



## Program Sequences

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## Program Sequences

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### PROGRAMS LISTED BY TECHNOLOGY

#### AGRICULTURE AND NATURAL RESOURCES TECHNOLOGY

##### Associate of Applied Science Degree

Plant Science and Landscape Technology

- Basic Program
- Garden Center Operations

##### Certificate of Proficiency

Plant Science and Landscape Technology

- Landscape Technician

##### Post-Degree Professional Certificate

Plant Science and Landscape Technology

- Landscape Contracting

#### BUSINESS TECHNOLOGIES

##### Associate of Applied Business Degree

Accounting

Business Management

- Basic Program
- Human Resources Management
- International Business
- Office Operations Management
- Small Business Management

Court Reporting and Captioning

Hospitality Management

- Culinary Art
- Lodging-Tourism Management
- Restaurant/Food Service Management

Information Technology

- Information Application Specialist
- Mainframe Programming
- Microcomputer Specialist
- Networking Software
- Web Page Development and Maintenance

Interior Design

Marketing

Paralegal Studies

Purchasing and Supply Management

Real Estate

- Basic Program
- Mortgage Finance

Visual Communication and Design

- Advertising Design
- Digital Publishing
- Graphic Design
- Illustration
- Interactive Media
- Photography

##### Certificate of Proficiency

Business Management

- Office Operations Management
- Public Administration

Environmental, Health and Safety Technology

Food and Beverage Operations

Graphic Design

Infant Toddler

Information Technology (Information Application Specialist)

Lodging Rooms Division

Mortgage Finance

Professional Baking

Professional Culinarian/Cook

Visual Communication and Design (Graphic Design)

##### Short Term Certificate

Baking

Basic Office Skills

Culinarian/Cook

Food and Beverage

Lodging Rooms

##### Post-Degree Professional Certificate

Early Literacy Mentor

International Business

Paralegal Studies

Purchasing and Supply Management

#### ENGINEERING AND OTHER TECHNOLOGIES

##### Associate of Applied Science Degree

Automotive Technology

Construction Engineering Technology

Electrical/Electronic Engineering Technology

- Basic Program
- Bio-Medical
- Computer Networking Hardware
- Robotics and Mechatronics Systems
- Telecommunications

Manufacturing/Industrial Technology

- Basic Program

- Drafting Technology

Mechanical Engineering Technology

Recording Arts and Technology

Visual Communications - Scientific Imaging

##### Certificate of Proficiency

Automotive Technology

Computer-Aided Drafting (CAD)

Computer-Aided Manufacturing (CAM)

Computer Maintenance Technology

Machine Tools

Precision Machining Technology

#### HEALTH CAREERS

##### Associate of Applied Science Degree

Dental Assisting (1+1 program)

Dental Hygiene

Diagnostic Medical Sonography

Dietetic Technology

Electroneurodiagnostic Technology

Emergency Medical Technology

Health Information Management

Human Services

Massotherapy

- General Massage Therapy

- Geriatric Massage Therapy

Medical Assisting

Medical Laboratory Technology

Nuclear Medicine

Nursing

Occupational Therapy Assistant Technology

Optical Technology

Pharmacy Technology

Physical Therapist Assisting Technology

Physician Assistant

Radiography

Respiratory Care

(continued next page)

## HEALTH CAREERS

### Associate of Applied Science Degree

(continued)

Surgical Technology  
 Veterinary Technology

### Certificate of Proficiency

Dental Assisting  
 Dietary Management  
 General Nutrition  
 Medical Assisting  
 Optical Technology  
 Pharmacy Technician  
 Polysomnography  
 Practical Nursing  
 Sterile Processing and Distribution Technology

### Short Term Certificate

Laboratory Phlebotomy  
 Dental Assisting  
 Dental Office Management

### Post-Degree Professional Certificate

Diagnostic Medical Sonography  
 Legal Nurse Consultant  
 Massotherapy (General Massage Therapy)

## PUBLIC SERVICE TECHNOLOGIES

### Associate of Applied Science Degree

Deaf Interpretive Services  
 Early Childhood Education  
 Environmental, Health and Safety Technology  
 Fire Technology  
 Law Enforcement
 

- Basic Program
- Basic Police Academy
- Corrections
- Security Administration

## APPRENTICESHIP PROGRAMS

### Associate of Applied Science Degree

Applied Industrial Technology
 

- Bricklaying
- Carpentry
- Cement Masonry
- Construction Tending and Hazardous Material Abatement
- Drywall Finishing
- Electrical Construction
- Floorlaying
- Glazing
- Ironworking
- Manufacturing Technology
- Millwrighting
- Operating Engineers
- Painting
- Sign and Display
- Teledata

## Program Sequences

### ACCOUNTING

#### Associate of Applied Business degree in Accounting

The associate degree program in Accounting concentrates on providing a foundation in preparation for paraprofessional accounting careers and future advancement into supervisory positions. The program addresses the fundamentals of accounting education: namely, sound technical competence, verbal and written communication skills, and decision making abilities. Current technology has been integrated to provide students with both the theory and practical skills necessary to meet the demands of today's business environment. Check with the counseling department for 2 + 2 transfer opportunities.

See Appendix I, page 360 for application procedures.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
ACCT-1011	Business Math Applications	3
ACCT-1310	Financial Accounting	4
BADM-1020	Introduction to Business	3
IT-1010	Introduction to Microcomputer Applications	3
MATH-1200	Intermediate Algebra <sup>1</sup>	<u>4</u>
		17
<u>Second Semester</u>		
ACCT-1041	Individual Taxation	4
ACCT-1340	Managerial Accounting	4
BADM-1120	Principles of Management.....OR	3-4
MARK-2010	Principles of Marketing	
ECON-2610	Principles of Macroeconomics <sup>2</sup>	4
ENG-1010	College Composition I	<u>3</u>
		18-19
<u>Third Semester</u>		
ACCT-1321	Accounting with Computer Applications	4
ACCT-2310	Intermediate Accounting I	4
BADM-2010	Business Communications	3
ECON-2620	Principles of Microeconomics <sup>2</sup>	4
ENG-1020	College Composition II <sup>3</sup> .....OR	3
SPCH-1000	Fundamentals of Interpersonal Communication.....OR	
SPCH-1010	Fundamentals of Speech Communication ...OR	
SPCH-1210	Group Discussion.....OR	
SPCH-2160	Intercultural Communication	<u>—</u>
		18
<u>Fourth Semester</u>		
ACCT-2340	Cost Accounting	4
ACCT-2041	Business Taxation.....OR	4
ACCT-2320	Intermediate Accounting II.....OR	
ACCT-2500	Government/Non-Profit Accounting	
ACCT-2990	Business Strategies <u>C</u>	3
BADM-2150	Business Law	4
FIN-2100	Financial Management	<u>3</u>
		18
Program Total		71-72

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include ECON-2610 and 2620.

<sup>3</sup>Recommended for those transferring to a four-year college.

Note: Courses as listed satisfy competencies and skills degree.

C = Capstone course

### APPLIED INDUSTRIAL TECHNOLOGY (Bricklaying)

#### APPRENTICESHIP PROGRAM

#### Associate of Applied Science degree in Applied Industrial Technology with a Concentration in Bricklaying

Students must be currently working in a registered apprenticeship program in conjunction with the U.S. Department of Labor, Bureau of Apprenticeship and Training. The apprenticeship program prepares the student to earn a journey-level status in Bricklaying, as well as earn an Associate of Applied Science degree in Applied Industrial Technology. A three-year apprenticeship emphasizes the skill set required to be a highly skilled craftsman. Bricklaying is the art and craft of building and fabricating in stone and brick. Bricklayers work in a variety of construction settings building chimneys, partitions and walls, working with stone, cinder and gypsum block, and brick. The work requires physical stamina, a solid mathematical sense, and an artistic eye.

Apprenticeship Coordinator - (216) 987-3039

See Appendix I, page 358 for application procedures.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
ATBL-1300	Basic Bricklaying Trade Skills	2
ATBL-1310	Bricklaying Materials, Tools and Equipment	2
ATBL-1320	Basic Construction Drawings	1
ATBL-1330	Wall Construction I	2
ATBL-1340	Arch Construction I	2
ATCM-1310	Applied Technical Communications and Economics	2
ENG-1010	College Composition I	3
MATH-1160	Technical Mathematics I	<u>4</u>
		18
<u>Second Semester</u>		
ATBL-1530	Wall Construction II	2
ATBL-1540	Arch Construction II	2
ATBL-1950	Construction Trades Field Experience	1-3
MATH-1360	Technical Mathematics II	5
Communication...(See AAS Degree requirements) <sup>1</sup>		<u>3</u>
		13-15
<u>Third Semester</u>		
ATBL-1370	Construction Trades Safety	1
ATBL-2510	Advanced Brick-Block Construction	2
ATBL-2520	Step and Paving Assembly Construction	2
ATBL 2530	Door and Window Construction	2
IT-1010	Introduction to Microcomputer Applications	3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		<u>3</u>
		16
<u>Fourth Semester</u>		
ATBL-1950	Construction Trades Field Experience	1-3
ATBL-2710	Advanced Bricklaying Skills	3
ATCM-1390	Basic Welding Skills	2
ATCT-2990	Contracting in a Diverse World <u>C</u>	3
ATXX-2xxx	ATXX 2000-level elective course <sup>3</sup>	2
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		<u>2</u>
		13-15
Program Total		60-64

(continued next page)

**APPLIED INDUSTRIAL TECHNOLOGY  
(Bricklaying) (Continued)**

<sup>1</sup>ENG-2151 Technical Writing highly recommended.  
<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include a minimum 6 semester credits at the 2000-level.  
<sup>3</sup>Any 2000-level Applied Industrial Technology course may be used with written approval of the department.

Note: Courses as listed satisfy degree competencies and skills.  
C = Capstone course

**APPLIED INDUSTRIAL TECHNOLOGY  
(Carpentry)**

APPRENTICESHIP PROGRAM

**Associate of Applied Science degree in Applied Industrial Technology with a Concentration in Carpentry**

Students must be currently working in a registered apprenticeship program in conjunction with the U.S. Department of Labor, Bureau of Apprenticeship and Training. The apprenticeship program prepares the student to earn a journey-level status in Carpentry, as well as earn an Associate of Applied Science degree in Applied Industrial Technology. A four-year apprenticeship emphasizes the skill set required to be a highly skilled craftsman. Carpentry is the art and trade of cutting, working and joining timber. Carpenters work with both structural materials in framing, as well as items such as doors, windows and staircases. Carpenters are found on virtually every construction site, enjoying consistent demand for their services. Many contractors and job superintendents began as carpenters.

**Apprenticeship Coordinator - (216) 987-3039**  
**See Appendix I, page 358 for application procedures.**

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ATCT-1300	Carpentry I	2
ATCT-1310	Carpentry Safety	2
ATCT-1350	Interior Systems I	2
ATCT-1370	Layout	2
ATCT-1380	Framing	2
ENG-1010	College Composition I	3
MATH-1160	Technical Mathematics I	<u>4</u>
		17

Second Semester

ATCT-1330	Concrete Form Work I	2
ATCT-1610	Interior Finish	2
ATCT-2320	Carpentry II	2
ATCT-2360	Interior Systems II	2
IT-1010	Introduction to Microcomputer Applications	3
Communication...(See AAS Degree requirements) <sup>1</sup>		<u>3</u>
		14

Third Semester

ATCT-1550	Roof Framing I	2
ATCT-2340	Concrete Form Work II	2
ATCT-xxxx	ATCT course elective	2
IT-1020	Information Technology Concepts	2
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		<u>3</u>
		14

Fourth Semester

ATCT-2220	Roof Framing II	2
ATCT-2990	Contracting in a Diverse World <u>C</u>	3
ATCT-xxxx	Any ATCT elective course	2
ATCT-xxxx	Any ATCT elective course	2
ATCT-2xxx	Any 2000-level ATCT elective course <sup>3</sup>	2
MATH-xxxx	1000-level MATH course <sup>4</sup>	3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		<u>2</u>
		16

Program Total 61

<sup>1</sup>Select a 2000-level course; ENG-2151 Technical Writing highly recommended.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include a minimum of 4 semester credits at the 2000-level.

<sup>3</sup>ATCT elective must be at the 2000-level.

<sup>4</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

Note: Courses as listed satisfy degree competencies and skills.  
C = Capstone course

## Program Sequences

### APPLIED INDUSTRIAL TECHNOLOGY (Cement Masonry)

#### APPRENTICESHIP PROGRAM

#### Associate of Applied Science degree in Applied Industrial Technology with a Concentration in Cement Masonry

Students must be currently working in a registered apprenticeship program in conjunction with the U.S. Department of Labor, Bureau of Apprenticeship and Training. The apprenticeship program prepares the student to earn a journey-level status in Cement Masonry, as well as an Associate of Applied Science degree. A three-year apprenticeship emphasizes the skill set required to be a highly skilled craftsman. Cement Masonry is the art and craft of building with concrete. Masonry is one of the oldest construction trades. Masons apply their skills in building airport runways, bridges, commercial buildings and highways. The modern mason works closely with other craftsmen in construction projects. Much of the work is outdoors, requiring physical stamina, as well as strong organizational and mathematical skills.

Apprenticeship Coordinator - (216) 987-3039

See Appendix I, page 358 for application procedures.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
ATCM-1300	Fundamentals of Concrete Construction	2
ATCM-1310	Applied Tech Communications and Economics	2
ATCM-1320	Basic Plan Reading	2
ATCM-1330	Concrete Construction Equipment	2
ENG-1010	College Composition I	3
MATH-1160	Technical Mathematics I	4
		15
<u>Second Semester</u>		
ATCM-1340	OSHA Standards for the Construction Industry	3
ATCM-1400	Concrete/Cement Forming & Finishing	3
ATCM-1410	Commercial/Residential Form & Finish Work	4
IT-1010	Introduction to Microcomputer Applications	3
Communication...	(See AAS Degree requirements) <sup>1</sup>	3
		16
<u>Third Semester</u>		
ATCM-2320	Blueprint Fundamentals-Construction	2
ATCM-2500	Fundamentals of Concrete Curing	1
ATCM 2510	Fundamentals of Concrete Joints	1
ATCM-2520	Basic Cement Patching	2
ATCM-2530	Concrete Restoration	3
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>2</sup>	3
		12
<u>Fourth Semester</u>		
ATCM-2700	Advanced Concrete Finishing	3
ATCM-2710	Concrete Specialty Products	1
ATCM-xxxx	Any ATCM elective course	2
ATCT-2990	Contracting in a Diverse World <u>C</u>	3
MATH-xxxx	1000-level MATH course <sup>3</sup>	3
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>2</sup>	3
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>2</sup>	2
		17
Program Total		60

<sup>1</sup>ENG-2151 Technical Writing highly recommended.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include a minimum 4 semester credits at the 2000-level.

<sup>3</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

### APPLIED INDUSTRIAL TECHNOLOGY (Construction Tending and Hazardous Material Abatement)

#### APPRENTICESHIP PROGRAM

#### Associate of Applied Science degree in Applied Industrial Technology with a Concentration in Construction Tending and Hazardous Material Abatement

Students must be currently working in a registered apprenticeship program in conjunction with the U.S. Department of Labor, Bureau of Apprenticeship and Training. The apprenticeship program prepares the student to earn a journey-level status in Construction Tending and Hazardous Materials Abatement, as well as earn an Associate of Applied Science degree in Applied Industrial Technology. A three-year apprenticeship emphasizes the skill set required to be a highly skilled craftsman. These apprentices assist other trades on the job site as well as prepare the job site by removing any hazardous materials.

Apprenticeship Coordinator - (216) 987-3039

See Appendix I, page 358 for application procedures.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
ATBL-1310	Bricklaying Materials, Tools, Equipment	2
ATBL-1320	Basic Construction Drawings	1
ATCM-1330	Concrete Construction Equipment	2
ATCM-1370	Construction Trades Safety	1
ATCT-1310	Carpentry Safety	2
ATLB-1340	Mason Tending	3
ENG-1010	College Composition I	3
		14
<u>Second Semester</u>		
ATCT-1370	Layout	2
ATLB-1600	Asbestos Abatement	2
IT-1010	Introduction to Microcomputer Applications	3
MATH-xxxx	1000-level Math course <sup>1</sup>	3
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>2</sup>	3
Communication...	(See AAS Degree requirements) <sup>3</sup>	3
		16
<u>Third Semester</u>		
ATLB-2200	Surveying Techniques and Applications	3
ATLB-2400	Pipelaying Techniques	2
ATLB-2600	Scaffolds and High Elevation Techniques	3
IT-1020	Information Technology Concepts	2
ATXX-xxxx	ATxx elective courses <sup>4</sup>	3
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>2</sup>	3
		16

(Continued next page)



**APPLIED INDUSTRIAL TECHNOLOGY  
(Construction Tending and Hazardous Material  
Abatement) (Continued)**

Fourth Semester

ATCT-2990	Contracting in a Diverse World <u>C</u>	3
ATLB-2650	Demolition Techniques	3
ATLB-2740	Lead Abatement	3
ATXX	ATxx elective course <sup>4</sup>	3
MATH-1160	Technical Math I	4
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>2</sup>	<u>2</u>
		18
Program Total		64

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>Minimum 8 semester credits required – must include 3 semester credits at the 2000-level.

<sup>3</sup>ENG-2151 highly recommended.

<sup>4</sup>Any Applied Industrial Technology course may be used with written approval of the department.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

**APPLIED INDUSTRIAL TECHNOLOGY  
(Drywall Finishing)**

APPRENTICESHIP PROGRAM

**Associate of Applied Science degree in Applied Industrial  
Technology with a Concentration in Drywall Finishing**

Students must be currently working in a registered apprenticeship program in conjunction with the U.S. Department of Labor, Bureau of Apprenticeship and Training. The apprenticeship program prepares the student to work as a journey-level Drywall Finisher, as well as earn an Associate of Applied Science degree. A four-year apprenticeship emphasizes the skill set required to be a highly skilled craftsman. The Drywall Finisher finishes drywall surfaces by applying materials and sanding in preparation for final painting or treatment.

Apprenticeship Coordinator - (216) 987-3039

See Appendix I, page 358 for application procedures.

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ATDW-1310	Tools and Methods of Drywall Finishing	2
ATDW-1330	Materials and Methods of Drywall Finishing	2
ATPT-1300	Introduction to Painting, Drywall Finishing and Glazing	2
ATPT-1320	Safety Standards for Construction (OSHA-10)	3
ENG-1010	College Composition I	3
MATH-1160	Technical Mathematics I	<u>4</u>
		16

Second Semester

ATDW-1620	Taping Tools and Procedures	2
ATPT-1340	Wall Preparation and Repair	2
ATPT-1650	Blueprints I: Construction Fundamentals	2
ATPT-1660	Labor in American Society	2

IT-1010	Introduction to Microcomputer Applications	3
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>1</sup>	3
Communication...	(See AAS Degree requirements) <sup>2</sup>	<u>3</u>
		17

Third Semester

ATDW-2310	Automatic Taping Tools	2
ATDW-2330	Finishing Boxes	2
ATDW-2350	Filling Compounds and Procedures	2
ATPT-2320	Safe Work Practices	3
ATPT-xxxx	ATPT elective course <sup>3</sup>	3
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>1</sup>	<u>3</u>
		15

Fourth Semester

ATCT-2990	Contracting in a Diverse World <u>C</u>	3
ATDW-2340	Texturing	2
ATPT-2340	Blueprints II: Advanced Reading and Estimating	2
ATPT-2360	Foreman Training	2
ATPT-xxxx	ATPT elective course <sup>3</sup>	2
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>1</sup>	<u>2</u>
		13
Program Total		61

<sup>1</sup>Minimum 8 semester credits – must include 2 semester credits at the 2000-level.

<sup>2</sup>ENG-2151 Technical Writing highly recommended.

<sup>3</sup>Technical Electives

- ATPT-1330 Filling Compounds and Procedures
- ATPT-1620 Wood Finishing
- ATPT-1630 Color Mixing and Matching
- ATPT-2310 Wall Covering and Paperhanging
- ATPT-2380 Special Coatings and Decorative Finishes

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

## Program Sequences

### APPLIED INDUSTRIAL TECHNOLOGY (Electrical Construction)

#### APPRENTICESHIP PROGRAM

#### Associate of Applied Science degree in Applied Industrial Technology with a Concentration in Electrical Construction

Students must be currently working in a registered apprenticeship program in conjunction with the U.S. Department of Labor, Bureau of Apprenticeship and Training. The apprenticeship program prepares the student to earn a journey-level status in Electrical Construction, as well as earn an Associate of Applied Science degree. A five-year apprenticeship emphasizes the skill set required to be a highly skilled craftsman. The Electrician installs, maintains, operates or repairs electrical equipment. The work of the electrical construction worker can be divided into broad categories such as new construction, remodeling, maintenance and repair. While the jobs differ, the mental and physical skills acquired in this well-designed and administered apprenticeship training program prepare the electrical worker for the entire range of work. Much of the work involves installation, assembling, testing, repairing, layout and design of electrical wiring, fixtures and apparatus used for power, light, heating, air conditioning and many types of control systems. Many jobs now incorporate computers and fiber optics.

Apprenticeship Coordinator - (216) 987-3039

See Appendix I, page 358 for application procedures.

#### Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ATEL-1300	Direct Current Fundamentals	3
ATEL-1330	National Electric Code	2
ATEL-1350	Industrial Safety	1
ENG-1010	College Composition I	3
MATH-1160	Technical Mathematics I	<u>4</u>
		13
<u>Second Semester</u>		
ATEL-1310	Alternating Current Fundamentals	3
ATEL-1360	Blueprint Fundamentals-Electrical	2
IT-1010	Introduction to Microcomputer Applications	3
MATH-1360	Technical Mathematics II	5
Communication...(See AAS Degree requirements) <sup>1</sup>		<u>3</u>
		16
<u>Third Semester</u>		
ATEL-2300	Industrial Electronics Fundamentals I	3
ATEL-2350	Programmable Logic Controllers	3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		<u>3</u>
		12
<u>Fourth Semester</u>		
ATCT-2990	Contracting in a Diverse World <u>C</u>	3
ATEL-2310	Industrial Electronics Fundamentals II	3
ATEL-2500	AC/DC Motors and Generators	4
ATEL-2510	Motor Controls	3
ATEL-2700	Electrical Instrumentation	4
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		<u>2</u>
		19
Program Total		60

<sup>1</sup>ENG-2151 Technical Writing highly recommended.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

### APPLIED INDUSTRIAL TECHNOLOGY (Floorlaying)

#### APPRENTICESHIP PROGRAM

#### Associate of Applied Science degree in Applied Industrial Technology with a Concentration in Floorlaying

Students must be currently working in a registered apprenticeship program in conjunction with the U.S. Department of Labor, Bureau of Apprenticeship and Training. The apprenticeship program prepares the student to work as a journey-level Floorlayer, as well as earn an Associate of Applied Science degree. A four-year apprenticeship emphasizes the skill set required to be a highly skilled craftsman. The Floorlayer cuts, fits and installs hardwood flooring and various types of underlayment to insure smooth, level surfaces for a finished floor, scribes, cuts, fits, layout and seam tile and sheet goods. Also is an expert at cutting, binding, sewing and installing carpet.

Apprenticeship Coordinator - (216) 987-3039

See Appendix I, page 358 for application procedures.

#### Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ATCT-1300	Carpentry I	2
ATCT-1310	Carpentry Safety	2
ATCT-1450	Floorlaying Concepts	2
ATFL-1600	Modular Tile	2
ENG-1010	College Composition I	3
MATH-1160	Technical Mathematics I	<u>4</u>
		15
<u>Second Semester</u>		
ATFL-1610	Jute and Action Back Carpentry	2
ATFL-1620	Ceramics I	2
ATFL-1630	Wood Flooring I	2
ATFL-1640	Sheet Goods Concepts	2
BADM-2200	Human Relations in Business	3
IT-1010	Introduction to Microcomputer Applications	3
Communication...(See AAS Degree requirements) <sup>1</sup>		<u>3</u>
		17
<u>Third Semester</u>		
ATCT-2320	Carpentry II	2
ATFL-1650	Sheet Goods Flash Coving	2
ATFL-1730	Unitary Back and Enhancer Back Carpentry	2
ATFL-2300	Ceramics II	2
ATFL-2320	Wood Flooring II	2
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		<u>2</u>
		15

(Continued next page)

**APPLIED INDUSTRIAL TECHNOLOGY  
(Floorlaying) (Continued)**

Fourth Semester

ATCT-2990	Contracting in a Diverse World <u>C</u>	3
ATFL-1710	Velcro and Modular Carpentry	2
ATFL-1720	Sheet Goods-Geometric Layout and Inlay	2
ATFL-2400	Sheet Goods-Specialty Products	2
ATFL-2430	Woven and Axminister Carpentry	2
IT-1020	Information Technology Concepts	2
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>2</sup>	<u>3</u>
		16
Program Total		63

<sup>1</sup>ENG 2150 Technical Writing highly recommended.  
<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required (ART-1301 and ART-2100 recommended) – must include 4 semester credits at the 2000-level.  
 Note: Courses as listed satisfy degree competencies and skills.  
C = Capstone course

**APPLIED INDUSTRIAL TECHNOLOGY  
(Glazing)**

APPRENTICESHIP PROGRAM

**Associate of Applied Science degree in Applied Industrial Technology with a Concentration in Glazing**

Students must be currently working in a registered apprenticeship program in conjunction with the U.S. Department of Labor, Bureau of Apprenticeship and Training. The apprenticeship program prepares the student to work as a journey-level Glazier, as well as earn an Associate of Applied Science degree in Applied Industrial Technology. A four-year apprenticeship emphasizes the skill set required to be a highly skilled craftsman. The Glazier cuts and installs all types of glass. Materials include clear and heat absorbing glass, obscure glass, mirrors, leaded glass panels and insulating glass. Glazier also fabricates aluminum entrances, sidelights and show windows, and works with plastic and porcelain panels in metal and wood frames.

**Apprenticeship Coordinator - (216) 987-3039**  
**See Appendix I, page 358 for application procedures.**

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ATGL-1330	Hand Tools for Glaziers	2
ATPT-1300	Introduction to Painting, Drywall Finishing, and Glazing	2
ATPT-1320	Safety Standards for Construction (OSHA-10)	3
ENG-1010	College Composition I	3
MATH-1160	Technical Mathematics I	4
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>1</sup>	<u>2</u>
		16

Second Semester

ATGL-1620	Glass and Mirror Replacement and Installation	2
ATGL-1630	Basic Welding	2
ATGL-1640	Door Fabrication and Installation	2
ATGL-xxxx	ATGL elective course.....OR	2
ATPT-xxxx	ATPT elective course <sup>2</sup>	
ATPT-1650	Blueprints I: Construction Fundamentals	2

ATPT-1660	Labor in American Society	2
IT-1010	Introduction to Microcomputer Applications	3
Communication...	(See AAS Degree requirements)	<u>3</u>
		18

Third Semester

ATGL-2330	Transits, Leveling Instruments and Lasers	2
ATGL-2350	Curtainwall Fabrication and Installation	2
ATPT-2320	Safe Work Practices	3
ATDW-xxxx	ATDW elective course.....OR	2
ATGL-xxxx	ATGL elective course.....OR	
ATPT-xxxx	ATPT elective course <sup>2</sup>	
ATDW-xxxx	ATDW elective course.....OR	2
ATPT-xxxx	ATPT elective course <sup>2</sup>	
ATGL-xxxx	ATGL elective course.....OR	2
ATPT-xxxx	ATPT elective course <sup>2</sup>	
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>1</sup>	<u>3</u>
		16

Fourth Semester

ATCT-2990	Contracting in a Diverse World <u>C</u>	3
ATGL-2340	Advanced Welding	2
ATPT-1640	Rigging and Hoisting	2
ATPT-2360	Foreman Training	2
ATDW-xxxx	ATDW elective course .....OR	2
ATGL-xxxx	ATGL elective course .....OR	
ATPT-xxxx	ATPT elective course <sup>2</sup>	
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>1</sup>	<u>3</u>
		14
Program Total		64

<sup>1</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include 6 semester credits at the 2000-level.

<sup>2</sup>Technical Electives

ATDW-1310	Tools & Methods of Drywall Finishing	2
ATDW-2340	Texturing	2
ATDW-2350	Filling Compounds and Procedures	2
ATGL-2370	Sealants	2
ATPT-1620	Wood Finishing	2
ATPT-1630	Color Mixing and Matching	2
ATPT-2340	Blueprints II: Advanced Reading and Estimating	2
ATPT-2370	Abrasives Blasting Techniques	2

Note: Courses as listed satisfy degree competencies and skills.  
C = Capstone course

## Program Sequences

### APPLIED INDUSTRIAL TECHNOLOGY (Ironworking)

#### APPRENTICESHIP PROGRAM

#### Associate of Applied Science degree in Applied Industrial Technology with a Concentration in Ironworking

Students must be currently working in a registered apprenticeship program in conjunction with the U.S. Department of Labor, Bureau of Apprenticeship and Training. The apprenticeship program prepares student to earn a journey-level status in Ironworking, as well as an Associate of Applied Science degree. A three-year apprenticeship emphasizes the skill set required to be a highly skilled craftsman. The Ironworker erects, assembles and installs fabricated structural metal products, usually large metal beams, in the erection of industrial, commercial or large residential buildings. Structural Ironworkers erect the steel framework of bridges and buildings. Reinforcing Rod Ironworkers set steel bars or mesh in concrete forms to strengthen concrete in buildings and bridges. Ornamental Ironworkers install metal stairways, catwalks, gratings, grills, screens, fences and decorative ironwork. The Rigger is an ironworker whose job is to move heavy machinery, using rollers, forklifts and other sources of power.

Apprenticeship Coordinator - (216) 987-3039

See Appendix I, page 358 for application procedures.

#### Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ATIW-1300	Structural Steel Concepts	2
ATIW-1310	Safety for Ironworkers	1
ATIW-1320	Steel Construction Procedures	1
ATIW-1330	Erection Concepts and Practices	3
ATIW-1400	Principles of Reinforcing Steel	2
ATIW-1410	Practical Applications of Reinforcing Steel	1
ENG-1010	College Composition I	3
MATH-1160	Technical Mathematics I	<u>4</u>
		17

#### Second Semester

ATIW-1600	Welding Fundamentals for Ironworkers	3
ATIW-2300	Shielded Metal Arc Welding	3
ATIW-2310	Welding Specialties	3
ATIW-2320	Welding Blueprints and Design	3
Communication...(See AAS Degree requirements) <sup>1</sup>		<u>3</u>
		15

#### Third Semester

ATIW-2330	Pre-Construction Planning of Specialty Applications	2
ATIW-2340	Specialty Installation Equipment	2
ATIW-2350	Ornamental Systems and Railings	2
ATIW-2360	Ornamental Applications	2
ATIW-2400	History of the Iron Workers Union	3
IT-1010	Introduction to Microcomputer Applications	3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		<u>3</u>
		17

#### Fourth Semester

ATCT-2990	Contracting in a Diverse World <u>C</u>	3
ATIW-2500	Rigging and Hoisting	3
MATH-1360	Technical Mathematics II	5
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		2
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		<u>3</u>
		16
	Program Total	65

<sup>1</sup> ENG-2151 Technical Writing highly recommended.

<sup>2</sup> Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

## APPLIED INDUSTRIAL TECHNOLOGY (Manufacturing Technology)

### APPRENTICESHIP PROGRAM

#### Associate of Applied Science Degree in Applied Industrial Technology with a Concentration in Manufacturing Technology

Students must be currently working in a registered apprenticeship program in conjunction with the U.S. Department of Labor, Bureau of Apprenticeship and Training. The apprenticeship program prepares the student to work as a skilled Machinist, as well as earn an Associate of Applied Science degree in Applied Industrial Technology. A four-year apprenticeship emphasizes the skill set required to be a highly skilled craftsman. Machinists are involved in the production of components used by the aircraft, automotive, machinery and many other industries, often with machine tools run by computer numerical control devices. The machinist of today relies on high tech to produce parts, and must possess a wide skill set of mathematical knowledge, technical disciplines and the ability to work independently. Working from drawings or specifications, using precision measuring instruments, machinists shape metal into usable parts using a variety of precision metal cutting and grinding machines. Over 60 employers of metalworkers have participated to develop a strong, relevant, valuable and exciting apprenticeship-training program, offered at the Unified Technologies Center of Cuyahoga Community College.

**Program Manager - (216) 987-3195**

**See Appendix I, page 359 for application procedures.**

#### Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ATMT-1100	Manufacturing Skills I	3
ATMT-1110	Manufacturing Skills II	2
ATMT-1200	Machine Tool Theory	4
ATMT-1950	Field Experience	2
ENG-1010	College Composition I	3
MATH-1160	Technical Mathematics I	<u>4</u>
		18

#### Second Semester

ATMT-1300	Manufacturing Procedures	2
ATMT-1500	Manufacturing Technology Skills I	4
ATMT-1600	Introduction to CAD	2
ATMT-1950	Field Experience	2
MATH-1360	Technical Mathematics II	5
Communication...See AAS Degree Requirements <sup>1</sup>		<u>3</u>
		18

#### Third Semester

ATMT-1950	Field Experience	2
ATMT-2300	Advanced Manufacturing Procedures	2
ATMT-2500	Manufacturing Technology Skills II	4
ATMT-2600	CNC Programming/Operations	2
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		<u>3</u>
		16

#### Fourth Semester

ATMT-1950	Field Experience	2
ATMT-2620	CAM Principles	2
ATMT-2700	Manufacturing Technology Skills III	4
ATMT-2990	Manufacturing Operation Principles <u>C</u>	3
ATMT-2xxx	Any 2000-level ATMT elective course	2
ATMT-2xxx	Any 2000-level ATMT elective course	2
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		<u>2</u>
		17
	Program Total	69

<sup>1</sup>ENG-2151 Technical Writing highly recommended.

<sup>2</sup>Minimum 8 semester credits required in Arts & Hum/Soc & Beh Sci.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

## PRECISION MACHINING TECHNOLOGY

### Certificate of Proficiency

Cuyahoga Community College has a mission to provide motivated men and women the opportunity to learn a meaningful trade by working in the field under the supervision of a skilled craftsman and by attending related classroom training. In most cases Machine Trades Apprentices receive an excellent wage rate, paid health insurance, state-of-the-art training and advancement opportunities. The PMT provides the theoretical and hands-on experience to enable the student to enter into the industry at the Pre-Apprenticeship level.

Degree: Students may apply credits toward AIT (Manufacturing Technology) degree program with the exception of ATMT-1000.

