Technology (ARRT) registered radiologic technologist the opportunity to expand their skills into the study in the theory and practice of mammography. The mammogram is a non-invasive procedure that assists in the detection of breast cancer.

Individuals who successfully complete this program are eligible to take the ARRT Mammography registry exam.

Because of the nature of clinical experiences and individualized instruction in this certificate, and specialized technology and the equipment necessary to offer this certificate, a higher tuition rate is assessed for career-specific courses. These include courses with the RAD prefix. Tuition for these courses in this certificate is 200 percent of the standard tuition rate.

Admission Requirements

For admission requirements, please contact the Admissions Outreach Office at 847.925.6700 or visit harpercollege.edu

*Students who apply for this limited enrollment program are obligated to meet current admission requirements and follow program curriculum as defined **at the time of acceptance to the program.***

Required:¹

RAD	215	Principles and Procedures in Mammography	3
RAD	216	Mammography Externship	1

* Mammography is a limited enrollment program. See the Limited Enrollment Programs section of this catalog for details. Requirements subject to change. Contact the Admissions Outreach Office for updated information.

¹ A grade of C or better in all RAD courses is required for all students.

REFRIGERATION AND AIR CONDITIONING TECHNOLOGY

See: Heating, Ventilation and Air Conditioning (HVAC)

SIGN LANGUAGE INTERPRETING

Sign Language Interpreting Certificate

This 40 credit-hour certificate program is designed to provide students with entry-level interpreting and transliterating skills, a general knowledge of Deaf culture and an understanding of the interpreting profession. Students enrolled in the program need to possess fluency in American Sign Language and English and need to have met the prerequisites for entry into the program. For individuals who do not yet possess sign language fluency, Harper College offers the following courses to assist in acquiring the necessary skills: SGN 101, SGN 102, SGN 103, SGN 201, and SGN 202. (See Sign Language course information.)

Successful completion of this program provides a foundation for students to take written and/or performance examinations leading to select credentials. Students should be aware that there are legal restrictions that apply to interpreters in the State of Illinois. Individuals in Illinois working toward becoming (or already working as) interpreters should familiarize themselves with the Interpreter for the Deaf Licensure Act of 2007.

Required:

ITP	101	Introduction to Interpreting	3
ITP	110 ¹	Consecutive Interpreting: English to ASL	3
ITP	111 ¹	Consecutive Interpreting: ASL to English	3
ITP	120	Simultaneous Interpreting: English to ASL I	3
ITP	121	Simultaneous Interpreting: ASL to English I	3
ITP	200	Transliterating and the Educational Setting	3
ITP	211	Simultaneous Interpreting: ASL to English II	3
ITP	215	Interpreting Dialogic Discourse	4
ITP	216	Simultaneous Interpreting: English to ASL II	3
ITP	220 ²	Sign Language Interpreting Practicum.....	5
SGN	205 ³	American Sign Language V	3
SGN	210 ⁴	American Sign Language Community: A Cultural Perspective	4

Electives:

ITP	105	Vocabulary Development for Interpreters: English	1
ITP	106	Vocabulary Development for Interpreters: American Sign Language.....	1
ITP	201	Topics in Interpreting	1-4

¹ Prerequisites include a grade of B or better in ITP 101 and SGN 205 before ITP 110 and ITP 111 may be taken.

² A grade of C or better is required in this course.

³ Prerequisite is SGN 202 with a grade of C or better, or consent of program coordinator.

⁴ Prerequisite is SGN 201 with a grade of C or better, or consent of program coordinator.

SUPPLY CHAIN MANAGEMENT

Associate in Applied Science Degree

This 61 credit-hour program is designed to provide in-service education for those persons working directly in, or in fields allied to, supply chain management. Additionally, the program may provide pre-service training for those who may seek or be transferred into jobs within these fields.

