## AIR CONDITIONING TECHNOLOGY

Installing and servicing heating, air conditioning and refrigeration equipment is the focus of this program. Academic courses, theory courses, and laboratory experiences are designed to promote success in the air conditioning field. *(Offered at Leestown)*

### ASSOCIATE IN APPLIED SCIENCE

COM181 Basic Public Speaking.....3
MT 150 College Algebra OR .....3
Any higher level mathematics course .....(3)
PH 171 Applied Physics .....4
PY 110 General Psychology OR .....3
PSY 100 Introduction to Psychology OR ..... (4)
SOC 101 Introduction to Sociology .....(3)
ENG101 Writing I .....3
Heritage/Humanities .....3

**Subtotal Credits 19-20**

ACR 100 Refrigeration Fundamentals.....3
ACR 101 Refrigeration Fundamentals Lab .....2
ACR 102 HVAC Electricity .....3
ACR 103 HVAC Electricity Lab OR .....1
Elective (Technical) .....(3)
ACR 130 Electrical Components .....3
ACR 131 Electrical Components Lab .....2
ACR 170 Heat Load/Duct Design .....3
ACR 250 Cooling and Dehumidification .....3
ACR 251 Cooling and Dehumidification Lab..... 2
ACR 260 Heating and Humidification..... 3
ACR 261 Heating and Humidification Lab .....2
ACR 270 Heat Pump Application .....3
ACR 271 Heat Pump Application Lab .....2
ACR 290 Journeyman Preparation .....3
ACR 299 Cooperative Education Program..... 2
CPU 100 Introduction to Computers OR ..... 3
CIS 100 Introduction to Computers .....(3)
Electives (Technical) .....8

**Subtotal Credits ..... 48-50**
**Total Credits ..... 67-70**

### DIPLOMA

#### HEATING, VENTILATION, AND AIR CONDITIONING MECHANIC

ACR 100 Refrigeration Fundamentals.....3
ACR 101 Refrigeration Fundamentals Lab .....2
ACR 102 HVAC Electricity .....3
ACR 103 HVAC Electricity Lab OR .....1
Elective (Technical) .....(3)
ACR 130 Electrical Components .....3
ACR 131 Electrical Components Lab .....2
ACR 170 Heat Load/Duct Design .....3
ACR 250 Cooling and Dehumidification .....3
ACR 251 Cooling and Dehumidification Lab .....2
ACR 260 Heating and Humidification .....3
ACR 261 Heating and Humidification Lab..... 2
ACR 270 Heat Pump Application .....3
ACR 271 Heat Pump Application Lab..... 2
ACR 290 Journeyman Preparation .....3
ACR 299 Cooperative Education Program .....2
CPU 100 Introduction to Computers .....3
MTH 110 Applied Mathematics* OR .....3
EFM 100 Personal Financial Management .....(3)
WPP 200 Workplace Principles OR .....3
EFM 100 Personal Financial Management .....(3)
Electives (Technical) .....8

**Total Credits 54-56**
**Curriculum committee in process of changing mathematics requirement.*

### CERTIFICATES

#### ENVIRONMENTAL CONTROL SYSTEM SERVICER

ACR 100 Refrigeration Fundamentals .....3
ACR 101 Refrigeration Fundamentals Lab ..... 2
ACR 102 HVAC Electricity .....3
ACR 103 HVAC Electricity Lab OR .....1
Elective (Technical) .....(3)
ACR 130 Electrical Components .....3
ACR 131 Electrical Components Lab .....2
ACR 250 Cooling and Dehumidification .....3
ACR 251 Cooling and Dehumidification Lab .....2
ACR 260 Heating and Humidification .....3
ACR 261 Heating and Humidification Lab .....2

**Total Credits 24-26**

#### ENVIRONMENTAL SYSTEM REPAIR HELPER

ACR 100 Refrigeration Fundamentals .....3
ACR 101 Refrigeration Fundamentals Lab .....2
ACR 102 HVAC Electricity .....3
ACR 103 HVAC Electricity Lab OR .....1
ACR 130 Electrical Components AND .....(3)
ACR 131 Electrical Components Lab .....(2)

**Total Credits 9-13**

#### DOMESTIC AIR CONDITIONER AND FURNACE INSTALLER

ACR 100 Refrigeration Fundamentals .....3
ACR 101 Refrigeration Fundamentals Lab .....2
ACR 102 HVAC Electricity .....3
ACR 103 HVAC Electricity Lab OR .....1
Elective (Technical)..... (3)

ACR 130 Electrical Components .....3
ACR 131 Electrical Components Lab .....2
ACR 170 Heat Load/Duct Design .....3
ACR 250 Cooling and Dehumidification .....3
ACR 251 Cooling and Dehumidification Lab .....2
ACR 260 Heating and Humidification .....3
ACR 261 Heating and Humidification Lab .....2
ACR 270 Heat Pump Application .....3
ACR 271 Heat Pump Application Lab .....2
ACR 290 Journeyman Preparation .....3

**Total Credits 35-37**

### REFRIGERATION MECHANIC

ACR 100 Refrigeration Fundamentals .....3
ACR 101 Refrigeration Fundamentals Lab .....2
ACR 102 HVAC Electricity .....3
ACR 103 HVAC Electricity Lab OR .....1
Elective (Technical) (3)
ACR 130 Electrical Components .....3
ACR 131 Electrical Components Lab .....2
ACR 200 Commercial Refrigeration .....3
ACR 201 Commercial Refrigeration Lab .....2
ACR 210 Ice Machines .....3
ACR 250 Cooling and Dehumidification .....3
ACR 251 Cooling and Dehumidification Lab .....2

**Total Credits 27-29**

## ARCHITECTURAL TECHNOLOGY

The Architectural Technology program provides instruction in the concepts and skills required for careers in architectural and related professions involved in designing for the built environment. At the core of the curriculum are a series of architectural studios where students prepare construction documents. The series begins with a study of residential construction and culminates with commercial. Emphasis is placed on quality graphic communication, the development of design skills and a thorough understanding of a variety of construction types. Complementing the studio sequence are courses designed to provide instruction in building materials, structures, mechanical/electrical systems, professional practices, and architectural theory and history. Electives in the program allow students to customize their education to fit their interests. Given the wide range of topics covered in the curriculum, graduates are prepared to find employment in architectural and related professional offices including positions in construction estimating, civil engineering, structural engineering, mechanical/electrical engineering, construction management, computer-aided drafting, building code enforcement, specification writing, urban planning, historic preservation, contracting, sub-contracting, and building material sales and marketing. *(Offered at Cooper)*

### ASSOCIATE IN APPLIED SCIENCE

ACH 100 Construction Documents I.....3
ACH 110 Survey of the Architectural Profession .....1
ACH 120 Theory and History of Architecture I.....3
ACH 150 Construction Documents II .....3
ACH 160 Building Materials and Construction I.....3
ACH 161 Building Materials and Construction II .....3
ACH 170 Theory and History of Architecture II.....3
ACH 175 Introduction to Systems .....3
ACH 185 Computer –Aided Drafting I .....(3)
ACH 200 Construction Documents III.....3
ACH 225 Structures.....3
ACH 250 Construction Documents IV .....3
ACH 260 Office Practice .....3
ACH 275 Mechanical and Electrical Systems .....3
Technical Courses**8-9
ENG 101 Writing I* .....3
ENG 102 Writing II*.....3
MAH 125 Technical Mathematics* .....3
Heritage/Humanities/Foreign Language Course*.....3
Oral Communication Course*.....3
Biological/Physical Science Course*.....3
Social Interaction Course*.....3

**Total Credits 69-70**

** Technical Courses
*Satisfies General Education requirement for AAS degree

Technical Courses
ACH 180 Selected Topics in Arch Technology: (Topic).. 1-3
ACH 194 Visual Composition.....3
ACH 285 Computer-Aided Drafting II .....3
ACH 290 Building Codes I .....3
ACH 291 Construction Management.....3
ACH 292 Building Codes II.....3
ACH 293 Presentation Techniques .....3
ACH 294 Specification Writing.....3
ACH 297 Estimating Techniques .....3
ACH 298 Computer 3D Modeling.....3
COE 199 Cooperative Education: Arch Tech ..... 1-3

## AUTO BODY REPAIR

From repairing small dents to rebuilding the bodies of wrecked or damaged vehicles, this program maintains the current commercial standards. Students are taught the types of materials used in filler compounds, the colors and chemical make-up of paints used to refinish, welding and cutting procedures, design and installation of trim, cost estimating and preparation for finish work. All are skills applied in actual jobs performed in shop assignments.