**Program Manager - (216) 987-3195**

**See Appendix I, page 359 for application procedures.**

#### Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ATMT-1000	Mechanical and Spatial Relations	4
ATMT-1100	Manufacturing Skills I	3
ATMT-1120	Machine Operations I	6
MATH-1160	Technical Mathematics I	<u>4</u>
		17

#### Second Semester

ATMT-1110	Manufacturing Skills II	2
ATMT-1200	Machine Tool Theory	4
ATMT-2120	Machine Operations II	6
ENG-1010	College Composition I	<u>3</u>
		15
	Program Total	32

## Program Sequences

### APPLIED INDUSTRIAL TECHNOLOGY (Millwrighting)

#### APPRENTICESHIP PROGRAM

#### Associate of Applied Science degree in Applied Industrial Technology with a Concentration in Millwrighting

Students must be currently working in a registered apprenticeship program in conjunction with the U.S. Department of Labor, Bureau of Apprenticeship and Training. The apprenticeship program prepares the student to earn a journey-level status in Millwrighting, as well as earn an Associate of Applied Science degree. A four-year apprenticeship emphasizes the skill set required to be a highly skilled craftsman. Millwrights install, maintain and troubleshoot industrial equipment such as conveyors, monorails, combustion turbines and various rotating equipment.

Apprenticeship Coordinator - (216) 987-3039

See Appendix I, page 359 for application procedures.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
ATCT-1300	Carpentry I	2
ATCT-1310	Carpentry Safety	2
ATMW-1320	Introduction to Millwrighting	2
ATMW-1330	Print Reading for Millwrights	2
MATH-1160	Technical Mathematics I	4
IT-1010	Introduction to Microcomputer Applications	3
		15
<u>Second Semester</u>		
ATMW-1340	Introduction to Pile Driving	2
ATMW-1450	Heavy Rigging	2
ATMW-1490	Millwright Pile Driver Weld I	2
ATMW-1600	Rotating Equipment	2
ENG-1010	College Composition I	3
IT-1020	Information Technology Concepts	2
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>1</sup>		3
		16
<u>Third Semester</u>		
ATMW-1720	Machinery Installation	2
ATMW-2120	Shaft Alignment	2
ATMW-2230	Millwright Pile Driver Weld II	2
ATMW-2330	Precision Optics	2
Arts & Hum/Soc & Beh Sci...See AAS Degree Requirements <sup>1</sup>		3
Communication...See AAS Degree Requirements <sup>2</sup>		3
		14
<u>Fourth Semester</u>		
ATCT-2990	Contracting in a Diverse World <u>C</u>	3
ATMW-2350	Floor Conveyor	2
ATMW-2500	Combustion Turbine	2
ATMW-2520	Millwright Pile Driver Weld III	2
ATMW-2700	Monorail	2
ATXX-xxxx	Any elective course	2-3
Arts & Hum/Soc & Beh Sci...See AAS Degree Requirements <sup>1</sup>		2
		15-16
Program Total		60-61

<sup>1</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include a minimum of 3 semester credits at the 2000 level.

<sup>2</sup>ENG-2151 Technical Writing highly recommended.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

### APPLIED INDUSTRIAL TECHNOLOGY (Operating Engineers)

#### APPRENTICESHIP PROGRAM

#### Associate of Applied Science degree in Applied Industrial Technology with a Concentration in Operating Engineers

Students must be currently working in a registered apprenticeship program in conjunction with the U.S. Department of Labor, Bureau of Apprenticeship and Training. The apprenticeship program prepares the student to earn a journey-level status in Operating Engineers, as well as earn an Associate of Applied Science degree. A four-year apprenticeship emphasizes the skill set required to be a highly skilled craftsman and equipment mechanic. Operating engineers operate and maintain hoisting, grading, excavating and paving equipment, consisting of cranes, bulldozers, scrapers, graders, endloaders, concrete and asphalt plants, rollers and pumps. The Operating Engineer is generally employed in the building of highways, airports, buildings, waterways, stadiums and sewers.

Apprenticeship Coordinator - (216) 987-3039

See Appendix I, page 359 for application procedures.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
ATOE-1100	Operating Engineering Concepts	4
ATOE-1200	Basic Mechanical Concepts	3
ATOE-1650	Graders and Plans	2
ENG-1010	College Composition I	3
MATH-1160	Technical Mathematics I	4
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>1</sup>		2
		18
<u>Second Semester</u>		
ATCT-1310	Carpentry Safety	2
ATEL-1350	Industrial Safety	1
ATOE-1700	Paving, Tractor, Backhoe Operators	3
ATOE-2100	Mobile Crane	2
ATOE-2600	Bulldozer Practice	3
IT-1010	Introduction to Microcomputer Applications	3
Communication...(See AAS Degree requirements) <sup>2</sup>		3
		17
<u>Third Semester</u>		
ATOE-2200	Mechanical Repair	3
ATOE-2620	Backhoe Practice	3
ESCI-1310	Laboratory in Physical Geography	3
ESCI-131L	Physical Geography Lab	1
MATH-1360	Technical Mathematics II.....OR	3-5
ATOE-xxxx	Any ATOE elective course	
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>1</sup>		3
		16-18

(Continued next page)

**APPLIED INDUSTRIAL TECHNOLOGY  
(Operating Engineers) (Continued)**

Fourth Semester

ATCT-2990	Contracting in a Diverse World <u>C</u>	3
ATOE-2640	Advanced Grader Practice	3
ATOE-2660	Grader Safety	2
ATCM-xxxx	ATCM elective course.....OR <sup>3</sup>	1-3
ATOE-xxxx	ATOE elective course.....OR <sup>3</sup>	1-3
ESCI-1410	Physical Geology	3
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>1</sup>	<u>3</u>
		12-14
Program Total		63-67

<sup>1</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include a minimum of one semester credit at the 2000-level.

<sup>2</sup>ENG-2151 Technical Writing highly recommended.

<sup>3</sup>Technical Electives:

ATCM-1340	OSHA Standards for the Construction Industry	3
ATCM-2320	Blueprint Fundamentals/Construction	2
ATOE-2650	Safety Training Passport	1
ATOE-2670	Rough Terrain Forklift Operation	2
ATOE-2680	Hazardous Material Handling and Field Safety	2

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

**APPLIED INDUSTRIAL TECHNOLOGY  
(Painting)**

APPRENTICESHIP PROGRAM

**Associate of Applied Science degree in Applied Industrial Technology with a Concentration in Painting**

Students must be currently working in a registered apprenticeship program in conjunction with the U.S. Department of Labor, Bureau of Apprenticeship and Training. The apprenticeship program prepares the student to work as a journey-level Painter, as well as earn an Associate of Applied Science degree in Applied Industrial Technology. A four-year apprenticeship emphasizes the skill set required to be a highly skilled craftsman. Painters prepare surfaces of buildings and other structures and then apply paint and other compounds by means of brushes, rollers and sprayers. Painters apply a variety of substances including varnish, lacquers and enamels to interior surfaces and exterior structures. They may also work with wallpaper, vinyl and other materials, as well as mix paints, sandblast and waterblast.

Apprenticeship Coordinator - (216) 987-3039

See Appendix I, page 359 for application procedures.

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ATPT-1300	Introduction to Painting, Drywall Finishing and Glazing	2
ATPT-1320	Safety Standards for Construction (OSHA-10)	3
ATPT-1330	Filling Compounds and Procedures	2
ATPT-1340	Wall Preparation and Repair	2
ENG-1010	College Composition I	3
MATH-1160	Technical Mathematics I	4
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>1</sup>	<u>2</u>
		18

Second Semester

ATPT-1620	Wood Finishing	2
ATPT-1630	Color Mixing and Matching	2
ATPT-1640	Rigging and Hoisting	2
ATPT-1650	Blueprints I: Construction Fundamentals	2
ATPT-1660	Labor in American Society	2
IT-1010	Introduction to Microcomputer Applications	3
Communication...	(See AAS Degree requirements)	<u>3</u>
		16

Third Semester

ATGL-2400	Advanced Rigging and Hoisting.....OR	2
ATPT-2370	Abrasives Blasting Techniques <sup>2</sup> .....OR	
ATPT-2380	Special Coatings and Decorative Finishes <sup>2</sup>	
ATPT-2310	Wall Covering and Paperhanging	3
ATPT-2320	Safe Work Practices	3
ATPT-2330	Spray and Industrial Painting	2
ATPT-2370	Abrasives Blasting Techniques <sup>2</sup> .....OR	2
ATPT-2380	Special Coatings and Decorative Finishes <sup>2</sup>	
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>1</sup>	<u>3</u>
		15

Fourth Semester

ATCT-2990	Contracting in a Diverse World <u>C</u>	3
ATPT-2340	Blueprints II: Advanced Reading and Estimating	2
ATPT-2350	Advanced Spray and Industrial Painting	2
ATPT-2360	Foreman Training	2
MATH-1360	Technical Mathematics II	5
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>1</sup>	<u>3</u>
		17
Program Total		66

<sup>1</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required.

<sup>2</sup>ATPT-2370 and ATPT-2380 may each be used only once.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

## Program Sequences

### APPLIED INDUSTRIAL TECHNOLOGY (Sign and Display)

#### APPRENTICESHIP PROGRAM

#### Associate of Applied Science degree in Applied Industrial Technology with a Concentration in Sign and Display

Students must be currently working in a registered apprenticeship program in conjunction with the U.S. Department of Labor, Bureau of Apprenticeship and Training. The apprenticeship program prepares the student to earn a journey-level status in Sign and Display, as well as an Associate of Applied Science degree. A three-year apprenticeship emphasizes the skill set required to be a highly skilled craftsman. The apprentice learns to develop, fabricate, design, install and maintain signage of all types. Their work includes welding, computer graphics, neon lighting and installation techniques.

Apprenticeship Coordinator - (216) 987-3039

See Appendix I, page 359 for application procedures.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
ATPT-1300	Introduction to Painting, Drywall Finishing, and Glazing	2
ATPT-1320	Safety Standards for Construction (OSHA-10)	3
ATSD-1300	Introduction to Sign and Display	2
ATSD-1330	Hand Tools for Sign and Display	2
ENG-1010	College Composition I	3
MATH-1160	Technical Mathematics I	4
		16
<u>Second Semester</u>		
ATGL-1630	Basic Welding	2
ATPT-1630	Color Mixing and Matching	2
ATPT-1650	Blueprints I: Construction Fundamentals	2
ATSD-1620	Plastic Face Fabrication and Techniques	2
IT-1010	Introduction to Microcomputer Applications	3
	Communication... (See AAS Degree requirements) <sup>1</sup>	3
	Arts & Hum/Soc & Beh Sci. (See AAS Degree requirements) <sup>2</sup>	2
		16
<u>Third Semester</u>		
ATPT-1640	Rigging and Hoisting	2
ATPT-1660	Labor in American Society	2
ATPT-2320	Safe Work Practices	3
ATSD-2330	Sign Lighting and Wiring	2
ATSD-2340	Advanced Welding	2
ATSD-2360	Computerized Manufacture of Signs	2
	Arts & Hum/Soc & Beh Sci. (See AAS Degree requirements) <sup>2</sup>	3
		16
<u>Fourth Semester</u>		
ATCT-2990	Contracting in a Diverse World <u>C</u>	3
ATPT-2360	Foreman Training	2
ATSD-2350	Structural Steel and Support Fabrication	2
ATSD-2370	Letter Fabrication	2
ATSD-2390	Advanced Blueprints for Sign and Display	2
ATSD-2460	Computerized Sign Design	2
	Arts & Hum/Soc & Beh Sci. (See AAS Degree requirements) <sup>2</sup>	3
		16
	Program Total	64

<sup>1</sup>ENG-2151 Technical Writing highly recommended.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course.

### APPLIED INDUSTRIAL TECHNOLOGY (Teledata)

#### APPRENTICESHIP PROGRAM

#### Associate of Applied Science degree in Applied Industrial Technology with a Concentration in Teledata

Students must be currently working in a registered apprenticeship program in conjunction with the U.S. Department of Labor, Bureau of Apprenticeship and Training. The apprenticeship program prepares the student to earn a journey-level status in Teledata, as well as earn an Associate of Applied Science degree. A three-year apprenticeship emphasizes the skill set required to be a highly skilled craftsman. Teledata technicians learn premises and commercial cabling, video, data and voice systems, computer network cabling, security systems as well as many other areas.

Apprenticeship Coordinator - (216) 987-3039

See Appendix I, page 359 for application procedures.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
ATEL-1360	Blueprint Fundamentals-Electrical	2
EET-1110	DC Electric Circuits	3
IT-1010	Introduction to Microcomputer Applications	3
IT-1020	Information Technology Concepts	2
MATH-1160	Technical Mathematics I	4
		14
<u>Second Semester</u>		
ATTC-1340	AC Circuits/Telephony	3
ATTC-1350	Premises Cabling	3
EET-1300	Cisco I: LAN Design	2
ENG-1010	College Composition I	3
IT-1040	Microcomputer Operating Systems	3
MATH-1360	Technical Mathematics II	5
		19
<u>Third Semester</u>		
ATEL-1350	Industrial Safety	1
ATTC-1360	Network Cabling	3
ATTC-2300	Advanced Telecommunications	4
EET-1310	Cisco II: Basic Router Configuration	2
ENG-2151	Technical Writing	3
	Arts & Hum/Soc & Beh Sci... (See AAS Degree requirements) <sup>1</sup>	3
		16
<u>Fourth Semester</u>		
ATCT-2990	Contracting in a Diverse World <u>C</u>	3
EET-2120	Electronics I	3
EET-2300	Cisco III: LAN Management <sup>2</sup>	2
EET-2310	Cisco IV: WAN Management <sup>2</sup>	2
	Arts & Hum/Soc & Beh Sci... (See AAS Degree requirements) <sup>1</sup>	3
	Arts & Hum/Soc & Beh Sci... (See AAS Degree requirements) <sup>1</sup>	2
		15
	Program Total	64

<sup>1</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required--must include a minimum of 3 credits at the 2000-level.

<sup>2</sup>EET-2300 must be taken before EET-2310.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course.



**ARCHITECTURAL AND CONSTRUCTION ENGINEERING**

The Architectural and Construction Engineering degree program has been renamed and is now listed under **Construction Engineering Technology**.

**AUTOMOTIVE TECHNOLOGY**

**Associate of Applied Science degree in Automotive Technology**

Students are taught to diagnose, correct and repair electrical, fuel, emissions and mechanical problems found in today's modern automobile through classroom, laboratory and field experience. Graduates are prepared for entry level positions as technicians in fleet service, manufacturer's dealerships, national oil company and transmission repair facilities or independent garages. Course work prepares student for the National Institute for Automotive Service Excellence (ASE) automotive tech tests. The AUTO Program is certified by the National Automotive Technicians Education Foundation (NATEF) in all eight ASE categories.

The Automotive Service Educational Program (ASEP) requires alternating school and General Motors dealership work experience sessions. In addition, ASEP students need to complete AUTO-2940 and AUTO-2950. Please call the Automotive Technology department for more information.

**Program Manager - (216) 987-5330**

**See Appendix I, page 360 for application procedures.**

Suggested Semester Sequence		<u>Credit Hrs.</u>
<u>First Semester</u>		
AUTO-1050	Numerical Applications in Automotive Service	3
AUTO-1100	Introduction to Automotive Service Procedures	2
AUTO-1400	Automotive Alignment, Steering & Suspension	3
AUTO-1450	Automotive Braking Systems	3
AUTO-1501	Automotive Electrical Fundamentals	2
ENG-1010	College Composition I	<u>3</u>
		16
<u>Second Semester</u>		
AUTO-1300	Automotive Engines	3
AUTO-1940	Automotive Field Experience I	1
AUTO-2400	Engine Performance	3
AUTO-2470	Automotive Electrical Systems	2
IT-1010	Introduction to Microcomputer Applications	3
Communications...(See AAS Degree requirements)		<u>3</u>
		15
<u>Third Semester</u>		
AUTO-1350	Manual Transmission and Drivetrain	2
AUTO-1950	Automotive Field Experience II	1
AUTO-2350	Automotive HVAC	2
AUTO-2450	Automotive Electronic Engine Controls	3
BADM-1020	Introduction to Business.....OR	3-4
BADM-1300	Small Business Management.....OR	
BADM-2220	Organizational Behavior.....OR	
BADM-2330	Human Resource Management	
MATH-xxxx	1000-level MATH course <sup>1</sup>	3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		<u>3</u>
		17-18

Fourth Semester

AUTO-1960	Automotive Field Experience III <sup>3</sup>	1
AUTO-2300	Automatic Transmissions.....OR	3
AUTO-2xxx	2000-level AUTO elective course <sup>4</sup>	
AUTO-2500	Automotive Electrical Diagnosis	2
AUTO-2700	Automotive Service Operations	2
AUTO-2990	Automotive Professional Study <u>C</u>	1
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		2
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		<u>3</u>
		14
Program Total		62-63

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include minimum 2 semester credits at the 2000-level (ASEP students will automatically meet this requirement).

<sup>3</sup>ASEP students must also complete AUTO-2940/2950.

<sup>4</sup>Elective course may be selected with written approval from the AUTO department.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

**AUTOMOTIVE TECHNOLOGY**

**Certificate of Proficiency**

This Certificate of Proficiency in Automotive Technology provides students with classroom and laboratory experience and prepares students for employment in the auto service industry.

Degree: Students may apply credits toward the Automotive Technology Degree program.

**Program Manager - (216) 987-5330**

**See Appendix I, page 360 for application procedures.**

Suggested Semester Sequence		<u>Credit Hrs.</u>
<u>First Semester</u>		
AUTO-1100	Introduction to Automotive Service Procedures	2
AUTO-1300	Automotive Engines	3
AUTO-1350	Manual Transmission and Drivetrain	2
AUTO-1450	Automotive Braking Systems	3
AUTO-1501	Automotive Electrical Fundamentals	2
ENG-1010	College Composition I	<u>3</u>
		15
<u>Second Semester</u>		
AUTO-1400	Automotive Alignment, Steering and Suspension	3
AUTO-2300	Automatic Transmissions	3
AUTO-2350	Automotive HVAC	2
AUTO-2400	Engine Performance	3
AUTO-2470	Automotive Electrical Systems	2
MATH-xxxx	1000-level MATH course <sup>1</sup>	<u>3</u>
		16
Program Total		31

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

## Program Sequences

### BUSINESS MANAGEMENT

#### Associate of Applied Business degree in Business Management

The Associate of Applied Business degree in Business Management is designed to help you become an effective manager of projects as well as personnel. The business management curriculum will enable you to advance personally in a business environment while you contribute to your company's goals and objectives. Your courses will familiarize you with general management theory and practice, as well as critical knowledge in accounting, marketing, purchasing, economic and legal aspects of the modern business world. Prepare yourself for a business-related career or advancement in industrial or consumer product or retail setting.

#### Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ACCT-1011	Business Math Applications	3
ACCT-1310	Financial Accounting	4
BADM-1020	Introduction to Business	3
IT-1010	Introduction to Microcomputer Applications	3
MATH-1200	Intermediate Algebra <sup>1</sup>	<u>4</u>
		17

#### Second Semester

ACCT-1340	Managerial Accounting	4
BADM-2220	Organizational Behavior	3
ECON-2610	Principles of Macroeconomics <sup>2</sup>	4
ENG-1010	College Composition I	3
MARK-2010	Principles of Marketing	<u>3</u>
		17

#### Third Semester

BADM-1120	Principles of Management	4
BADM-2010	Business Communications	3
BADM-2160	Introduction to Purchasing	3
ECON-2620	Principles of Microeconomics <sup>2</sup>	4
ENG-1020	College Composition II <sup>3</sup> .....OR	3
SPCH-1000	Fundamentals of Interpersonal Communication .....OR	
SPCH-1010	Fundamentals of Speech Communication ...OR	
SPCH-1210	Group Discussion.....OR	
SPCH-2160	Intercultural Communication	<u>—</u>
		17

#### Fourth Semester

BADM-1210	Labor-Management Relations....OR	3
BADM-2410	Office Management	
BADM-2110	Production/Operations Management	3
BADM-2150	Business Law	4
BADM-2330	Human Resource Management	3
BADM-2501	Business Strategies <u>C</u>	3
BADM-xxxx	BADM elective course	<u>2-4</u>
		18-20

Program Total 69-71

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include ECON-2610 and 2620.

Note: Courses as listed satisfy degree competencies and skills.

<sup>3</sup>Recommended for those transferring to a four-year college.

C = Capstone course

### BUSINESS MANAGEMENT

#### (Human Resource Management)

#### Associate of Applied Business degree in Business Management with a concentration in Human Resource Management

Students experience and develop Human Resource generalist capabilities through this competency-driven and applications-based Human Resource program. By combining a dynamic market designed and driven Human Resource concentration with a well rounded Business Management degree, the student is preparing to become a marketable Human Resource practitioner with a business partner orientation. Those already in the function can develop and advance their career potential through this up-to-date program.

#### Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
BADM-1020	Introduction to Business	3
BADM-2220	Organizational Behavior	3
ENG-1010	College Composition I	3
IT-1010	Introduction to Microcomputer Applications	3
MATH-1060	Survey of Mathematics <sup>1</sup>	<u>3</u>
		15

#### Second Semester

BADM-1120	Principles of Management	4
BADM-2330	Human Resource Management	3
ECON-2610	Principles of Macroeconomics <sup>2</sup>	4
ENG-1020	College Composition II	3
SPCH-1010	Fundamentals of Speech Communications .....OR	3
BADM-2010	Business Communications	<u>—</u>
		17

#### Third Semester

ACCT-1011	Business Math Applications.....OR	3-4
ACCT-1310	Financial Accounting	
BADM-1210	Labor-Management Relations	3
BADM 2150	Business Law	4
BADM-2340	Human Resource Law and Application	3
ECON-2620	Principles of Microeconomics <sup>2</sup> .....OR	<u>4</u>
		17-18

#### Fourth Semester

ANTH-1010	Cultural Anthropology.....OR	3
POL-1010	American National Government.....OR	
PSY-1010	General Psychology.....OR	
PSY-1050	Introduction to Industrial/Organizational Psychology.....OR	
SOC-1010	Introductory Sociology	
BADM-2110	Production and Operations Management	3
BADM-2390	Advanced Human Resource Practices <u>C</u>	3
MARK-2010	Principles of Marketing	3
PL-1460	Workers' Compensation Law	<u>3</u>
		15

Program Total 64-65

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include ECON-2610 and 2620.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

**BUSINESS MANAGEMENT  
(International Business)**

**Associate of Applied Business degree in Business Management with a concentration in International Business**

Designed to prepare students for the unique requirements of doing business in a global marketplace. Includes export activities, global business and marketing strategies, foreign manufacturing logistics and international communications etiquette. Courses are taught by experts in International Business and feature guest lecturers, interactive role play and plenty of hands-on activities. Maximizes student opportunities for employment in any aspect of business in the U.S. or elsewhere.

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hours</u>
ACCT-1310	Financial Accounting	4
BADM-1020	Introduction to Business	3
IT-1010	Introduction to Microcomputer Applications	3
MATH-1200	Intermediate Algebra <sup>1</sup>	<u>4</u>
		14

Second Semester

ACCT-1340	Managerial Accounting	4
BADM-2600	Introduction to World Trade	3
ECON-2610	Principles of Macroeconomics	4
ENG-1010	College Composition I	3
MARK-2010	Principles of Marketing	<u>3</u>
		17

Third Semester

BADM-2160	Introduction to Purchasing	3
BADM-2610	Cross Cultural Communications	1
BADM-xxxx	BADM elective course <sup>3</sup>	1-2
BADM-xxxx	BADM elective course <sup>3</sup>	2
ECON-2620	Principles of Microeconomics	4
xxxx	Select Foreign Language elective <sup>2</sup>	<u>3-4</u>
		14-16

Fourth Semester

BADM-1120	Principles of Management... OR	3-4
BADM-2110	Production/Operations Management	
BADM-2150	Business Law	4
BADM-xxxx	BADM elective course <sup>3</sup>	1-2
BADM-xxxx	BADM elective course <sup>3</sup>	2
BADM-2790	International Business Strategy and Application <u>C</u>	4
xxxx	Select Foreign Language elective <sup>2</sup>	<u>3-4</u>
		17-20
	Program Total	62-67

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup> Foreign language electives should be selected in the same language. Departmental approval required to select another foreign language. American Sign Language courses are not foreign language elective options for this degree.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone Course

<sup>3</sup> BADM electives (select minimum of 6 credits) Credits

BADM-2510	Import/Export Documentation	1
BADM-2520	Operational Issues in International Business	2
BADM-2530	International Sourcing and Logistics	2

BADM-2620	International Trade Finance and Insurance	2
BADM-2630	Legal Issues in International Business	1
BADM-2640	International Payment, Credit and Collections	2
BADM-2710	Global Marketing	2
BADM-2720	International Market Research and Planning	2
BADM-2730	Channels of Distribution in International Markets	1
BADM-2740	Export Pricing, Quotations and Terms of Sale	1

**BUSINESS MANAGEMENT  
(Office Operations Management)**

**Associate of Applied Business degree in Business Management with a concentration in Office Operations Management**

Students develop competencies necessary for supervision, office management, information processing, accounting, spreadsheet organization and other techniques that provide the base for a broad range of office jobs. They further develop fundamental skills in office procedures, information processing, communications, organizational skills, time management, project management and computer usage.

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
BADM-1000	Business Language Skills	2
BADM-1020	Introduction to Business	3
ENG-1010	College Composition I	3
IT-1000	Keyboarding <sup>1</sup>	2
IT-1010	Introduction to Microcomputer Applications	3
IT-1030	Internet Fundamentals	2
	Arts & Hum/Soc & Beh Sci...(See AAB Degree requirements) <sup>2</sup>	<u>3</u>
		18

Second Semester

BADM-1120	Principles of Management	4
ITAP-1200	Word Processing I	3
ITAP-1230	Basic Business Formatting	3
ITAP-1240	Basic Filing with Microcomputer Applications	3
MATH-1060	Survey of Mathematics <sup>3</sup>	3
	Communication...(See AAB Degree requirements)	<u>3</u>
		19

Third Semester

BADM-2010	Business Communications	3
BADM-2220	Organizational Behavior	3
BADM-2410	Office Management	3
ITAP-1250	Electronic Spreadsheet Use and Design	3
ITAP-2210	Presentation Software	3
SPCH-1000	Fundamentals of Interpersonal Communication <sup>2</sup>	<u>3</u>
		18

(Continued next page)

## Program Sequences

### BUSINESS MANAGEMENT (Office Operations Management) (Continued)

#### Fourth Semester

ACCT-xxxx	ACCT elective course	3
BADM-2150	Business Law	4
BADM-2990	Office Procedures and Practices <u>C</u>	3
IT-2300	Database Use and Design	3
Arts & Hum/Soc & Beh Sci...	(See AAB Degree requirements) <sup>2</sup>	<u>2</u>
		15
Program Total		70

<sup>1</sup>May be waived through demonstration of 20 wpm skills or equivalent proficiency.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include SPCH-1000.

<sup>3</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

### BUSINESS MANAGEMENT (Office Operations Management)

#### Certificate of Proficiency

The one-year certificate program is designed to accommodate those who are employed full-time or are attending college on a part-time basis, seeking to upgrade their existing employment skills or begin a job in an office setting. The Office Operations Management Certificate of Proficiency prepares individuals to pursue career advancement in the growing field of office management.

Degree: Students may apply credits toward the Business Management degree with a concentration in Office Operations Management.

#### Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
BADM-1000	Business Language Skills	2
BADM-1020	Introduction to Business	3
ENG-1010	College Composition I	3
IT-1000	Keyboarding <sup>1</sup>	2
IT-1010	Introduction to Microcomputer Applications	3
IT-1030	Internet Fundamentals	2
MATH-1060	Survey of Mathematics <sup>2</sup>	<u>3</u>
		18
<u>Second Semester</u>		
BADM-1120	Principles of Management	4
BADM-2010	Business Communications	3
ITAP-1200	Word Processing I	3
ITAP-1230	Basic Business Formatting	3
ITAP-1240	Basic Filing with Microcomputer Applications	3
ITAP-1250	Electronic Spreadsheet Use and Design	<u>3</u>
		19
Program Total		37

<sup>1</sup>May be waived through demonstration of 20 wpm skills or equivalent proficiency.

<sup>2</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

### BUSINESS MANAGEMENT (Public Administration)

#### Certificate of Proficiency

The Certificate of Proficiency in Business Management with a concentration in Public Administration targets a significant and growing market niche. Public Administration has unique characteristics that are significantly different from the Private Sector. With a dwindling tax base and an increasing number of levy defeats, the Public Sector is expected to provide the same level of services with less revenue. The goal of this certificate is to provide the student with the basic foundation skills and knowledge to manage more efficiently, develop independent revenue streams, initiate cost reduction methods and increase tax payers' satisfaction.

#### Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ACCT-1310	Financial Accounting	4
BADM-1020	Introduction to Business	3
ENG-1010	College Composition I	3
IT-1010	Introduction to Microcomputer Applications	3
POL-1010	American National Government	<u>3</u>
		16

#### Second Semester

		<u>Credit Hrs.</u>
ACCT-250A	Government Accounting.....OR	2
HS-2530	Proposal Writing and Program Development	
BADM-1120	Principles of Management	4
BADM-2220	Organizational Behavior	3
BADM-2400	Public Administration	3
BADM-2010	Business Communications.....OR	3
BADM-2160	Introduction to Purchasing.....OR	
BADM-2330	Human Resource Management....OR	
BADM-2410	Office Management.....OR	
MARK-2010	Principles of Marketing	
MATH-1060	Survey of Mathematics <sup>1</sup>	<u>3</u>
		18

#### Program Total

34

<sup>1</sup>Any higher level MATH may also be used to meet this requirement except MATH-1800/2800 and 1820/2820.

**BUSINESS MANAGEMENT  
(Small Business Management)**

Associate of Applied Business degree in Business Management with a concentration in Small Business Management

This program is designed for those who aspire to be entrepreneurs, as well as for those already operating a small business.

Fundamentals of entrepreneurship are emphasized. A solid management foundation is provided.

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ANTH-1010	Cultural Anthropology.....OR	3
POL-1010	American National Government...OR	
PSY-1010	General Psychology.....OR	
SOC-1010	Introductory Sociology	
BADM-1020	Introduction to Business	3
ENG-1010	College Composition I	3
IT-1010	Introduction to Microcomputer Applications	3
MATH-1060	Survey of Mathematics <sup>1</sup>	<u>3</u>
		15
<u>Second Semester</u>		
ACCT-1310	Financial Accounting	4
BADM-1300	Small Business Management	4
ECON-2610	Principles of Macroeconomics <sup>2</sup>	4
ENG-1020	College Composition II	3
SPCH-1010	Fundamentals of Speech Communications	<u>3</u>
		18
<u>Third Semester</u>		
BADM-1120	Principles of Management	4
BADM-2220	Organizational Behavior	3
BADM-2450	New Business Development <u>C</u>	5
ECON-2620	Principles of Microeconomics <sup>2</sup>	4
MARK-2010	Principles of Marketing	<u>3</u>
		19
<u>Fourth Semester</u>		
BADM-2010	Business Communications	3
BADM-2150	Business Law	4
BADM-2160	Introduction to Purchasing	3
BADM-2470	Marketing Techniques for Small Business	3
MARK-2270	Principles of Advertising	<u>3</u>
		16
	Program Total	68

<sup>1</sup>Any higher level MATH course may also be used to meet this requirement except MATH-1800/2800 & 1820/2820.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include ECON-2610 and 2620.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

**CONSTRUCTION ENGINEERING  
TECHNOLOGY**

Associate of Applied Science degree in Construction Engineering Technology

The construction industry is made up of one of the largest labor forces in the nation. This program prepares students with technical abilities for construction management careers. Course work includes a comprehensive study of construction documents, methods, print reading, estimating and scheduling. Laboratory work includes structural computer-aided drafting, and basic surveying with modern equipment.

See Appendix I, page 361 for application procedures.

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
CNST-1280	Construction Orientation	2
ENG-1010	College Composition I	3
IT-1010	Introduction to Microcomputer Applications	3
MATH-1160	Technical Mathematics I .....OR	4-5
MATH-1610	Calculus I	
MIT-1200	Engineering Drawing (8 weeks)	2
MIT-1220	Introduction to AutoCAD (8 weeks)	<u>2</u>
		16-17
<u>Second Semester</u>		
CNST-1730	Construction Print Reading (8 weeks)	2
MATH-1360	Technical Mathematics II.....OR	5
MATH-1620	Calculus II	
MET-1600	Technical Statics	2
PHYS-1210	College Physics I	4
Arts & Hum/Soc & Beh Sci...	(See AAS Degree Requirements) <sup>2</sup>	<u>3</u>
		16
<u>Third Semester</u>		
CNST-2110	Basic Survey Practices	3
CNST-2130	Construction Methods, Materials & Equipment	3
CNST-2210	Mechanical & Electrical Systems	3
CNST-2410	Principles of Structural Design	3
ENG-2151	Technical Writing	3
MET-2200	Strength of Materials	<u>3</u>
		18
<u>Fourth Semester</u>		
CNST-2320	Construction Scheduling, Estimating & Cost Analysis <u>C</u>	3
CNST-2530	Business Management for Construction	3
CNST-2630	Construction Management Systems	3
ACCT-xxxx	Elective <sup>1</sup> .....OR	3-4
BADM-xxxx	Elective <sup>1</sup> .....OR	
CNST-xxxx	Elective <sup>1</sup>	
Arts & Hum/Soc & Beh Sci..	(See AAS Degree Requirements) <sup>2</sup>	2
Arts & Hum/Soc & Beh Sci..	(See AAS Degree Requirements) <sup>2</sup>	<u>3</u>
		17-18
	Program Total	67-69

<sup>1</sup>CNST-2120 Civil Engineering Systems, BADM-2210 Quality Management, or ACCT-1310 Financial Accounting highly recommended.

<sup>2</sup>Minimum 8 semester credits Arts & Hum/Soc & Beh Sci – SPCH-1010 highly recommended.

Note: Courses as listed satisfy competency and skills.

C = Capstone Course

## Program Sequences

### COURT REPORTING AND CAPTIONING

#### Associate of Applied Business Degree in Court Reporting and Captioning

Within the legal field, court reporters are entrusted to record everything said in court, at depositions and at legal meetings; reporters use computer technology and specialized software in their work today. Thus, "realtime" court reporters now find many applications for their skills outside the legal field in areas such as captioning and cyberconferencing. This program provides the student with skills required to meet the challenges and opportunities available to court reporters in the modern workplace.

Program Manager - (216) 987-5572

See Appendix I, page 361 for application procedures.