FIRST YEAR

First Semester

ACC	101	Introduction to Financial Accounting	4
CAS	115	Spreadsheet Software	1
CAS	125	Database Software	1
CAS	215	Advanced Spreadsheet Software	1
ENG	101	Composition	3
MGT	111	Introduction to Business Organization	3
SCM	101	Supply Chain Management.....	<u>3</u>
			16

Second Semester

ACC	102	Introduction to Managerial Accounting.....	3
ENG	130	Business Writing	3
SCM	elective ¹	.....	3
MGT	270	Principles of Management	3
PSY	245 ²	Industrial/Organizational Psychology	<u>3</u>
			15

SECOND YEAR

First Semester

ACC	211	Business Law I.....	3
ECO	200	Introduction to Economics.....	3
SCM	electives ¹	.....	6
MGT	150 ³	Business Math	<u>3</u>
			15

Second Semester

PHI	150	Business Ethics.....	3
SCM	elective ¹	.....	3
SCM	230 ⁴	International Supply Chain Management.....	3
MGT/SCM	electives ⁴	.....	<u>6</u>
			15

¹ SCM electives: SCM 120, SCM 121, SCM 122, SCM 123, SCM 124, SCM 125.

² Prerequisite waived for Supply Chain Management students.

³ A competency test, available in the Assessment and Testing Center, may be utilized to meet the mathematics requirement. Students in this program who utilize the competency test to meet the mathematics requirement must select an additional 200 level SCM course.

⁴ Supply Chain Management electives: MGT 274, SCM 226, SCM 227, SCM 259, SCM 281.

♦ This course meets the World Cultures and Diversity graduation requirement.

Inventory/Production Control Certificate

This 12 credit-hour certificate program is designed for those currently employed in or seeking employment in the fields of inventory or production control. The course work is specific to those jobs and issues that deal with all aspects of maintaining inventory for increasing production levels.

Required:

SCM	101	Supply Chain Management.....	3
SCM	120	Production Control Concepts	3
SCM	122	Inventory Control.....	3
SCM	226	Material Requirements Planning (MRP)	3

SUPPLY CHAIN MANAGEMENT

Supply Chain Management Certificate

This 18 credit-hour certificate program is designed to provide in-service education for those persons working directly in, or in fields related to, supply chain management. This particular curriculum format is especially suitable for those who may be in the field and are seeking to fill in knowledge or skill "gaps" in their total preparation. Additionally, the program may provide pre-service training for those who may seek or be transferred into jobs within these fields.

Required:

SCM	101	Supply Chain Management.....	3
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Electives: Group I (Select 12 credit hours from the following):

SCM	120	Production Control Concepts.....	3
SCM	121	Principles of Physical Distribution.....	3
SCM	122	Inventory Control.....	3
SCM	123	Traffic and Transportation.....	3
SCM	124	Material Handling and Packaging.....	3
SCM	125	Purchasing.....	3

Electives: Group II (Select one course):

SCM	226	Material Requirements Planning (MRP).....	3
SCM	227	Just-In-Time (JIT).....	3
SCM	230	International Supply Chain Management.....	3
SCM	259	Advanced Purchasing.....	3

Physical Distribution Certificate

This 12 credit-hour certificate program is designed for those currently employed in or seeking employment in physical distribution positions in various industries. Topics covered will provide the graduate with knowledge of distributing, warehousing, stocking and shipping materials for various industries.

Required:

SCM	101	Supply Chain Management.....	3
SCM	121	Principles of Physical Distribution.....	3
SCM	122	Inventory Control.....	3
SCM	227	Just-In-Time (JIT).....	3

Purchasing Certificate

This 12 credit-hour certificate program is designed for those currently employed in or seeking employment in purchasing positions in various industries. The curriculum emphasizes developing the competencies necessary for on-the-job purchasing management expertise.

Required:

SCM	101	Supply Chain Management.....	3
SCM	122	Inventory Control.....	3
SCM	125	Purchasing.....	3
SCM	259	Advanced Purchasing.....	3

WEB DEVELOPMENT

See: Computer Information Systems

WELDING

See: Maintenance