### DIPLOMA

**Required**
ABR 100 Introduction To Auto Body Repair .....3
ABR 130 Non-Structural Analysis And Damage Repair.....9
ABR 131 Non-Structural Analysis And Damage Repair.....4
ABR 150 Painting And Refinishing.....9
ABR 151 Lab II (Emphasis On Painting And Refinishing)..4
*ABR 200 Plastics And Adhesives ..... 3*
ABR 230 Structural Analysis And Damage Repair .....9
ABR 231 Lab III (Emphasis On Structural Repair).....4

ABR 250 Mechanical And Electrical Components .....9
ABR 251 Lab IV (Emphasis On Mechanical And Electrical)2
CPU 150 Introduction To Computers OR .....3
CIS 100 Introduction to Computers ..... (3)
EFM 100 Personal Financial Management OR.....3
BE 120 Personal Finance..... (3)
WPP 200 Workplace Principles OR.....3
BE 250 Business Employability Seminar ..... (1)

**Total Credits 63-65**

**Recommended Program Electives**
ABR 198 Practicum OR ..... (1)
ABR 199 Cooperative Education..... (1)
ABR 298 Practicum OR ..... (2)
ABR 299 Cooperative Education..... (2)

**Total Credits 63-68**

## CERTIFICATES

### AUTOMOTIVE PAINTER

**Required:**
ABR 100 Introduction To Auto Body Repair .....3
ABR 130 Non-Structural Analysis And Damage Repair.....9
ABR 131 Lab I (Emphasis on Non-Structural Repair) .....4
ABR 150 Painting And Refinishing.....9
ABR 151 Lab II (Emphasis On Painting And Refinishing)..4
ABR 200 Plastics And Adhesives .....3
ABR 230 Structural Analysis And Damage Repair .....9
ABR 231 Lab III (Emphasis On Structural Repair).....4
ABR 250 Mechanical And Electrical Components .....9
ABR 251 Lab IV (Emphasis On Mechanical And Electrical)2

**Total Credits 56**

### AUTO BODY PAINTER HELPER

**Required:**
ABR 100 Introduction To Auto Body Repair .....3
ABR 150 Painting And Refinishing.....9
ABR 151 Lab II (Emphasis On Painting And Refinishing)..4
Electives (Auto Body Courses).....10

**Total Credits 26**

### AUTO BODY HELPER

**Required**

Electives (Auto Body Courses).....13

**Total Credits 13**

## AUTOMOTIVE TECHNOLOGY

Instruction in systems such as engines, fuel, on-board computers, transmissions, steering, suspension, and brakes is the basis for this program.

The Automotive Technician option provides knowledge of the various systems used to develop skills in troubleshooting, performing preventative maintenance, servicing and repairing automobiles. The program, which is designed to be completed in two years, prepares graduates for entry-level service technician jobs in the auto repair industry. The student may be provided a work-study experience alternating between periods of work on-site and work in a classroom-laboratory setting.

## ASSOCIATE IN APPLIED SCIENCE

**General Education:**

Mathematics .....3
Science .....3
Social Interaction .....3
Heritage/Humanities .....3
Writing/Accessing Information.....3
Oral Communication .....3

**General Education Total Credit Hours:..... 18**

**Technical Core:**

ADX 120 Basic Automotive Electricity OR.....3
BEX 100 Basic Electricity for Non-Majors ..... (3)
ADX 150 Engine Repair .....3
ADX 170 Climate Control .....3
ADX 260 Electrical Systems .....3
AUT 110 Brake Systems .....3
AUT 130 Manual Transmissions.....3
AUT 140 Basic Fuel and Ignition Systems.....3
AUT 142 Emission Systems.....3
AUT 160 Suspension and Steering .....3
AUT 180 Automatic Transmission/Transaxle .....3
COE 199 Cooperative Education OR.....1
AUT 198 Practicum ..... (1)
AUT 240 Computer Control Systems and Diagnosis .....3
CPU 150 Computer Fundamentals OR.....3
CIS 100 Introduction to Computers ..... (3)

**Technical Core Total: ..... 37**

### AUTOMOTIVE TECHNICIAN OPTION

ADX 121 Basic Automotive Electricity Lab OR .....2
BEX 101 Basic Electricity Lab for Non-Majors ..... (2)
ADX 151 Engine Repair Lab .....2
ADX 171 Climate Control Lab.....1
ADX 261 Electrical Systems Lab .....2
AUT 111 Brake Systems Lab.....2

AUT 131 Manual Transmissions Lab.....2
AUT 141 Basic Fuel and Ignition Systems Lab.....2
AUT 143 Emission Systems Lab.....2
AUT 161 Suspension and Steering Lab .....2
AUT 181 Automatic Transmission/Transaxle Lab .....2
AUT 241 Computer Control Systems and Diagnosis Lab ..2

**Subtotal Credits: .....21**
**Total Credits: .....76**

## DIPLOMA

### AUTOMOTIVE TECHNICIAN

Mathematics .....3
Science .....3
Writing/Accessing Information.....3
OR
WPP 200 Workplace Principles* ..... (3)
TEC 200 Technical Communications* ..... (3)

**General Education Total .....9**

** The following courses may be used for six of the nine credits if a diploma is sought. The following courses will not count toward the AAS degree.*

**Technical Core:**

ADX 120 Basic Automotive Electricity AND.....3
ADX 121 Basic Automotive Electricity Lab OR.....2
BEX 100 Basic Electricity for Non-Majors AND ..... (3)
BEX 101 Basic Electricity Lab for Non-Majors ..... (2)
ADX 150 Engine Repair.....3
ADX 151 Engine Repair Lab .....2
ADX 170 Climate Control .....3
ADX 171 Climate Control Lab .....1
ADX 260 Electrical Systems.....3
ADX 261 Electrical Systems Lab .....2
AUT 110 Brake Systems.....3
AUT 111 Brake Systems Lab .....2
AUT 130 Manual Transmissions .....3
AUT 131 Manual Transmissions Lab.....2
AUT 140 Basic Fuel and Ignition Systems.....3
AUT 141 Basic Fuel and Ignition Systems Lab.....2
AUT 142 Emission Systems .....3
AUT 143 Emission Systems Lab.....2
AUT 160 Suspension and Steering.....3
AUT 161 Suspension and Steering Lab .....2
AUT 180 Automatic Transmission/Transaxle.....3
AUT 181 Automatic Transmission/Transaxle Lab .....2
COE 199 Cooperative Education OR.....1
AUT 198 Practicum..... (1credit)
AUT 240 Computer Control Systems and Diagnosis .....3
AUT 241 Computer Control Systems and Diagnosis .....2
CPU 150 Computer Fundamentals OR.....3
CIS 100 Introduction to Computers..... (3)

**Subtotal Credits: .....58**
**Total Credits: .....67**

## CERTIFICATES

### AUTOMOTIVE AIR CONDITIONING MECHANIC

ADX 170 Climate Control .....3
ADX 171 Climate Control Lab .....1

**Total .....4**

### AUTOMOTIVE ELECTRICIAN

ADX 120 Basic Automotive Electricity AND.....3
ADX 121 Basic Automotive Electricity Lab OR.....2
BEX 100 Basic Electricity for Non-Majors AND ..... (3)
BEX 101 Basic Electricity Lab for Non-Majors ..... (2)
ADX 260 Electrical Systems.....3
ADX 261 Electrical Systems Lab .....2

**Total Credits .....10**

### MANUAL TRANSMISSION/DRIVE TRAIN TECHNICIAN

AUT 130 Manual Transmissions .....3
AUT 131 Manual Transmissions Lab.....2

**Total Credits .....5**

### AUTOMATIC TRANSMISSION/TRANSAXLE TECHNICIAN

AUT 180 Automatic Transmission/Transaxle.....3
AUT 181 Automatic Transmission/Transaxle Lab .....2