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
C&CR-1000	Introduction to Court Reporting	1
C&CR-1300	Realtime Theory	4
C&CR-1350	Legal Terminology	3
ENG-1010	College Composition I	3
LAWE-1120	Criminal Court Procedure	2
IT-1060	Introduction to Windows	<u>2</u>
		15
<u>Second Semester</u>		
C&CR-1310	Advanced Realtime Theory	2
C&CR-1371	Using Court Report Technology	2
C&CR-1400	Speedbuilding and Transcription at 100 WPM	2
MATH-xxxx	1000-level MATH course <sup>1</sup>	3
Arts & Hum/Soc & Beh Sci...	(See AAB Degree requirements) <sup>2</sup>	3
Communication...	(See AAB Degree requirements)	<u>3</u>
		15
<u>Summer Semester</u>		
BADM-1000	Business Language Skills	2
C&CR-1450	Speedbuilding and Transcription at 140 WPM	2
C&CR-xxxx	Any C&CR elective course	<u>1</u>
		5
<u>Third Semester</u>		
C&CR-2300	Court Procedures	3
C&CR-2350	Editing Legal Documents	2
C&CR-2400	Speedbuilding and Transcription at 180 WPM	2
C&CR-2601	Technical Terminology I.....OR	3
C&CR-2651	Technical Terminology II	
MA-1020	Medical Terminology I	3
Arts & Hum/Soc & Beh Sci...	(See AAB Degree requirements) <sup>2</sup>	<u>3</u>
		16
<u>Fourth Semester</u>		
C&CR-2450	Speedbuilding and Transcription at 225 WPM	2
C&CR-2470	Advanced Technology <u>C</u>	3
C&CR-2840	Internship	1
C&CR-xxxx	Any C&CR elective course	1-3
LAWE-1330	Criminal Law <sup>3</sup>	3
MA-2010	Medical Terminology II	2
Arts & Hum/Soc & Beh Sci...	(See AAB Degree requirements) <sup>2</sup>	<u>2</u>
		14-16
Program Total		65-67

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include SPCH-1000 and a minimum 2 semester credits at the 2000-level.

<sup>3</sup>LAWE-1330 may be waived for students who have taken LAWE-1100 Criminal Procedures and Evidence (see C&CR program manager).

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

### DEAF INTERPRETIVE SERVICES

#### Associate of Applied Science degree in Deaf Interpretive Services

This program provides students with knowledge in the area of deafness and Deaf Culture, as well as skills in American Sign Language (ASL), other sign language systems and methods of interpreting/transliterating.

The curriculum is divided into two areas of study – Sign Language and Interpreter Training. Sign Language courses will provide the knowledge of ASL as a foreign language and English-based sign systems, while DIS courses provide the interpreting/transliterating skills necessary for students to seek state licensure upon graduation and national certification after gaining experience working as an interpreter. Graduates of the program may work in the fields of medicine, business or in other settings as a freelance provider as well as in a variety of educational settings.

Program Manager - (216) 987-5219

See Appendix I, page 361 for application procedures.

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ASL-1001	Fingerspelling	2
ASL-1010	Beginning American Sign Language I	4
DIS-1300	Interpreting Fundamentals	3
EDUC-1010	School and Society	3
ENG-1010	College Composition I	<u>3</u>
		15
<u>Second Semester</u>		
ASL-1020	Beginning American Sign Language II	4
ASL-1100	Deaf Culture	3
BIO-1050	Human Biology	3
BIO-105L	Human Biology Laboratory	1
DIS-1402	American Sign Language Linguistics	3
EDUC-1411	Individuals with Exceptionalities	<u>3</u>
		17
<u>Summer Semester</u>		
ASL-2010	Intermediate American Sign Language I	4
DIS-1310	Interpreting I	2
DIS-2320	Educational Interpreting	3
PSY-1010	General Psychology ....OR	3
SOC-1010	Introductory Sociology	<u>3</u>
		12
<u>Third Semester</u>		
ASL-2020	Intermediate American Sign Language II	4
DIS-1850	Practicum I	2
DIS-1970	Practicum Seminar I	1
DIS-2300	Transliterating	2
DIS-2310	Interpreting II	<u>2</u>
		11

(Continued next page)

**DEAF INTERPRETIVE SERVICES (Continued)**

Fourth Semester

ASL-2410	Advanced American Sign Language	3
DIS-2410	Voicing	2
DIS-2850	Practicum II <u>C</u>	2
DIS-2970	Practicum Seminar II	1
HUM-1010	Introduction to Humanities ....OR	3
PHIL-1010	Introduction to Philosophy.....OR	
THEA-1010	Theatre Appreciation	
MATH-1060	Survey of Mathematics	3
		14
	Program Total	69

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>Courses meet the College and Ohio Department of Education requirements.

C = Capstone course

NOTE: All courses meet the Ohio Department of Education Educational Interpreter Licensure requirements.

**DENTAL ASSISTING**

**Associate of Applied Science degree in Dental Assisting (1+1 Program)**

Dental Assistants are competent in technical, interpersonal and management areas. They work directly with dentists and patients and have responsibility for chairside assisting, taking radiographs (x-rays), laboratory procedures, business procedures and patient management. This program prepares graduates for entry-level positions and eligibility to take the Dental Assisting National Board Certification Exam, the Ohio Dental Assistant Certification Exam and the Ohio Dental Assistant Radiographer exam.

**Program Manager - (216) 987-4494**

**See Appendix I, page 368 for program application requirements.**

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
BIO-1050	Human Biology	3
BIO-1200	Oral Structure and Development	3
DAST-1300	Dental Assisting Methods I	5
DAST-1310	Dental Assisting Radiography I	3
DAST-1320	Dental Office Management	3
		17

Second Semester

DAST-1400	Dental Assisting Methods II	3
DAST-1410	Dental Assisting Radiography II	2
DAST-1420	Current Concepts for the Dental Assistant	1
DAST-1860	Dental Assisting Practicum	4
HTEC-1100	Allied Dental Pharmacology	2
HTEC-1200	Patient Management for Health Career Professionals	1
		13

Summer Semester

ENG -1010	College Composition I	3
MATH-1141	Applied Algebra and Mathematical Reasoning <sup>1</sup>	3
		6

Program Total 36

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820. Note: The Associate of Applied Science degree in Dental Assisting can be achieved through a second year of study in expanded functions at Jefferson Community College in Steubenville, OH.

## Program Sequences

### DENTAL ASSISTING

#### Certificate of Proficiency

Dental Assistants are competent in technical, interpersonal and management areas. They work directly with dentists and patients and have responsibility for chairside assisting, taking radiographs (x-rays), laboratory procedures, business procedures and patient management. This program prepares graduates for entry-level positions and eligibility to take the Dental Assisting National Board Certification Exam, the Ohio Dental Assistant Certification Exam and the Ohio Dental Assistant Radiographer exam.

**Program Manager - (216) 987-4494**

See Appendix I, page 368 for program application requirements.

Suggested Semester Sequence		<u>Credit Hrs.</u>
<u>First Semester</u>		
BIO-1050	Human Biology	3
BIO-1200	Oral Structures and Development	3
DAST-1300	Dental Assisting Methods I	5
DAST-1310	Dental Assisting Radiography I	3
DAST-1320	Dental Office Management	<u>3</u>
		17
<u>Second Semester</u>		
DAST-1400	Dental Assisting Methods II	3
DAST-1410	Dental Assisting Radiography II	2
DAST-1420	Current Concepts for the Dental Assistant	1
DAST-1860	Dental Assisting Practicum	4
HTEC-1100	Allied Dental Pharmacology	2
HTEC-1200	Patient Management for Health Career Professionals	1
		<u>13</u>
<u>Summer Semester</u>		
ENG-1010	College Composition I	3
MATH-1141	Applied Algebra and Mathematical Reasoning <sup>1</sup>	<u>3</u>
		6
	Program Total	36

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

### DENTAL ASSISTING

#### Short Term Certificate

Dental Assistants are competent in technical, interpersonal and management areas. They work directly with dentists and patients and have responsibility for chairside assisting, taking dental radiographs (x-rays), laboratory procedures, business procedures and patient management. This certificate prepares graduates for entry-level positions and the ability to be licensed as an Ohio Dental Assistant Radiographer. Graduates may be eligible to take the Dental Assisting National Board Certification Exam and the Ohio Dental Assistants Certification Exam once specific exam criteria are met.

Certificate/Degree: All courses with the exception of DAST-1850 can be applied to the Certificate of Proficiency in Dental Assisting.

Suggested Semester Sequence		<u>Credit Hrs.</u>
<u>First Semester</u>		
DAST-1300	Dental Assisting Methods I	5

DAST-1310	Dental Assisting Radiography I	3
DAST-1320	Dental Office Management	3
BIO-1200	Oral Structure and Development	3
ENG-1010	College Composition I <sup>1</sup>	<u>3</u>
		17

#### Second Semester

DAST-1850	Dental Assisting Practice	<u>2</u>
		2
	Program Total	19

<sup>1</sup>To ensure success in the certificate, students should complete ENG-1010 prior to enrolling in other courses OR take the placement test and be eligible to take ENG-1010.

C = Capstone course

### DENTAL OFFICE MANAGEMENT

#### Short Term Certificate

This certificate prepares graduates for entry-level positions as Dental Office Managers in dental offices and clinics. Dental Office Managers are competent in scheduling and management areas of a dental practice. The program provides instruction in patient scheduling, accounting principles, telephone etiquette, collections, banking, third party reimbursement responsibilities, professional ethics and computer applications.

Certificate/Degree: The Biology, Dental Assisting and English course can be applied to the Certificate of Proficiency in Dental Assisting.

Suggested Semester Sequence		<u>Credit Hrs.</u>
<u>First Semester</u>		
IT-1000	Keyboarding <sup>1</sup>	2
ENG-1010	College Composition I <sup>2</sup>	<u>3</u>
		5
<u>Second Semester</u>		
BIO-1200	Oral Structure and Development	3
DAST-1320	Dental Office Management	3
IT-1010	Introduction to Microcomputer Applications	<u>3</u>
		9
	Program Total	14

<sup>1</sup>Waived if student possesses 25 wpm typing speed.

<sup>2</sup>To ensure success in the certificate, students should complete ENG-1010 prior to enrolling in other courses OR take the placement test and be eligible to take ENG-1010.

C = Capstone course



## DENTAL HYGIENE

### Associate of Applied Science degree in Dental Hygiene

Dental Hygienists are licensed primary health care professionals, health educators and clinicians who provide preventive, educational and therapeutic services supporting total health for the control of oral diseases and the promotion of oral health. Employment opportunities exist in private practices, health care agencies, hospitals, sales, government research programs and in dental hygiene education programs. Upon successful completion of this curriculum, the graduate may take national and regional examinations and apply for licensure.

See Appendix I, page 368 for application procedures.

#### Suggested Semester Sequence

<u>Summer Semester</u>		<u>Credit Hrs.</u>
BIO-1100	Introduction to Biological Chemistry	3
BIO-2330	Anatomy and Physiology I	4
ENG-1010	College Composition I	3
PSY-1010	General Psychology <sup>1</sup>	3
SPCH-1000	Fundamentals of Interpersonal Communication	<u>3</u>
		16
<u>First Semester</u>		
BIO-1210	General and Oral Histopathology	4
BIO-2340	Anatomy and Physiology II	4
DENT-1300	Preventive Oral Health Services I	4
DENT-1310	Dental Anatomy	2
DENT-1330	Radiology	3
DENT-1340	Dental Hygiene Care Ethics	<u>1</u>
		18
<u>Second Semester</u>		
BIO-2520	Microbiology and Immunology	3
DENT-1400	Preventive Oral Health Services II	5
DENT-1410	Current Concepts in Dental Materials	2
DENT-1420	Periodontics I	2
DENT-1431	Head and Neck Anatomy	<u>2</u>
		14
<u>Third Semester</u>		
MATH-1141	Applied Algebra and Mathematical Reasoning <sup>2</sup>	3
DENT-2300	Preventive Oral Health Services III	5
DENT-2320	Periodontics II	2
DENT-2331	Pharmacology and Therapeutics	3
DIET-1220	Basic Nutrition for Dental Hygiene	<u>2</u>
		15
<u>Fourth Semester</u>		
DENT-2400	Preventive Oral Health Services IV	5
DENT-2410	Community Oral Health.....OR	2
DENT-xxxx	DENT Elective <sup>3</sup>	
DENT-2430	Dental Hygiene Practice <u>C</u>	1
Arts & Hum/Soc & Beh Sci.....See AAS Degree Requirements <sup>1</sup>		3
Arts & Hum/Soc & Beh Sci.....See AAS Degree Requirements <sup>1</sup>		<u>2</u>
		13
	Program Total	76

<sup>1</sup>Minimum 8 semester credits of Art & Hum/Soc & Beh Sci required – must include PSY-1010. Sociology course highly recommended.

<sup>2</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>3</sup>DENT-2410 Community Oral Health is recommended. Another course may be selected with written department approval.

Note: Courses as listed satisfy degree competencies and skills.

## DIAGNOSTIC MEDICAL SONOGRAPHY

### Associate of Applied Science degree in Diagnostic Medical Sonography

The Associate of Applied Science degree prepares the student for an entry-level position as a Diagnostic Medical Sonographer for employment in hospitals and other health care agencies. The Diagnostic Medical Sonographer produces, evaluates and understands ultrasound images and related data. Sonographers provide a summary of their technical findings to the qualified interpreting physician to aid in rendering a medical decision. The curriculum consists of on-campus didactic and lab instruction, as well as off-campus clinical applications at our affiliated health care institutions. The program offers specialty training in the following options: abdominal sonography, echocardiography, obstetrical/gynecological sonography and vascular technology. The Diagnostic Medical Sonography program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). Upon completion of the Diagnostic Medical Sonography program, graduates are eligible to take the national credentialing exams by the American Registry of Diagnostic Medical Sonography (ARDMS) in the exam offerings of their specialty option.

Program Manager - (216) 987-5564

See Appendix I, page 368 for application procedures.

Note: Letters in parenthesis relate to Options (a), (b), (c), and (d). Select option before beginning this program.

<u>First Semester</u>		<u>Credit Hrs.</u>
BIO-1221	Anatomy and Physiology for Diagnostic Medical Imaging	4
DMS-1302	Introduction to Sonography	1
DMS-1311	Initial Sonographic Scanning	2
DMS-1340	Patient Care and Basic Medical Techniques	1
DMS-1350	Patient Care and Basic Medical Techniques Laboratory	1
DMS-1360	Anatomy and Physiology for Cardiovascular Sonographers (b)(d)	2
DMS-1400	Abdominal Sonography I (a) .....OR	3
DMS-1500	Gynecologic and Obstetrical Sonography (c) .....OR	4
DMS-1601	Echocardiography I (b) .....OR	3
DMS-1701	Vascular Sonography I (d)	4
MA-1020	Medical Terminology I	3
MATH-1141	Applied Algebra and Mathematical Reasoning <sup>1</sup>	3
DMS-1070	Physical Concepts in Diagnostic Sonography	<u>2</u>
<u>Second Semester</u>		
ENG-1010	College Composition I	3
DMS-1370	Clinical Cardiovascular Assessment (b)(d)	2
DMS-1911	Initial Directed Practice	2
DMS-2300	Intermediate Sonographic Scanning	1
DMS-2350	Sonographic Instruments and Physics	3
DMS-2400	Abdominal Sonography II (a).....OR	4
DMS-2500	Obstetrical Sonography (c).....OR	4
DMS-2601	Echocardiography II (b).....OR	3
DMS-2701	Vascular Sonography II (d)	3

(Continued next page)

## Program Sequences

### DIAGNOSTIC MEDICAL SONOGRAPHY (Continued)

#### Summer Semester

DMS-1921	Directed Practice I	4
DMS-2000	Sonographic Case Studies	1

#### Third Semester

BADM-2010	Business Communications	3
DMS-1380	Cardiac Diagnostic Procedures (b)	4
DMS-xxxx	Any DMS Elective course <sup>2</sup>	1
DMS-2911	Directed Practice II	5
ENG-1020	College Composition II	3
PSY-1010	General Psychology	<u>3</u>

#### Fourth Semester

DMS-2921	Directed Practice III	3
DMS-2990	Quality Assurance and Quality Control in Sonography <u>C</u>	1
PHIL-2050	Bioethics	3
PSY-2100	Introduction to Aging	3
SPCH-1010	Fundamentals of Speech Communication	<u>3</u>

Program Total for Option a=66 credits

Program Total for Option b=73 credits

Program Total for Option c=67 credits

Program Total for Option d=70 credits

Program Total 66-73

#### Option a - Abdominal Option

	<u>Credit Hrs.</u>
DMS-1400 Abdominal Sonography I	3
DMS-2400 Abdominal Sonography II	<u>4</u>

#### Option (b) - Echocardiography Option

	<u>Credit Hrs.</u>
DMS-1360 Anatomy and Physiology for Cardiovascular Sonographers	2
DMS-1370 Clinical Cardiovascular Assessment	2
DMS-1380 Cardiac Diagnostic Procedures	4
DMS-1601 Echocardiography I	3
DMS-2601 Echocardiography II	<u>3</u>

#### Option (c) - OB/Gyn Option

	<u>Credit Hrs.</u>
DMS-1500 Gynecologic and Obstetrical Sonography	4
DMS-2500 Obstetrical Sonography	<u>4</u>

#### Option (d) - Vascular Option

	<u>Credit Hrs.</u>
DMS-1360 Anatomy and Physiology for Cardiovascular Sonographers	2
DMS-1370 Clinical Cardiovascular Assessment	2
DMS-1701 Vascular Sonography I	4
DMS-2701 Vascular Sonography II	<u>3</u>

<sup>1</sup>Any higher level MATH course may also be used to meet this requirement except MATH-1800/2800 & 1820/2820.

<sup>2</sup>This elective must be selected from any Diagnostic Medical Sonography course that is not required by the student's program and option sequence.

Note: Courses as listed satisfy competencies and skills.

C = Capstone course

## DIETARY MANAGEMENT

### Certificate of Proficiency

This program is designed for health care employees interested in developing dietary management skills. Managing food operations includes managing food service personnel, food/kitchen material, food production and the routine nutritional aspects of food service. The four major components of the program are: Nutrition, Systems Management, Administrative/Personnel Management and Safety and Sanitation Certification. This program is approved by the Dietary Manager's Association.

#### Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
DIET-1200	Basic Nutrition	3
DIET-1320	Nutrition Applications	1
ENG-1010	College Composition I	3
HOSP-1020	Sanitation and Safety	2
MA-1020	Medical Terminology I	3
MATH-1060	Survey of Mathematics <sup>1</sup>	<u>3</u>
		15

#### Second Semester

DIET-1331	Fundamentals of Food Production	4
DIET-1580	Cost Control Procedures	1
DIET-1590	Purchasing Procedures	1
DIET-1600	Introduction to Supervision	3
DIET-2301	Medical Nutrition Therapy I	3
DIET-1940	Dietary Managers Field Experience	1
DIET-xxxx	DIET Elective course	<u>2-3</u>
		15-16

Program Total 30-31

<sup>1</sup> Any higher level MATH may be used except MATH-1800/2800 and 1820/2820. MATH-1141 recommended for students who plan to transfer credits into Dietetic Technology Degree program.

C = Capstone course

## DIETETIC TECHNOLOGY

### Associate of Applied Science degree in Dietetic Technology

Graduates in the Dietetic Technology program are trained food and nutrition professionals. They function as members of the food service and nutrition care teams under the supervision of a registered dietitian. Dietetic technicians promote optimal health through proper nutrition by providing personalized services to meet client's needs and ensure balanced diets through the provision of wholesome, quality food. Employment exists in hospitals, nursing homes, long-term care facilities, health departments, early childhood development centers, community nutrition programs, schools and other health care agencies that provide food and nutrition services. This program is fully accredited by the Commission on Accreditation of Dietetics Education.

See Appendix I, page 369 for application procedures.

#### Suggested Semester Sequence

##### First Semester

BIO-1100	Introduction to Biological Chemistry	3
ENG-1010	College Composition I	3
DIET-1300	Principles of Nutrition Care.....OR	4
DIET-1200	Basic Nutrition.....AND	
DIET-1320	Nutrition Applications	
DIET-1310	Introduction to Dietetics	2
MA-1020	Medical Terminology I	3
MATH-1141	Applied Algebra & Mathematical Reasoning <sup>1</sup>	<u>3</u>
		18

##### Second Semester

BIO-2330	Anatomy and Physiology I	4
DIET-1331	Food Production Fundamentals	4
DIET-1580	Cost Control Procedures	1
DIET-1590	Purchasing Procedures	1
DIET-2301	Medical Nutrition Therapy I	3
HOSP-1020	Sanitation and Safety	<u>2</u>
		15

##### Summer Semester

DIET-1850	Food & Nutrition Systems Practicum	<u>4</u>
		4

##### Third Semester

DIET-1600	Introduction to Supervision	3
DIET-2311	Medical Nutrition Therapy II	3
DIET-2850	Medical Nutrition Care Practicum	2
PSY-1010	General Psychology <sup>2</sup>	3
SPCH-1010	Fundamentals of Speech Communication	3
Arts & Hum/Soc & Beh Sci.....See AAS Degree Requirements <sup>1</sup>		<u>1-2</u>
		15-16

##### Fourth Semester

DIET-2410	Life Cycle Nutrition – Pregnancy and Lactation	1
DIET-2420	Life Cycle Nutrition – Nutrition for Children.....OR	1-3
DIET-xxxx	DIET Elective course <sup>3</sup>	
DIET-2430	Life Cycle Nutrition – Nutrition through Adulthood	1
DIET-2501	Nutrition Application in Long-term Care	2
DIET-2862	Geriatric Nutrition Practicum	2
DIET-2863	Community Nutrition Practicum	2

DIET-2990	Dietetic Technology Professional Development Skills <u>C</u>	2
PSY-2xxx	PSY 2000-level course <sup>2</sup>	<u>3-4</u>
		14-17
	Program Total	66-70

<sup>1</sup>MATH-1800/2800 & 1820/2800 may not be used to meet this requirement.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include PSY-1010 & a PSY-2000 level course.

<sup>3</sup>DIET-2420-LCN – Nutrition for Children is highly recommended. Another course may be selected with written departmental approval.

Note: Courses as listed satisfy competencies and skills.

C = Capstone course

## GENERAL NUTRITION

### Certificate of Proficiency

Designed for individuals and allied health care professionals who are interested in learning more about basic nutrition, but are not interested in pursuing a Dietetic Technology degree. This certificate focuses on wellness and disease prevention through proper nutrition and eating behaviors. Students earning this certificate are not qualified to practice medical nutrition therapy, as stated by the state of Ohio.

Degree students may apply credits toward the Dietetic Technology degree program.

Program Manager - (216) 987-4497

#### Suggested Semester Sequence

First Semester		Credit Hrs.
BIO-1100	Introduction to Biological Chemistry	3
DIET-1200	Basic Nutrition	3
DIET-1320	Nutrition Applications	1
DIET-xxxx	Elective	3
ENG-1010	College Composition I	3
MATH-1060	Survey of Mathematics <sup>1</sup>	<u>3</u>
		16

##### Second Semester

BIO-2330	Anatomy and Physiology I	4
DIET-2410	Life Cycle Nutrition – Pregnancy and Lactation	1
DIET-2420	Life Cycle Nutrition – Nutrition for Children	1
DIET-2430	Life Cycle Nutrition – Nutrition through Adulthood	1
DIET-xxxx	Elective	2-3
HLTH-1100	Personal Health Education	3
PE-1500	Lifestyle Strategies for Health Promotion	<u>2</u>
		14-15

Program Total 30-31

<sup>1</sup>MATH-1141 Applied Algebra and Mathematical Reasoning replaces MATH-1060 for students who plan to transfer certificate credits into the Dietetic Technology associate degree. A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

## Program Sequences

### EARLY CHILDHOOD EDUCATION

#### Associate of Applied Science degree in Early Childhood Education

The Early Childhood Education program prepares students to teach young children in a variety of inclusive early childhood settings, including preschools, pre-kindergartens, Head Start, child care centers and infant/toddler programs. Students will receive a basic understanding of principles of early childhood education, child growth and development, and will develop specific skills in planning and implementing the curriculum in centers. Upon completion of the program, students will be qualified to assume lead teacher and director positions. This program is accredited by the Ohio Department of Education to prepare students for state licensure as Pre-Kindergarten Associate teachers. Graduates of this program may work with children through five years of age. To work with children in kindergarten or the primary grades, a baccalaureate degree and state teacher's license for Pre-K to third grade is required. A number of four-year teacher preparation programs have transfer agreements with the College's Early Childhood program.

The Pre-Kindergarten (Pre-K) Associate Licensure program, parallels the associate degree program and is offered at the Eastern, Metropolitan and Western campuses. The Pre-K Associate license requires an overall grade point average of 2.00, a grade point average of 2.50 in Early Childhood courses and 3.00 in the student teaching practicum and seminar. The Early Childhood Education program recommends graduates for state licensure.

**Program Manager - (216) 987-2380**

**See Appendix I, page 361 for application procedures.**

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
ECED-1010	Introduction to Early Childhood Education: Children's Development & Programs	4
ENG-1010	College Composition I	3
MATH-1060	Survey of Mathematics <sup>1</sup>	3
PSY-1010	General Psychology	3
SPCH-1000	Fundamentals of Interpersonal Communication	3
		16
<u>Second Semester</u>		
BIO-1050	Human Biology	3
BIO-105L	Human Biology Laboratory	1
ECED-1300	Early Language & Literacy Development: Integrated Curriculum	3
ECED-1310	Art in Early Childhood: Integrated Curriculum	2
ECED-1320	Cognition & Problem Solving in Early Childhood: Integrated Curriculum	2
ENG-1020	College Composition II	3
PSY-2010	Child Growth and Development	3
		17
<u>Third Semester</u>		
ECED-1330	Music, Movement and Outdoor Environment in Early Childhood Education: Integrated Curriculum	4
ECED-1860	Experience with Young Children in Early Childhood Settings	3
ECED-2500	Infant/Toddler Development, Relationships, & Programs	3
ECED-2700	Including Children with Special Needs	3

ECED-2800	Special Advanced Topics in Early Childhood Education.....OR	1
ECED-xxxx	ECED elective course <sup>2</sup>	—
		14

#### Fourth Semester

ECED-2300	Child Behavior and Guidance	3
ECED-2400	Center-Family Relationships	2
ECED-2870	Early Childhood Education Student Teaching Practicum <u>C</u>	2
ECED-2990	Early Childhood Education Student Teaching Seminar <u>C</u>	3
HLTH-1400	Childhood Health, Safety & Nutrition	3
		13
	Program Total	60

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>Elective course in Early Childhood Education may be selected with written departmental approval. Selection of 1000-level course will require one more credit at the 2000-level.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

## INFANT/TODDLER

### Certificate of Proficiency

The infant/toddler certificate provides students with a specialized focus on the unique strengths and needs of infants and toddlers. Students will study the comprehensive development of the young child, birth to three years, with a focus on understanding current brain research and best caregiving practices. The practicum component of the program will support the students as they transfer their learning to their work with young children. The program is available for early childhood educators, parents, administrators and health care professionals. The certificate is 30 credit hours, with 21 of the credit hours applying to the Associate of Applied Science in Early Childhood Education.

Degree: Students may apply credits toward the Associate of Applied Science degree in Early Childhood Education.

**Program Manager - (216) 987-2380**

**See Appendix I, page 361 for application procedures.**

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
ECED-1010	Introduction to Early Childhood Education: Children's Development and Programs	4
ECED-2500	Infant/Toddler Development, Relationships and Programs	3
ENG-1010	College Composition I	3
HLTH-1400	Childhood Health, Safety and Nutrition	3
		13
<u>Second Semester</u>		
ECED-1540	Programming and Adjustments in Infant/Toddler Care	3
ECED-1550	Experiences with Infants	1
ECED-1850	Infants in Early Childhood Setting Practicum	2
ECED-2300	Child Behavior and Guidance	3
MATH-1060	Survey of Mathematics <sup>1</sup>	3
		12
<u>Summer Semester</u>		
ECED-1570	Experiences with Toddlers	1
ECED-1870	Toddlers in Early Childhood Setting Practicum	2
ECED-2400	Center-Family Relationships	2
		5
Program Total		30

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

## ELECTRICAL/ELECTRONIC ENGINEERING TECHNOLOGY

### Associate of Applied Science degree in Electrical/Electronic Engineering Technology

The ever-changing and increasing field of Electronic Technology is expanding the need for highly trained electronic technicians. These electronic technicians assist engineers and scientists in various electronic environments such as electronic instrumentation and control, aerospace research, electronic communications, process control, robotics and computer repair. Students completing the program gain the theoretical knowledge and skills to be successful in these various electronic fields. Transferable to certain universities under the 2+2 program.

**See Appendix I, page 362 for application procedures.**

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
EET-1110	DC Electric Circuits	3
ENG-1010	College Composition I	3
MATH-1160	Technical Mathematics I	4
MIT-1100	Computer Applications and Programming	2
MIT-1200	Engineering Drawing	2
MIT-1220	Introduction to AutoCAD	2
Arts & Hum/Soc & Beh Sci...	See AAS Degree Requirements <sup>1</sup>	3
		19
<u>Second Semester</u>		
EET-1210	AC Electrical Circuits	3
EET-1230	Telecommunications I	3
EET-1240	Digital Circuits/Microprocessors I	3
MATH-1360	Technical Mathematics II	5
PHYS-1210	College Physics I	4
		18
<u>Third Semester</u>		
EET-2110	Industrial Electronics I	3
EET-2120	Electronics I	3
EET-2140	Digital Circuits/Microprocessors II	3
PHYS-1220	College Physics II	4
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>1</sup>	3
Communication...	(See AAS Degree requirements) <sup>2</sup>	3
		19
<u>Fourth Semester</u>		
EET-2220	Electronics II	3
EET-2241	Microprocessor and Hardware Interfacing with C Programming	3
EET-2290	Electrical Design Project <u>C</u>	2
EET-2500	Instrumentation and Control.....OR	3
EET-xxxx	EET elective course <sup>3</sup>	
EET-2520	Programmable Logic Controllers	3
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>1</sup>	2
		16
Program Total		72

<sup>1</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required.

<sup>2</sup>ENG-1020 College Composition II or a speech course is highly recommended.

<sup>3</sup>Elective course in EET may be selected with written departmental approval.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

## Program Sequences

### ELECTRICAL/ELECTRONIC ENGINEERING TECHNOLOGY

#### (Bio-Medical)

Associate of Applied Science degree in Electrical/Electronic Engineering Technology with a concentration in Bio-Medical Engineering

Technology has impacted biomedical equipment in the health field. Bio-medical engineering technicians are needed to perform safety checks, preventive maintenance, calibration and repair various bio-medical pieces of equipment. This general bio-medical equipment may involve infusion pumps, ventilators, patient monitors, electrosurgery units, defibrillators and other medical apparatus. Students completing the biomedical program in electrical engineering technology will find jobs in hospitals, medical equipment manufacturers or third-party service organizations associated with hospitals.

See Appendix I, page 362 for application procedures.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
BIO-1100	Introduction to Biological Chemistry	3
EET-1110	DC Electric Circuits	3
ENG-1010	College Composition I	3
MATH-1160	Technical Mathematics I	4
MET-1100	Technology Orientation	2
MIT-1100	Computer Applications & Programming	2
		17
<u>Second Semester</u>		
EET-1210	AC Electric Circuits	3
EET-1230	Telecommunications I	3
EET-1240	Digital Circuits/Microprocessors I	3
MATH-1360	Technical Mathematics II	5
PHYS-1210	College Physics I	4
		18
<u>Third Semester</u>		
EET-2110	Industrial Electronics I	3
EET-2120	Electronics I	3
EET-2140	Digital Circuits/Microprocessors II	3
EET-2400	Biomedical Instrumentation I	3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>1</sup>		3
Communications...(See AAS Degree requirements) <sup>2</sup>		3
		18
<u>Fourth Semester</u>		
EET-2220	Electronics II	3
EET-2410	Biomedical Instrumentation II	3
EET-2490	Biomedical Design Project <u>C</u>	2
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>1</sup>		3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>1</sup>		2
		13
<u>Summer Semester</u>		
EET-2900	Clinical Internship	4
		4
Program Total		70

<sup>1</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required.

<sup>2</sup>ENG-1020 College Composition II or SPCH course highly recommended.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

### ELECTRICAL/ELECTRONIC ENGINEERING TECHNOLOGY

#### (Computer Networking Hardware)

Associate of Applied Science degree in Electrical-Electronic Engineering Technology with a concentration in Computer Networking Hardware

Students will be prepared for careers dealing with network hardware systems analysis, planning and implementation. Students will gain the necessary skills to design, build and maintain small to medium size networks and manage network hardware systems. Skills acquired will assist students in preparing to take industry certification exams.

See Appendix I, page 362 for application procedures.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
EET-1001	Introduction to PC Maintenance	3
EET-1300	Cisco I: LAN Design	2
IT-1000	Keyboarding <sup>1</sup>	2
IT-1010	Introduction to Microcomputer Applications	3
IT-1020	Information Technology Concepts	2
IT-1040	Microcomputer Operating Systems	3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		2
		17
<u>Second Semester</u>		
EET-1021	Operating System Technologies I	3
EET-1310	Cisco II: Basic Router Configuration	2
ENG-1010	College Composition I	3
IT-1030	Internet Fundamentals	2
ITNT-2300	Network Fundamentals	3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		3
		16
<u>Third Semester</u>		
EET-1031	Operating System Technologies II	3
EET-1051	PC Servicing and Troubleshooting	2
EET-2300	Cisco III: LAN Management	2
ENG-2151	Technical Writing	3
ITNT-2310	TCP/IP	3
MATH-1060	Survey of Mathematics .....OR	3-4
MATH-1141	Applied Algebra and Mathematical Reasoning ...OR	
MATH-1180	Intermediate Algebra for Technologies <sup>3</sup>	—
		16-17

(Continued next page)

**ELECTRICAL/ELECTRONIC ENGINEERING TECHNOLOGY  
(Computer Networking Hardware) (Continued)**

Fourth Semester

BADM-1020	Introduction to Business	3
EET-1071	Computer System Peripherals	2
EET-1081	Computer User Support	1
EET-1091	Test Preparation for A+ Certification	1
EET-2310	Cisco IV: WAN Management	2
ITNT-2990	Networking Capstone <u>C</u>	3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		<u>3</u>
		15

Program Total 64-65

<sup>1</sup>May be waived if student possesses 20 wpm skills or high school typing course, and written departmental approval from IT department.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include a minimum of 4 semester credits at the 2000-level.

<sup>3</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

**COMPUTER MAINTENANCE TECHNOLOGY**

**Certificate of Proficiency**

Students will be prepared with the knowledge and skills essential for a career as an entry-level service technician. They will prepare to service computers and peripherals by discovering how to install, configure, diagnose, repair, upgrade and maintain microcomputers. Skills acquired will assist students in preparing to take industry A+ Certification exams. A+ Certification is an industry recognized credential that distinguishes one as a knowledgeable service professional.

Degree: Students may apply credits toward the Computer Networking, Hardware or Information Technology with a concentration in Networking Software in the Electrical-Electronic Engineering degree.

Suggested Semester Sequence

<u>Certificate Admission Requirements</u>	<u>Credit Hrs.</u>
IT-1000 Keyboarding <sup>1</sup>	2
IT-1010 Introduction to Microcomputer Applications <sup>2</sup>	<u>3</u>
	5

Summer Semester

EET-1001	Introduction to PC Maintenance	3
EET-1021	Operating System Technologies I	<u>3</u>
		6

First Semester

EET-1031	Operating System Technologies II	3
EET-1081	Computer User Support	1
ENG-1010	College Composition I	3
IT-1020	Information Technology Concepts	2
IT-1040	Microcomputer Operating Systems	<u>3</u>
		12

Second Semester

EET-1051	PC Servicing and Troubleshooting	2
EET-1071	Computer System Peripherals	2
EET-1091	Test Preparation for A+ Certification	1
ITNT-2300	Network Fundamentals	3
MATH-1060	Survey of Mathematics ...OR	3-4
MATH-1141	Applied Algebra and Mathematical Reasoning...OR	
MATH-1180	Intermediate Algebra for Technologies <sup>3</sup>	—
		11-12

Program Total 34-35

<sup>1</sup>Waived if student possesses 20-wpm typing speed or high school typing course, and written departmental approval from IT department.

<sup>2</sup>If course requirements have already been met, the 3-credit requirement may be fulfilled by substituting with another 3-credit course, or with By-Passed credit (providing six semester credits have already been successfully completed at Tri-C), and with written departmental approval from IT department.

<sup>3</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

## Program Sequences

### ELECTRICAL/ELECTRONIC ENGINEERING TECHNOLOGY

#### (Robotics and Mechatronics Systems Technology)

Associate of Applied Science degree in Electrical/Electronic Engineering Technology with a concentration in Robotics and Mechatronics Systems Technology

Robotics technicians help keep robots working. They must understand computers, electrical and electronic systems and how robots work as machines. Technicians are employed by robot manufacturers, suppliers, distributors or by the companies that use and depend on robots. The program emphasizes sensors and programming. Students completing the program will have the entry-level skills to maintain and troubleshoot aspects of robots and automated systems.

See Appendix I, page 361 for application procedures.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
EET-1100	Introduction to Robotics	2
EET-1110	DC Electric Circuits	3
ENG-1010	College Composition I	3
MATH-1160	Technical Mathematics I	4
MIT-1100	Computer Applications and Programming	2
MIT-1200	Engineering Drawing	2
MIT-1220	Introduction to AutoCAD	2
		18
<u>Second Semester</u>		
EET-1210	AC Electric Circuits	3
EET-1240	Digital Circuits/Microprocessors I	3
MATH-1360	Technical Mathematics II	5
MET-2300	Fluid Power	3
PHYS-1210	College Physics I	4
		18
<u>Third Semester</u>		
EET-2120	Electronics I	3
EET-2140	Digital Circuits/Microprocessors II	3
EET-2520	Programmable Logic Controllers	3
PHYS-1220	College Physics II	4
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>1</sup>		3
Communication...(See AAS Degree requirements)		3
		19
<u>Fourth Semester</u>		
EET-2241	Microprocessor and Hardware Interfacing with C Programming	3
EET-2500	Instrumentation and Control	3
EET-2600	Op Amps and Feedback	3
EET-2690	Robots in Competition <u>C</u>	4
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>1</sup>		2
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>1</sup>		3
		18
Program Total		73

<sup>1</sup>Minimum of 8 semester credits of Arts & Hum/Soc & Beh Sci required.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

### ELECTRICAL/ELECTRONIC ENGINEERING TECHNOLOGY

#### (Telecommunications)

Associate of Applied Science degree in Electrical/Electronic Engineering Technology with a concentration in Telecommunications

Graduates of the Telecommunications Engineering Technology program are employed as technical specialists in a broad and diverse field of telecommunications, in such areas as installation, operation and maintenance of analog and digital telecommunications systems. The program emphasizes both theory and application and consists of course work and lab work in basic electronic circuits, digital and microprocessor systems, computer maintenance and networking, analog and digital communications circuits and system and telecommunications media (fiber optics, broadband cable systems and microwave systems). Students completing the four concentration courses with a "B" grade or better can become certified at the technician level by the Society of Broadcast Engineers without taking their test. Transferable to certain universities under the 2+2 program.

See Appendix I, page 361 for application procedures.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
EET-1110	DC Electric Circuits	3
ENG-1010	College Composition I	3
MATH-1160	Technical Mathematics I	4
MIT-1100	Computer Applications and Programming	2
Arts & Hum/Soc & Beh Sci.....(See AAS Degree requirements) <sup>1</sup>		3
Arts & Hum/Soc & Beh Sci.....(See AAS Degree requirements) <sup>1</sup>		3
		18
<u>Second Semester</u>		
EET-1210	AC Electric Circuits	3
EET-1230	Telecommunications I	3
EET-1240	Digital Circuits/Microprocessors I	3
MATH-1360	Technical Mathematics II	5
PHYS-1210	College Physics I	4
		18
<u>Third Semester</u>		
EET-2110	Industrial Electronics I	3
EET-2120	Electronics I	3
EET-2130	Telecommunications II	4
EET-2140	Digital Circuits/Microprocessors II	3
PHYS-1220	College Physics II	4
Communications...(See AAS Degree requirements)		3
		20
<u>Fourth Semester</u>		
EET-2220	Electronics II	3
EET-2230	Telecommunications III	3
EET-2241	Microprocessor and Hardware Interfacing with C Programming	3
EET-2590	Telecommunications Design Project <u>C</u>	2
ITNT-2300	Network Fundamentals	3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>1</sup>		2
		16
Program Total		72

<sup>1</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course



## ELECTRONEURODIAGNOSTIC TECHNOLOGY

### Associate of Applied Science degree in Electroneurodiagnostic Technology

The Associate of Applied Science degree prepares the student for an entry-level position as an Electroneurodiagnostic Technician for employment in hospitals, doctors' offices and clinics.

Electroneurodiagnostic technology is a profession devoted to the recording and study of electrical activity of the brain and nervous system. Used for medical evaluation and research, it includes procedures that assess the function of the nervous system. Technologists record electrical activity arising primarily from the brain, spinal cord and peripheral nerves.

This program consists of on-campus didactic and laboratory instruction, as well as off-campus clinical experiences at our affiliated health care institutions.

**Program Manager - (216) 987-5126**

**See Appendix I, page 369 for application procedures.**

#### Suggested Semester Sequence

First Semester		Credit Hrs.
BIO-1100	Introduction to Biological Chemistry <sup>1</sup>	3
BIO-2330	Anatomy and Physiology I	4
END-1300	Introduction to Electroneurodiagnostic Tech.	2
END-1350	Introduction to Electroencephalography (EEG)	3
MATH-1141	Applied Algebra and Mathematical Reasoning <sup>2</sup>	<u>3</u>
		15

#### Second Semester

BIO-2340	Anatomy and Physiology II	4
END-1450	Intermediate Electroencephalography (EEG)	3
END-1500	Basic Evoked Potentials	3
END-1910	END Directed Practice I	4
ENG-1010	College Composition I	<u>3</u>
		17

#### Summer Semester

END-2300	Nerve Conduction Studies	3
END-2910	END Directed Practice II	4
PHIL-2050	Bioethics <sup>3</sup>	3
END-2410	Neurophysiology of Electroencephalography/ Sleep Disorders	2
Arts & Hum/Soc & Beh Sci (see AAS degree requirements)		2
Communication...(See AAS degree requirements)		<u>3</u>
		17

#### Third Semester

END- 2350	Fundamentals of Polysomnography ....OR	4
END-xxxx	Any END elective course <sup>4</sup>	4
END-2400	Intraoperative Monitoring for Electroneurodiagnostic Technologists	2
END-2920	END Directed Practice III	4
Arts & Hum/Soc & Beh Sci (see AAS Degree requirements)		<u>3</u>
		13

#### Fourth Semester

END-2450	Neonatal/Pediatric Electroneurodiagnostic	3
END-2930	END Directed Practice IV	2
END-2990	Electroneurodiagnostic Capstone <u>C</u>	<u>1</u>
		6

Program Total 68

<sup>1</sup>CHEM-1010 and 1020 may be taken in place of BIO-1100.

<sup>2</sup>Any higher level MATH course may also be used to meet this requirement except MATH-1800/2800 & 1820/2820.

<sup>3</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required-- must include PHIL-2050.

<sup>4</sup>Directed practice courses may not be used to meet this requirement. Elective END course may be selected with written approval from the END department.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

## EMERGENCY MEDICAL TECHNOLOGY

### Associate of Applied Science degree in Emergency Medical Technology

This program is designed for individuals providing Emergency Medical Service to the community. Three levels of training are available: EMT-B, EMT-P and Associate of Applied Science degree in Emergency Medical Technology. Certification is provided by the Ohio Department of Public Safety, Division of EMS.

The graduate may function on the levels required by Ohio Law to provide basic and advanced life support under the direction of a physician, as well as to provide supervision of operations in an emergency service. Accreditation number: 312 OH.

**Program Manager - (216) 987-4449**

**See Appendix I, page 369 for application procedures.**

#### Suggested Semester Sequence

First Semester		Credit Hrs.
BIO-1100	Introduction to Biological Chemistry	3
EMT-1301	Emergency Medical Technician - Basic	7
ENG-1010	College Composition I	3
MA-1020	Medical Terminology I	<u>3</u>
		16

#### Second Semester

BIO-1050	Human Biology	3
EMT-1320	Heavy Rescue.....OR	2
EMT-xxxx	EMT elective course <sup>1</sup>	
EMT-1330	Defensive Driving - EMT	1
EMT-1340	Emergency Medical Service Communications	1
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		3
Communications...(See AAS Degree requirements)		<u>3</u>
		16

#### Third Semester

EMT-2000	Instructional Techniques - EMT	2
EMT-2310	Paramedic Theory I	10
MATH-1060	Survey of Mathematics <sup>3</sup>	3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		<u>2</u>
		17

#### Fourth Semester

EMT-2010	Emergency Medical Tech. Management <u>C</u>	2
EMT-2320	Paramedic Theory II	<u>10</u>
		12

#### Summer Semester

EMT-2740	Advanced Paramedic Techniques	<u>4</u>
		4
	Program Total	65

<sup>1</sup>Elective course may be selected with written approval from the EMT department.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required.

<sup>3</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

## Program Sequences

### ENVIRONMENTAL, HEALTH AND SAFETY TECHNOLOGY

#### Associate of Applied Science degree in Environmental, Health and Safety Technology

[formerly *Environmental, Health and Safety Technology (Environmental Field Technology) AND (Safety Compliance Management)*]

This program prepares students for a variety of careers in the environmental, health and safety technology (EHST) field. Students who enjoy working outdoors can choose the Environmental Field Technology option, which emphasizes skills in air monitoring; water, ground water and soil sampling; chemical emergency response actions; and generally evaluating and cleaning up environmental contamination. The EHST Management option focuses on skills for compliance with Environmental Protection Agency (EPA) and Occupational Safety and Health Administration (OSHA) regulations, whether in private industry, government or the consulting field.

**Program Manager – (216) 987-2236**

**See Appendix I, page 362 for application procedures.**

Note: Select option (a) or (b) before beginning this program.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
EHST-1301	Introduction to Environmental Technology	3
EHST-1320	International Standards Organization (ISO) 14000 (a).....OR	2
EHST-1330	Hazardous Waste Operations and Emergency Response (b)	
ENG-1010	College Composition I	3
HLTH-1230	Standard First Aid and Personal Safety	1
MATH-1060	Survey of Mathematics <sup>1</sup>	3
Arts & Hum/Soc & Beh Sci..(See AAS Degree requirements) <sup>2</sup>		<u>3</u>
		15
<u>Second Semester</u>		
BIO-1060	Environment, Ecology and Evolution	3
BIO-106L	Environmental, Ecology and Evolution Laboratory	1
CHEM-1010	Introduction to Inorganic Chemistry	4
EHST-1310	Introduction to Environmental Law	4
EHST-1350	Health and Safety in the Workplace	<u>3</u>
		15
<u>Third Semester</u>		
EHST-2340	Department of Transportation Regulations	2
EHST-2351 & EHST-2380	Emergency Planning and Response ...AND Risk Assessment (a).....OR	4
ESCI 1410/141L	Physical Geology and Laboratory (b)	
EHST-2361	Environmental Sampling and Analysis	4
SPCH-1010	Fundamentals of Speech Communication	3
Arts & Hum/Soc & Beh Sci..(See AAS Degree requirements) <sup>2</sup>		<u>3</u>
		16

#### Fourth Semester

BADM-1020	Introduction to Business (a).....OR	2-3
EHST-2xxx	EHST elective course (b) <sup>3</sup>	
BIO-1050/105L	Human Biology and Laboratory (b) <sup>1</sup> ...OR	3-4
CHEM-1020	Introduction to Organic Chemistry and Biochemistry (a, b).....OR	
ENG-2151	Technical Writing (a).....OR	
ESCI-2300	Introduction to the Science of Ecosystems (b)	
EHST-2390	Solid and Hazardous Waste Management	3
EHST-2400	Advanced Environmental Technology	3
EHST-2941	Field Experience	1-2
EHST-2990	Professional Standards <u>C</u>	1
Arts & Hum/Soc & Beh Sci..(See AAS Degree requirements) <sup>2</sup>		<u>2</u>
		15-18
Program Total		61-64

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>Minimum of 8 semester credits of Art & Hum/Soc & Beh Sci required.

<sup>3</sup>EHST elective course must have written departmental approval before registering for course.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

Select one option from below and complete the group of courses in that option:

#### Option a (Environmental, Health and Safety Management)

BADM-1020	Introduction to Business	3
CHEM-1020	Introduction to Organic Chemistry and Biochemistry.....OR	4
ENG-2151	Technical Writing	3
EHST-1320	International Standards Organization (ISO) 14000	2
EHST-2351	Emergency Planning and Response	2
EHST-2380	Risk Assessment	2

Note: Requires 2 more semester credits at the 2000-level. ENG-2151 recommended to meet this requirement.

#### Option b (Environmental Field Technology)

BIO-1050/105L	Human Biology and Lab .....OR	3/1
CHEM-1020	Introduction to Organic Chemistry and Biochemistry.....OR	4
ESCI-2300	Introduction to the Science of Ecosystems	3
EHST-1330	Hazardous Waste Operations & Emergency Response	2
EHST-2xxx	EHST Elective <sup>3</sup>	2
ESCI-1410/141L	Physical Geology, and Lab	3/1

Note: Requires 4 more semester credits at the 2000 level. ESCI-2300 may be elected to meet 3 credits of this requirement.

## ENVIRONMENTAL, HEALTH AND SAFETY TECHNOLOGY

### Certificate of Proficiency

The Environmental, Health and Safety Technology (EH&S) Certificate program is a one-year course of study designed to provide students with a well-rounded education in EH&S regulatory compliance. It is intended for those currently working in the EH&S field and seeking to upgrade and broaden their knowledge, or those working in other fields and desiring coursework to help change or modify their careers. The first semester of the program focuses on introductory courses and general proficiencies to prepare the student for the second semester of courses specific to EH&S compliance management. Degree: Students may apply credits toward the Environmental, Health and Safety Technology degree program.

**Program Manager – (216) 987-2236**

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
EHST-1301	Introduction to Environmental Technology	3
EHST-1310	Introduction to Environmental Law	4
EHST-1320	International Standards Organization (ISO) 14000	2
ENG-1010	College Composition I	3
MATH-1060	Survey of Mathematics <sup>1</sup>	<u>3</u>
		15
<u>Second Semester</u>		
EHST-1350	Health and Safety in the Workplace	3
EHST-2340	Department of Transportation Regulations	2
EHST-2350	Emergency Planning and Response	2
EHST-2380	Risk Assessment	2
EHST-2390	Solid and Hazardous Waste Management	3
EHST-2400	Advanced Environmental Technology	<u>3</u>
		15
	Program Total	30

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

## FIRE TECHNOLOGY

### Associate of Applied Science degree in Fire Technology

This curriculum offers a balanced and broad education to students who plan to enter fire service as a career. It also helps active firefighters upgrade themselves for advancement within the service. Included are such specialized areas of instruction as fire prevention, investigation, protection systems and municipal public relations.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
ENG-1010	College Composition I	3
FIRE-1000	Introduction to Fire Science	3
MATH-1200	Intermediate Algebra <sup>1</sup>	4
POL-1010	American National Government	3
	Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>	<u>3</u>
		16
<u>Second Semester</u>		
EMT-1310	Cardiopulmonary Resuscitation	1
ENG-1020	College Composition II	3
FIRE-1300	Fire Tactics and Strategy	3
FIRE-1400	Chemistry of Hazardous Materials	2
SPCH-1000	Fundamentals of Interpersonal Communication .....OR	3
SPCH-1010	Fundamentals of Speech Communication <sup>2</sup>	<u>2</u>
	Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>	<u>2</u>
		14
<u>Third Semester</u>		
BADM-2220	Organizational Behavior	3
EMT-1320	Heavy Rescue	2
EMT-1330	Defensive Driving – EMT	1
FIRE-2320	Fire Prevention and Protection Systems	3
FIRE-2350	Building Construction for Fire Prevention	2
FIRE-2400	Fire Hydraulics	2
PHYS-1210	College Physics I	<u>4</u>
		17
<u>Fourth Semester</u>		
EMT-1340	Emergency Medical Services Communications	1
FIRE-2600	Fire Investigation Methods	3
FIRE-2720	Fire Service Training and Public Relations	2
FIRE-2730	Managing Fire Services <u>C</u>	3
FIRE-2830	Cooperative Field Experience.....OR	1-3
IT-1010	Introduction to Microcomputer Applications	
POL-1020	State and Local Government	<u>3</u>
		13-15
	Program Total	60-62

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include SPCH-1000 or 1010 and a minimum of 2 semester credits at the 2000-level.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

## Program Sequences

### HEALTH INFORMATION MANAGEMENT

#### Associate of Applied Science degree in Health Information Management

The Health Information Management (HIM) program prepares graduates who can identify and use a variety of health information resources and technologies to accomplish the objectives of diverse practice environments. In general, these individuals may perform tasks related to the use, analysis, validation, presentation, abstracting, coding, storage, security, retrieval, quality measurement and control of health care data. Their task responsibility may also include supervision of personnel.

The program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM), a division of the American Health Information Management Association (AHIMA). The goal of the Health Information Management Program is to provide an educational experience within the framework of professional standards. Graduates of the program are eligible to take the national certification examination to become a Registered Health Information Technician (RHIT). Upon passing the exam, an individual is permitted to use the credential RHIT behind his/her last name. Earning a credential validates your competence as an HIM professional to employers and the public.

**Program Manager - (216) 987-4456**

**See Appendix I, page 370 for application procedures.**

#### Suggested Semester Sequence

<u>Summer Semester</u>		<u>Credit Hrs.</u>
BIO-1100	Introduction to Biological Chemistry	3
BIO-2330	Anatomy and Physiology I	4
ENG-1010	College Composition I	3
IT-1010	Introduction to Microcomputer Applications	3
MA-1020	Medical Terminology I	<u>3</u>
		16

#### First Semester

BIO-2340	Anatomy and Physiology II	4
HIM-1301	Introduction to Health Information Management	3
HIM-1310	Legal Aspects of Health Care	2
IT-2300	Database Use and Design	3
MATH-xxxx	1000-level MATH course <sup>1</sup>	<u>3</u>
		15

#### Second Semester

BIO-2600	Pathophysiology	3
HIM-1401	Systems in Healthcare Delivery	2
HIM-1410	Health Care Statistical Applications.....OR	2
HIM-xxxx	HIM elective course <sup>2</sup>	
HIM-1421	Health Data Documentation and Applications	3
HIM-2150	Coding with ICD-9-CM	2
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>3</sup>		<u>2</u>
		14

#### Third Semester

HTEC-1610	Introduction to Pharmacology	2
HIM-2130	Coding with CPT (Current Procedural Terminology)	2
HIM-2311	Quality Assessment and Improvement	2
HIM-2851	Practicum I	3
Communications...(See AAS Degree requirements)		3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>3</sup>		<u>3</u>
		15

#### Fourth Semester

HIM-2401	Intermediate Coding	2
HIM-2410	Management Practices in Health Information	2
HIM-2430	Medical Reimbursement Methodologies	2
HIM-2861	Practicum II <u>C</u>	3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>3</sup>		<u>3</u>
		12
	Program Total	72

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>HIM-1410 Healthcare Statistical Applications is strongly recommended. Another course may be selected with written departmental approval.

<sup>3</sup>Minimum of 8 semester credits of Arts & Hum/Soc & Beh Sci required.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

**HOSPITALITY MANAGEMENT  
(CULINARY ART)**

**Associate of Applied Business degree in Hospitality Management with a concentration in Culinary Art**

The culinary art curriculum follows the guidelines of the American Culinary Federation and is accredited by the American Culinary Federation Accreditation Commission. The culinary concentration has three major components: hands-on food preparation, kitchen management and supervision, and academic. The culinary concentration emphasizes hands-on food preparation, including advanced techniques in garde-manger, baking and contemporary and classical cuisine. The kitchen management and supervision component emphasizes menu planning, purchasing, cost control, human resource training and supervision, and facilities management. The academic component helps prepare the student for critical thinking, decision making, customer service, communication skills and cultural awareness. This program provides all the basics for the beginner and all of the advanced management skills for those who have worked in the culinary field at line-level positions. Practical industry related experiences are included.

**Program Manager - (216) 987-4081**

**See Appendix I, page 362 for application procedures.**

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ENG-1010	College Composition I	3
HOSP-1010	Introduction to the Hospitality Industry	2
HOSP-1020	Sanitation and Safety	2
HOSP-1030	Basic Food Preparation	3
HOSP-1040	Customer Services	2
HOSP-1350	Menu Planning and Nutrition	3
MATH-1060	Survey of Mathematics <sup>1</sup>	<u>3</u>
		18

Second Semester

ACCT-1020	Applied Accounting	3
ENG-1020	College Composition II	3
HOSP-1450	Advanced Food Preparation	4
HOSP-1551	Baking Production and Sales	3
HOSP-1650	Dining Room Operations	2
IT-1010	Introduction to Microcomputer Applications	<u>3</u>
		18

Summer Semester

HOSP-1860	Hospitality Practicum and Seminar	<u>3</u>
		3

Third Semester

HOSP-2300	Facilities Design and Maintenance	2
HOSP-2350	Restaurant Operations .....OR	3
HOSP-xxxx	HOSP elective course <sup>2</sup>	
HOSP-2400	Hospitality Management and Supervision	3
HOSP-2700	Hospitality Purchasing	2
Arts & Hum/Soc & Beh Sci.	(See AAB Degree requirements) <sup>3</sup>	2
Arts & Hum/Soc & Beh Sci.	(See AAB Degree requirements) <sup>3</sup>	<u>3</u>
		15

Fourth Semester

HOSP-2500	Hospitality Cost Control	3
HOSP-2650	Restaurant Management Experience <u>C</u>	4
HOSP-2990	Advanced Culinary Skills & Evaluation <u>C</u>	2
Arts & Hum/Soc & Beh Sci.	(See AAB Degree requirements) <sup>3</sup>	<u>3</u>
		12

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>Elective course may be selected with written approval from the HOSP department.

<sup>3</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – SPCH-1010 highly recommended; must include a minimum of 4 semester credits at the 2000-level.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

**BAKING**

**Short Term Certificate**

The Baking Short Term Certificate provides career opportunities in the baking industry. Employment opportunities include, but are not limited to, professional pastry/baker, cake decorator and bread shops. Students must take placement math and English tests and contact the Hospitality Management department before beginning this certificate (216-987-4081).

Certificate and Degree: Credits may apply toward the Certificate of Proficiency in Professional Baking and the Associate of Applied Business degree in Hospitality Management with a concentration in Culinary Art.

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
HOSP-1010	Introduction to the Hospitality Industry	2
HOSP-1020	Sanitation and Safety	2
HOSP-1030	Basic Food Preparation	3
HOSP-1551	Baking Production and Sales I	<u>3</u>
		10

Second Semester

HOSP-1450	Advanced Food Preparation	4
HOSP-2550	Baking Production and Sales II	<u>3</u>
		7

Program Total

17

## Program Sequences

### CULINARIAN/COOK

#### Short Term Certificate

The Culinarian/Cook Short Term Certificate provides career opportunities in the culinary arts industry. Career opportunities include, but are not limited to, line cook, grill or sauté cook, prep cook and pantry cook. Students must take placement math and English tests and contact the Hospitality Management Department before beginning this certificate program (216-987-4081).

Certificates and Degree: Credits may apply towards Professional Baking Certificate of Proficiency, Professional Culinarian/Cook Certificate of Proficiency and the Hospitality Management degree with a concentration in Culinary Art.

#### Suggested Semester Sequence

<u>First Semester</u>	<u>Credit Hrs.</u>
HOSP-1010 Introduction to the Hospitality Industry	2
HOSP-1020 Sanitation and Safety	2
HOSP-1030 Basic Food Preparation	3
HOSP-1551 Baking Production and Sales I	<u>3</u>
	10
<u>Second Semester</u>	<u>Credit Hrs.</u>
HOSP-1450 Advanced Food Preparation	<u>4</u>
	4
Program Total	14

### PROFESSIONAL BAKING

#### Certificate of Proficiency

This program provides all of the basic, advanced skills and practice needed to start on a career as a professional pastry Culinarian. It includes all of the educational requirements for certification through the executive pastry chef level of certification by the American Culinary Federation. Help is provided at the end of the year, placing the student in a work situation that will provide the work experience needed to advance and the work experience needed for certification.

Degree: Students (especially those seeking executive pastry chef status) may apply credits toward the Hospitality Management degree with a concentration in Culinary Art.

**Program Manager - (216) 987-4081**

**See Appendix I, Hospitality Management Certificate, page 362 for application procedures.**

#### Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
HOSP-1010	Introduction to the Hospitality Industry	2
HOSP-1020	Sanitation and Safety	2
HOSP-1030	Basic Food Preparation <sup>1</sup>	3
HOSP-1450	Advanced Food Preparation <sup>1</sup>	4
HOSP-1551	Baking Production and Sales I	3
MATH-1060	Survey of Mathematics <sup>2</sup>	<u>3</u>
		17
<u>Second Semester</u>		
ENG-1010	College Composition I	3
HOSP-1040	Customer Services	2
HOSP-1350	Menu Planning and Nutrition	3
HOSP-2400	Hospitality Management and Supervision	3
HOSP-2550	Baking Production and Sales II	<u>3</u>
		14
<u>Summer Semester</u>		
HOSP-1860	Hospitality Practicum and Seminar	<u>3</u>
		3
Program Total		34

<sup>1</sup>HOSP-1030 must be completed before taking HOSP 1450. Take HOSP-1030 in the first eight-weeks of a semester and take HOSP-1450 in the second eight-weeks of a semester.

<sup>2</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

**PROFESSIONAL CULINARIAN/COOK**

**Certificate of Proficiency**

This program provides all the basic, advanced skills and practice needed to start a career as a professional cook/chef. It includes all of the educational requirements for certification through the executive chef level of certification by the American Culinary Federation. Help is provided at the end of the year, placing the student in a work situation that will provide work experience needed to advance and the work experience needed for certification.

Degree: Students and those seeking executive chef status may apply credits toward the Hospitality Management degree with a concentration in Culinary Art.

**Program Manager - (216) 987-4081**

**See Appendix I, Hospitality Management Certificate, page 362 for application procedures.**

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
HOSP-1010	Introduction to the Hospitality Industry	2
HOSP-1020	Sanitation and Safety	2
HOSP-1030	Basic Food Preparation <sup>1</sup>	3
HOSP-1450	Advanced Food Preparation <sup>1</sup>	4
HOSP-1551	Baking Production and Sales I	3
MATH-1060	Survey of Mathematics <sup>2</sup>	<u>3</u>
		17

Second Semester

ENG-1010	College Composition I	3
HOSP-1040	Customer Services	2
HOSP-1350	Menu Planning and Nutrition	3
HOSP-2350	Restaurant Operations	3
HOSP 2400	Hospitality Management and Supervision	3
HOSP-2990	Advanced Culinary Skills and Evaluation	<u>2</u>
		16

Summer Semester

HOSP-1860	Hospitality Practicum and Seminar	<u>3</u>
		3

Program Total 36

<sup>1</sup>HOSP-1030 must be completed before taking HOSP-1450. Take HOSP-1030 in the first eight-weeks of a semester and take HOSP-1450 in the second eight-weeks of a semester.

<sup>2</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

**HOSPITALITY MANAGEMENT  
(LODGING-TOURISM MANAGEMENT)**

**Associate of Applied Business degree in Hospitality Management with a concentration in Lodging-Tourism Management**

The lodging-tourism management concentration prepares students for entry-level supervision in front office, sales and convention management. This leads to increasingly responsible management positions in hotels, motels and clubs. Included is a minimum component of foodservice and observations of front-office and sales/marketing and convention planning functions. This program is accredited by the Commission on Accreditation of Hospitality Management (CAHM) Programs. Practical industry related experiences are included.

**Program Manager - (216) 987-4081**

**See Appendix I, page 362 for program application requirements.**

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ENG-1010	College Composition I	3
HOSP-1010	Introduction to the Hospitality Industry	2
HOSP-1020	Sanitation and Safety	2
HOSP-1030	Basic Food Preparation	3
HOSP-1040	Customer Services	2
IT-1010	Introduction to Microcomputer Applications	3
MATH-1060	Survey of Mathematics <sup>1</sup>	<u>3</u>
		18

Second Semester

ACCT-1020	Applied Accounting	3
ENG-1020	College Composition II	3
HOSP-1380	Dimensions of Tourism	3
HOSP-1480	Housekeeping Operations	2
HOSP-1580	Front Office Operations	2
Arts & Hum/Soc & Beh Sci...	(See AAB Degree requirements) <sup>2</sup>	<u>3</u>
		16

Summer Semester

HOSP-1860	Hospitality Practicum and Seminar	<u>3</u>
		3

Third Semester

HOSP-2300	Facilities Design and Maintenance	2
HOSP-2400	Hospitality Management & Supervision	3
HOSP-2480	Hospitality Law	3
HOSP-2700	Hospitality Purchasing	2
Arts & Hum/Soc & Beh Sci...	(See AAB Degree requirements) <sup>2</sup>	<u>2</u>
		12

Fourth Semester

HOSP-2380	Hospitality Marketing and Sales	3
HOSP-2500	Hospitality Cost Control	3
HOSP-2580	Convention Management Meeting and Planning	2
HOSP-2861	Lodging and Tourism Experience Practicum <u>C</u>	4
Arts & Hum/Soc & Beh Sci..	(See AAB Degree requirements) <sup>2</sup>	<u>3</u>
		15
	Program Total	64

<sup>1</sup>MATH -1800/2800 & 1820/2820 may not be used to meet this requirement.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – SPCH-1010 highly recommended.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

**LODGING ROOMS DIVISION**

**Certificate of Proficiency**

This program focuses on training the student for Rooms Division positions in the lodging industry. Students will have on-site training at area lodging facilities and will learn to use front desk and other related software. Upon successfully completing the courses, students will be awarded a Rooms Division Certification of Specialization from the American Hotel and Motel Association. Help is provided at the end of the year, placing students in a work situation that will provide the work experience needed to advance.

Degree: Students may apply credits toward the Hospitality Management with a concentration in Lodging-Tourism Management degree program.

**Program Manager - (216) 987-4081**

**See Appendix I, Hospitality Management Certificates, page 362 for application procedures.**

Suggested Semester Sequence		<u>Credit Hrs.</u>
<u>First Semester</u>		
ENG-1010	College Composition I	3
HOSP-1010	Introduction to the Hospitality Industry	2
HOSP-1020	Sanitation and Safety	2
HOSP-1040	Customer Services	2
IT-1010	Introduction to Microcomputer Applications	3
MATH-1060	Survey of Mathematics <sup>1</sup>	<u>3</u>
		15
<u>Second Semester</u>		
ACCT-1020	Applied Accounting	3
HOSP-1480	Housekeeping Operations	2
HOSP-1580	Front Office Operations	2
HOSP-1860	Hospitality Practicum and Seminar	3
HOSP-2400	Hospitality Management and Supervision	3
HOSP-2480	Hospitality Law	<u>3</u>
		16
	Program Total	31

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

**LODGING/ROOMS**

**Short Term Certificate**

The Lodging/Rooms Short Term Certificate provides career opportunities in the lodging industry. Employment opportunities include, but are not limited to, front desk agent, guest room attendant, guest services and reservation agent. Students must take placement math and English tests and contact the Hospitality Management Department before beginning this certificate program (216-987-4081).

Certificate and Degree: Students may apply credits towards the Certificate of Proficiency in Lodging Rooms Division and the Associate of Applied Business degree in Hospitality Management with a concentration in Lodging-Tourism Management.

Suggested Semester Sequence		<u>Credit Hrs.</u>
<u>First Semester</u>		
HOSP-1010	Introduction to the Hospitality Industry	2
HOSP-1020	Sanitation and Safety	2
HOSP-1040	Customer Service	2
IT-1010	Introduction to Microcomputer Applications	<u>3</u>
		9
<u>Second Semester</u>		
HOSP-1480	Housekeeping Operations	2
HOSP-1580	Front Office Operations	<u>2</u>
		4
	Program Total	13



## HOSPITALITY MANAGEMENT (RESTAURANT/FOOD SERVICE MANAGEMENT)

Associate of Applied Business degree in Hospitality Management with a concentration in Restaurant/Food Service Management

This program is accredited by both the Commission on Accreditation of Hospitality Management Programs and the Accrediting Commission of the American Culinary Federation, insuring an industry-approved quality curriculum. Students are prepared for entry-level front- and back-of-the-house supervisory positions in both restaurant and institutional foodservice and beverage establishments. Students are also prepared for future positions as kitchen managers, dining room managers, banquet managers, purchasing agents, food and beverage controllers and restaurant/food service managers. Curriculum includes skill training, business and management techniques, critical thinking, decision making, customer service, communication and cultural awareness skills. Practical industry related experiences are included.

Program Manager - (216) 987-4081

See Appendix I, page 362 for application procedures.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
ENG-1010	College Composition I	3
HOSP-1010	Introduction to the Hospitality Industry	2
HOSP-1020	Sanitation and Safety	2
HOSP-1030	Basic Food Preparation	3
HOSP-1040	Customer Services	2
HOSP-1370	Food and Beverage Operations I	3
MATH-1060	Survey of Mathematics <sup>1</sup>	<u>3</u>
		18
<u>Second Semester</u>		
ACCT-1020	Applied Accounting	3
ENG-1020	College Composition II	3
HOSP-1450	Advanced Food Preparation	4
HOSP-1670	Food and Beverage Operations II	3
IT-1010	Introduction to Microcomputer Applications	<u>3</u>
		16
<u>Summer Semester</u>		
HOSP-1860	Hospitality Practicum and Seminar	<u>3</u>
		3
<u>Third Semester</u>		
HOSP-2300	Facilities Design and Maintenance	2
HOSP-2350	Restaurant Operations	3
HOSP-2400	Hospitality Management and Supervision	3
HOSP-2480	Hospitality Law	3
HOSP-2700	Hospitality Purchasing	2
Arts & Hum/Soc & Beh Sci...(See AAB Degree requirements) <sup>2</sup>		<u>2</u>
		15

### Fourth Semester

HOSP-2500	Hospitality Cost Control	3
HOSP-2870	Food and Beverage Management Experience <u>C</u>	4
Arts & Hum/Soc & Beh Sci...(See AAB Degree requirements) <sup>2</sup>		<u>3</u>
Arts & Hum/Soc & Beh Sci...(See AAB Degree requirements) <sup>2</sup>		<u>3</u>
		13
	Program Total	65

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – SPCH-1010 highly recommended.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

## FOOD AND BEVERAGE OPERATIONS

### Certificate of Proficiency

This program provides all the basic, advanced skills and practice needed to start a career as a professional Food and Beverage Manager. Help is provided at the end of the year, placing students in a work situation that will provide the work experience needed to advance and the work experience needed for certification.