**Total Credits .....5**

### BRAKE REPAIRER

AUT 110 Brake Systems .....3
AUT 111 Brake Systems Lab .....2

**Total Credits .....5**

### ENGINE REPAIRER

AUT 150 Engine Repair.....3
AUT 151 Engine Repairer.....2

**Total Credits .....5**

### FRONT END MECHANIC

AUT 160 Suspension and Steering.....3
AUT 161 Suspension and Steering Lab .....2

**Total Credits .....5**

### TUNE-UP MECHANIC

ADX 120 Basic Automotive Electricity.....3

ADX 121 Basic Automotive Electricity Lab.....2
ADX 260 Electrical Systems.....3
ADX 261 Electrical Systems Lab .....2
AUT 140 Basic Fuel and Ignition Systems.....3
AUT 141 Basic Fuel and Ignition Systems Lab.....2
AUT 142 Emissions Systems.....3
AUT 143 Emissions Systems Lab .....2
AUT 240 Computer Control Systems and Diagnosis .....3
AUT 241 Computer Control Systems and Diagnosis Lab ..2

**Total Credits .....25**

## BUSINESS MANAGEMENT AND MARKETING

The Business Management and Marketing program prepares students for a variety of careers in business. A core curriculum provides students with a foundation of knowledge applicable to any business career. Students select an area of specialty from one of four options: equine business management, management, marketing and retailing, and real estate management.

The curriculum is designed for those who seek entry-level jobs as well as for currently employed individuals wishing to enhance their skills. Students specialize by choosing from the following options:

The **Equine Business Management option** provides the knowledge and skills students need to take advantage of various employment opportunities within the horse industry.

The **Management option** prepares students with broad based management knowledge and skills which lead to a variety of positions in organizations.

The **Marketing and Retailing option** leads to employment in sales, merchandise management, buying, department supervising, or retail management.

The **Real Estate Management option** leads to a career in real estate which may include sales, finance, counseling, development, market analysis, valuation, and/or property management.

### ASSOCIATE IN APPLIED SCIENCE

MGT 160 Introduction to Business.....3
MGT 267 Introduction to Business Law.....3
**OR**
RE 230 Real Estate Law.....(3)
MKT282 Principles of Marketing.....3
MGT283 Principles of Management.....3
ACC 201 Financial Accounting I.....3
ACC 202 Managerial Uses of Accounting Information.....3
CIT 105 Introduction to Computing .....3
**AND**
CIT 130 Microcomputer Applications .....3
**OR**
IMD 100 Introduction to Information Systems.....(3)
**AND**
IMD 210 Integrated Information Processing .....(3)
COM181 Basic Public Speaking* .....3
**OR**
COM252 Interpersonal Communications*.....(3)
ENG 101 Writing I* .....3
ENG 102 Writing II*.....3
ENG 203 Business Writing .....3
ECO 201 Principles of Economics I*.....3
MA 109 College Algebra*.....3
AND
MAH 121 Mathematics for Business.....3
OR any two of the following:
(MAH 121, MA 109, MA 123, MA 162, MA 113 or STA 291)
MGT 101 Quality Management Principles.....3
Humanities/Foreign Language Course*.....3
Science Course * .....3

**Subtotal .....**54
**Satisfies General Education requirement for AAS degree*

#### MANAGEMENT OPTION

**Required:**
MGT 200 Small Business Management.....3
**OR**
MGT 256 Operations Management.....(3)
MGT 274 Human Resource Management.....3
**OR**
MGT 287 Supervisory Management.....(3)
MGT 284 Applied Management Skills .....3

**Choose a total of 6 hours from the following:**
MGT 120 Personal Finance.....3
MGT 200 Small Business Management.....3
MGT 256 Operations Management.....3
MGT 274 Human Resource Management.....3
MGT 287 Supervisory Management.....3
MGT 288 Self Management .....3
MKT 155 Personal Selling .....3
MKT 290 Advertising and Promotion .....3
MKT 293 Buying and Merchandising .....3
MKT 291 Retail Management .....3
MGT 299 Selected Topics in Management:
(Option Topic) .....1-3
IMD 275 Workplace Management.....3
COE 199 Cooperative Education: Business Management1-4
ECO 202 Principles of Economics II+ .....3
RE 100 Real Estate Principles I .....3
RE 120 Real Estate Marketing.....3
**Subtotal .....15**

**Total .....69**

#### MARKETING AND RETAILING OPTION

**Required:**
MKT 155 Personal Selling .....3
MKT 290 Advertising and Promotion .....3
MKT 291 Retail Management .....3
MKT 293 Buying and Merchandising .....3

**Choose 3 hours from the following:**

MGT 120 Personal Finance ..... 3
MGT 200 Small Business Management ..... 3
MGT 274 Human Resource Management ..... 3
MGT 288 Self Management ..... 3
MKT 299 Selected Topics in Business Management and Marketing (Option Topic) ..... 1-3
COE 199 Cooperative Education: Business Management and Marketing ..... 1-4
ECO 202 Principles of Economics II .....

**Subtotal** ..... **15**
**Total** ..... **69**

### REAL ESTATE MANAGEMENT OPTION

**Required:**

RE 100 Real Estate Principles I ..... 3
RE 121 Appraising ..... 3
RE 225 Real Estate Finance ..... 3

***Choose 6 hours from the following:***

RE 120 Real Estate Marketing ..... 3
RE 122 Construction and Blueprints ..... 3
RE 200 Real Estate Principles II ..... 3
RE 201 Property Management ..... 3
RE 202 Real Estate Investments I ..... 3
RE 220 Real Estate Brokerage Management ..... 3
COE 199 Cooperative Education: Business Management and Marketing ..... 1-4

**Subtotal** ..... **15**
**Total** ..... **69**

### EQUINE BUSINESS MANAGEMENT OPTION

**Required:**

EQM 100 Introduction to Equine Studies ..... 3
EQM 120 Intro to Commercial Breeding Practices ..... 4
EQM 140 Equine Business Management I ..... 2
EQM 240 Equine Business Management II ..... 2
EQM 242 Equine Law ..... 3
EQM 246 Current Trends in the Equine Industry ..... 1
EQM 250 Equine Practicum ..... 3
**Subtotal** ..... **18**
**Total** ..... **72**

## Construction Carpentry Technology

Prepares students for employment in the construction of houses and commercial structures. Includes blueprint reading, site layout, foundation work, rough framing, roofing, finish work skills, cost estimating and preparing materials lists, as well as practical experiences in the shop and on-site.

Progression in the Construction Carpentry Technology program is contingent upon achievement of a grade of "C" or better in each technical and mathematics course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

### DIPLOMAS

### CONSTRUCTION CARPENTER

**General Education:**

MT105 Business Mathematics OR ..... 3
Higher level mathematics course ..... (3)
General Education taken from any of the following areas: 3
- ENG 101
- Heritage/Humanities
- Social Interaction
- Natural/Applied Science
- Oral Communications

**Subtotal** ..... **6**

**Technical Requirements:**

BRX 220 Blueprint Reading for Construction ..... 3
CAR 126 Introduction to Construction Carpentry ..... 3
CAR 127 Introduction to Construction Carpentry Lab ..... 1
CAR 140 Site Layout and Foundations ..... 3
CAR 141 Site Layout and Foundations Lab ..... 2
CAR 190 Floor and Wall Framing ..... 3
CAR 191 Floor and Wall Framing Lab ..... 2
CAR 196 Ceiling and Roof Framing ..... 3
CAR 197 Ceiling and Roof Framing Lab ..... 2
CAR 200 Exterior and Interior Finish ..... 3
CAR 201 Exterior and Interior Finish Lab ..... 2
CAR 298 Practicum OR ..... 2
CAR 299 Cooperative Educational Program ..... (2)
ISX100 Industrial Safety ..... 3
Computer Literacy ..... 3
Technical Electives* ..... 5-10
**Subtotal 40-45**
**Total Credits 46-51**

*Technical Electives: (This list is not all inclusive. Other courses (technical or general education) may be taken as approved by Carpentry instructor.)