Degree: Students may apply credits toward the Hospitality Management with a concentration in Restaurant/Foodservice Management degree program.

Program Manager - (216) 987-4081

See Appendix I, Hospitality Management Certificates, page 362 for application procedures.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
HOSP-1010	Introduction to the Hospitality Industry	2
HOSP-1020	Sanitation and Safety	2
HOSP-1030	Basic Food Preparation	3
HOSP-1040	Customer Services	2
HOSP-1370	Food and Beverage Operations I	3
MATH-1060	Survey of Mathematics <sup>1</sup>	<u>3</u>
		15
<u>Second Semester</u>		
ENG-1010	College Composition I	3
HOSP-1670	Food and Beverage Operations II	3
HOSP-1860	Hospitality Practicum and Seminar	3
HOSP-2400	Hospitality Management and Supervision	3
HOSP-2480	Hospitality Law	3
HOSP-2700	Hospitality Purchasing	<u>2</u>
		17
	Program Total	32

<sup>1</sup>MATH 1800/2800 & 1820/2820 may not be used to meet this requirement.

## Program Sequences

### FOOD & BEVERAGE

#### Short Term Certificate

The Food & Beverage Short Term Certificate provides career opportunities in the food and beverage industry. Employment opportunities include, but are not limited to, dining room supervisor, bartender, server and banquet coordinator. Students must take placement math and English tests and contact the Hospitality Management Department before beginning this certificate program (216-987-4081).

Certificate and Degree: Credits may apply toward the Certificate of Proficiency in Food and Beverage Operations and the Associate of Applied Business degree in Hospitality Management with a concentration in Restaurant/Food Service Management.

#### Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
HOSP-1010	Introduction to the Hospitality Industry	2
HOSP-1020	Sanitation and Safety	2
HOSP-1030	Basic Food Preparation	3
HOSP-1370	Food and Beverage Operations I	3
HOSP-1040	Customer Service	<u>2</u>
		12
<u>Second Semester</u>		
HOSP-1670	Food and Beverage Operations II	<u>3</u>
		3
	Program Total	15

C = Capstone course

### HUMAN SERVICES

*(formerly Community Mental Health Technology)*

#### Associate of Applied Science degree in Human Services

#### Alcohol/Chemical Dependency Option

The Alcohol/Chemical Dependency Option of the Human Services program provides students the competencies that enable them to work with people who are chemically dependent. Career opportunities for graduates include employment in a variety of settings ranging from in-patient programs to community-based outpatient and prevention programs. Students in the program can qualify to be a Chemical Dependency Counselor Assistant after taking three credit hours in chemical dependency course work. Graduates of the program receive a significant number of board recognized hours toward the Licensed Chemical Dependency Counselor II (LCDCII) requirements established by the Ohio Department of Alcohol and Drug Addiction Services, and are prepared for licensure exams for LCDC II administered by the Ohio Department of Alcohol and Drug Addiction Services.

#### Generalist Option

The Generalist Option of the Human Services program provides students with the competencies which enable them to work with a variety of people with various needs. Career opportunities for graduates are in community-based programs which emphasize practical approaches to problem solving. All graduates of the Human Services program are eligible to receive certification as a Social Work Assistant from the Ohio Counselor and Social Worker Board.

**See Appendix I, page 362 for application procedures.**

Note: Letters in parenthesis relate to options (a) or (b).

#### Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ENG-1010	College Composition I	3
HS-1100	Foundations of Substance Abuse and Addiction	3
HS-1300	Introduction to Human Services	3
PSY-1010	General Psychology	3
SPCH-1000	Fundamentals of Interpersonal Communication	<u>3</u>
		15
<u>Second Semester</u>		
ENG-1020	College Composition II	3
HS-1110	Crisis Intervention and Abuse Issues (b) ...OR	
HS-1200	Treatment Modalities & Diversity Issues in CD (a)	3-4
HS-1210	Prevention and Chemical Dependency (a)...OR	2-4
HS-1220	Diagnostic Tools and Legal Considerations (b)	
HS-1400	Group Work in the Human Services	2
HS-1850	Introduction to Human Services Principles and Practices	5
SPCH-1010	Fundamentals of Speech Communication	<u>3</u>
		18-21

(Continued next page)

**HUMAN SERVICES (Continued)**

Third Semester

HS-2200	Ethics in Chemical Dependency (a).....OR	3-4
HS-2300	Family Theory and Services (b)	
HS-2600	Systems Approach in Case Management	4
HS-2850	Human Services Principles & Practices I	5
PSY-2020	Life Span Development	4
HS-xxxx	Elective	<u>2-3</u>
		18-20

Fourth Semester

BIO-1050	Human Biology	3
BIO-105L	Human Biology Lab	1
HS-2530	Proposal Writing & Program Development	2
HS-2860	Human Services Principles & Practices II	3
HS-2990	Human Services Capstone <u>C</u>	2
MATH-xxxx	1000-level MATH course <sup>1</sup>	3
PYS-2070	Behavior Modification	<u>3</u>
		17

Program Total A = 69-70  
 Program Total B = 71-72

(a) Alcohol/Chemical Dependency Option

HS-1200	Treatment Modalities and Diversity Issues	4
HS-1210	Prevention and Chemical Dependency	2
HS-2200	Ethics in Chemical Dependency	3

(b) Generalist Option

HS-1110	Crisis Intervention and Child Abuse Issues	3
HS-1220	Diagnostic Tools and Legal Issues	4
HS-2300	Family Theory and Services	4

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.  
 Note: Courses as listed satisfy degree competencies and skills  
C = Capstone course

**INFORMATION TECHNOLOGY**

**(Information Application Specialist)**

**Associate of Applied Business degree in Information Technology with a concentration as an Information Application Specialist**

Students will be prepared for careers dealing with the professional applications of word processing, spreadsheets, power point presentations, databases and desktop publishing. Students will gain the necessary skills to produce documents, reports and correspondence while maintaining files electronically by integrating various software applications/functions. Skills acquired will assist students in preparing to take industry certification exams.

**See page Appendix I, page 363 for application procedures.**

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
BADM-1000	Business Language Skills	2
BADM-1020	Introduction to Business	3
ENG-1010	College Composition I	3
IT-1000	Keyboarding <sup>1</sup>	2
IT-1010	Introduction to Microcomputer Applications	3
IT-1030	Internet Fundamentals	2
IT-1060	Introduction to Windows	<u>2</u>
		17

Second Semester

IT-1020	Information Technology Concepts	2
ITAP-1200	Word Processing I	3
ITAP-1230	Basic Business Formatting	3
ITAP-1240	Basic Filing with Microcomputer Applications	3
MATH-1060	Survey of Mathematics <sup>2</sup>	3
	Communications...(See AAB Degree requirements)	<u>3</u>
		17

Third Semester

BADM-2010	Business Communications	3
ITAP-1220	Speed Building	2
ITAP-1250	Electronic Spreadsheet Use and Design	3
ITAP-2200	Word Processing II	3
ITAP-2210	Presentation Software	3
	Arts & Hum/Soc & Beh Sci...(See AAB Degree requirements) <sup>3</sup>	3
	Arts & Hum/Soc & Beh Sci...(See AAB Degree requirements)	<u>2</u>
		19

Fourth Semester

ACCT-xxxx	Any ACCT elective course	3
BADM-2990	Office Procedures and Practices <u>C</u>	3
IT-2300	Database Use and Design	3
ITAP-2270	Desktop Publishing	3
	Arts & Hum/Soc & Beh Sci...(See AAB Degree requirements) <sup>2</sup>	<u>3</u>
		15

Program Total 68

<sup>1</sup>May be waived through demonstration of 20 wpm skills or equivalent proficiency.

<sup>2</sup>Any higher level MATH course may also be used to meet this requirement except MATH-1800/2800 & 1820/2820.

<sup>3</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required - must include 2 semester credits at the 2000-level.

Note: Courses as listed satisfy degrees competencies and skills.

C = Capstone course

## Program Sequences

### BASIC OFFICE SKILLS

#### Short Term Certificate

The Basic Office Skills Short Term Certificate prepares students for entry-level employment as alpha-numeric data entry operators, receptionists and other general office occupations.

Certificate/Degree: All courses with the exception of IT-1030 may be applied to the Certificate of Proficiency in Information Application Specialist and all courses may be applied to the Associate of Applied Business degree in Information Technology with a concentration in Information Application Specialist.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
IT-1000	Keyboarding <sup>1</sup>	2
IT-1010	Introduction to Microcomputer Applications	3
IT-1030	Internet Fundamentals	2
IT-1060	Introduction to Windows	2
ITAP-1240	Basic Filing with Microcomputer Applications	<u>3</u>
		12
<u>Second Semester</u>		
ITAP-1230	Basic Business Formatting	<u>3</u>
		3
	Program Total	15

<sup>1</sup>May be waived if students possesses a minimum of 30 wpm typing speed for three minutes with three errors or less.

### INFORMATION TECHNOLOGY (Information Application Specialist) Certificate of Proficiency

This certificate program prepares the student in the basics of information processing. Hands-on training in information processing of applications and functions are provided.

Degree: Students may apply credits toward the Information Technology (Information Application Specialist) degree program.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
BADM-1000	Business Language Skills	2
ENG-1010	College Composition I	3
IT-1000	Keyboarding <sup>1</sup>	2
IT-1010	Introduction to Microcomputer Applications	3
IT-1060	Introduction to Windows	2
ITAP-1240	Basic Filing with Microcomputer Applications	<u>3</u>
		15
<u>Second Semester</u>		
BADM-2010	Business Communications	3
ITAP-1200	Word Processing I	3
ITAP-1230	Basic Business Formatting	3
ITAP-1250	Electronic Spreadsheet Use and Design	3
ITAP-2270	Desktop Publishing	3
MATH-1060	Survey of Mathematics <sup>2</sup>	<u>3</u>
		18
<u>Summer Semester</u>		
ITAP-2200	Word Processing II	<u>3</u>
		3

Program Total

36

<sup>1</sup>If typing speed is at least 20 wpm, replace IT-1000 with ITAP-1220 Speed Building.

<sup>2</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

### INFORMATION TECHNOLOGY

#### (Mainframe Programming)

##### Associate of Applied Business degree in Information

##### Technology with a concentration in Mainframe Programming

Students will be prepared for entry-level positions as programmer/analysts within information centers utilizing large computer systems such as IBM ES9000. The program includes problem solving techniques, program design/creation/maintenance, and interactive processing methods.

See page Appendix I, page 363 for application procedures.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
BADM-1020	Introduction to Business	3
ENG-1010	College Composition I	3
IT-1010	Introduction Microcomputer Applications	3
IT-1020	Information Technology Concepts	2
IT-1050	Programming Logic	3
Arts & Hum/Soc & Beh Sci...	(See AAB Degree requirements) <sup>1</sup>	<u>3</u>
		17
<u>Second Semester</u>		
ACCT-1310	Financial Accounting	4
ENG-1020	College Composition II	3
ITMF-1310	Internal Computer Functions	2
ITMF-1500	Application Program Development I: COBOL	5
MATH-1180	Intermediate Algebra for Technologies...OR	4
MATH-1200	Intermediate Algebra <sup>2</sup>	—
		18

Suggested Semester Sequence		Credit Hrs.
<u>Third Semester</u>		
ITMF-2530	Application Program Development II: COBOL, CICS	5
ITMF-2610	Assembly Language Programming	4
MATH-1410	Elementary Probability & Statistics I	3
SPCH-1000	Fundamentals of Interpersonal Communication.....OR	3
SPCH-1010	Fundamentals of Speech Communication <sup>1</sup>	—
		15

Suggested Semester Sequence		Credit Hrs.
<u>Fourth Semester</u>		
IT-2700	Systems Analysis and Design	3
IT-2xxx	2000-level IT programming language elective	4
ITMF-2550	Application Program Development III: COBOL, CICS, SQL <u>C</u>	5
Arts & Hum/Soc & Beh Sci...	(See AAB Degree requirements) <sup>1</sup>	<u>2</u>
		14
	Program Total	64

<sup>1</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include SPCH 1000 or 1010. ECON-2610 and 2620 highly recommended.

<sup>2</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820. Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

**INFORMATION TECHNOLOGY  
(Microcomputer Specialist)**

Associate of Applied Business degree in Information Technology with a concentration in Microcomputer Specialist

Students will be prepared for a variety of business and industry positions using integrated microcomputer applications.

Microcomputer software is used in virtually every public and private enterprise. Entry-level skills taught include operating system installation and maintenance, PC programming languages, development of customized software applications and problem solving in a microcomputer environment.

See page Appendix I, page 363 for application procedures.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
BADM-1020	Introduction to Business	3
IT-1010	Introduction to Microcomputer Applications	3
IT-1020	Information Technology Concepts	2
IT-1030	Internet Fundamentals	2
IT-1050	Programming Logic..... OR	3
ITMP-1060	Introduction to Programming Concepts	
MATH-1180	Intermediate Algebra for Technologies...OR	4
MATH-1200	Intermediate Algebra <sup>1</sup>	
		17
<u>Second Semester</u>		
ACCT-1310	Financial Accounting	4
ENG-1010	College Composition I	3
IT-1040	Microcomputer Operating Systems	3
ITAP-1250	Electronic Spreadsheet Use and Design	3
ITMP-2620	Visual Basic Programming	4
		17
<u>Third Semester</u>		
ENG-1020	College Composition II	3
IT-2300	Database Use and Design	3
IT-2700	Systems Analysis and Design	3
MATH-1410	Elementary Probability & Statistics I	3
Arts & Hum/Soc & Beh Sci...(See AAB Degree Requirements) <sup>2</sup>		3
		15
<u>Fourth Semester</u>		
ITMP-2630	Advanced Visual Basic Programming....OR	4
ITMP-2650	Java Programming.....OR	
ITMP-2660	Data Structures.....OR	
ITMP-2670	C/C++ Programming Language	
ITMP-2990	Microcomputer Project <u>C</u>	3
ITNT-2300	Networking Fundamentals	3
SPCH-1000	Fundamentals of Interpersonal	3
	Communication .....OR	
SPCH-1010	Fundamentals of Speech Communication <sup>2</sup>	
Arts & Hum/Soc & Beh Sci...(See AAB Degree Requirements) <sup>2</sup>		2
		15
Program Total		64

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>Minimum 8 semester credits of Art & Hum/Soc & Beh Sci required – must include SPCH-1000 or 1010.

Note: course as listed satisfy degree competencies and skills.

C = Capstone course

**INFORMATION TECHNOLOGY  
(Networking Software)**

Associate of Applied Business degree in Information Technology with a concentration in Networking Software

Students will be prepared for careers dealing with network software systems analysis, planning and implementation to create, manage and support networks. Students will gain the necessary skills to analyze network system needs for design, installation, maintenance and management of network software systems. Skills acquired will assist students in preparing to take industry certification exams.

See page Appendix I, page 363 for application procedures.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
EET-1001	Introduction to PC Maintenance	3
ENG-1010	College Composition I	3
IT-1010	Introduction to Microcomputer Applications	3
IT-1020	Information Technology Concepts	2
IT-1040	Microcomputer Operating Systems	3
Arts & Hum/Soc & Beh Sci...(See AAB Degree requirements) <sup>1</sup>		3
		17
<u>Second Semester</u>		
EET-1021	Operating System Technologies I	3
EET-1081	Computer User Support	1
IT-1030	Internet Fundamentals	2
ITNT-2300	Networking Fundamentals	3
ITNT-2310	TCP/IP	3
MATH-1180	Intermediate Algebra for Technologies <sup>2</sup>	4
		16
<u>Third Semester</u>		
EET-1031	Operating System Technologies II	3
EET-1051	PC Servicing and Troubleshooting	2
ENG-2151	Technical Writing	3
ITNT-2320	Network Administration I	3
ITNT-2370	Network Security Fundamentals	3
Arts & Hum/Soc & Beh Sci...(See AAB Degree requirements) <sup>1</sup>		2
		16
<u>Fourth Semester</u>		
BADM-1020	Introduction to Business	3
EET-1071	Computer System Peripherals	2
EET-1091	Test Preparation for A+ Certification	1
ITNT-2990	Networking Capstone <u>C</u>	3
ITNT-2xxx	2000-level ITNT elective course <sup>3</sup>	3
Arts & Hum/Soc & Beh Sci...(See AAB Degree requirements) <sup>1</sup>		3
		15
Program Total		64

<sup>1</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – ECON-2610 and ECON-2620 highly recommended.

<sup>2</sup>Any higher level MATH course may also be used to meet this requirement except MATH-1800/2800 & 1820/2820.

<sup>3</sup>ITNT Electives:

ITNT-2330	Systems Administration for SQL Server
ITNT-2350	Microsoft Exchange Server: Concepts and Administration
ITNT-2360	Microsoft Internet Information Server
ITNT-2420	Network Administration II

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

## Program Sequences

### INFORMATION TECHNOLOGY (Web Page Development and Maintenance)

Associate of Applied Business degree in Information Technology with a concentration in Web Page Development and Maintenance

Students develop competencies in implementing and maintaining hypertext-based Web sites using authoring and scripting languages, creating Web content, using Web management tools and digital media tools within the PC environment. Students will implement strategies to develop Web sites, evaluate design tools, discuss future technology standards and explore the incompatibility issues surrounding current browsers. Skills acquired will assist students in preparing to take industry certification exams.

See page Appendix I, page 363 for application procedures.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
ENG-1010	College Composition I	3
IT-1010	Introduction to Microcomputer Applications	3
IT-1020	Information Technology Concepts	2
IT-1030	Internet Fundamentals	2
IT-1050	Programming Logic.....OR	3
ITMP-1060	Introduction to Programming Concepts	
MATH-1180	Intermediate Algebra for Technologies...OR	4
MATH-1200	Intermediate Algebra <sup>1</sup>	
		17
<u>Second Semester</u>		
IT-1040	Microcomputer Operating Systems	3
IT-1070	Advanced Internet Concepts	3
ITWM-1010	Creating Web Pages with HTML and JavaScript	3
ITWM-2320	Interactive Internet Programming	4
VC&D-1400	Imaging and Design	1
VC&D-140L	Imaging and Design Studio	1
Arts & Hum/Soc & Beh Sci...(See AAS Degree Requirements) <sup>2</sup>		3
		18
<u>Third Semester</u>		
BADM-1020	Introduction to Business	3
FIN-1060	Consumer Finance.....OR	2-3
MARK-2010	Principles of Marketing	
IT-2300	Database Use and Design	3
ITNT-2300	Networking Fundamentals	3
VC&D-2700	Media Design	2
Arts & Hum/Soc & Beh Sci...(See AAS Degree Requirements) <sup>2</sup>		3
Arts & Hum/Soc & Beh Sci...(See AAS Degree Requirements) <sup>2</sup>		2
		18-19
<u>Fourth Semester</u>		
ITMP-2670	C/C++ Programming Language.....OR	3-4
IT-2xxx	Any 2000-level IT programming course	
ITWM-2030	Active Server Pages	4
ITWM-2990	E-Commerce Technologies <u>C</u>	3
MATH-1410	Elementary Probability and Statistics I	3
SPCH-1000	Fundamentals of Interpersonal Communication.....OR	3
SPCH-1010	Fundamentals of Speech Communications	
		16-17
Program Total		69-71

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – ECON-2610 and ECON-2620 highly recommended.  
Note: Courses as listed satisfy competencies and skills.

C = Capstone course

### INTERIOR DESIGN

Associate of Applied Business degree in Interior Design

The interior designer helps to solve the functional and aesthetic design problems in residential and commercial interiors. The program prepares students for employment in interior design studios, architectural firms, showrooms, retail and furniture stores and manufacturing firms.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
ARCH-1410	Architectural Drafting and CAD I	3
ART-1020	Art History I	3
ART-1050	Drawing I	3
ART-1080	Visual Design I	3
ENG-1010	College Composition I	3
INTD-1110	Introduction to Interior Design	1
MIT-1220	Introduction to AutoCAD	2
		18
<u>Second Semester</u>		
ART-1030	Art History II	3
ART-1060	Drawing II	3
ART-1090	Visual Design II	3
ENG-1020	College Composition II.....OR	3
SPCH-1000	Fundamentals of Interpersonal Communication	
MATH-xxxx	1000-level MATH course <sup>1</sup>	3
		15
<u>Third Semester</u>		
INTD-2300	Interior Design Studio I	3
INTD-2320	History of Interiors	3
INTD-2330	Interior Design Materials and Sources	3
INTD-2350	Textiles	3
INTD-2380	Fundamentals of Lighting	3
MARK-2020	Principles of Salesmanship	3
		18
<u>Fourth Semester</u>		
INTD-2400	Interior Design Studio II	3
INTD-2430	Architectural Materials and Methods	3
INTD-2460	Interior Design Presentation	3
INTD-2470	Professional Practice of Interior Design	3
INTD-2850	Interior Design Practicum <u>C</u>	3
		15
Program Total		66

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.  
Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

**LAW ENFORCEMENT**

**Associate of Applied Science degree in Law Enforcement**

Various aspects of law enforcement and criminal justice are covered, including policing, the judicial system, criminal investigations, industrial/corporate security and juvenile delinquency. The course sequence offers a balanced and broad education to students who plan to enter law enforcement as a career. It helps in-service police officers upgrade themselves for advancement within the ranks. Many students join a municipal force but career opportunities also are available in county, state and federal governments.

Suggested Semester Sequence		<u>Credit Hrs.</u>
<u>First Semester</u>		
ENG-1010	College Composition I	3
IT-1010	Introduction to Microcomputer Applications	3
LAWE-1000	Introduction to Criminal Justice	3
LAWE-1120	Criminal Court Procedure	2
LAWE-1130	Criminal Evidence	2
LAWE-1320	Ethics in Criminal Justice	2
PSY-1010	General Psychology	<u>3</u>
		18
<u>Second Semester</u>		
ENG-1020	College Composition II	3
LAWE-1010	Computers in Criminal Justice	2
LAWE-1111	Constitutional Law for Police	3
LAWE-1330	Criminal Law	3
MATH-xxxx	1000-level MATH course <sup>1</sup>	3
SOC-1010	Introductory Sociology.....OR	3
UST-1010	Introduction to Urban Studies	—
		17
<u>Third Semester</u>		
LAWE-2300	Juvenile Delinquency	2
LAWE-2390	The Investigative Process	4
LAWE-xxxx	Any LAWE elective course	3
POL-1010	American National Government	3
SPCH-xxxx	Any SPCH elective course <sup>2</sup>	<u>3</u>
		15
<u>Fourth Semester</u>		
LAWE-2360	Community Oriented Policing	3
LAWE-2440	Protection Services	2
LAWE-2990	Issues in Supervision <u>C</u>	4
PSY-2xxx	Any 2000-level PSY elective course	3
SOC-2xxx	Any 2000-level SOC elective course.....OR	3
UST-2xxx	Any 2000-level UST elective course	—
		15
Program Total		65

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>SPCH-1010 highly recommended.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

**LAW ENFORCEMENT**

**(Basic Police Academy)**

**Associate of Applied Science degree in Law Enforcement with a concentration in Basic Police Academy**

This program is designed for students who have made the career decision to be peace officers and are enrolled in the Basic Peace Officer Academy affiliated with Cuyahoga Community College. The program provides opportunities for specific police training, as well as the educational base to prepare for career promotions.

See page Appendix I, page 363 for application procedures.

Suggested Semester Sequence		<u>Credit Hrs.</u>
<u>First Semester</u>		
ENG-1010	College Composition I	3
IT-1010	Introduction to Microcomputer Applications	3
LAWE-1000	Introduction to Criminal Justice	3
LAWE-1120	Criminal Court Procedure	2
LAWE-1130	Criminal Evidence	2
PSY-1010	General Psychology	3
SOC-1010	Introductory Sociology.....OR	3
UST-1010	Introduction to Urban Studies	—
		19
<u>Second Semester</u>		
ENG-1020	College Composition II	3
HLTH-1230	Standard First Aid & Personal Safety	1
LAWE-1111	Constitutional Law for Police	3
LAWE-1300	Patrol Operations	4
LAWE-1310	Traffic Enforcement & Investigation	3
LAWE-1330	Criminal Law	3
PE-1000	Personal Fitness	<u>2</u>
		19
<u>Third Semester</u>		
LAWE-1320	Ethics in Criminal Justice	2
LAWE-2300	Juvenile Delinquency	2
LAWE-2370	Fire Arm Techniques	3
LAWE-2380	Defensive Driving	2
LAWE-2390	The Investigative Process	4
POL-1010	American National Government	3
SPCH-xxxx	Any SPCH elective course <sup>1</sup>	<u>3</u>
		19
<u>Fourth Semester</u>		
LAWE-2360	Community Oriented Policing	3
LAWE-2990	Issues in Supervision <u>C</u>	4
MATH-xxxx	1000-level MATH course <sup>2</sup>	3
PSY-2xxx	Any 2000-level PSY elective course	3
SOC-2xxx	Any 2000-level SOC elective course.....OR	3
UST-2xxx	Any 2000-level UST elective course	—
		16
Program Total		73

<sup>1</sup>SPCH-1010 highly recommended.

<sup>2</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

## Program Sequences

### LAW ENFORCEMENT (Corrections)

Associate of Applied Science degree in Law Enforcement with a concentration in Corrections

This program provides a broad overview of corrections, probation and parole in both concepts and procedures. There are opportunities for employment in this growing field in local, state and federal agencies working in corrections at both community and institutional levels.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
ENG-1010	College Composition I	3
IT-1010	Introduction to Microcomputer Applications	3
LAWE-1000	Introduction to Criminal Justice	3
LAWE-1070	Introduction to Corrections	2
LAWE-1120	Criminal Court Procedure	2
LAWE-1130	Criminal Evidence	2
LAWE-1320	Ethics in Criminal Justice	2
		17
<u>Second Semester</u>		
ENG-1020	College Composition II	3
LAWE-1010	Computers in Criminal Justice	2
LAWE-1500	Community Intervention Resources	4
MATH-xxxx	1000-level MATH course <sup>1</sup>	3
PSY-1010	General Psychology	3
SOC-1010	Introductory Sociology.....OR	3
UST-1010	Introduction to Urban Studies	—
		18
<u>Third Semester</u>		
LAWE-2300	Juvenile Delinquency	2
LAWE-2510	Community Supervision and Aftercare	4
LAWE-xxxx	Any LAWE elective course	3
POL-1010	American National Government	3
SPCH-xxxx	Any SPCH elective course <sup>2</sup>	3
		15
<u>Fourth Semester</u>		
LAWE-2530	Correctional Case Management	3
LAWE-2540	Corrections: Principles and Practices	3
LAWE-2990	Issues in Supervision <u>C</u>	4
PSY-2xxx	Any 2000 level PSY elective course	3
SOC-2xxx	Any 2000 level SOC elective course.....OR	3
UST-2xxx	Any 2000 level UST elective course	—
		16
Program Total		66

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.  
<sup>2</sup>SPCH-1010 highly recommended.

Note: Courses as listed satisfy degree competencies and skills.  
C = Capstone course

### LAW ENFORCEMENT (Security Administration)

Associate of Applied Science degree in Law Enforcement with a concentration in Security Administration

This program is designed to prepare individuals working in various aspects of private or contract security service to assume administrative roles, as well as to broaden the knowledge of those employed in limited functional activities within the industry to assume more responsible positions in areas of loss prevention and detection, protection of life and property or investigative work.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
ENG-1010	College Composition I	3
IT-1010	Introduction to Microcomputer Applications	3
LAWE-1000	Introduction to Criminal Justice	3
LAWE-1050	Introduction to Security	2
LAWE-1120	Criminal Court Procedure	2
LAWE-1320	Ethics in Criminal Justice	2
SOC-1010	Introductory Sociology.....OR	3
UST-1010	Introduction to Urban Studies	—
		18
<u>Second Semester</u>		
ENG-1020	College Composition II	3
LAWE-1400	Assets Protection	4
LAWE-xxxx	Any LAWE elective course	3
MATH-xxxx	1000-level MATH course <sup>1</sup>	3
PSY-1010	General Psychology	3
		16
<u>Third Semester</u>		
LAWE-2400	Security Management	4
LAWE-2410	Security Investigation	3
LAWE-2420	Legal Aspects of Private Security	3
POL-1010	American National Government	3
SPCH-xxxx	Any SPCH elective course <sup>2</sup>	3
		16
<u>Fourth Semester</u>		
FIRE-2320	Fire Prevention and Protection Systems	3
LAWE-2440	Protection Services	2
LAWE-2990	Issues in Supervision <u>C</u>	4
PSY-2xxx	Any 2000-level PSY elective course	3
SOC-2xxx	Any 2000-level SOC elective course.....OR	3
UST-2xxx	Any 2000-level UST elective course	—
		15
Program Total		65

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.  
<sup>2</sup>SPCH-1010 highly recommended.

Note: Courses as listed satisfy degree competencies and skills.  
C = Capstone course



## MANUFACTURING/INDUSTRIAL TECHNOLOGY

### Associate of Applied Science degree in Manufacturing/Industrial Technology

Manufacturing has been the prime mover of our global economic machines, more so in this technological age, and will continue in this unique role far into the future. This program recognizes the impact of manufacturing on our nation's economic health, and prepares graduates for employment in manufacturing by, among others, providing them with a unique blend of theories and practices needed to enhance and maintain the productivity, and economic viability of our traditional and computer driven manufacturing enterprises. Graduates of this program are employed in wide variety industries. (Certificate programs also available.)

See Appendix I, page 363 for application procedures.

Suggested Semester Sequence		<u>Credit Hrs.</u>
<u>First Semester</u>		
ENG-1010	College Composition I	3
MATH-1160	Technical Mathematics I	4
MET-1100	Technology Orientation	2
MIT-1100	Computer Applications & Programming	2
MIT-1200	Engineering Drawing	2
MIT-1220	Introduction to AutoCAD	2
MIT-1250	Materials and Machine Tools	<u>3</u>
		18
<u>Second Semester</u>		
MATH-1360	Technical Mathematics II	5
MIT-1300	Metallurgy & Manufacturing Processes	3
MIT-1600	CNC Programming	3
MIT-2040	Industrial CAD I	3
PHYS-1210	College Physics I	<u>4</u>
		18
<u>Third Semester</u>		
MIT-2000	CAD/CAM I	3
MIT-2120	Facilities Design and Material Handling	3
MIT-2150	Motion and Time Study	3
PHYS-1220	College Physics II	4
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>1</sup>		3
Communications...(See AAS Degree requirements)		<u>3</u>
		19
<u>Fourth Semester</u>		
MIT-2200	Computer Integrated Manufacturing <u>C</u>	3
MIT-2400	Statistical Process Control	3
MIT-2830	Cooperative Field Experience	3
MIT-2xxx	Any 2000-level MIT elective course	3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>1</sup>		3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>1</sup>		<u>2</u>
		17
Program Total		72

<sup>1</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

## COMPUTER-AIDED MANUFACTURING (CAM)

### Certificate of Proficiency

This program is for students who wish to acquire skills in the 2D/3D modeling of engineering designs and graphics based programming and production of engineering parts, and operation of computer integrated manufacturing systems. Graduates of this program qualify for entry-level employment in traditional and computer integrated modern manufacturing industries.

Degree: Students may apply credits toward the Manufacturing/Industrial Technology degree program.

Suggested Semester Sequence		<u>Credit Hrs.</u>
<u>First Semester</u>		
MATH-1160	Technical Mathematics I	4
MET-1100	Technology Orientation	2
MIT-1200	Engineering Drawing <sup>1</sup>	2
MIT-1220	Introduction to AutoCAD <sup>1</sup>	2
MIT-1250	Materials and Machine Tools	3
MIT-1600	CNC Programming	3
MIT-2000	CAD/CAM I	<u>3</u>
		19
<u>Second Semester</u>		
ENG-1010	College Composition I	3
MIT-1300	Metallurgy and Manufacturing Processes	3
MIT-2040	Industrial CAD I	3
MIT-2120	Facilities Design & Material Handling	3
MIT-2700	CAD/CAM II	<u>3</u>
		15
Program Total		34

<sup>1</sup>Consecutive eight-week courses.

## Program Sequences

### MACHINE TOOLS

#### Certificate of Proficiency

This program provides a certificate of proficiency to students who wish to acquire skills in manual machine tools operations and programming of computer controlled machine tools for entry-level employment in the metal working industry.

Degree: Students may apply credits toward the Manufacturing/Industrial Technology degree program.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
ENG-1010	College Composition I	3
MATH-1160	Technical Mathematics I	4
MET-1100	Technology Orientation	2
MIT-1200	Engineering Drawing <sup>1</sup>	2
MIT-1220	Introduction to AutoCAD <sup>1</sup>	2
MIT-1250	Materials and Machine Tools	3
		16
<u>Second Semester</u>		
ENG-1020	College Composition II	3
MATH-1360	Technical Mathematics II	5
MIT-1300	Metallurgy and Manufacturing Processes	3
MIT-1600	CNC Programming	3
MIT-2120	Facilities Design & Material Handling	3
		17
	Program Total	33

<sup>1</sup>Consecutive eight-week courses.

### MANUFACTURING/INDUSTRIAL TECHNOLOGY

#### (Drafting Technology)

#### Associate of Applied Science degree in Manufacturing/Industrial Technology with a concentration in Drafting Technology

Manufacturing is instrumental to the function of society in this technological age and will remain so far into the future. The Manufacturing/Industrial Technology program with a concentration in drafting recognizes drafting as an indispensable tool and enabler of manufacturing. The program provides its graduates with a unique blend of theoretical knowledge and skills in computer-aided and traditional drafting that corresponds to modern drafting technologies applied in manufacturing industries. Graduates are employed in a wide variety of areas relevant to manufacturing industries.