BRX 120 Basic Blueprint Reading ..... 3
CAR 150 Construction Forms ..... 3
CAR 151 Construction Forms Lab ..... 2
CAR 240 Cabinet Construction and Installation ..... 3
CAR 241 Cabinet Construction and Installation Lab ..... 2

### CARPENTER HELPER

**Required:**

BRX 220 Blueprint Reading for Construction ..... 3
CAR 126 Introduction to Construction Carpentry ..... 3
CAR 127 Introduction to Construction Carpentry Lab ..... 1
CAR 140 Site Layout and Foundations ..... 3
CAR 141 Site Layout and Foundations Lab ..... 2
CAR 190 Floor and Wall Framing ..... 3
CAR 191 Floor and Wall Framing Lab ..... 2
**Total Credits** ..... **17**

### DRY WALLER

**Required:**

INF 125 Introduction to Drywall .....2
INF 131 Advanced Drywall.....2
Electives (Interior Finishing Courses/Industrial ...
Education Core) .....4

**Total Credits .....8**

### PAINTER, INTERIOR FINISH

**Required:**

INF 105 Introduction to Painting.....2
INF 111 Advanced Painting .....2
Electives (Interior Finishing Courses/IE Core)...2

**Total Credits .....6**

### RESIDENTIAL CARPENTER

**Required:**

BRX 220 Blueprint Reading for Construction.....3
CAR 126 Introduction to Construction Carpentry .....3
CAR 127 Introduction to Construction Carpentry Lab.....1
CAR 140 Site Layout and Foundations.....3
CAR 141 Site Layout and Foundations Lab .....2
CAR 190 Floor and Wall Framing .....3
CAR 191 Floor and Wall Framing Lab.....2
CAR 196 Ceiling and Roof Framing.....3
CAR 197 Ceiling and Roof Framing Lab .....2
CAR 200 Exterior and Interior Finish.....3
CAR 201 Exterior and Interior Finish Lab .....2
CAR 240 Cabinet Construction and Installation .....3
CAR 241 Cabinet Construction and Installation Lab.....2

**Total Credits .....32**

### RESIDENTIAL ROOFER

**Required:**

BRX 220 Blueprint Reading for Construction.....3
CAR 126 Introduction to Construction Carpentry .....3
CAR 127 Introduction to Construction Carpentry Lab.....1
CAR 196 Ceiling and Roof Framing.....3
CAR 197 Ceiling and Roof Framing Lab .....2

**Total Credits .....12**

### RESIDENTIAL SITE LAYOUT ASSISTANT

**Required:**

CAR 126 Introduction to Construction Carpentry .....3
CAR 127 Introduction to Construction Carpentry Lab.....1
CAR 140 Site Layout and Foundations.....3
CAR 141 Site Layout and Foundations Lab .....2
Electives (Applied Academics and/or
Industrial Education Core.....6

**Total Credits .....15**

### ROUGH CARPENTER

**Required:**

BRX 220 Blueprint Reading for Construction.....3
CAR 126 Introduction to Construction Carpentry .....3
CAR 127 Introduction to Construction Carpentry Lab.....1
CAR 140 Site Layout and Foundations.....3
CAR 141 Site Layout and Foundations Lab .....2
CAR 190 Floor and Wall Framing .....3
CAR 191 Floor and Wall Framing Lab.....2
CAR 196 Ceiling and Roof Framing.....3
CAR 197 Ceiling and Roof Framing Lab .....2

**Total Credits .....22**

### BASIC CARPENTER

CAR 126 Introduction to Construction Carpentry .3
CAR 127 Introduction to Construction Carpentry Lab .1
Any five (5) additional credits (Program or Otherwise) .....5

**Total Credits .....9**

## CIVIL ENGINEERING TECHNOLOGY

The Civil Engineering Technology program is an Associates of Applied Science program designed to train students in the background, responsibilities, and activities of the civil engineering technology fields. Career options include: materials testing; commercial, residential and highway surveying; construction management; cost estimation; infrastructure planning, design, construction and documentation; and, water and waste-water management.

The Civil Engineering Technology Program will focus on the field tasks and hands on aspects of Civil design and construction.

### ASSOCIATE IN APPLIED SCIENCE

**Required**

ENG 101 Writing I* .....3
ENG 102 Writing II* .....3
CAD 100 Introduction to Computer-Aided Design OR ...3
ACH 185 Computer-Aided Drafting I .....(3)
Heritage/Humanities/Foreign Language Course* 3
MA 109 College Algebra* .....3
Oral Communication Course* .....3
PHY 211 General Physics* .....5
Social Interaction Course* .....3

**Core**

ACH 160 Building Materials and Construction I .....3
ACH 225 Structures .....3
CE 211 Surveying .....4
CET 150 Civil Engineering Graphics .....3
CET 200 Civil Engineering Materials .....3

| | | | |
|---|---|---|---|
| CET | 210 | Structural Analysis and Design | 3 |
| CET | 220 | Intermediate Surveying | 4 |
| CET | 260 | Hydrology and Drainage | 3 |
| MA | 112 | Trigonometry | 2 |
| | | Elective 3 | |
| | | Technical Electives | 9 |

**Subtotal** ..... **40**
**Total** ..... **67**

**Technical Electives****

| | | | |
|---|---|---|---|
| ACH | 100 | Construction Documents I | 3 |
| ACH | 150 | Construction Documents II | 3 |
| ACH | 161 | Building Materials and Construction II | 3 |
| ACH | 285 | Computer-Aided Drafting II | 3 |
| ACH | 290 | Building Codes I | 3 |
| ACH | 291 | Construction Management | 3 |
| ACH | 292 | Building Codes II | 3 |
| ACH | 294 | Specification Writing | 3 |
| ACH | 297 | Estimating Techniques | 3 |
| ACH | 298 | Computer 3D Modeling | 3 |
| CAD | 200 | Intermediate Computer-Aided Design | 3 |
| CET | 280 | Highway Design | 3 |
| CET | 295 | Independent Problems | 1-4 |
| COE | 199 | Cooperative Education: CET | 3 |
| GIS | 110 | Spatial Data Analysis and Map Interpretation | 3 |
| GIS | 120 | Introduction to Geographic Information Systems | 3 |
| GIS | 210 | Advanced Topics in GIS | 3 |
| GLY | 220 | Principles of Physical Geology | 4 |

* Satisfies General Education requirement for AAS degree
**Other course(s) approved by program coordinator

## CLINICAL LABORATORY TECHNICIAN

The Clinical Laboratory Technician (CLT) program provides students with the opportunity to acquire the necessary skills to work under the supervision of a registered clinical scientist or pathologist in a clinical laboratory, hospital, or other health agency.

The CLT student learns to collect specimens from the patient and perform laboratory tests in all areas of the clinical laboratory to include immunohematology, clinical chemistry, hematology, microbiology, serology and urinalysis.

Students enrolled in the CLT program must achieve a minimum grade of "C" in each of the clinical laboratory technician courses.

Upon completion of the program, the graduate is eligible for the national certification examination as a clinical laboratory technician.

### CERTIFICATES

**PHYSICIANS OFFICE LABORATORY**

| | | | |
|---|---|---|---|
| PHB | 151 | Phlebotomy | 1-2 |
| PHB | 152 | Phlebotomy Clinical Experience | 1 |
| CLT | 101 | Introduction to the Clinical Laboratory | 3 |
| CLT | 111 | Urinalysis | 2 |
| CLT | 125 | Serology | 2 |

**Total** ..... **9-10**

**PHLEBOTOMY FOR THE HEALTH CARE WORKER**

| | | | |
|---|---|---|---|
| PHB | 151 | Phlebotomy | 1-2 |
| PHB | 152 | Phlebotomy: Clinical Experience | 1 |
| CLT | 101 | Introduction to the Clinical Laboratory | 3 |

Total 5-6

**PHLEBOTOMIST**

| | | | |
|---|---|---|---|
| PHB | 100 | Phlebotomy | 6 |
| PHB | 105 | Phlebotomy Clinical | 3 |

**Total** ..... **9**

## COMPUTER AND INFORMATION TECHNOLOGIES

### ASSOCIATE IN APPLIED SCIENCE

This program includes an Applications option, an Internet Technologies option, a Network Technology option, and a Programming option, with a core of courses common to all. The core includes a general education component central to a collegiate education and technical courses giving students an introduction to information systems, computer applications, program development, system maintenance, and networking including the Internet. In addition to core courses, students take specialty courses for their selected option.

The Applications option emphasizes several aspects of microcomputer system configuration, applications software, end-user documentation, and training. Students completing this option are prepared to work with microcomputer-based systems in business and industry.

The Internet Technologies option prepares students to design, program, and maintain Internet-based services. With an emphasis on client and server programming, this option prepares students for positions developing and maintaining interactive web sites.

The Network Technology option provides the concepts and skills needed to set up, maintain, and expand networked computer systems. Employment opportunities include entry level positions in installation and administration of local area networks in medium to large organizations and as computer network administrators in small businesses.

The Programming option provides students with an introduction to at least two programming languages with at least one of the languages studied at the intermediate level. Students completing

this option are prepared for entry-level positions in computer programming.

The Computer & Information Technologies program has a selective admissions policy. In order to be considered for admission to the Computer & Information Technologies program, each applicant must be admitted to Lexington Community College and file a letter of intent with the Computer & Information Technologies Program Coordinator. For admission in the summer or fall semester classes, the letter of intent must be filed by March 1 and for the spring semester class by October 1. Exceptions to the March 1 and October 1 dates can only be granted by the President of BCTC after consultation with the Computer & Information Technologies Program Coordinator.

To be considered for admission to the program, a student must also:

1. Successfully complete the pre-major course requirements (CIT105, CIT110, CIT120, and CIT130). "Successful completion" is defined as earning a 'C' grade or better in the course, passing the exam for credit for a course, or transferring credit from an accredited institution and earning at least a 2.0 on a 4.0 scale for the course.

2. Meet the prerequisite for the required math course (MA109) or successfully complete the required math course or a higher level math course.

See Guidelines for Admission to the Computer & Information Technologies Program, or consult an academic advisor for more details.

## ASSOCIATE IN APPLIED SCIENCE

**Core**
**General Education**

| | | |
|---|---|---|
| ENG 101 | Writing I* | 3 |
| ENG 102 | Writing II* | 3 |
| MA 109 | College Algebra* | 3 |
| | Heritage/Humanities/Foreign Language Course* | 3 |
| | Oral Communication Course* | 3 |
| | Science Course * | 3 |
| | Social Interaction Course* | 3 |

**Premajor Requirements**

| | | |
|---|---|---|
| CIT 105 | Introduction to Computing | 3 |
| CIT 110 | Operating Systems Concepts | 3 |
| CIT 120 | Program Design | 3 |
| CIT 130 | Microcomputer Applications | 3 |

**Major Requirements**

| | | |
|---|---|---|
| CIT 150 | Internet Technologies | 3 |
| CIT 160 | Data Communications and Networking | 4 |
| ETE 134 | Computer Hardware Maintenance | 3 |
| | Approved Level I Programming Language | 3 |
| | Approved Technical Course(s) | 3 |
| **Subtotal** | | **49-50** |

### APPLICATIONS OPTION

| | | |
|---|---|---|
| CIT 170 | Introduction to Database Design | 3 |
| CIT 220 | Systems Analysis and Design | 3 |
| CIT 290 | Information Systems Design and Implementation | 3 |
| | Approved Applications Specialization | 9 |
| | Approved Management Course | 3 |
| | Approved Accounting Course | 3 |
| **Subtotal** | | **24** |

### INTERNET TECHNOLOGIES OPTION

| | | |
|---|---|---|
| IMD 175 | Web Usability Design* OR | 3 |
| IMD 180 | Intermediate Web Design* | (3) |
| CIT 253 | Data Driven Web Pages* | 3 |
| | Approved Level II Web Programming Language* | 3 |
| CIT 170 | Database Design* | 3 |
| CIT 220 | Systems Analysis and Design* | 3 |
| CIT 290 | Information Systems Design & Implementation* | 3 |
| CIT 294 | Seminar in Web Technologies* | 3 |
| **Subtotal** | | **24** |

Note: Students pursuing the Internet Technologies Option must take CIT171 and either CIT140 or CIT149.
* Satisfies General Education requirement for degree

### NETWORK TECHNOLOGY OPTION

| | | |
|---|---|---|
| CIT 260 | Network Hardware Installation and Troubleshooting | 3 |
| CIT 269 | Internet Protocols | 3 |
| CIT 292 | Designing Network Solutions | 3 |
| | Approved Level I Network Technology Specialization | 6 |
| | Approved Level I or II Network Technology Specialization | 6 |
| | Approved Scripting Language Course | 3 |
| **Subtotal** | | **24** |

### PROGRAMMING OPTION

| | | |
|---|---|---|
| CIT 170 | Introduction to Database Design | 3 |
| CIT 220 | Systems Analysis and Design | 3 |
| CIT 290 | Information Systems Design and Implementation | 3 |
| | Approved Level I Programming Language (beyond the Core) | 3 |
| | Approved Level II Programming Language | 3-4 |
| | Approved Level I or II Programming Language | 3-4 |
| | Approved Management Course | 3 |
| | Approved Accounting Course | 3 |
| **Subtotal** | | **24-25** |
| **Total** | | **73-75** |

## COURSE CHOICE LISTS

**Approved Accounting Courses****

ACC 201 Financial Accounting I .....3
ACC 202 Managerial Uses of Accounting Information .....3

**Approved Management Courses****

MGT 200 Small Business Management .....3
MGT 283 Principles of Management .....3
BE 287 Supervisory Management .....3
MKT 291 Retail Management .....3
QT 101 Quality Management Principles .....3

**Approved Applications Specializations****

### PRODUCTIVITY SOFTWARE SPECIALIZATION

IMD 235 Advanced Word Processing .....3
CIT 234 Advanced Spreadsheet Applications .....3
CIT 236 Advanced Database Applications .....3

### DATABASE DEVELOPER SPECIALIZATION

CIT 171 SQL I 3
CIT 271 SQL II 3
CIT 236 Advanced Database Applications .....3

### GEOGRAPHIC INFORMATION SYSTEMS

GIS 110 Spatial Data Analysis and Map Interpretation ...3
GIS 120 Introduction to Geographic Information Systems 3
GIS 210 Advanced Geographic Information Systems .....3

### APPROVED LEVEL I NETWORK TECHNOLOGY SPECIALIZATIONS**

### MICROSOFT WINDOWS SPECIALIZATION

CIT 211 Microsoft Windows Client Operating Systems: (Topic) AND .....3
CIT 212 Microsoft Windows Server Operating Systems: (Topic) ..... 3

### UNIX SPECIALIZATION

CIT 217 Unix Administration AND .....3
CIT 218 Advanced Unix Administration .....3

### CISCO SPECIALIZATION

CIT 281 Routing and Switching AND .....3
CIT 282 Advanced Routing and Switching .....3

NOTE: Students pursuing the Cisco Specialization should also take CIT 283, Wide Area Network Management and Design, in order to complete their Cisco Certified Network Administrator (CCNA) preparation.