See Appendix I, page 363 for application procedures.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
ENG-1010	College Composition I	3
MATH-1160	Technical Mathematics I	4
MET-1100	Technology Orientation	2
MIT-1100	Computer Applications & Programming	2
MIT-1200	Engineering Drawing	2
MIT-1220	Introduction to AutoCAD	2
MIT-1250	Materials and Machine Tools	3
		18
<u>Second Semester</u>		
MATH-1360	Technical Mathematics II	5
MIT-1300	Metallurgy & Manufacturing Processes	3
MIT-1600	CNC Programming	3
MIT-2040	Industrial CAD I	3
PHYS-1210	College Physics I	4
		18
<u>Third Semester</u>		
ARCH-1410	Architectural Drawing and CAD I	3
EET-1220	Circuits & Electronics	3
ENG-1020	College Composition II	3
MIT-2030	Industrial Drawing Essentials	3
PHYS-1220	College Physics II	4
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>1</sup>		3
		19
<u>Fourth Semester</u>		
EET-2500	Instrumentation and Control.....OR	3
MET-2300	Fluid Power.....OR	
MIT-2000	CAD/CAM I.....OR	
MIT-2830	Cooperative Field Experience	
MIT-2051	Industrial CAD II <u>C</u>	3
MIT-2120	Facilities Design & Material Handling	3
MIT-2220	Advanced AutoCAD	3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>1</sup>		3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>1</sup>		2
		17
	Program Total	72

<sup>1</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include 2 semester credits at the 2000-level.  
Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

**COMPUTER-AIDED DRAFTING (CAD)**

**Certificate of Proficiency**

This program is for students who wish to acquire computer drafting skills for entry-level positions in drafting in a variety of industries. Students will get background knowledge to aid them in developing 2D drawings with an introduction to 3D CAD.

Degree: Students may apply credits toward the Manufacturing/Industrial Technology degree with a concentration in Drafting Technology.

Suggested Semester Sequence		<u>Credit Hrs.</u>
<u>First Semester</u>		
ENG-1010	College Composition I	3
MATH-1160	Technical Mathematics I	4
MET-1100	Technology Orientation	2
MIT-1200	Engineering Drawing <sup>1</sup>	2
MIT-1220	Introduction to AutoCAD <sup>1</sup>	2
MIT-1250	Materials and Machine Tools	3
MIT-1600	CNC Programming	<u>3</u>
		19
<u>Second Semester</u>		
EET-1220	Circuits and Electronics	3
MATH-1360	Technical Mathematics II	5
MIT-1100	Computer Applications and Programming	2
MIT-2030	Industrial Drawing Essentials	3
MIT-2040	Industrial CAD I	<u>3</u>
		16
	Program Total	35

<sup>1</sup>Consecutive eight-week courses.

**MARKETING**

**Associate of Applied Business degree in Marketing**

The program addresses the broad scope of activities performed in the buying and selling of goods and services to the consuming sectors of the economy. Students are prepared for a variety of marketing positions via a broad working knowledge of the theories and practices of marketing. General marketing, international marketing and professional selling are options.

Suggested Semester Sequence		<u>Credit Hrs.</u>
<u>First Semester</u>		
BADM-1020	Introduction to Business	3
ECON-2610	Principles of Macroeconomics <sup>1</sup>	4
ENG-1010	College Composition I	3
IT-1010	Introduction to Microcomputer Applications	3
MATH-1200	Intermediate Algebra <sup>2</sup>	<u>4</u>
		17
<u>Second Semester</u>		
ACCT-1310	Financial Accounting	4
BADM-2010	Business Communications	3
ECON-2620	Principles of Microeconomics <sup>1</sup>	4
ENG-1020	College Composition II .....OR	3-4
SPCH-1010	Fundamentals of Speech Communication...OR	
Foreign Language...Any foreign language course		
MARK-2010	Principles of Marketing	<u>3</u>
		17-18
<u>Third Semester</u>		
BADM-2150	Business Law	4
BADM-2160	Introduction to Purchasing	3
MARK-2020	Principles of Salesmanship	3
MARK-2270	Principles of Advertising	<u>3</u>
		13
<u>Fourth Semester</u>		
BADM-1120	Principles of Management	4
BADM-2220	Organizational Behavior	3
BADM-2501	Business Strategies <u>C</u>	3
MARK-2260	Sales Promotion and Public Relations	3
MARK-2500	Business-to-Business/Organizational Marketing	3
MARK-2xxx	MARK elective course.....OR	2-3
BADM-2xxx	BADM Elective course	<u>3</u>
		18-19
	Program Total	65-67

<sup>1</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include ECON-2610 and 2620.

<sup>2</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

## Program Sequences

### MASSOTHERAPY

#### (General Massage Therapy)

Associate of Applied Science degree in Massotherapy with a concentration in General Massage Therapy

General Massage Therapy provides the students the competencies that enable them to learn not only the basic massage therapy skills but also the advanced techniques in a clinical setting. Students complete 1,100 Massotherapy instruction hours and are eligible to take the State Medical Board of Ohio licensure exam and the National Board Certification exams (NCBTMB).

See Appendix I, page 370 for application procedures.

#### Suggested Semester Sequence

<u>Summer Semester</u>		<u>Credit Hrs.</u>
BIO-1050	Human Biology	3
BIO-105L	Human Biology Laboratory	1
ENG-1010	College Composition I	3
MT-1100	Introduction to Massotherapy	3
MT-1240	Fundamentals of Somatic Studies for Massage Therapists I	<u>4</u> 14
<u>First Semester</u>		
MT-1270	Fundamentals of Somatic Studies for Massage Therapists II	4
MT-1301	Massotherapy I	3
MT-1311	Applied Musculo-Skeletal Anatomy	4
PSY-1010	General Psychology <sup>1</sup>	<u>3</u> 14
<u>Second Semester</u>		
EMT-1310	Cardiopulmonary Resuscitation	1
HTEC-1110	Ethics for Health Care Professionals	1
MT-1320	Functional Assessment in Massage Therapy	3
MT-1330	Massotherapy II	3
PSY-2100	Introduction to Aging <sup>1</sup>	3
SPCH-1000	Fundamentals of Interpersonal Communication .....OR	3
SPCH-1010	Fundamentals of Speech Communication	— 14
<u>Third Semester</u>		
MATH-1060	Survey of Mathematics <sup>2</sup>	3
MT-2301	Pathology for Massage Therapists	3
MT-2310	Advanced Massotherapy I	3
MT-2341	Massotherapy Practicum	3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>1</sup>		<u>2</u> 14
<u>Fourth Semester</u>		
BADM-1300	Small Business Management	4
MT-2330	Advanced Massotherapy II	3
MT-2700	Comprehensive Somatic Studies for Massage Therapists	2
MT-2852	General Massage Practicum	2
MT-2990	Comprehensive Massotherapy <u>C</u>	<u>1</u> 12
Program Total		68

<sup>1</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required—must include PSY-1010 and 2100.

<sup>2</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

### MASSOTHERAPY

#### (Geriatric Massage Therapy)

Associate of Applied Science degree in Massotherapy with a concentration in Geriatric Massage Therapy

Provides students the competencies that enable them to learn not only the basic massage therapy skills but also the geriatric massage therapy techniques. Students are given the opportunity to work in a geriatric clinic for their clinical practicum under the supervision of geriatric specialists. This enables them to receive a significant number of board recognized hours toward the licensed Massage Therapist requirements established by the Ohio State Medical Board and are prepared for National Board Certification exams for massage therapists.

See Appendix I, page 370 for application procedures.

#### Suggested Semester Sequence

<u>Summer Semester</u>		<u>Credit Hrs.</u>
BIO-1050	Human Biology	3
BIO-105L	Human Biology Lab	1
ENG-1010	College Composition I	3
MT-1100	Introduction to Massotherapy	3
MT-1240	Fundamentals of Somatic Studies for Massage Therapists I	4 — 14
<u>First Semester</u>		
EMT-1310	Cardiopulmonary Resuscitation	1
MT-1270	Fundamentals of Somatic Studies for Massage Therapists	4
MT-1301	Massotherapy I	3
MT-1311	Applied Musculo-Skeletal Anatomy	4
PSY-1010	General Psychology <sup>1</sup>	<u>3</u> 15
<u>Second Semester</u>		
HTEC-1110	Ethics for Health Care Professionals	1
MT-1330	Massotherapy II	3
MT-1400	Overview and Assessment in Geriatric Massage Therapy	3
PSY-2100	Introduction to Aging <sup>1</sup>	3
SPCH-1000	Fundamentals of Interpersonal Communication	3
SPCH-1010	Fundamentals of Speech Communication	— 13
<u>Third Semester</u>		
MATH-1060	Survey of Mathematics <sup>2</sup>	3
MT-2301	Pathology for Massage Therapist	3
MT-2341	Massotherapy Practicum	3
MT-2400	Geriatric Massage Techniques	3
MT-2410	Health and Aging	<u>2</u> 14
<u>Fourth Semester</u>		
BADM-1300	Small Business Management	4
MT-2700	Comprehensive Somatic Studies for Massage Therapists	2
MT-2861	Geriatric Massage Practicum	3
MT-2990	Comprehensive Massotherapy <u>C</u>	1
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>1</sup>		<u>2</u> 12
Program Total		68

<sup>1</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required—must include PSY 1010 and 2100.

<sup>2</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

## MECHANICAL ENGINEERING TECHNOLOGY

### Associate of Applied Science degree in Mechanical Engineering Technology

This program prepares students to pursue a career in the areas of design, development, manufacturing, installation, measurement, testing, operation and control, maintenance and sales of mechanical devices and systems. The curriculum emphasizes hands-on learning and the use of current computer-aided techniques found in modern industry. Graduates are employed in a variety of industries such as automotive, manufacturing, aerospace, construction, transportation, power generation, petrochemical, as well as in research and development laboratories.

See Appendix I, page 363 for application procedures.

#### Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ENG-1010	College Composition I	3
MATH-1160	Technical Mathematics I	4
MET-1100	Technology Orientation	2
MIT-1200	Engineering Drawing	2
MIT-1220	Introduction to AutoCAD	2
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>1</sup>		<u>3</u>
		16
 <u>Second Semester</u>		
MATH-1360	Technical Mathematics II	5
MET-1600	Technical Statics	2
MET-1620	Technical Dynamics	2
MIT-1100	Computer Applications and Programming	2
MIT-1250	Materials and Machine Tools	3
PHYS-1210	College Physics I	<u>4</u>
		18
 <u>Third Semester</u>		
EET-1220	Circuits and Electronics	3
ENG-1020	College Composition II	3
MET-2200	Strength of Materials	3
MET-2300	Fluid Power	3
MIT-1300	Metallurgy and Manufacturing Processes	3
PHYS-1220	College Physics II	<u>4</u>
		19
 <u>Fourth Semester</u>		
EET-2500	Instrumentation and Control	3
MET-2600	Mechanical Computer-Aided Engineering	3
MET-2700	Machine Design <u>C</u>	4
MIT-2040	Industrial CAD I	3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>1</sup>		3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>1</sup>		<u>2</u>
		18
	Program Total	71

<sup>1</sup>Minimum 8 semester of Arts & Hum/Soc & Beh Sci required – credits must include one 2000-level course.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

## Program Sequences

### MEDICAL ASSISTING

#### Associate of Applied Science degree in Medical Assisting

The Medical Assistant is a multi-skilled professional who assists the physician with the administrative and clinical aspects of patient care. The program includes courses in administrative, clinical and communication skills; ethical and legal standards of medical practice; and a "hands-on" clinical practicum experience. Graduates are eligible to take the National Certifying Examination given by the American Association of Medical Assistants (AAMA).

The Cuyahoga Community College Medical Assisting Program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), on recommendation of the Curriculum Review Board of the American Association of Medical Assistants Endowment (AAMAE). Commission on Accreditation of Allied Health Education Programs: 35 East Wacker Drive, Suite 1970, Chicago, IL 60601-2208, phone (312) 553-9355.

**Health Careers Enrollment Center - (216) 987-4247**

**See Appendix I, page 370 for application procedures.**

#### Suggested Semester Sequence

##### First Semester

ENG-1010	College Composition I	3
HTEC-1110	Ethics for Health Care Professionals	1
HTEC-1610	Introduction to Pharmacology	2
MA-1020	Medical Terminology I	3
MA-1320	Office Laboratory Procedures	3
MA-1400	Basic Clinical Medical Assisting	2
MA-1420	Office Record Documentation and Management	1
MA-1500	Medical Office Communication	<u>3</u>
		18

##### Second Semester

HIM-1111	Physician Office Coding	3
HIM-1118	Reimbursement for Physician Services	1
MA-2010	Medical Terminology II	2
MA-2410	Advanced Clinical Medical Assisting	3
MA-2510	Medical Office Procedures	3
MA-2860	Medical Assisting Practicum <u>C</u>	2
MA-2980	Medical Assisting Seminar	1
MATH-1060	Survey of Mathematics <sup>1</sup>	<u>3</u>
		18

##### Third Semester

BIO-1100	Introduction to Biological Chemistry	3
HIM-1120	Medical Billing Practices	3
HIM-1050	Medical Transcription.....OR	2-3
IT-xxxx	IT elective course <sup>3</sup>	
MA-xxxx	Any MA elective course.....OR	2-4
IT-xxxx	IT elective course <sup>3</sup>	
Arts & Hum/Soc & Beh Sci...(See AAS Degree Requirements) <sup>2</sup>		<u>3</u>
		14-16

##### Fourth Semester

BIO-2330	Anatomy and Physiology I	4
Arts & Hum/Soc & Beh Sci...(See AAS Degree Requirements) <sup>2</sup>		3
Arts & Hum/Soc & Beh Sci...(See AAS Degree Requirements) <sup>2</sup>		2
Communications...(See AAS Degree Requirements)		<u>3</u>
		12

Program Total 62-64

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>Minimum 8 semester credits – must include minimum 5 semester credits at the 2000-level. PHIL-2050 highly recommended.

<sup>3</sup>IT-1060 Introduction to Windows or IT-1010 Introduction to Microcomputer Applications highly recommended.

C = Capstone course

### MEDICAL ASSISTING

#### Certificate of Proficiency

The Medical Assistant is a multi-skilled professional who assists the physician with the administrative and clinical aspects of patient care. The program includes courses in administrative, clinical and communication skills; ethical and legal standards of medical practice; and a "hands-on" clinical practicum experience in the health care industry. The Medical Assisting Certificate program is two semesters in length starting in the fall semester with completion the following May. Graduates of the one-year program are eligible to take the National Certifying Examination given by the American Association of Medical Assistants.

The Cuyahoga Community College Medical Assisting Program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), on recommendation of the Curriculum Review Board of the American Association of Medical Assistants Endowment (AAMAE). Commission on Accreditation of Allied Health Education Programs: 35 East Wacker Drive, Suite 1970, Chicago, IL 60601-2208, phone (312) 553-9355.

Degree: Graduates may transfer directly into the Medical Assisting Degree program.

**See Appendix I, page 371 for application procedures.**

#### Suggested Semester Sequence

##### First Semester

ENG-1010	College Composition I	3
HTEC-1110	Ethics for Health Care Professionals	1
HTEC-1610	Introduction to Pharmacology	2
MA-1020	Medical Terminology I	3
MA-1320	Office Laboratory Procedures	3
MA-1400	Basic Clinical Medical Assisting	2
MA-1420	Office Record Documentation and Management	1
MA-1500	Medical Office Communication	<u>3</u>
		18

##### Second Semester

HIM-1111	Physician Office Coding	3
HIM-1118	Reimbursement for Physician services	1
MA-2010	Medical Terminology II	2
MA-2410	Advanced Clinical Medical Assisting	3
MA-2510	Medical Office Procedures	3
MA-2860	Medical Assisting Practicum <u>C</u>	2
MA-2980	Medical Assisting Seminar	1
MATH-1060	Survey of Mathematics <sup>1</sup>	<u>3</u>
		18

Program Total 36

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

**MEDICAL LABORATORY TECHNOLOGY**

**Associate of Applied Science degree in Medical Laboratory Technology**

The Medical Laboratory Technician works in a hospital, clinic, private or research laboratory performing a variety diagnostic of tests. The course of study includes mathematics, chemistry, anatomy and physiology, medical laboratory procedures, general education courses and two academic semesters of clinical practicum experience. Graduates are eligible to take the National Certification Examination given by the American Society of Clinical Pathologists (ASCP).

**Program Manager - (216) 987-4438**

**See Appendix I, page 371 for application procedures.**

Suggested Semester Sequence

<u>Summer Semester</u>		<u>Credit Hrs.</u>
BIO-1100	Introduction to Biological Chemistry	3
ENG-1010	College Composition I	3
MATH-1141	Applied Algebra and Mathematical Reasoning <sup>1</sup>	<u>3</u>
		9
 <u>First Semester</u>		
CHEM-1300	General Chemistry I <sup>2</sup>	4
IT-1010	Introduction to Microcomputer Applications .....OR	3
MLT-xxxx	MLT elective course <sup>3</sup>	
MLT-1300	Introduction to Blood Collection	3
MLT-1350	Problem Solving Techniques for the Medical Laboratory	1
MLT-1460	Hematology I	3
MLT-1490	Urinalysis	<u>3</u>
		17
 <u>Second Semester</u>		
MLT-1470	Blood Bank and Serology I	3
MLT-1500	Clinical Chemistry I	3
MLT-1850	Medical Laboratory Practicum I	3
Arts & Hum/Soc & Beh Sci	(see AAS Degree requirements) <sup>4</sup>	3
Communication...(See AAS Degree requirements)		<u>3</u>
		15
 <u>Third Semester</u>		
BIO-2330	Anatomy and Physiology I	4
MLT-1480	Clinical Microbiology I	3
MLT-2460	Hematology II	2
MLT-2470	Blood Bank and Serology II	2
MLT-2850	Medical Laboratory Practicum II <u>C</u> <sup>1</sup>	2
MLT-2850	Medical Laboratory Practicum II <u>C</u> <sup>2</sup>	2
MLT-2980	Professional Development and Life Skills Seminar <sup>5</sup>	<u>1</u>
		16
 <u>Fourth Semester</u>		
BIO-2340	Anatomy and Physiology II	4
MLT-2481	Clinical Microbiology II	2
MLT-2500	Clinical Chemistry II	3
MLT-2850	Medical Laboratory Practicum II <u>C</u>	2
PHIL-2050	Bioethics <sup>4</sup>	3
Arts & Hum/Soc & Beh Sci	(see AAS Degree requirements) <sup>4</sup>	<u>2</u>
		16
	 Program Total	 73

<sup>1</sup>Any higher level MATH course may also be used to meet this requirement except MATH-1800/2800 & 1820/2820.

<sup>2</sup>Students must achieve sufficient score on chemistry placement test prior to enrolling in CHEM-1300. Placement test should be taken after successful completion of BIO-1100. Students may also take CHEM-1010 in lieu of passing the placement test.

<sup>3</sup>Elective course may be selected with written approval of the MLT department.

<sup>4</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required - must include PHIL-2050.

<sup>5</sup>Concurrent enrollment in MLT-2980 is required with MLT-2850 Medical Laboratory Practicum II. The practicum course will be taken twice for eight weeks each time. MLT-2980 will be scheduled for the entire semester period.

<sup>1</sup>(first eight weeks)

<sup>2</sup>(second eight weeks)

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

**LABORATORY PHLEBOTOMY**

**Short Term Certificate**

The Laboratory Phlebotomy Short Term Certificate is a skills-oriented program designed to educate and train persons to skillfully collect blood specimens in a variety of situations. The curriculum includes introduction to blood collection, special blood collecting techniques, medical terminology, medical ethics, asepsis, human biology and an eight-week period of clinical hands-on experience in a hospital or medical clinic.

The skill of phlebotomy is part of the Medical Laboratory Technology (Clinical Laboratory Science) profession. Students can apply their technical credits in phlebotomy to the Associate of Applied Science degree in Medical Laboratory Technology.

**See Appendix I, page 371 for application procedures.**

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
BIO-1050	Human Biology	3
MA-1010	Introduction to Medical Terminology ...OR	2
MA-1020	Medical Terminology I	3
IT-1000	Keyboarding <sup>1</sup>	<u>2</u>
		7 - 8
 <u>Second Semester</u>		
MLT-1300	Introduction to Blood Collection	3
MLT-1850	Medical Laboratory Practicum I .....OR	3
MLT-2850	Medical Laboratory Practicum II	2
MLT-2970	Advanced Phlebotomy	1
HTEC-1110	Ethics for Health Care Professionals	<u>1</u>
		7 - 8
	 Program Total	 14 - 16

<sup>1</sup>Can be waived if student possesses 40 wpm typing speed.

## Program Sequences

### NUCLEAR MEDICINE

#### Associate of Applied Science degree in Nuclear Medicine

The Nuclear Medicine technologist is the health professional responsible for performing nuclear medicine examinations that aid the physician in the diagnosis and treatment of disease. The trained nuclear medicine technologist prepares and administers radiopharmaceuticals and performs patient imaging procedures using radiation detection devices. Technologists provide data analysis and patient information to the physician. The nuclear medicine technologist is employed in hospitals, clinics and doctors' offices. Graduates of the program are eligible for the American Registry of Radiologic Technologist examination for Nuclear Medicine and/or the Nuclear Medicine Technology Certification Board Examination. The program is accredited by the Joint Review Committee on Educational programs in Nuclear Medicine Technology.

**Program Manager - (216) 987-5298**

**See Appendix I, page 371 for application procedures.**

#### Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
CHEM-1010	Introduction to Inorganic Chemistry	4
DMS-1340	Patient Care and Basic Medical Techniques	1
MATH-1200	Intermediate Algebra <sup>1</sup>	4
NMED-1300	Nuclear Medicine Procedures I	4
NMED-1600	Radiopharmacy and Chemistry for Nuclear Medicine	4
PHYS-1500	Nuclear Medicine Physics	<u>3</u>
		20
<u>Second Semester</u>		
DMS-1350	Patient Care and Basic Medical Techniques Laboratory	1
ENG-1010	College Composition I	3
MA-1020	Medical Terminology I	3
NMED-1700	Nuclear Medicine Instrumentation	4
NMED-2300	Nuclear Medicine Procedures II	4
NMED-2410	Nuclear Medicine Safety & Biology	<u>4</u>
		19
<u>Summer Semester</u>		
BIO-1221	Anatomy & Physiology for Medical Imaging	4
NMED-2910	Nuclear Medicine Directed Practice I	5
PSY-1010	General Psychology <sup>2</sup>	<u>3</u>
		12
<u>Third Semester</u>		
NMED-2920	Nuclear Medicine Directed Practice II	7
PHIL-2050	Bioethics <sup>2</sup>	3
Communications...	(See AAS Degree Requirements)	<u>3</u>
		13
<u>Fourth Semester</u>		
NMED-2930	Nuclear Medicine Directed Practice III <u>C</u>	7
Arts & Hum/Soc Sci...	(See AAS Degree Requirements)	<u>2</u>
		9
	Program Total	73

<sup>1</sup>MATH-1800/2800 and 1820/2820 may not be used to meet his requirement.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci Required – must include PSY-1010 and PHIL-2050.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course



**NURSING**

**Associate of Applied Science degree in Nursing**

Upon successful completion of the associate degree nursing program requirements, graduates are eligible to take the National Council Licensure Examination for Registered Nurses. The curriculum is divided among nursing courses and non-nursing courses. The nursing courses consist of classroom activities and hospital experience caring for clients of all ages with a variety of health deviations.

**Misdemeanors and Felonies:** The Ohio Board of Nursing frequently receives calls from prospective students, school officials and the Bureau of Vocational Rehabilitation Services regarding whether the Board will permit a person who has a prior record of misdemeanors and/or felonies to sit for the licensure examination or become licensed. *The Board of Nursing has no statutory authority to advise as to whether an individual will be permitted to take the licensure examination or be able to be licensed until the individual actually applies to the Board for licensure by examination* (Ohio Board of Nursing [9/23/98]. Requirements for Section 5 of the Application for Licensure as a Nurse).

**Felony Preclusion Bill:** The Felony Preclusion Bill, signed by the Governor in April 2002, is an initiative to identify applicants for licensure with felony convictions. The Ohio Board of Nursing has the authority in this law to refuse to grant licensure to applicants with any of the felony convictions specified in the law. The egregious felonies listed in the bill include: aggravated murder; murder; voluntary manslaughter; felonious assault; kidnapping; rape; sexual battery; gross sexual imposition; aggravated arson; aggravated robbery; and aggravated burglary. **The law requires a criminal records check for new applicants for licensure.**

Department of Nursing Education – (216) 987-4067  
See Appendix I, page 366 for application procedures.

Suggested Semester Sequence		Credit Hrs.
<u>Summer Semester</u>		
BIO-1100	Introduction to Biological Chemistry <sup>1</sup>	3
ENG-1010	College Composition I	3
MATH-1141	Applied Algebra & Mathematical Reasoning <sup>2</sup>	3
PSY-1010	General Psychology <sup>3</sup>	<u>3</u>
		12
<u>First Semester</u>		
BIO-2330	Anatomy and Physiology I	4
NURS-1300	Health Assessment	2
NURS-1401	Self-Care Needs	4
NURS-1500	Self-Care Elderly	4
PSY-2020	Life Span Development <sup>3</sup>	<u>4</u>
		18
<u>Second Semester</u>		
BIO-2340	Anatomy and Physiology II	4
BIO-2500	Microbiology	4
NURS-1600	Health Deviations I.....OR	6-8
NURS-160A	Access to Registered Nursing <sup>4</sup> .....AND	
NURS-160D	Health Deviations I for LPNs <sup>5</sup>	
NURS-1701	Community/Home Nursing	<u>1</u>
		15-17

<u>Third Semester</u>		
NURS-2300	Specialized Health Care Needs	9
	Communications...(See AAS Degree requirements)	<u>3</u>
		12

<u>Fourth Semester</u>		
NURS-2400	Health Management <u>C</u>	1
NURS-2500	Health Deviations II	9
	Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>3</sup>	<u>1</u>
		11
	Program Total	68-70

<sup>1</sup>CHEM-1010 and CHEM-1020 replace BIO-1100 for students planning to transfer to a BSN program.

<sup>2</sup>MATH-1160, 1800/2800 & 1820/2820 may not be used to meet this requirement.

<sup>3</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required - must include PSY-1010 and PSY-2020.

<sup>4</sup>NURS-160A is a bridge course that replaces NURS-1300, 1401, 1500 and 1600.

<sup>5</sup>LPN's accepted into the Cuyahoga Community College Nursing program are required to take NURS-160D.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

Fully Accredited by:  
National League for Nursing Accrediting Commission  
61 Broadway – 33rd Floor  
New York, New York 10006  
800-669-1656, Ext. 153

**NURSING ACCELERATED TRACK**

Applicants with a bachelor's degree (or higher) from an accredited institution may qualify to enter in the Accelerated Track of the program and complete the program in four consecutive terms. These applicants must meet all nursing program admission requirements with the exception of the Nurse Entrance Test (NET) and have completed prerequisite courses (see admission requirements).

See Appendix I, page 366 for application procedures.

Program Admission Requirements *	Credit Hrs.
BIO-1100	Introduction to Biological Chemistry ...OR 3
CHEM-1010	Introduction to Inorganic Chemistry .....AND
CHEM-1020	Introduction to Organic Chemistry and Biochemistry <sup>1</sup>
BIO-2330	Anatomy and Physiology I 4
BIO-2340	Anatomy and Physiology II 4
BIO-2500	Microbiology 4
ENG-1010	College Composition I 3
MATH-1141	Applied Algebra, or higher <sup>2</sup> 3
PSY-1010	General Psychology <u>3</u>
	24

<u>Summer Semester</u>	
NURS-1300	Health Assessment 2
NURS-1401	Self-Care Needs 4
NURS-1500	Self-Care Elderly 4
PSY-2020	Life Span Development <sup>3</sup> <u>4</u>
	14

(Continued next page)

## Program Sequences

### NURSING ACCELERATED TRACK (Continued)

#### Second Semester

NURS-1600	Health Deviations I	8
NURS-1701	Community/Home Nursing	<u>1</u> 9

#### Third Semester

NURS-2400	Health Management	1
NURS-2500	Health Deviations II	9
Communications...	(See AAS Degree Requirements)	<u>3</u> 13

#### Fourth Semester

NURS-2300	Specialized Health Care	9
Arts & Hum/Soc & Beh Sci...	(see AAS Degree Requirements) <sup>3</sup>	<u>1</u> 10

Program Total 70

<sup>1</sup>CHEM-1010 and CHEM-1020 replace BIO-1100 for students planning to transfer to a BSN program.

<sup>2</sup>MATH-1160, 1800/2800 & 1820/2820 may not be used to meet this requirement.

<sup>3</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include PSY-1010 and PSY-2020.

\*Transfer credits may be used to meet program admission requirements as appropriate.

### PRACTICAL NURSING

#### Certificate of Proficiency

The Practical Nurse (under the direction of a physician, dentist, optometrist, podiatrist or registered nurse) works in a variety of settings, including clinics, home care, hospitals, long-term care facilities and physicians' offices. The curriculum consists of 42 semester credit hours, divided among nursing and non-nursing courses. The nursing courses consist of classroom activities, hospital and long-term care experiences caring for patients of all ages with a variety of health deviations. Upon successful completion of the program requirements, graduates are eligible to take the National Council Licensure Examination for Practical Nurses. ACCESS in nursing is available for graduates.

**Misdemeanors and Felonies.** The Ohio Board of Nursing frequently receives calls from prospective students, school officials and the Bureau of Vocational Rehabilitation Services regarding whether the Board *will* permit a person who has a prior record of misdemeanors and/or felonies to sit for the licensure examination or become licensed. *The Board of Nursing has no statutory authority to advise as to whether an individual will be permitted to take a licensure examination or be able to become licensed until the individual actually applies to the Board for licensure by examination* (Ohio Board of Nursing [9/23/98]. Requirements for Section 5 of the Application for Licensure as a Nurse).

**Felony Preclusion Bill:** The Felony Preclusion Bill, signed by the Governor in April 2002, is an initiative to identify applicants for licensure with felony convictions. The Ohio Board of Nursing has the authority in this law to refuse to grant licensure to applicants with any of the felony convictions specified in the law. The egregious felonies listed in the bill include: aggravated murder; murder; voluntary manslaughter; felonious assault; kidnapping; rape; sexual battery; gross sexual imposition; aggravated arson; aggravated robbery; and aggravated burglary. **The law requires a criminal records check for new applicants for licensure.**

**Program Manager - (216) 987-3138**

**See Appendix I, page 366 for application procedures.**

#### Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
BIO-1100	Introduction to Biological Chemistry <sup>1</sup>	3
ENG-1010	College Composition I	3
MATH-1141	Applied Algebra and Mathematical Reasoning <sup>2</sup>	3
PNUR-1310	Fundamentals of Nursing	4
PNUR-1320	Nursing Management of Adults I	<u>4</u> 17
<u>Second Semester</u>		
BIO-2330	Anatomy and Physiology I	4
NURS-1300	Health Assessment	2
PNUR-1330	Nursing Management of Adults II	8
PSY-1010	General Psychology	<u>3</u> 17

(Continued next page)

**PRACTICAL NURSING (Continued)**

Third Semester

PNUR-1340	Nursing Care of Families	4
PSY-2020	Life Span Development	<u>4</u>
		8
	Program Total	42

<sup>1</sup>CHEM-1010 and CHEM-1020 replace BIO-1100 for students planning to transfer credits.

<sup>2</sup>MATH-1160, 1800/2800 and 1820/2820 may not be used to meet this requirement.

**OCCUPATIONAL THERAPY ASSISTANT TECHNOLOGY**

**Associate of Applied Science degree in Occupational Therapy Assistant Technology**

Occupational therapy uses everyday activities in the areas of work, self-care and play as the means of helping people of all ages prevent, lessen or overcome physical and mental disabilities so they may be as independent as possible in all activities of daily living. The Occupational Therapy Assistant works under the supervision of a registered occupational therapist in a variety of health care institutions such as rehabilitation centers, skilled nursing homes and intermediate care, mental health agencies and institutions, home health care agencies, pediatric centers, general hospitals and private practices.

Upon successful completion of this program, graduates are eligible to sit for a national certification examination administered by the National Board for Certification in Occupational Therapy, Inc. (NBCOT). Successful completion of this exam is required to apply for licensure by the Ohio Occupational Therapy, Physical Therapy and Athletic Trainers Board.

The Occupational Therapy Assistant Technology Program leads to an Associate of Applied Science degree in Occupational Therapy Assistant. The OTAT program is fully accredited by The Accreditation Council for Occupational Therapy Education and The American Occupational Therapy Association: 4720 Montgomery Lane, PO Box 31220, Bethesda, MD, 20824-1220. Telephone (301) 652-2682.

**Program Manager - (216) 987-4498**

**See Appendix I, page 372 for application procedures.**

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
BIO-1100	Introduction to Biological Chemistry	3
BIO-2330	Anatomy and Physiology I	4
ENG-1010	College Composition I	3
MATH-xxxx	1000-level MATH course <sup>1</sup>	3
OTAT-1300	Occupational Therapy Principles	2
OTAT-1310	Task Analysis	<u>2</u>
		17

Second Semester

MA-1020	Medical Terminology I	3
OTAT-1320	Fundamentals of Developmental Disabilities	2
OTAT-1330	Techniques in Developmental Disabilities	3
OTAT-1850	Practicum I	2
PSY-1010	General Psychology <sup>2</sup>	3
PTAT-1300	Functional Anatomy	<u>4</u>
		17

Third Semester

BIO-2340	Anatomy and Physiology II	4
MA-1980	Practitioner/Patient Interaction Seminar	2
OTAT-1420	Fundamentals of Psychosocial Dysfunction	2
OTAT-1430	Techniques in Psychosocial Dysfunction	3
OTAT-1860	Practicum II	2
PSY-2020	Life Span Development <sup>2</sup>	<u>4</u>
		17

Fourth Semester

OTAT-2320	Fundamentals of Physical Dysfunction	4
OTAT-2330	Techniques in Physical Dysfunction	4
OTAT-2340	Occupational Therapy Issues <u>C</u>	3
OTAT-2860	Practicum III	2
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>2</sup>	<u>1</u>
		14

Summer Semester

ENG-1020	College Composition II	3
OTAT-2940	Field Experience	<u>3</u>
		6

Program Total		71
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<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include PSY-1010 and 2020.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

## Program Sequences

### OPTICAL TECHNOLOGY

#### Associate of Applied Science degree in Optical Technology

A licensed optician can work in a retail outlet, optical laboratory or a doctor's office. Opticians with the appropriate educational background can move into management positions in a doctor's office, as well as retail outlets, or they can even establish their own business or purchase a franchise. Other career paths can lead to related work as a sales representative for optical products. For the person enthusiastic about the health care aspects of the field, advanced education can be pursued to become an optometrist or ophthalmologist.

**Program Manager - (216) 987-4454**

**See Appendix I, page 372 for application procedures.**

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
ENG-1010	College Composition I	3
OPT-1310	Theoretical Optics I	2
OPT-1410	Mechanical Optics I	2
OPT-1510	Optical Dispensing I	3
OPT-1610	Contact Lens I	2
PSY-1010	General Psychology <sup>1</sup>	<u>3</u>
		15
<u>Second Semester</u>		
MATH-1060	Survey of Mathematics <sup>2</sup>	3
OPT-1320	Theoretical Optics II	2
OPT-1420	Mechanical Optics II	2
OPT-1520	Optical Dispensing II	3
OPT-1620	Contact Lens II	3
Communications...	(See AAS Degree requirement)	<u>3</u>
		16
<u>Summer Semester</u>		
IT-1010	Introduction to Microcomputer Applications	3
OPT-2500	Optical Business <u>C</u>	2
PHYS-1300	Physics of Optical Materials	<u>4</u>
		9
<u>Third Semester</u>		
BIO-1230	Anatomy and Physiology of the Eye	4
OPT-2861	Optical Practicum I	3
OPT-2970	Optical Practicum Seminar I	3
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>1</sup>	<u>3</u>
		13
<u>Fourth Semester</u>		
OPT-2650	License Review Spectacle	1
OPT-2660	License Review Contact Lens	1
OPT-2670	Optical Development.....OR	2
OPT-xxxx	OPT elective course <sup>3</sup>	
OPT-2870	Optical Practicum II	3
OPT-2980	Optical Practicum Seminar II	3
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>1</sup>	<u>2</u>
		12
	Program Total	65

<sup>1</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include PSY-1010 and 4 semester credits at the 2000-level.

<sup>2</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>3</sup>Elective course may be selected with written approval of the OPT department.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

### OPTICAL TECHNOLOGY

#### Certificate of Proficiency

A student who receives a one-year certificate can work in a retail outlet, optical laboratory or a doctor's office. Other career paths can lead to related work as a sales representative for optical products. Note: In order to be eligible to take the State Board Exam for licensure, you must finish the Optical Technology degree program.

Degree: Students may apply credits toward the Optical Technology degree program.

**Program Manager - (216) 987-4454**

**See Appendix I, page 372 for application procedures.**

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
ENG-1010	College Composition I	3
OPT-1310	Theoretical Optics I	2
OPT-1410	Mechanical Optics I	2
OPT-1510	Optical Dispensing I	3
OPT-1610	Contact Lens I	2
PSY-1010	General Psychology	<u>3</u>
		15
<u>Second Semester</u>		
MATH-1060	Survey of Mathematics <sup>1</sup>	3
OPT-1320	Theoretical Optics II	2
OPT-1420	Mechanical Optics II	2
OPT-1520	Optical Dispensing II	3
OPT-1620	Contact Lens II	<u>3</u>
		13
<u>Summer Semester</u>		
IT-1010	Introduction to Microcomputer Applications	3
OPT-2500	Optical Business	2
PHYS-1300	Physics of Optical Materials	<u>4</u>
		9
	Program Total	37

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

**PARALEGAL STUDIES**

**Associate of Applied Business degree in Paralegal Studies**

The program educates students to serve as paralegal professionals and work independently in the legal field under the supervision of attorneys. Students receive a general legal education with course work in law office technology, law office administration and computer assisted legal research. Graduates are prepared for careers in business, industry or non-profit corporations that interface with the legal system. Typical employers include law firms, insurance companies, local, state and federal government, title companies, banks and corporations. Paralegals organize and manage work flow in law office settings, draft legal documents, research and draft legal memoranda, and prepare attorney billings. They conduct background checks, interview clients and pursue factual investigations for employers. Paralegals may prepare witnesses for depositions and for trial. They organize client files and generally maintain client relationships. Paralegals may serve as employer liaisons to business, the police, other attorneys, government officials and the courts. Paralegals cannot accept a case, set fees, give legal advice or represent a client in court. This is an American Bar Association approved program.

**Program Manager - (216) 987-5214**

**See Appendix I, page 363 for application procedures.**

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ACCT-1020	Applied Accounting	3
ENG-1010	College Composition I	3
IT-1010	Introduction to Microcomputer Applications <sup>1</sup>	3
PL-1000	Introduction to Paralegal Profession	2
PL-1300	Civil Procedure	3
POL-1010	American National Government <sup>2</sup>	<u>3</u>
		17

Second Semester

ENG-1020	College Composition II	3
MATH-1060	Survey of Mathematics <sup>3</sup>	3
PL-1400	Basic Legal Research and Writing	3
PL-1501	Law Office Technology	2
PL-xxxx	Any PL elective course	2-3
POL-2100	Constitutional Law.....OR	3
PSY-1010	General Psychology .....OR	
UST-1010	Introduction to Urban Studies <sup>2</sup>	—
		16-17

Third Semester

ACCT-1310	Financial Accounting.....OR	2-4
EHST-1310	Introduction to Environmental Law.....OR	
FIN-1110	Principles of Finance.....OR	
HS-1220	Diagnostic Tools and Legal.....OR Considerations	
MA-1010	Introduction to Medical Terminology...OR	
REAL-1401 &	Real Estate Law.....AND	
REAL-1601	Real Estate Finance	
PL-2301	Torts and Evidence	4
PL-2440	Business Transactions	3
PL-xxxx	Any PL elective course	3
Arts & Hum/Soc & Beh Sci...(See AAB Degree requirements) <sup>2</sup>		<u>2</u>
		14-16

Fourth Semester

PL-2400	Computer Assisted Legal Research	3
PL-2420	Probate Law	3
PL-2460	Business Organizations	3
PL-2851	Paralegal Practicum <sup>4</sup>	1
PL-2990	Paralegal Capstone <u>C</u>	2
PL-2xxx	Any 2000-level PL elective courses	<u>3</u>
		15

Program Total 62-65

<sup>1</sup>May be waived with satisfactory score on computer test administered by Paralegal Studies department.

<sup>2</sup>Minimum of 8 semester credits in Arts & Hum/Soc & Beh Sci required – must include POL-1010 and POL-1100 or PSY-1010 or UST-1010.

<sup>3</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>4</sup>Can be waived with documentation of equivalent experience. Minimum of 60 credits for the degree still required.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

## Program Sequences

### PHARMACY TECHNOLOGY

#### Associate of Applied Science degree in Pharmacy Technology

A pharmacy technician assists the pharmacist with the day-to-day activities in the pharmacy. Under the direction of a pharmacist, the pharmacy technician performs pharmacy-related functions with the goal of optimizing patients' pharmaceutical care and department operations.

Pharmacy technician duties include, but need not be limited to: maintaining patient records; setting up packaging and labeling of medication dosages; filling and dispensing routine orders for stock supplies and patient care areas; maintaining inventory of drug supplies and preparing parenteral admixtures. Other duties may include dispensing, pricing, inventory control, typing, records maintenance, cash register work and operation of computer terminals and pharmacy automation devices.

The program is designed to train the pharmacy technician to function in the pharmacy departments of hospitals or other institutions, clinics, retail stores and managed care organizations. Graduates will be prepared to take the national Pharmacy Technician Certification Examination, recognized by many employers, and will hold a college degree that will contribute to professional advancement.

**Program Manager - (216) 987-2381**

**See Appendix I, page 372 for application procedures.**

Suggested Semester Sequence		<u>Credit Hrs.</u>
<u>Summer Semester</u>		
ENG-1010	College Composition I	3
BIO-1100	Introduction to Biological Chemistry	<u>3</u>
		6
<u>First Semester</u>		
BIO-1050	Human Biology	3
BIO-105L	Human Biology Lab	1
MATH-1141	Applied Algebra & Mathematical Reasoning <sup>1</sup>	3
PHM-1300	Introduction to Pharmacy Practice	3
PHM-1350	Pharmacy Practice I	3
PHM-1450	Pharmacology & Therapeutic Principles I	<u>3</u>
		16
<u>Second Semester</u>		
IT-1010	Introduction to Microcomputer Applications	3
PHM-1360	Pharmacy Practice II	3
PHM-1460	Pharmacology & Therapeutic Principles II	3
PHM-1860	Pharmacy Technology Practicum I	3
Communications...	(See AAS Degree requirements)	<u>3</u>
		15
<u>Third Semester</u>		
BIO-2500	Microbiology	4
MA-1020	Medical Terminology I	3
PHM-2860	Pharmacy Technology Practicum II	3
PHM-2701	Current Topics in Pharmacy Practice <u>C</u>	4
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>2</sup>	<u>3</u>
		17
<u>Fourth Semester</u>		
HLTH-1100	Personal Health Education	3
PHIL-2050	Bioethics <sup>2</sup>	3
PHM-2870	Pharmacy Technology Practicum III	3
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>2</sup>	<u>2</u>
		11
Program Total		65

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>Minimum of 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include PHIL-2050 and 3 semester credits at the 2000-level.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

### PHARMACY TECHNICIAN

#### Certificate of Proficiency

A pharmacy technician assists the pharmacist with the day-to-day activities in the pharmacy. Under the direction of a pharmacist, the pharmacy technician performs pharmacy-related functions with the goal of optimizing patients' pharmaceutical care and department operations.

Pharmacy technician duties include, but need not be limited to: maintaining patient records; setting up packaging and labeling of medication dosages; filling and dispensing routine orders for stock supplies and patient care areas; maintaining inventory of drug supplies and preparing parenteral admixtures. Other duties may include dispensing, pricing, inventory control, typing, records maintenance, cash register work and operation of computer terminals and pharmacy automation devices.

The program is designed to train the pharmacy technician to function in the pharmacy departments of hospitals or other institutions, clinics, retail stores and managed care organizations. Graduates will be prepared to take the national Pharmacy Technician Certification Examination, recognized by many employers.

Degree: Students may apply credits toward the Pharmacy Technology degree program.

**Program Manager - (216) 987-2381**

**See Appendix I, page 372 for application procedures.**

Suggested Semester Sequence		<u>Credit Hrs.</u>
<u>Summer Semester</u>		
BIO-1100	Introduction to Biological Chemistry	3
ENG-1010	College Composition I	<u>3</u>
		6
<u>First Semester</u>		
BIO-1050	Human Biology	3
BIO-105L	Human Biology Laboratory	1
MATH-1141	Applied Algebra and Mathematical Reasoning <sup>1</sup>	3
PHM-1300	Introduction to Pharmacy Practice	3
PHM-1350	Pharmacy Practice I	3
PHM-1450	Pharmacology and Therapeutic Principles I	<u>3</u>
		16
<u>Second Semester</u>		
BIO-2500	Microbiology	4
PHM-1360	Pharmacy Practice II	3
PHM-1460	Pharmacology and Therapeutic Principles II	3
PHM-1860	Pharmacy Technology Practicum I	<u>3</u>
		13
Program Total		35

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

## PHYSICAL THERAPIST ASSISTING TECHNOLOGY

### Associate of Applied Science degree in Physical Therapist Assisting Technology

Physical therapy provides services to patients and clients of all ages who have impairments, functional limitations, disabilities or changes in physical function and health status resulting from injury, disease or other causes. The physical therapist assistant works under the supervision of the licensed physical therapist to provide treatments in a variety of health care settings such as hospitals, extended care centers, school systems, ambulatory care centers, private practice and other centers where physical therapists are employed. Upon successful completion of the program, the student is eligible to take an exam to qualify for licensure in the state in which the graduate chooses to practice.

**Program Manager - (216) 987-4502**

**See Appendix I, page 373 for application procedures.**

#### Suggested Semester Sequence

<u>Summer Semester</u>		<u>Credit Hrs.</u>
BIO-1100	Introduction to Biological Chemistry	3
BIO-2330	Anatomy and Physiology I	4
ENG-1010	College Composition I	3
MA-1020	Medical Terminology I	3
MATH-1200	Intermediate Algebra <sup>1</sup>	<u>4</u>
		17
<u>First Semester</u>		
BIO-2340	Anatomy and Physiology II	4
PHYS-1210	College Physics I	4
PTAT-1100	Introduction to Physical Therapist Assisting	2
PTAT-1300	Functional Anatomy	4
PTAT-1310	Fundamentals of Physical Therapy	<u>3</u>
		17
<u>Second Semester</u>		
ENG-1020	College Composition II	3
PSY-1010	General Psychology	3
PTAT-1400	Clinical Pathophysiology	3
PTAT-1410	Physical Therapy Procedures	5
PTAT-1420	Therapeutic Exercise	3
PTAT-2940	Field Experience I	<u>1</u>
		18
<u>Third Semester</u>		
PSY-2010	Child Growth and Development	3
PTAT-2310	Pediatric Physical Therapy	2
PTAT-2301	Long-term Physical Therapy Rehabilitation Procedures	4
HTEC-1610	Introduction to Pharmacology	2
Arts & Hum/Soc & Beh Sci...(see AAS Degree requirements) <sup>2</sup>		<u>2</u>
		13
<u>Fourth Semester</u>		
PTAT-2330	Geriatric Physical Therapy	2
PTAT-2340	Psychosocial Issues in Physical Therapy	1
PTAT-2840	Clinical Practicum I <u>C</u>	2
PTAT-2850	Clinical Practicum II <u>C</u>	2
PTAT-2970	Practicum seminar	<u>1</u>
		8
	Program Total	73

<sup>1</sup>Any higher level MATH course may also be used to meet this requirement except MATH-1800/2800 & 1820/2820.

<sup>2</sup>Minimum 8 semester credits-must include PYS-1010 & 2010.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

## Program Sequences

### PHYSICIAN ASSISTANT

#### Associate of Applied Science degree in Physician Assistant

The physician assistant works with the supervision of a licensed doctor of medicine or osteopathy and carries out many of the tasks previously performed only by physicians. These tasks include performing physical examinations, requesting and carrying out various laboratory and diagnostic tests, performing certain therapeutic procedures and providing patient education/counseling. The physician assistant, as part of the physician's team, will be able to provide patient care services in any health care setting, hospital, nursing home, office or clinic in which the physician functions professionally.

#### Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
BIO-1100	Introduction to Biological Chemistry	3
BIO-2330	Anatomy & Physiology I	4
ENG-1010	College Composition I	3
PA-1300	History & Physical Exam Techniques I	2
PA-1340	Clinical Anatomy	2
PA-1450	The Physician Assistant Profession and Health Care Issues	2
PA-1500	Clinical Medicine I	<u>1</u>
		17
<u>Second Semester</u>		
BIO-2340	Anatomy & Physiology II	4
PA-1310	History & Physical Exam Techniques II	2
PA-1320	Basic Surgical and Technical Skills	2
PA-1360	Adjuncts to Diagnosis	3
PA-1400	Clinical Pharmacology	3
PA-1510	Clinical Medicine II	<u>4</u>
		18
<u>Summer Semester</u>		
BIO-2500	Microbiology	4
HTEC-1110	Ethics for Health Care Professionals	1
MATH-1141	Applied Algebra and Mathematical Reasoning <sup>1</sup>	3
PA-1350	Electrocardiography	1
PA-1520	Clinical Medicine III	2
PA-2301	Patient Management <u>C</u>	1
PA-2500	Emergency Medicine	2
Communications....(See AAS Degree Requirements)		<u>3</u>
		17
<u>Third Semester</u>		
BIO-2600	Pathophysiology	3
PA-2910	Directed Practice I: Primary Care.....OR	
PA-2915	Directed Practice I: Surgery <sup>3</sup>	1
PA-2942	Field Experience I.....OR	4
PA-294A	Field Experience I: Family Practice.....AND	
PA-294B	Field Experience I: Women's Health.....AND	
PA-294C	Field Experience I: General Surgery.....AND	
PA-294D	Field Experience I: Internal Medicine	
PA-2972	Field Experience Seminar I	1
PSY-1010	General Psychology <sup>2</sup>	3
Arts & Hum/Soc & Beh Sci. (See AAS Degree Requirements) <sup>2</sup>		<u>1-2</u>
		13-14

#### Fourth Semester

PA-2920	Directed Practice II: Primary Care .....OR	1
PA-2925	Directed Practice II: Surgery <sup>3</sup>	
PA-2952	Field Experience II.....OR	4
PA-295A	Field Experience II: Emergency Medicine...AND	
PA-295B	Field Experience II: Geriatrics.....AND	
PA-295C	Field Experience II: Psych/Behavioral Medicine.....AND	
PA-295D	Field Experience II: Pediatrics	
PA-2982	Field Experience Seminar II <u>C</u>	1
PSY-2010	Child Growth and Development.....OR	3-4
PSY-2020	Life Span Development.....OR	
PSY-2100	Introduction to Aging <sup>2</sup>	
		9-10

Program Total 74-76

<sup>1</sup>MATH -1800/2800 & 1820/2820 may not be used to meet this requirement.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include PSY-1010 and PSY-2010 or 2020 or 2100. PHIL- 2050 highly recommended.

<sup>3</sup>Highly recommended for students who plan to pursue the post-degree award for surgery specialization. (See department.)

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course



**PLANT SCIENCE AND LANDSCAPE TECHNOLOGY**

**Associate of Applied Science degree in Plant Science and Landscape Technology**

This ornamental horticulture program prepares students for entry-level to middle management positions in the landscape contracting industry. Landscape professionals find careers in planning and installing new or renovating landscapes or in managing existing landscapes in top condition. Much of the course work of this landscape program is also applicable to other areas of horticulture such as arboriculture and urban forestry, nurseries, greenhouses, theme parks and arboreta.

The curriculum of this two-year, full-time program includes a summer field experience between the first and second years and is composed of a balance of classroom, laboratory and practical educational experiences. Classes are available both day and evening, and students may enroll on either a full- or part-time basis.

**Program Manager - (216) 987-2235**

**See Appendix I, page 364 for application procedures.**

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ENG-1010	College Composition I	3
MATH-1060	Survey of Mathematics <sup>1</sup>	3
PST-1300	Horticultural Botany	3
PST-1310	Landscape Plants I	3
PST-1410	Equipment Operations and Maintenance	3
HLTH-1230	Standard First Aid and Personal Safety	<u>1</u>
		16

Second Semester

IT-1010	Introduction to Microcomputer Applications	3
PSCI-1020	Chemistry	3
PSCI-102L	Chemistry Laboratory	1
PST-1320	Landscape Plants II	3
PST-1420	Landscape Practices	3
PST-1500	Basic Landscape Contracting	3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		<u>2</u>
		18

Summer Semester

PST-2950	Field Experience	<u>3</u>
		3

Third Semester

BADM-1300	Small Business Management	4
PST-2200	Advanced Landscape Contracting	3
PST-2330	Entomology	3
PST-2340	Plant Pathology	3
SPCH-1000	Fundamentals of Interpersonal Communication	<u>3</u>
		16

Fourth Semester

ECON-2610	Principles of Macroeconomics.....OR	4
ECON-2620	Principles of Microeconomics	
PST-1600	Irrigation and Drainage	2
PST-2310	Soil Technology	3
PST-2360	Landscape Design <u>C</u>	3
PST-2xxx	Any 2000-level PST elective course	2
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		<u>2</u>
		16

Program Total

69

<sup>1</sup>Any higher level MATH course may also be used to meet this requirement except MATH-1800/2800 & 1820/2820.

<sup>2</sup>It is highly recommended that SPAN-1010 Beginning Spanish be taken in the fourth semester to satisfy the four credits in Arts & Hum/Soc & Beh Sci rather than two separate courses.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

**PLANT SCIENCE AND LANDSCAPE TECHNOLOGY**

**(Landscape Technician)**

**Certificate of Proficiency**

The one-year certificate program offers basic landscaping skills to persons who are seeking a career in landscape contracting but who may not desire a full degree. The certificate is also helpful to those already employed in the landscape industry who have a desire to upgrade their knowledge and skills in order to be a more valuable employee. The Landscape Technician Certificate of Proficiency features course work in such horticulture basics as botany, plant identification, plant diseases and insect pests, soil technology and landscape practices.

Degree: Students may apply credits earned toward the Plant Science and Landscape Technology degree program.

**Program Manager - (216) 987-2235**

**See Appendix I, page 364 for application procedures.**

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ENG-1010	College Composition I	3
MATH-1060	Survey of Mathematics <sup>1</sup>	3
PST-1300	Horticultural Botany	3
PST-1310	Landscape Plants I	3
PST-1410	Equipment Operations and Maintenance	<u>3</u>
		15

Second Semester

BADM-1300	Small Business Management	4
PST-1320	Landscape Plants II	3
PST-1420	Landscape Practices	3
PST-1500	Basic Landscape Contracting	3
PST-1600	Irrigation and Drainage	<u>2</u>
		15

Program Total

30

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

## Program Sequences

### PLANT SCIENCE AND LANDSCAPE TECHNOLOGY

#### (Garden Center Operations)

Associate of Applied Science degree in Plant Science and Landscape Technology with a concentration in Garden Center Operations

This ornamental horticulture program prepares students for entry-level to middle management positions in the garden center industry. Knowledgeable garden center professionals are often called upon to provide advice to customers about the use and appropriateness of various outdoor and indoor plant materials, plant pest and disease problems and turfgrass issues. Much of the course work of this landscape program is also applicable to other areas of horticulture.

The curriculum of this two-year, full-time program includes a summer field experience between the first and second years and is composed of a balance of classroom, laboratory and practical educational experiences. Classes are available both day and evening and students may enroll on either a full- or part-time basis.

Program Manager - (216) 987-2235

See Appendix I, page 364 for application procedures.

#### Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
BADM-1020	Introduction to Business	3
ENG-1010	College Composition I	3
MATH-1060	Survey of Mathematics <sup>1</sup>	3
PST-1300	Horticultural Botany	3
PST-1310	Landscape Plants I	3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		<u>3</u> 18
<u>Second Semester</u>		
IT-1010	Introduction to Microcomputer Applications	3
MARK-2010	Principles of Marketing	3
PST-1320	Landscape Plants II	3
PST-1350	Plant Production	2
SPCH-1000	Fundamentals of Interpersonal Communication	3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>2</sup>		<u>2</u> 16
<u>Summer Semester</u>		
PST-2950	Field Experience	<u>3</u> 3
<u>Third Semester</u>		
BADM-1300	Small Business Management	4
PSCI-1020	Chemistry	3
PSCI-102L	Chemistry Lab	1
PST-2330	Entomology	3
PST-2340	Plant Pathology	3
PST-2410	Garden Center Operations I	<u>3</u> 17
<u>Fourth Semester</u>		
EMT-1310	Cardiopulmonary Resuscitation	1
PST-2310	Soil Technology	3
PST-2300	Interior Foliage Identification & Culture...OR	2
PST-2xxx	Any 2000-level PST elective course <sup>3</sup>	
PST-2360	Landscape Design	3
PST-2420	Garden Center Operations II <u>C</u>	3
Arts & Hum/Soc & Beh Sci...(See AAS Degree Requirements) <sup>2</sup>		<u>3</u> 15
Program Total		69

<sup>1</sup>MATH 1800/2800 & 1820/2820 may not be used to meet this requirement.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required.

<sup>3</sup>PST-2300 Interior Foliage Identification and Culture is recommended.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

### PURCHASING AND SUPPLY MANAGEMENT

Associate of Applied Business degree in Purchasing and Supply Management

Purchases of materials, supplies and equipment represent a large part of a business or industrial firm's total cost of operation.

Purchasing, because of its importance, is often designated as a separate responsibility to be handled by one or more individuals.

Purchasing agents and their assistants are responsible for obtaining raw materials, goods and services at the lowest cost consistent with required quality. The majority of the nation's purchasing personnel are employed in manufacturing firms.

Many also work in government agencies, public utilities, schools and hospitals.

#### Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ACCT-1011	Business Math Applications	3
BADM-1020	Introduction to Business	3
BADM-2160	Introduction to Purchasing	3
ENG-1010	College Composition I	3
ECON-2610	Principles of Macroeconomics <sup>2</sup>	4
MATH-xxxx	1000-level MATH course <sup>1</sup>	<u>3</u> 19
<u>Second Semester</u>		
ACCT-1310	Financial Accounting	4
BADM-2010	Business Communications	3
IT-1010	Introduction to Microcomputer Applications	3
MARK-2010	Principles of Marketing	3
Communications...(See AAB Degree requirement)		<u>3</u> 16
<u>Third Semester</u>		
ACCT-1340	Managerial Accounting	4
BADM-1120	Principles of Management	4
BADM-2110	Production/Operations Management	3
BADM-2300	Principles of Freight Management	3
ECON-2620	Principles of Microeconomics <sup>2</sup>	<u>4</u> 18
<u>Fourth Semester</u>		
BADM-2150	Business Law	4
BADM-2180	Purchasing Management <u>C</u>	3
BADM-2240	Negotiations	3
BADM-2120	Logistics Management	3
MARK-2020	Principles of Salesmanship	3
		16
Program Total		69

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci courses required – must include ECON-2610 and 2620.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

## RADIOGRAPHY

### Associate of Applied Science degree in Radiography

The radiographer performs radiographic examinations that aid the physician in diagnosis and treatment of injury and disease. The trained radiographer understands radiation and knows how to produce high quality diagnostic examinations safely. The radiographer is employed in hospitals, clinics, doctors' offices and industry, providing patient services around the clock. Graduates of the program are eligible for the American Registry of Radiologic Technologist Examination. The Radiography program is accredited by the Joint Review Committee on Education in Radiologic Technology.

Program Manager - (216) 987-5264

See Appendix I, page 374 for application procedures.

Suggested Semester Sequence		
First Semester		Credit Hrs.
BIO-1221	Anatomy and Physiology for Diagnostic Medical Imaging	4
BIO-2200	Radiobiology	2
ENG-1010	College Composition I	3
MA-1020	Medical Terminology I	3
RADT-1300	Fundamentals of Radiography	4
RADT-1400	Radiographic Positioning	<u>3</u>
		19
Second Semester		
MATH-1141	Applied Algebra and Mathematical Reasoning <sup>1</sup>	3
PSY-1010	General Psychology	3
RADT-1911	Clinical Radiography I.....OR	5-7
RADT-191S	Clinical Radiography I <sup>2</sup>	—
		11-13
Summer Semester		
RADT-1350	Radiographic Technique	3
RADT-1410	Intermediate Radiographic Positioning	3
RADT-2400	Imaging Systems	3
Communication...	(See AAS Degree Requirements)	<u>3</u>
		12
Third Semester		
PHIL-2050	Bioethics	3
RADT-2911	Clinical Radiography II.....OR	7
RADT-291S	Clinical Radiography II <sup>2</sup>	—
		10
Fourth Semester		
PHYS-2250	Radiographic Physics and Quality Control	4
RADT-2350	Radiographic Pathology	3
RADT-2360	Special Imaging Procedures.....OR	2
RADT-xxxx	RADT elective course <sup>3</sup>	—
		9
Summer Semester		
PSY-2xxx	Any 2000-level PSY elective course	3
RADT-2921	Clinical Radiography III ....OR <u>C</u>	5-7
RADT-292S	Clinical Radiography III <u>C</u> <sup>2</sup>	—
		8-10
Program Total		69-73

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>Students beginning program in Fall Semester must take RADT-1911, 2911, 2921. Students beginning in Spring Semester must take RADT-191S, 291S, 292S.

<sup>3</sup>Elective course may be selected with written approval from the RADT department.

C = Capstone course

## REAL ESTATE

### Associate of Applied Business degree in Real Estate

This curriculum is designed to fulfill academic requirements leading to real estate licensure in the State of Ohio and to prepare students for a professional career in the real estate industry.

Graduates of the program are educationally qualified for positions as brokers, sales agents, real estate managers, counselors and real estate financiers.

Suggested Semester Sequence		
First Semester		Credit Hrs.
BADM-1020	Introduction to Business	3
ECON-2610	Principles of Macroeconomics	4
ENG-1010	College Composition I	3
MATH-xxxx	1000-level MATH course <sup>1</sup>	3
REAL-1301	Principles & Practices of Real Estate	3
REAL-1501	Valuation of Residential Properties	<u>1</u>
		17
Second Semester		
BADM-2010	Business Communications	3
ECON-2620	Principles of Microeconomics	4
ENG-1020	College Composition II	3
REAL-1320	Diversity Awareness and Fair Lending	2
REAL-1401	Real Estate Law	3
REAL-1601	Real Estate Finance	<u>1</u>
		16
Third Semester		
ACCT-1310	Financial Accounting	4
BADM-1120	Principles of Management.....OR	3-4
MARK-2010	Principles of Marketing	
BADM-2150	Business Law	4
REAL-2400	Real Estate Sales	2
SPCH-1010	Fundamentals of Speech Communication	<u>3</u>
		16-17
Fourth Semester		
BADM-2330	Human Resource Management	3
IT-1010	Introduction to Microcomputer Applications	3
REAL-2300	Real Estate Brokerage.....OR	2
REAL-2xxx	2000-level REAL elective course <sup>2</sup>	
REAL-2500	Commercial & Industrial Real Estate <u>C</u>	2
REAL-2600	Real Estate Management	2
REAL-2700	Valuation of Income Properties	<u>2</u>
		14
Program Total		63-64

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>Elective course may be selected with written approval from the REAL department.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

## Program Sequences

### REAL ESTATE

#### (Mortgage Finance)

Associate of Applied Business degree in Real Estate with a concentration in Mortgage Finance

The Mortgage Finance program offers a combination of courses and professional training designed to prepare students for a career in the mortgage finance/real estate industry. Students are taught by industry experts and upon completion of the academic requirements are prepared to enter such challenging careers as loan originators, homebuying counselors and loan processors.

**Program Information - (216) 987-4692**

See Appendix I, page 364 for application procedures.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
BADM-1020	Introduction to Business	3
ENG-1010	College Composition I	3
IT-1010	Introduction to Microcomputer Applications	3
MATH-xxxx	1000-level MATH course <sup>1</sup>	3
REAL-1301	Principles and Practices of Real Estate	3
REAL-1330	Loan Origination	2
REAL-1501	Valuation of Residential Properties	<u>1</u>
		18
<u>Second Semester</u>		
ENG-1020	College Composition II	3
REAL-1320	Diversity Awareness & Fair Lending	2
REAL-1401	Real Estate Law	3
REAL-1601	Real Estate Finance	1
SPCH-1010	Fundamentals of Speech Communication <sup>2</sup>	3
Arts & Hum/Soc & Beh Sci...	(See AAB Degree requirements) <sup>2</sup>	<u>3</u>
		15
<u>Third Semester</u>		
ACCT-1011	Business Math Applications.....OR	3
ACCT-1020	Applied Accounting	
REAL-2310	Loan Processing	2
REAL-2320	Affordable Housing	2
REAL-2330	Loan Underwriting	2
REAL-2340	Loan Servicing.....OR	2
REAL-2xxx	Any 2000-level REAL elective course	
REAL-2350	Homebuyers Education and Counseling	2
Arts & Hum/Soc & Beh Sci...	(See AAB Degree requirements) <sup>2</sup>	<u>2</u>
		15
<u>Fourth Semester</u>		
BADM-1120	Principles of Management	4
BADM-1300	Small Business Management	4
MARK-2010	Principles of Marketing	3
MARK-2020	Principles of Salesmanship	3
REAL-281S	Special Advanced Laboratory Topics in REAL	1
REAL-2820	Independent Advanced Study in Real Estate <u>C</u> .....	OR 1-2
REAL-2940	Mortgage Finance Field Experience <u>C</u>	—
		16-17
	Program Total	64-65

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – must include SPCH-1010 and two semester credits in a 2000-level course.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

### MORTGAGE FINANCE

#### Certificate of Proficiency

The Mortgage Finance program prepares students for a career in the mortgage finance and/or real estate industry. Students are taught by industry experts and upon completion of the academic requirements are prepared to enter such challenging careers as loan originators or loan processors.

Degree: Students may apply credits toward the Real Estate (Mortgage Finance) degree program.

**Program Information - (216) 987-4692**

See Appendix I, page 364 for application procedures.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
IT-1010	Introduction to Microcomputer Applications <sup>1</sup>	3
MATH-1060	Survey of Mathematics <sup>2</sup>	3
REAL-1301	Principles and Practices of Real Estate	3
REAL-1320	Diversity Awareness and Fair Lending	2
REAL-1330	Loan Origination	2
REAL-1501	Valuation of Residential Properties	<u>1</u>
		14
<u>Second Semester</u>		
ACCT-1011	Business Math Applications.....OR	3
ACCT-1020	Applied Accounting	
ENG-1010	College Composition I	3
REAL-2310	Loan Processing	2
REAL-2320	Affordable Housing	2
REAL-2330	Loan Underwriting	2
REAL-2350	Homebuyers Education and Counseling	<u>2</u>
		14
<u>Summer Semester</u>		
ACCT-xxxx	Any ACCT elective course.....OR	3-4
BADM-xxxx	Any BADM elective course	
REAL-281S	Special Advanced Laboratory Topics in Real Estate	1
REAL-2820	Independent Advanced Study in Real Estate.....OR	1-2
REAL-2940	Mortgage Finance Field Experience	—
		5-7
	Program Total	33-35

<sup>1</sup>May be waived with written departmental approval (student must have prior knowledge of word processing, spreadsheet and database software).

<sup>2</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

## RECORDING ARTS AND TECHNOLOGY

### Associate of Applied Science degree in Recording Arts and Technology

The recording arts and technology program trains students for entry-level positions within the audio industry. Students receive broad-based training in music recording and mixing, location sound, commercial production, audio for video and television, internet audio, record production and live sound reinforcement. A field experience/internship component provides on-the-job training at local and national facilities. Graduates are employed in a wide variety of positions within the audio recording services industry.

**Program Manager: - (216) 987-4252**

**See Appendix I, page 364 for application procedures.**

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
MATH-1060	Survey of Mathematics <sup>1</sup>	3
MUS-1130	MIDI Technology I	3
MUS-1230	Critical Listening	1
RAT-1300	Introduction to Recording	3
RAT-1310	Studio Operations	4
RAT-1320	Audio Transducers	<u>3</u>
		17
<u>Second Semester</u>		
EET-1130	Basic Audio Electronics	3
ENG-1010	College Composition I	3
RAT-1500	Recording Theory I	3
RAT-1510	Recording Lab I	3
RAT-1520	Audio Signal Processing	3
RAT-1530	Digital Audio Theory	<u>3</u>
		18
<u>Third Semester</u>		
MUS-1110	Music Business I	3
MUS-2140	Studio Maintenance	2
RAT-2300	Recording Theory II	3
RAT-2310	Recording Lab II	3
RAT-2330	Digital Audio Mixing	3
RAT-2340	Location Recording	<u>3</u>
		17
<u>Fourth Semester</u>		
BADM-1300	Small Business Management	4
MUS-1050	Survey of World Music	3
RAT-2540	Live Sound Reinforcement	3
RAT-2990	Recording Arts and Technology Capstone <u>C</u>	3
RAT-xxxx	Any RAT elective course	1
SPCH-1000	Fundamentals of Interpersonal Communications	3
		<u>17</u>
<u>Summer Semester</u>		
RAT-2940	Audio Recording Field Experience	<u>1-2</u>
		1-2
	Program Total	70-71

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820. Note: Courses as listed satisfy degree competencies and skills. C = Capstone course

## RESPIRATORY CARE

### Associate of Applied Science degree in Respiratory Care

Assess the cardiopulmonary system, assist in the treatment of cardiopulmonary impairment, evaluate treatment effectiveness and actively care for patients of all ages with deficiencies or abnormalities associated with the cardiopulmonary system. Opportunities exist for specialization within the profession in the areas of critical care, homecare, neonatal/pediatrics, education, pulmonary function testing and management as a licensed professional in respiratory care. The individual will, under the supervision of a physician, actively participate in the development of patient care plans, diagnostic testing and in the decision making process regarding the care and treatment of patients. Employment is primarily in hospitals but extends to home care, skilled nursing facilities, education and management.