### APPROVED LEVEL II NETWORK TECHNOLOGY SPECIALIZATION**

### ADVANCED MICROSOFT WINDOWS SPECIALIZATION

CIT 261 Microsoft Windows Directory Services Administration AND .....3
CIT 262 Microsoft Windows Network Infrastructure .....3

### APPROVED LEVEL I PROGRAMMING LANGUAGES**

CIT 140 JavaScript I: JavaScript and the Web .....3
CIT 141 VBScript I: VBScript Fundamentals .....3
CIT 143 COBOL I .....3
CIT 145 Perl I: Perl Fundamentals .....3
CIT 148 Visual Basic I .....3
CIT 149 Java I: Java Fundamentals .....3
CIT 171 SQL I 3
CS 115 Introduction to Computer Programming .....3

### APPROVED LEVEL II PROGRAMMING LANGUAGES**

CIT 243 COBOL II .....3
CIT 245 Perl II: Perl and the Web .....3
CIT 248 Visual Basic II .....3
CIT 249 Java II: Java and the Web .....3
CIT 271 SQL II 3
CS 215 Introduction to Program Design, Abstraction, and Problem Solving ..... 4
CS 216 Introduction to Software Engineering .....3

### APPROVED SCRIPTING LANGUAGES**

CIT 140 JavaScript I: JavaScript and the Web .....3
CIT 141 VBScript I: VBScript Fundamentals .....3
CIT 145 Perl I: Perl Fundamentals .....3

### APPROVED TECHNICAL COURSES**

ACH 100 Construction Documents I .....3
ACH 185 Computer-Aided Drafting I .....3
CAD 100 Introduction to Computer-Aided Design .....3
COE 199 Cooperative Education: CIT .....3
ETE 112 Digital Logic Circuits .....4
ETE 256 Microprocessor Fundamentals .....4
GIS 120 Intro to Geographic Information Systems .....3
IMD 126 Introduction to Desktop Publishing .....3
IMD 226 Advanced Desktop Publishing .....3
Additional CIT Course(s) (EXCEPT CIT 103) .....1-3
Additional CS Course(s) (EXCEPT CS 100 and CS 101) .....3-4
Approved Accounting Courses .....3

** Or other courses approved by Computer & Information Technologies Program Coordinator

**Note:**

- Students may not use one course to fulfill multiple requirements.
-Students may choose CIT 280 or COE 199 for a maximum of 3 credit hours.
-Non-general education course credits more than 10 years old cannot be used to fulfill graduation requirements.
-Only CIT and CS courses in which a student earned a "C" or higher (or "Pass" for Pass/Fail courses) may be used to fulfill graduation requirements.

# COSMETOLOGY

Knowledge of the theories of hair, skin, and nail care is coupled with practice of the various techniques used in salons. After successful completion of the prescribed hours of instruction and the six-month apprenticeship, program graduates are eligible to take the examination administered by the Kentucky Board of Hairdressers and Cosmetology to become licensed cosmetologists. Hours following Cosmetologist indicate length of instruction day.

Progression in the Cosmetology program is contingent upon achievement of a grade of "C" or better in each course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

## DIPLOMAS

**General Education/Applied Academics:**

Six (6) credit hours are required for a diploma (An AAS in General Occupational/Technical Studies degree requires a minimum of 15 credit hours of general education)

Six (6) hours may be taken from the following categories or * courses:

Writing, Oral Communication, Mathematics, Science, Heritage/ Humanities, or Social Interaction
WPP 200*
EFM 100*
BET 120*
BET 210*
TEC 200*
TEC 100*
*These courses may be taken for a diploma but will not count toward an AAS degree.

### COSMETOLOGIST

| | | | |
|---|---|---|---|
| COS | 114 | Cosmetology I, 6-1 | 14 |
| COS | 116 | Cosmetology II, 6-2 | 14 |
| COS | 218 | Cosmetology III, 6-3 | 14 |
| COS | 220 | Cosmetology IV, 6-4 | 12 |
| CPU | 150 | Computer Fundamentals OR | 3 |
| CIS | 100 | Introduction to Computers | (3) |
| | | General Education/Applied Academics | 6 |

Electives: COS 135, 235

**Total ..... 63**

### APPRENTICE COSMETOLOGY INSTRUCTOR

| | | | |
|---|---|---|---|
| COS | 210 | Student Teaching I, 5-1 | 13 |
| COS | 212 | Student Teaching II, 5-2 | 13 |
| COS | 214 | Student Teaching III, 5-3 | 9 |

Electives: COS 215

**Total ..... 35**

## CERTIFICATE

### ESTHETICIAN

The Esthetics Program at Bluegrass Community and Technical College includes no less than 1000 clock hours of instruction. Along with classroom theory, the student receives hands-on experience in the clinical setting. Upon successful completion of the prescribed program, the graduate is prepared to take the Esthetician Licensure exam.

The Esthetician may work in a salon, medi- spa or physician's office. He/she may perform basic skin care, cosmetic artistry, body waxing, chemical peels/exfoliation, and, under a doctors supervision, laser therapy and microdermabrasion. They are also trained to detect skin problems that may require medical attention.

| | | | |
|---|---|---|---|
| COSE | 100 | Skin Care History/Opportunities/Professional Image | 1 |
| COSE | 101 | Basic Facials | 7 |
| COSE | 102 | Sanitation and Disinfection | 1 |
| COSE | 104 | Physiology and Histology of the Skin | 3 |
| COSE | 200 | Kentucky State Board Rules and Regulations | 1 |
| COSE | 201 | Make-Up/Hair Removal | 5 |
| COSE | 202 | Anatomy/Physiology for the Esthetician | 3 |
| COSE | 203 | Cosmetic Chemistry | 3 |
| COSE | 204 | Skin Diseases and Disorders | 5 |
| COSE | 250 | Salon/Spa Business and Management | 4 |
| COSE | 251 | Esthetic Practices | 5 |
| COSE | 252 | Specialty Treatments | 1 |
| COSE | 253 | Advanced Clinical Skin Care | 3 |

**Total ..... 42**

## DENTAL HYGIENE - DENTAL ASSISTING

The Dental Assisting/Dental Hygiene Integrated Program is a program that prepares graduates to function as dental auxiliaries.

The Dental Assisting Program prepares the student to function effectively as an integral member of the dental health team and to perform chairside assisting and related office and laboratory procedures under the direction and supervision of a dentist. The curriculum includes content areas in general studies, biomedical sciences, dental sciences, clinical sciences, radiography, and clinical experience. Students must achieve a minimum grade of "C" in each Dental Assisting (DAS) course, Dental Assisting/Hygiene (DAH) course, and approved science courses. Upon completion of the program, students are eligible to take the Dental Assisting National Board Examination to become a Certified Dental Assistant.

The Dental Hygiene program prepares the student to function as a dental hygienist on a dental auxiliary team under the supervision of a dentist. The curriculum includes content areas in general studies, biomedical sciences, dental sciences, clinical sciences, radiography,

periodontology, and dental hygiene clinical experience. The program provides comprehensive educational experiences through lectures, clinical, and related study in order that graduates may apply scientific knowledge in the performance of dental hygiene procedures. Students must achieve a minimum grade of "C" in each Dental Hygiene (DHG) course, Dental Assisting/Hygiene (DAH) course, and approved science courses. Upon completion, graduates are eligible to apply to take the Dental Hygiene National Board Examination. As the only licensed dental auxiliaries, dental hygienists may be employed in dental offices, clinics, dental schools, public health and government agencies.

The Dental Assisting/Dental Hygiene Integrated Program is accredited by the Commission on Dental Accreditation, a specialized accrediting agency of the American Dental Association.

## ASSOCIATE IN APPLIED SCIENCE

**General Education Classes:**

ENG 101 Writing I ..... 3
ENG 102 Writing II .....3
BIO 137 Human Anatomy and Physiology I.....4
BIO 139 Human Anatomy and Physiology II .....4
BIO 225 Medical Microbiology OR .....4
BIO 227 Principles of Microbiology with Laboratory .....5
PY 110 General Psychology .....3
SOC 101 Introductory Sociology.....3
MT 110 Applied Math OR.....3
MT 150 College Algebra.....(3)
Computer Literacy .....1-3
Oral Communication .....3
Heritage/Humanities.....3
**Subtotal .....34-37**

**Integrated Classes:**
DAH 101 Infection Control & Medical Emergencies .....2
DAH 111 Preventive Dentistry.....2
DAH 121 Dental Sciences .....3
DAH 131 Oral Pathology .....3
DAH 135 Oral Radiology.....2
DAH 224 Materials in Dentistry .....2
DAH 235 Practice Management.....1