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
BIO-1100	Introduction to Biological Chemistry <sup>1</sup>	3
BIO-2330	Anatomy and Physiology I	4
ENG-1010	College Composition I	3
MATH-1141	Applied Algebra and Mathematical Reasoning <sup>2</sup>	3
PSY-1010	General Psychology	3
RESP-1300	Respiratory Care Equipment	4
RESP-1310	Cardiopulmonary Physiology	<u>3</u>
		23
<u>Second Semester</u>		
BIO-2340	Anatomy and Physiology II	4
ENG-1020	College Composition II	3
RESP-1320	Acid-Base and Hemodynamics	2
RESP-1330	Cardiopulmonary Pulmonary Assessment and Pulmonary Diseases	5
RESP-1340	Pharmacology for Respiratory Care	<u>2</u>
		16
<u>Summer Semester</u>		
PHIL-2050	Bioethics	3
RESP-2210	Introduction to Mechanical Ventilation	1
RESP-2300	Basic Therapeutic Procedures	3
RESP-2910	Respiratory Care Directed Practice I	<u>3</u>
		10
<u>Third Semester</u>		
BIO-2500	Microbiology	4
RESP-2310	Mechanical Ventilation	4
RESP-2320	Pediatric/Neonatal Respiratory Care	2
RESP-2920	Respiratory Care Directed Practice II	<u>5</u>
		15
<u>Fourth Semester</u>		
PSY-2xxx	Any 2000-level PSY elective course	2
RESP-2330	Respiratory Home Care/Rehabilitation	1
RESP-2341	Patient Management Problems .....OR	1
RESP-xxxx	RESP elective course <sup>3</sup>	
RESP-2930	Respiratory Care Directed Practice III <u>C</u>	<u>5</u>
		9
	Program Total	73

<sup>1</sup>CHEM-1010 and 1020 may be taken in place of BIO-1100.

<sup>2</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>3</sup>Elective course may be selected with written approval from the RESP department.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

**POLYSOMNOGRAPHY**

**(Sleep Disorders)**

**Certificate of Proficiency**

A polysomnographic technologist is a multi-skilled professional who works under the general supervision of a physician or designee to provide comprehensive evaluation and treatment of sleep disorders. The polysomnographic technologist records and analyzes the related data, reporting their technical findings to the physician to aid in rendering a medical decision. The learning concentration of the program is geared toward the specialties of sleep, medicine, respiratory, neurology and behavioral sciences. This program consists of on-campus didactic instruction and lab, as well as off-campus hands-on clinical application at our affiliated health care institutions.

Degree: Students may apply credits toward the Respiratory Care program, or meet with an academic counselor to apply credits toward an Associate of Technical Studies degree.

**Program Manager – (216) 987-5267**

**See Appendix I, page 374 for application procedures.**

Suggested Semester Sequence

<u>Summer Semester</u>		<u>Credit Hrs.</u>
BIO-1100	Introduction to Biological Chemistry	3
BIO-2330	Anatomy and Physiology I	4
MATH-1141	Applied Algebra and Mathematical Reasoning <sup>1</sup>	3
RESP-1310	Cardiopulmonary Physiology	3
RESP-1410	Beginning Polysomnography	<u>2</u>
		15

First Semester

BIO-2340	Anatomy and Physiology II	4
ENG-1010	College Composition I	3
RESP-1421	Intermediate Polysomnography I	2
RESP-142L	Intermediate Polysomnography I Laboratory	1
RESP-1934	Directed Practice I	<u>3</u>
		13

Second Semester

RESP-1430	Intermediate Polysomnography II	3
RESP-1440	Neurophysiology of Sleep	2
RESP-2934	Directed Practice II	<u>3</u>
		8
	Program Total	36

<sup>1</sup>MATH-1800/2800 and 1820/2820 may not be used to meet this requirement.

**SURGICAL PHYSICIAN ASSISTANT**

Effective fall 2004, the Surgical PA program is dissolved. Students interested in surgery as a specialization may pre-elect to obtain the Internal Award that is given by the PA program to those students completing electives in the following courses: Advanced Surgical Skills, Fundamentals of Clinical Surgery, and Directed Practice I and II: Surgery. Program approval is required.

**SURGICAL TECHNOLOGY**

**Associate of Applied Science degree in Surgical Technology**

The surgical technologist is an allied health professional who assists the surgeon and surgeon assistants with surgical procedures in the operating room. As a surgical team member, surgical technologists work with other surgical personnel to prepare the operating room for the surgical procedure. The curriculum is designed to provide students with communication skills, basic sciences, introduction of surgical skills and hands-on simulation of current technology in the form of mock surgical procedures. The program provides four semesters of experience in the operating room to prepare students as surgical technologists. Students are prepared to take the National Certification Examination for Surgical Technologists. The preferred education for the Surgical Technologist is an associate degree. Graduates will be eligible to work in hospitals, surgery clinics and other surgery specialty areas.

**Program Manager – (216) 987-6146**

**See Appendix I, page 375 for application procedures.**

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
BIO-1100	Introduction to Biological Chemistry	3
BIO-2330	Anatomy and Physiology I	4
ENG-1010	College Composition I	3
SURT-1300	Introduction to Surgery	5
SURT-130L	Surgery Lab	<u>2</u>
		17

Second Semester

BIO-2340	Anatomy and Physiology II	4
SURT-1330	General Surgery	5
SURT-1910	Clinical Experience I	4
Communication...	(See AAS Degree requirements)	<u>3</u>
		16

Summer Semester

HTEC-1610	Introduction to Pharmacology	2
MA-1020	Medical Terminology I	3
MATH-1141	Applied Algebra and Mathematical Reasoning <sup>1</sup>	3
SURT-1920	Clinical Experience II	<u>4</u>
		12

Third Semester

BIO-2500	Microbiology	4
HTEC-1110	Ethics for Health Care Professionals	1
SURT-2300	Surgical Specialties	5
SURT-2850	Clinical Practice I	3
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>2</sup>	<u>3</u>
		16

(Continued next page)

**SURGICAL TECHNOLOGY (Continued)**

Fourth Semester

MA-1980	Practitioner/Patient Interaction Seminar..OR	1-2
SURT-xxxx	SURT elective course <sup>3</sup>	
SURT-2861	Clinical Practice II <u>C</u>	4
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>2</sup>	3
Arts & Hum/Soc & Beh Sci...	(See AAS Degree requirements) <sup>2</sup>	<u>2</u>
		10-11
Program Total		71-72

<sup>1</sup>MATH-1800/2800 and 1820/2820 may not be used to meet his requirement.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required.

<sup>3</sup>Elective course requires written approval from the SURT department.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

Second Semester:

BADM-1020	Introduction to Business	3
IT-1000	Keyboarding.....OR	2-3
IT-1010	Introduction to Microcomputer Applications	
SPCH-1000	Fundamentals of Interpersonal Communications.....OR	3
SPCH-1010	Fundamentals of Speech Communication	
SURT-1710	Sterile Processing Technology II	4
SURT-1860	Sterile Processing Practicum (first 8-weeks)	2
SURT-1860	Sterile Processing Practicum (second 8-weeks)	<u>2</u>
		16-17

Program Total 32-34

<sup>1</sup>BIO-1050 is a lecture course only, and may be selected in place of BIO-1100 if working for the Certificate only. Students wishing to transfer coursework into the Surgical Technology degree program must take BIO-1100.

<sup>2</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820. Students wishing to transfer coursework into the degree program should take MATH-1141.

**STERILE PROCESSING AND DISTRIBUTION TECHNOLOGY**

**Certificate of Proficiency**

The sterile processing and distribution technician decontaminates, inspects, assembles and sterilizes instruments and surgical trays. The technician also manages inventory control, orders supplies, inspects, maintains, delivers and retrieves equipment and instruments for the surgery suite, emergency room and intensive care units. A hands-on clinical practicum experience in an area hospital is included in the course of study. This program prepares graduates for eligibility for the National Certifying Examination given by the National Institute for the Certification of Healthcare Sterile Processing and Distribution Personnel.

Degree: Students may apply credits toward the Surgical Technology program, or meet with an academic counselor to apply credits toward an Associate of Technical Studies degree.

**Program Manager - (216) 987-6146**

**See Appendix I, page 374 for application procedures.**

<u>First Semester</u>	Suggested Semester Sequence	<u>Credit Hrs.</u>
BIO-1100	Introduction to Biological Chemistry.....OR	3
BIO-1050	Human Biology <sup>1</sup>	
ENG-1010	College Composition I	3
HTEC-1110	Ethics for Health Care Professionals	1
MA-1010	Introduction to Medical Terminology.....OR	2-3
MA-1020	Medical Terminology I	
MATH-1141	Applied Algebra and Mathematical Reasoning .....OR	
MATH-1060	Survey of Mathematics <sup>2</sup>	3
SURT-1700	Sterile Processing Technology I	<u>4</u>
		16-17

## Program Sequences

### VETERINARY TECHNOLOGY

#### Associate of Applied Science degree in Veterinary Technology

Veterinary technicians assist with the care and treatment of animals under the supervision of a veterinarian. Career options for graduate technicians include private practice, emergency clinics, specialty clinics, teaching facilities, research facilities and the USDA Animal and Plant Health Inspection Service. Students work with companion animals, food animals, horses, laboratory animals and exotic species.

See Appendix I, page 375 for application procedures.

#### Suggested Semester Sequence

First Semester		Credit Hrs.
BIO-1100	Introduction to Biological Chemistry	3
BIO-1410	Anatomy & Physiology of Domestic Animals I	4
ENG-1010	College Composition I	3
VT-1100	Veterinary Medical Terminology	1
VT-1200	Veterinary Law and Ethics	1
VT-1320	Veterinary Office Applications	3
VT-1401	Veterinary Science I	<u>4</u>
		19
<u>Second Semester</u>		
BIO-1420	Anatomy & Physiology of Domestic Animals II	3
MATH-1141	Applied Algebra & Mathematical Reasoning <sup>1</sup>	3
VT-1450	Veterinary Radiography	2
VT-1500	Veterinary Science II	4
VT-1520	Veterinary Parasitology	2
VT-1600	Veterinary Surgical Nursing and Assisting	<u>3</u>
		17
<u>Summer Semester</u>		
BIO-2500	Microbiology	4
VT-2300	Pharmacology for Veterinary Technicians	2
VT-2401	Veterinary Pathology I	2
VT-2851	Veterinary Practicum and Seminar I	<u>1</u>
		9
<u>Third Semester</u>		
VT-2411	Veterinary Pathology II	2
VT-2500	Small Animal Health and Disease	2
VT-2510	Large Animal Health and Disease	2
VT-2600	Anesthesiology, Emergency Techniques & Dentistry	3
VT-2860	Veterinary Practicum and Seminar II <u>C</u>	2
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>3</sup>		3
Communication...(See AAS Degree requirements) <sup>2</sup>		<u>3</u>
		17
<u>Fourth Semester</u>		
VT-2700	Avian and Exotic Animal Medicine	2
VT-2940	Veterinary Field Experience <u>C</u>	2
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>3</sup>		3
Arts & Hum/Soc & Beh Sci...(See AAS Degree requirements) <sup>3</sup>		<u>2</u>
		9
	Program Total	71

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>ENG-1020 or SPCH-1000 or SPCH-1010 highly recommended.

<sup>3</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – PSY-1010 highly recommended.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course



**VISUAL COMMUNICATION & DESIGN  
(Advertising Design)**

**Associate of Applied Business degree in Visual Communication & Design with a concentration in Advertising Design**

The advertising design concentration offers qualified students the opportunity to prepare for positions with marketing and advertising agencies, design and corporate art studios, publishers, department stores, service bureaus and the broadcasting and media communication advertising firms.

The Advertising Design curriculum is based on professional standards in building a portfolio, preparing the graduates for a variety of full-time or freelance employment in the advertising design field. Emphasis is on advertising design for print and media, studio skills and critical thinking applications. Problem solving and market research concept development projects are explored and applied as they relate to the advertising design professional.

**Program Manager (E) - (216) 987-2474**  
**Office of Business/Math & Technology (W) - (216) 987-5007**  
**See Appendix I, page 364 for application procedures.**

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
BADM-1020	Introduction to Business	3
ENG-1010	College Composition I	3
VC&D-1010	Macintosh Basics	1
VC&D-1060	History and Trends in Visual Communication & Design	3
VC&D-1100	Fundamentals of Design and Layout	2
VC&D-1200	Typography and Layout	3
VC&D-1300	Graphic Design Drawing	1
VC&D-130L	Graphic Design Drawing Studio	<u>1</u>
		17

Second Semester

ART-1050	Drawing I <sup>1</sup>	3
ENG-2151	Technical Writing.....OR	3-4
JMC-1011	Introduction to Mass Communication	
MARK-2010	Principles of Marketing	3
MATH-1060	Survey of Mathematics <sup>2</sup>	3
VC&D-1400	Imaging and Design	1
VC&D-140L	Imaging and Design Studio	1
VC&D-1500	Advertising and Design	<u>3</u>
		17-18

Third Semester

MARK-2260	Sales Promotion and Public Relations.....OR	3
MARK-2500	Business-to-Business Organizational Marketing	
MARK-2270	Principles of Advertising	3
VC&D-1800/2800	Special Topics in Visual Communications & Design.....OR	1-2
VC&D-1820/2820	Independent Study in Visual Communications & Design	
VC&D-2200	Multi-Page Layout and Design	2
VC&D-2300	Graphic Design and Illustration	2
VC&D-2400	Designing for Production	2
VCAD-2620	Advertising Studio I	2
Arts & Hum/Soc & Beh Sci...(See AAB Degree requirements) <sup>1</sup>		<u>2</u>
		17-18

Fourth Semester

VC&D-2600	Graphic Production	2
VC&D-2700	Media Design	2
VC&D-2990	Portfolio Preparation <u>C</u>	2
VCAD-1800/2800	Special Topics in Advertising.....OR	1-2
VCAD-1820/2820	Independent Study in Advertising...OR	
VCDP-2060	Portable Document Format (PDF)	
VCAD-2520	Creative Advertising Campaign	3
VCAD-2720	Advertising Studio II	2
Arts & Hum/Soc & Beh Sci...(See AAB Degree requirements) <sup>1</sup>		<u>3</u>
		15-16
	Program Total	66-69

<sup>1</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required - must include ART-1050.

<sup>2</sup>MATH-1800/2800 & 1820/2820 may not be used to meet this requirement.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

## Program Sequences

### VISUAL COMMUNICATION & DESIGN (Digital Publishing)

#### Associate of Applied Business degree in Visual Communication & Design with a concentration in Digital Publishing

This degree meets the changing needs of the publishing industry by preparing students for employment in production and prepress with skills in page layout, vector and raster imaging, Internet publishing, asset management, PDF and a variety of output devices. Possible employment includes prepress production and preflight in print plants, advertising agencies, magazine publishing, internet, in-house graphic design or freelance fields. Strong emphasis is placed in preparation for the workforce, business etiquette and critical problem solving skills.

**Program Manager (E) - (216) 987-2474**

**Office of Business/Math & Technology (W) - (216) 987-5007**

**See Appendix I, page 364 for application procedures.**

**Note: Select Option (a), (b), or (c) before beginning this degree program.**

Suggested Semester Sequence		Credit Hrs.
<u>First Semester</u>		
ENG-1010	College Composition I	3
IT-1010	Introduction to Microcomputer Applications	3
VC&D-1010	Macintosh Basics	1
VC&D-1110	Introduction to Visual Communications	2
VCDP-1060	Introduction to Digital Publishing	2
VCDP-1160	Troubleshooting and Maintaining Computer Publishing Systems	2
VCPH-1300	Photography for Designers	1
Arts & Hum/Soc & Beh Sci...	(See AAB Degree requirements) <sup>1</sup>	<u>2</u>
		16
<u>Second Semester</u>		
ENG-1020	College Composition II.....OR	3
SPCH-1010	Fundamentals of Speech Communication	
MATH-xxxx	1000-level Math course <sup>2</sup>	3
VCDP-1260	Digital Page Layout	2
VCDP-1360	Vector Graphics	2
VCPH-1450	Digital Imaging I	3
Arts & Hum/Soc & Beh Sci...	(See AAB Degree requirements) <sup>1</sup>	<u>3</u>
		16
<u>Third Semester</u>		
MARK-2010	Principles of Marketing	3
VCDP-2060	Portable Document Format (PDF)	1
VCDP-2160	Digital Workflow	1
VCIM-1570	Web Publishing I: HTML	3
VCPH-2450	Digital Imaging II	3
VCXX-xxxx	VisCom & Design electives	3-4
	(see Option a or b).....OR	
BADM-1020 &	Introduction to Business (Option c).....AND	
VC&D-2940	Field Experience II (Option c)	
Arts & Hum/Soc & Beh Sci...	(See AAB Degree requirements) <sup>1</sup>	<u>3</u>
		17-18

#### Fourth Semester

VC&D-2530	Professional Practices in Visual Communications & Design	3
VC&D-2990	Portfolio Preparation <u>C</u>	2
VCDP-2260	Color Scanning and Reproduction	2
VCDP-2360	Digital Production and Layout	3
VCXX-xxxx	VisCom & Design elective(s)	2-4
	(Option a or b).....OR	
VCDP-2760 &	Estimating and Production Management	
	(Option c) .....	AND
VC&D-2940	Field Experience II.....(Option c)	
VCXX-xxxx	VisCom & Design elective	3
	(see Option b).....OR	
IT-2300	Database Use and Design...(Option b)...OR	
VCDP-2660	Commercial Printing.....(Option c)	
		15-17
	Program Total	64-67

<sup>1</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required – recommend ART-1010 Art Appreciation, JMC-1010 Introduction to Mass Communications I, and PSY-1010 General Psychology.

<sup>2</sup>MATH-1800/2800 and 1820/2820 may not be used to meet this requirement.

Note: Courses as listed satisfy degree competencies and skills.

#### Option a - Design Emphasis (select minimum of 8 semester credits)<sup>\*\*\*</sup>

VC&D-1200	Typography and Layout	3
VC&D-1300	Graphic Design Drawing.....AND	1/1
VC&D-130L	Graphic Design Drawing Studio	
VC&D-1500	Advertising and Design	2
VCGD-2230	Publication Design	2
VCGD-2330	Corporate Graphics	2
VCGD-2430	Package Design	2

#### Option b - Technical Emphasis (select minimum of 8 semester credits)<sup>\*\*\*</sup>

IT-2300	Database Use and Design	3
VC&D-2700	Media Design	2
VCIM-1670	Current WYSIWYG Web Editors	2
VCIM-2270	Animation for Web and Multimedia	3

#### Option c - Print Management Emphasis (complete all courses)

BADM-1020	Introduction to Business	3
VC&D-2940	Field Experience II (take twice for 1 credit)	2
VCDP-2660	Commercial Printing	3
VCDP-2760	Estimating and Production Management	3

<sup>\*\*\*</sup>Additional course selections for Option (a) and (b) may be selected with written approval from the VC&D department.

**VISUAL COMMUNICATION & DESIGN  
(Graphic Design)**

**Associate of Applied Business degree in Visual Communication & Design with a concentration in Graphic Design**

The Graphic Design degree program prepares students for positions with graphic design firms, in-house design departments, exhibit and package design firms, publishers, broadcast media, printers and media design companies.

The Graphic Design curriculum is based on professional standards in creating a designer portfolio, preparing the graduates for a variety of full-time or freelance employment in the graphic design industry. Students have an opportunity to develop or upgrade drawing and computer graphics skills for communicating visually. Emphasis is on design for print and media, studio skills and critical thinking applications. Problem solving and research concept development projects are explored and applied as they relate to the graphic design professional.

**Program Manager (E) - (216) 987-2474**  
**Office of Business/Math & Technology (W) - (216) 987-5007**  
**See Appendix I, page 364 for application procedures.**

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
BADM-1020	Introduction to Business	3
ENG-1010	College Composition I	3
VC&D-1010	Macintosh Basics	1
VC&D-1060	History and Trends in Visual Communications & Design	3
VC&D-1100	Fundamentals of Design and Layout	2
VC&D-1200	Typography and Layout	3
VC&D-1300	Graphic Design Drawing	1
VC&D-130L	Graphic Design Drawing Studio	<u>1</u>
		17

Second Semester

ART-1050	Drawing I <sup>1</sup>	3
ENG-2151	Technical Writing .....OR	3-4
JMC-1010	Introduction to Mass Communication	
IT-1010	Introduction to Microcomputer Applications	3
MATH-1060	Survey of Mathematics <sup>2</sup>	3
VC&D-1400	Imaging and Design	1
VC&D-140L	Imaging and Design Studio	1
VC&D-1500	Advertising Design	<u>3</u>
		17-18

Third Semester

VC&D-2200	Multi-Page Layout and Design	2
VC&D-2300	Graphic Design and Illustration	2
VC&D-2400	Designing for Production	2
VCDP-2060	Portable Document Format (PDF)..AND/OR	2-3
VCGD-1800/2800	Special Topics in Graphic Design...OR	
VCGD-2820	Independent Study in Graphic Design	
VCGD-2330	Corporate Graphics	2
VCGD-2630	Graphic Design Studio I	2
Arts & Hum/ Soc & Beh Sci...(See AAB Degree requirements) <sup>1</sup>		<u>3</u>
		15-16

Fourth Semester

VC&D-2600	Graphic Production	2
VC&D-2700	Media Design	2
VC&D-2990	Portfolio Preparation <u>C</u>	2
VCGD-2130	Magazine Design	2
VCGD-2230	Publication Design	2

VCGD-2430	Package Design	2
VCGD-2730	Graphic Design Studio II	2
Arts & Hum/ Soc & Beh Sci...(See AAB Degree requirements) <sup>1</sup>		<u>2</u>
		16

Program Total 65-67

<sup>1</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required - must include ART-1050.

<sup>2</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

**VISUAL COMMUNICATION & DESIGN  
(Graphic Design)**

**Certificate of Proficiency**

This one-year certificate program is designed to accommodate individuals who want to upgrade their design, drawing and computer graphics skills. The courses are designed to improve the graduate's design, drawing, research and problem solving techniques.

Degree: Students may apply credits toward the Visual Communication & Design program with a concentration in Graphic Design.

**Program Manager (E) - (216) 987-2474**  
**Office of Business/Math & Technology (W) - (216) 987-5007**  
**See Appendix I, page 364 for application procedures.**

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ENG-1010	College Composition I	3
VC&D-1010	Macintosh Basics	1
VC&D-1060	History and Trends in Visual Communication and Design	3
VC&D-1100	Fundamentals of Design and Layout	2
VC&D-1200	Typography and Layout	3
VC&D-1300	Graphic Design Drawing	1
VC&D-130L	Graphic Design Drawing Studio	1
VC&D-1400	Imaging & Design	1
VC&D-140L	Imaging & Design Studio	<u>1</u>
		16

Second Semester

ART-1050	Drawing I.....OR	2-3
VCGD-xxxx	VCGD elective course	
MATH-1060	Survey of Mathematics <sup>1</sup>	3
VC&D-1500	Advertising and Design	3
VC&D-2200	Multi-Page Layout and Design	2
VC&D-2300	Graphic Design and Illustration	2
VC&D-2400	Designing for Production	2
VCGD-2130	Magazine Design.....OR	2
VCGD-2230	Publication Design	
VCGD-2xxx	VCGD elective course.....OR	2
VC&D-2600	Graphic Production.....OR	
VC&D-2700	Media Design.....OR	
VC&D-2990	Portfolio Preparation	<u>   </u>
		18-19

Program Total 34-35

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

## Program Sequences

### **VISUAL COMMUNICATION & DESIGN (Illustration)**

*(formerly Commercial Art and Design - Illustration option)*

#### **Associate of Applied Business degree in Visual Communication & Design with a concentration in Illustration**

The Illustration degree program prepares students for positions as illustrators in art studios, design firms, ad agencies, publishing houses, media studios or freelance contractors.

The Illustration curriculum is based on professional standards in building a marketable portfolio, preparing graduates for a variety of full-time or freelance employment in the illustration, art and graphic industry. Students have an opportunity to develop or upgrade traditional drawing and digital skills. Emphasis is on the creation of illustration for print and media publications, studio skills, conceptual and critical thinking, problem solving and editorial research projects as they relate to the illustration professional.

**Program Manager (E) - (216) 987-2474**

**Office of Business/Math & Technology (W) - (216) 987-5007**

**See Appendix I, page 364 for application procedures.**

#### Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
BADM-1020	Introduction to Business	3
ENG-1010	College Composition I	3
VC&D-1010	Macintosh Basics	1
VC&D-1060	History and Trends in Visual Communication and Design	3
VC&D-1100	Fundamental of Design and Layout	2
VC&D-1200	Typography and Layout	3
VC&D-1300	Graphic Design Drawing	1
VC&D-130L	Graphic Design Drawing Studio	<u>1</u>
		17

#### Second Semester

ART-1050	Drawing I	3
MATH-1060	Survey of Mathematics <sup>1</sup>	3
VC&D-1400	Imaging and Design	1
VC&D-140L	Imaging and Design Studio	1
VC&D-1500	Advertising and Design	3
VCIL-1140	Rendering Techniques	2
VCIL-1440	Surface Design	2
Communications...(See AAB Degree requirements)		<u>3</u>
		18

#### Third Semester

ART-1060	Drawing II	3
VC&D-2200	Multi-Page Layout and Design	2
VC&D-2300	Graphic Design and Illustration	2
VC&D-2400	Designing for Production	2
VC&D-2xxx	VC&D elective course <sup>2</sup> .....OR	1-3
VCIL-2xxx	VCIL elective course <sup>3</sup> .....OR	
VCDP-2060	Portable Document Format (PDF)	
VCIL-2140	Illustration with Prismacolor	2
VCIL-2640	Illustration Studio I	<u>2</u>
		14-16

#### Fourth Semester

ART-2000	Life Drawing I .....OR	3
ART-2050	Painting I	
VC&D-2600	Graphic Production	2
VC&D-2700	Media Design	2

VC&D-2990	Portfolio Preparation <u>C</u>	2
VCIL-2740	Illustration Studio II .....OR	2
VC&D-2xxx	VC&D elective course <sup>2</sup>	
VCIL-2240	Illustration in Pen and Ink	2
VCIL-2340	Illustration with Watercolor	<u>2</u>
		15
	Program Total	64-66

<sup>1</sup>MATH-1800/ 2800 & 1820/ 2820 may not be used to meet this requirement.

<sup>2</sup>Select VC&D-2800 or 2820.

<sup>3</sup>Select VCIL-2800 or 2820.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

**VISUAL COMMUNICATION & DESIGN  
(Interactive Media)**

**Associate of Applied Business degree in Visual Communication & Design with a concentration in Interactive Media**

The goal of the Interactive Media degree program (part of Tri-C's Visual Communication Center of Excellence) is to prepare our graduates for a rewarding career in the growing fields of Web, Internet and interactive media design and development. The curriculum is based on professional standards drawn from the practices of media and internet development companies, graphic design firms and studios, in-house or corporate media departments and advertising agencies. Students are assisted in the development of studio, technical and professional skills while building a strong, marketable portfolio.

**Program Manager (E) – (216) 987-2474**

**Office of Business/Math & Technology (W) – (216) 987-5007**

**See Appendix I, page 364 for application procedures.**

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ENG-1010	College Composition I	3
MATH-1060	Survey of Mathematics <sup>1</sup>	3
VC&D-1010	Macintosh Basics	1
VC&D-1110	Introduction to Visual Communications	2
VCDP-1360	Vector Graphics	2
VCPH-1050	Black and White Photography I <sup>2</sup> .....OR	1-3
VCPH-1300	Photography for Designers	
VCPH-1450	Digital Imaging I	<u>3</u>
		15-17
 <u>Second Semester</u>		
JMC-1011	Introduction to Mass Communications	4
MARK-2010	Principles of Marketing	3
VC&D-1200	Typography and Layout	3
VC&D-2700	Media Design	2
VCIM-1570	Web Publishing I: HTML	3
VCIM-2270	Animation for Web and Media	<u>3</u>
		18
 <u>Third Semester</u>		
IT-xxxx	Information Technology elective.....OR	3
VCXX-xxxx	VisCom & Design elective	
PSY-1010	General Psychology <sup>3</sup>	3
VCDP-2060	Portable Document Format (PDF)	1
VCIM-1670	Current WYSIWYG Web Editors	2
VCIM-2070	Web Publishing II: Site Design	3
VCIM-2170	Digital Video I	3
Arts & Hum/Soc & Beh Sci...(See AAB Degree requirements) <sup>3</sup>		<u>2</u>
		17
 <u>Fourth Semester</u>		
VC&D-2530	Professional Practices in Visual Communication & Design	3
VC&D-2990	Portfolio Preparation <u>C</u>	2
VCIM-2370	Interactive Media	3
VCPH-1050	Black and White Photography I <sup>2</sup> .....OR	3-6
IT-xxxx	Information Technology elective.....OR	
VCXX-xxxx	Visual Communication elective.....OR	
VCXX-xxxx	Visual Communication and Design elective <sup>2</sup>	
Arts & Hum/Soc & Beh Sci...(See AAB Degree requirements) <sup>3</sup>		<u>3</u>
		14-17
	 Program Total	 63-69

<sup>1</sup>MATH-1800/2800 and 1820/2820 may not be used to meet this requirement.

<sup>2</sup>If VCPH-1050 is selected in first semester, choose three (3) elective credits in VCXX or Information Technology.

<sup>3</sup>Minimum of 8 credits of Art & Hum/Soc & Beh Sci required-PSY-1010 must be included.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

## Program Sequences

### VISUAL COMMUNICATION & DESIGN

#### (Photography)

(formerly *Graphic Communications and Photography - Photography*)

#### Associate of Applied Business degree in Visual Communication & Design with a concentration in Photography

This concentration prepares students to enter a broad range of photographic careers in editorial, advertising, corporate communications, wedding and portrait photography, digital imaging and technical lab services. The curriculum is based on professional imaging standards and practices in a rapidly changing field. Emphasis on development of the visual, technical and business skills required in today's market enables our graduates to respond effectively to the changing demands of our multimedia communications environment.

**Program Manager (E) - (216) 987-2474**

**Office of Business/Math & Technology (W) - (216) 987-5007**

**See Appendix I, page 364 for application procedures.**

#### Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ENG-1010	College Composition I	3
JMC-1011	Introduction to Mass Communication	4
VC&D-1010	Macintosh Basics	1
VC&D-1110	Introduction to Visual Communications	2
VCPH-1050	Black and White Photography I	3
VCPH-1150	History of Photography	3
		16
<u>Second Semester</u>		
MATH-1060	Survey of Mathematics <sup>1</sup>	3
VCDP-1360	Vector Graphics	2
VCPH-1250	Black and White Photography II	3
VCPH-1350	Color Photography I	3
VCPH-1450	Digital Imaging I	3
Arts & Hum/Soc & Beh Sci...(See AAB Degree requirements) <sup>2</sup>		3
		17
<u>Third Semester</u>		
VCIM-2170	Digital Video I	3
VCPH-2050	Commercial Studio Techniques I	3
VCPH-2150	Introduction to Photojournalism	3
VCPH-2350	Color Photography II	3
VCPH-2450	Digital Imaging II	3
VCxx-xxxx	VisCom & Design elective	1-3
Arts & Hum/Soc & Beh Sci...(See AAB Degree requirements) <sup>2</sup>		3
		19-21
<u>Fourth Semester</u>		
VC&D-2530	Professional Practices in Visual Communication and Design	3
VC&D-2540	Individual Projects	2
VC&D-2990	Portfolio Preparation <u>C</u>	2
VCIM-2270	Animation for the Web and Media.....OR	3
VCIM-2370	Interactive Media	3
VCPH-2550	Commercial Studio Techniques II	3
Arts & Hum/Soc & Beh Sci...(See AAB Degree requirements) <sup>2</sup>		2
		15
Program Total		67-69

<sup>1</sup>A higher level MATH course may be used to fulfill this requirement with the exception of MATH-1800/2800 & 1820/2820.

<sup>2</sup>Minimum 8 semester credits of Arts & Hum/Soc & Beh Sci required.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone course

**VISUAL COMMUNICATIONS - SCIENTIFIC IMAGING**

**Associate of Applied Science degree in Visual Communications-Scientific Imaging**

The scientific imaging technician is the digital imaging professional who has the necessary technical skills and scientific training to provide support to scientists in fields such as medicine, forensics, science and engineering, military and aerospace.

Suggested Semester Sequence

<u>First Semester</u>		<u>Credit Hrs.</u>
ENG-1010	College Composition I	3
MATH-1200	Intermediate Algebra	4
VC&D-1010	Macintosh Basics	1
VC&D-1110	Introduction to Visual Communications	2
VCSI-1020	Practices and Procedures in Scientific Imaging	3
VCSI-1350	Basic Photography for Scientific Imaging	3
		16
<u>Second Semester</u>		
CHEM-1300	General Chemistry I	4
JMC-1011	Introduction to Mass Communication	4
MATH-1510	Trigonometry	3
VCPH-1450	Digital Imaging I	3
VCSI-1450	Scientific Imaging I	3
Arts & Hum/Soc & Behavioral Science (See AAS Degree Requirements)		2
		19
<u>Third Semester</u>		
MATH-1410	Elementary Probability and Statistics I	3
PSY-1010	General Psychology	3
VCIM-2170	Digital Video I	3
VCSI-2020	Scientific Imaging II	3
VCSI-2450	Image Analysis	3
VCXX-xxxx	Visual Communications & Design elective <sup>1</sup>	2-3
		17-18
<u>Fourth Semester</u>		
LAWE-1000	Introduction to Criminal Justice	3
PHYS-1210	College Physics I	4
VCSI-2990	Scientific Imaging III <u>C</u>	3
VCSI-2530	Professional Ethics and Scientific Imaging Practices	3
VCXX-xxxx	Visual Communications & Design elective <sup>1</sup>	2-3
Arts & Hum/Soc & Behavioral Science (See AAS Degree Requirements)		3
		18-19
Program Total		70-72

<sup>1</sup> Five (5) credit hours of electives must be taken at the 2000-level.

Note: Courses as listed satisfy degree competencies and skills.

C = Capstone Course

Visual Communications & Design Electives:

VC&D-2800	Special Advanced Topics in Visual Communication & Design.....AND	1-3
VC&D-281S	Special Advanced Laboratory Topics in Visual Communication & Design	1-3
VC&D-xxxx	As recommended by Commercial Art and Graphics departments	
VCIM-2270	Animation for the Web & Multimedia	3

VCIM-2470	Virtual Reality Imaging	2
VCPH-1050	Black & White Photography I	3
VCPH-1350	Color Photography I	3
VCSI-2830	Cooperative Field Experience	1-3

**NOTES**