**Subtotal .....15**

### DENTAL HYGIENE ONLY CLASSES

NFS 101 Human Nutrition and Wellness .....3
DHG 120 Pre-Clinical Dental Hygiene .....3
DHG 130 Clinical Dental Hygiene I .....2
DHG 132 Pharmacology.....2
DHG 136 Peridontology .....1
DHG 220 Clinical Dental Hygiene II.....4
DHG 221 Local Anesthesia & Nitrous Oxide Sedation .....2
DHG 226 Advanced Periodontology.....2
DHG 230 Clinical Dental Hygiene III .....3
DHG 238 Community Dental Health Issues.....2

**Subtotal .....24**

**total Credits: .....73-76**

## DIPLOMA

### DENTAL ASSISTING

**Program Related Classes:**

AHS 109 Introduction to Body Structure and Functions OR 4
BIO 130 Aspects of Human Biology OR.....(3)
BIO 135 Basic Anatomy & Physiology with Laboratory OR.....(4)
BIO 137 Human Anatomy & Physiology I AND .....(4)
BIO 139 Human Anatomy & Physiology II.....(4)
Computer Literacy .....1-3
Three credits from the Humanities, Mathematics, or Behavioral Sciences .....3

**Subtotal .....7-14**

**Integrated Classes:**

DAH101 Infection Control & Medical Emergencies.....2
DAH111 Preventive Dentistry.....2
DAH121 Dental Sciences .....3
DAH131 Oral Pathology .....3
DAH135 Oral Radiology.....2
DAH224 Materials in Dentistry .....2
DAH235 Practice Management.....1

**Subtotal .....15**

### DENTAL ASSISTING ONLY CLASSES

DAS 120 Dental Assisting I.....5
DAS 220 Dental Assisting II .....6
DAS 251 Clinical Externship I .....4
DAS 261 Clinical Externship II.....2

Subtotal .....17
**Total ..... 39- 46**

## CERTIFICATE

### EXPANDED DUTIES – DENTAL

DAH150 Expanded Duties.....8

**Total Credits .....8**

## DENTAL HYGIENE

This program prepares students to function as dental hygienists on a dental auxiliary team under the supervision of a dentist. The curriculum includes courses in general education and in dental hygiene as required by the Commission on Dental Accreditation. The program provides comprehensive educational experiences

through lectures, clinical and related study in order that students may apply scientific knowledge in the performance of dental hygiene procedures. Students enrolled in the Dental Hygiene program must achieve a minimum grade of "C" in each Dental Hygiene and approved science course.

Upon completion, graduates are eligible to take the state licensing examinations for dental hygienists. As the only licensed dental auxiliaries, dental hygienists may be employed in dentist offices, clinics, dental schools, public health and governmental agencies, industry and educational institutions. For more information about admission to the Dental Hygiene Program, please see the guidelines for the selective admission requirements

**First Year**

**First Six Weeks Summer Session**
BIO 137 Human Anatomy and Physiology I*..... 4

**Second Six Weeks**
BIO 139 Human Anatomy and Physiology II.. ..... 4

.....8

**Fall Semester**
DH 120 Dental Hygiene I .....5
DH 121 Oral Biology I .....3
ENG 101 Writing I*..... 3
BSL 214 Medical Microbiology or..... 4
BIO 226 Principles of Microbiology..... (3)

..... 14-15

Spring Semester
DH 130 Dental Hygiene II .....4
DH 131 Oral Biology II .....5
DH 135 Dental Radiology .....3
DH 136 Periodontics for the Dental Hygienist I ..... 2
ENG 102 Writing II*..... 3
.....17

**Second Year**

**Summer Sessions**
PY 110 General Psychology*..... 3
Oral Communication Course*..... 3
NFS 101 Human Nutrition and Wellness..... 3

.....9

**Fall Semester**
DH 220 Dental Hygiene III .....4
DH 222 Special Needs Patients .....3
DH 224 Dental Materials .....2
DH 226 Periodontics for the Dental Hygienist II .....2
DH 229 Local Anesthesia (elective)..... ..(2)
SOC 101 Introductory Sociology..... 3

..... 14-16

**Spring Semester**
DH 230 Dental Hygiene IV 4
DH 235 Principles of Practice 1
DH 238 Community Dental Health 4
Heritage/Humanities/Foreign Language
Course* ..... ..... 3-4
Mathematics Course*..... 2-4

..... 14-17

**Total Credits 76 - 82**
** Satisfies General Education requirement for AAS degree*
*The Dental Hygiene Program at Bluegrass Community and Technical College requires that BIO 137 be successfully completed prior to beginning DH 120.*

## DENTAL LABORATORY TECHNOLOGY

This program prepares individuals to fabricate dental prosthetic appliances that replace or repair natural teeth to help patients eat, chew, talk, and smile as well or better than they did before. Dental technicians work collaboratively with dentists by following a written work authorization that details the type of prosthesis needed. Dental technicians do not have direct contact with the patient but instead use stone models made from impressions of the patient's teeth and surrounding soft tissues.

The curriculum includes courses in general education and in dental laboratory technology as required by the Commission on Dental Accreditation. Students enrolled in the Dental Laboratory Technology Program must achieve a GPA of 2.0 in the Dental Laboratory Technology program. Upon completion, graduates are eligible to take the National Board for Certification Recognized Graduate Examination and the Certified Dental Technician exam.

The dental laboratory technician has many employment options including commercial dental laboratories, dental offices that have their own laboratories, dental sales and manufacturing firms. Graduates may also choose to own a laboratory, state laws permitting, or seek a teaching position at a dental technology education program. Please see the guidelines for the selective admission requirements to the Dental Laboratory Technology Program.

**First Year**

**First Semester**
ENG 101 Writing I*..... 3
Social/Behavioral Science Course*..... 3
DLT 101 Dental Morphology..... 2
DLT 111 Dental Materials I ..... 2
DLT 121 Complete Dentures I..... 2
DLT 131 Removable Partial Dentures I..... ..... 2
DLT 151 Fixed Prosthodontics I..... 2

.....16

**Second Semester**
ENG 102 Writing II*..... 3
Humanities or Foreign Language Course*..... ..... 3
DLT 112 Dental Materials II..... 2
DLT 122 Complete Dentures II..... 2
DLT 132 Removable Partial Dentures II..... 2
DLT 142 Occlusion..... 2

DLT 152 Fixed Prosthodontics II..... 2

**Second Year**

**First Semester**

Oral Communication Course*..... 3
Mathematics Course*..... 3
DLT 261 Applied Lab Techniques..... 8
DLT 281 Orthodontic Lab Techniques..... 2

.....16

**Second Semester**

Science Course* ..... 3
DLT 262 Advanced Specialty Laboratory Techniques..... 8
DLT 291 Dental Laboratory Management, History and Ethics..... 2
.....13

**TOTAL .....61**

** Satisfies General Education requirement for AAS degree*

# EDUCATION

The Education Program (AAS) is designed to prepare paraeducators for employment in Kentucky classrooms. The program includes several levels. The Certificate Program is designed to prepare paraeducators for entry-level positions and to successfully complete the Kentucky Paraeducator Assessment or Kentucky Department of Education approved alternative assessment. The Associate in Applied Science Degree (AAS) offers two options: one for those paraeducators wishing only a two-year degree and another for those wishing to enter a university teacher education program.

## ASSOCIATE IN APPLIED SCIENCE

**General Education**

ENG 101 Writing I..... 3
ENG 102 Writing II..... 3
Humanities ..... 3
Science .....4 – 8
Mathematics.....3
Psychology.....3 – 4
Communications .....3
Family .....3
HIS 108 History of the United States Through 1865 **OR** .3
HIS 109 History of the United States Since 1865 ..... (3)
Computer Literacy .....1 – 3

**Total .....29-36**

NOTE: Teacher Prep majors must take 8 hrs of Science and 3 hrs of Computer Literacy.

**Technical Core or Support Courses (common)**

ED 201 An Introduction to American Education .....3
EDP 202 Human Development and Learning .....3
EDP 203 Teaching Exceptional Learners in Regular Classrooms .....3
Concentration Area Courses .....6

**Total .....15**

### TEACHER ASSOCIATE OPTION

**Technical or Support Courses**

ED 101 Orientation to Education .....3
ED 102 Child and Adolescent Development.....3
ED 103 Introduction to Special Education.....3
ED 104 Introduction to Behavior Management .....3
ED 105 Practical Experiences for the Paraeducator.....3
ED 280 Education Externship/Co-op.....3
Literature.....3

**Total Teacher Associate Option .....21**
**Total Credits 65 - 72**

### TEACHER PREPARATION OPTION

**Technical or Support Electives**

Technical and support electives are designed to prepare students to work in education classrooms as paraprofessionals and, at the same time, to meet entry requirements at the College of Education of their choice. Courses may be chosen from the general education core or from approved technical electives.*

**Total Teacher Preparation Option.....12**
**Total Credits 62 - 63**

*Approved Technical Electives:
MUS 260/261 Music for Elementary
AE 270/272 Art for Elementary OR
ART 121 Art for Elementary
MT 205 Math for Elementary Teachers
SED 101 American Sign Language I
SED 102 American Sign Language II
SED 203 American Sign Language III
SED 204 American Sign Language IV
SCI 109 Physical Science for Elementary Teachers
KHP 222 Drug Education
KHP 190 CPR
Any program-related course approve by coordinator

**Definitions**

**Technical and Support Courses – Common**

These courses are designed to increase students' knowledge and ability to work in Kentucky classrooms. The five required numbered courses are those traditionally accepted by transferring 4-year institutions and a practicum experience in which the students complete their professional portfolio. See below for definition of concentration area courses.

**Concentration Area Courses**

Concentration area courses are designed to give students specific

instruction within the area of education in which they are working or aspire to work. Examples would be language arts, math, elementary education or special education.

**TOTAL AAS CREDITS ..... 62 - 72**

## CERTIFICATE

### PARAEDUCATOR

ED 101 Orientation to Education .....3
ED 102 Child and Adolescent Development.....3
ED 103 Introduction to Special Education.....3
ED 104 Introduction to Behavior Management .....3
ED 105 Practical Experiences for the Paraeducator.....3
Computer Literacy ..... 1-3

**Total Paraeducator Certificate .....16-18**

## ENVIRONMENTAL SCIENCE TECHNOLOGY

This program includes specialized environmental science courses in addition to general education coursework to provide individuals the background necessary for understanding the ecological relationships of the environment. Coursework also emphasizes the application of scientific principles to pollution control problems in accordance with state and federal regulations. Practical lab and field experience in sampling and analysis will be stressed. Emphasis is placed on developing the students' ability to function effectively in a variety of job situations. Graduates of this program will be prepared to sample and analyze air, water and soil in accordance with state and federal regulations. Environmental technicians may be responsible for such job duties as air pollution surveillance, analysis of water and wastewater samples, ground water and surface water assessment, field sampling, data interpretation, and other support services to engineering and science professionals. Graduates in this field may be employed as technicians by federal, state and local governmental units as well as utilities, private industry, and environmental engineering consulting firms.

### ADMISSIONS REQUIREMENTS

The following information has been taken from the Rules of the Senate of the University of Kentucky and is subject to change without notice. All applicants meeing the approprite academic requirments shall be considered equally for admission to Bluegrass Community and Technical College or to any academic program thereof regardless of economic or social satus, and without discrimination on the basis of race, color, religion, sex, marital status, beliefs, age, national origin, sexual orientation, or physical or mental disability.

1. Complete EST 150, EST 160, and MA 109 (or equivalent or have a Math ACT of 21 or above) And

2. Attend a pre-admission conference with the EST Program coordinator or the coordinator's designee.

**First Semester/Fall**
ENG 101 Writing I*..... 3
MA 109 College Algebra*..... 3
CI T 105 Intro to Computing..... 3
BIO 112 Basic Ideas of Biology*..... 3
BIO 111 Intro to Biology Lab..... 1
EST 150 Introductory Ecology..... 4

**Second Semester/Spring**
ENG 102 Writing II*..... 3
C IT 130 Microcomputer Applications..... 3
CHE 105 General College Chemistry I..... 3
CHM 105 General College Chemistry Lab I..... 2
EST 160 Hydrolic Geology..... .3
EST 170 Environmental Sampling Laboratory.. ..... 2

**Third Semester/Fall**
COM 181 Basic Public Speaking*..... 3
**OR**
COM 252 Intro to Interpersonal Communications*. . ..... (3)
Social Interaction Course*..... 3
EST 220 Pollution of Aquatic Ecosystems 3
EST 230 Aquatic Chemistry Lab 2
EST 240 Sources and Effects of Air Pollution..... 4
Technical Elective..... 3

**Fourth Semester/Spring**
EST 250 Solid and Hazardous Waste Management..... 3
EST 260 Environmental Analysis Lab .....2
EST 270 Environmental Law and Regulation .....3
EST 280 Environmental Trends Seminar..... 1
Technical Elective..... 3
Heritage/Humanities Course..... 3

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

**Technical Electives**
PHY 151 Introduction to Physics 3
COE 199 Cooperative Education (Internship)..... 1-3
EST 225 Freshwater Invertebrates .....3
EST 299 Selected Topics in EST..... ..... 1-3
STA 200 Statistics: A Force in Human Judgement..... 3
CAD 100 Intro to Computer-Aided Design..... 3
ACH 185 Computer-Aided Drafting I .....3
GIS 110 Spatial Data Analysis..... 3
GIS 120 Introduction to Geographic Information Systems 3
CI T 234 Advanced Spreadsheet Applications..... 3
ENG 203 Business Writing..... 3
CHE 107 General College Chemistry II..... 3
CHM 107 General College Chemistry Lab II..... 2
GEO 210 Pollutions, Hazards, and Environmental Mngmt. 3
GLY 220 Principles of Physical Geology..... 4
ECO 201 Principles of Economics I..... 3
CE 211 Surveying..... 4

*Courses not on this list may be approved at the coordinator's discretion.*
* Satisfies General Education requirement for AAS degree

# FIRE RESCUE/SCIENCE TECHNOLOGY

The fire/rescue training program offers classes at no cost to Kentucky volunteer fire departments, volunteer rescue squads, volunteer ambulance services, and members of paid departments who have written mutual aid agreements with volunteer departments across the Commonwealth. If a student wishes to pursue a diploma from the Fire/Rescue Curriculum, he/she will be given credit for training taken as a volunteer firefighter from technical college instructors. The specific course requirements for the associate degree, diplomas, and certificates are available from the Fire/Rescue Training Coordinators. Students who seek an associate degree or diploma must enroll in a technical college and pay the required fees for registration and core classes.

Heritage/Humanities .....3
Mathematics .....3
Science ..... 3 -4
Social Interaction .....3
Writing/Accessing Information.....3

CPU 100 Introduction to Computers OR.....3
CIS 100 Introduction to Computers.....(3)
FRS 101 Introduction to Fire Service .....3
FRS 102 Firefighters Basic Skills I .....3
FRS 103 Firefighters Basic Skills II .....3
FRS 104 Firefighters Intermediante Skills I .....3
FRS 105 Firefighters Intermediate Skills II .....3
FRS 201 Firefighters Advanced Skills I .....3
FRS 202 Firefighters Advanced Skills II .....3
FRS 203 Firefighters Advanced Skills III .....3
FRS 204 EMT First Responder .....3
FRS 205 Fire Officer I .....5
FRS 206 Fire Officer II .....8
FRS 207 Fire Officer III .....6

**Total Credits .....64-65**

## DIPLOMA

### FIRE CHIEF

CPU 100 Introduction to Computers OR.....3
CIS 100 Introduction to Computers.....(3)
EFM 100 Personal Financial Management .....3
FRS 101 Introduction to fire service .....3
FRS 102 Firefighters Basic skills I .....3
FRS 103 Firefighters Basic skills II .....3
FRS 104 Firefighters Intermediate Skills I .....3
FRS 105 Firefighters Intermediate Skills II .....3
FRS 201 Firefighters Advanced Skills I .....3
FRS 202 Firefighters Advanced Skills II .....3
FRS 203 Firefighters Advanced SKills III .....3
FRS 204 EMT First Responder .....3
FRS 205 Fire Officer I .....5
FRS 206 Fire Officer II .....8
FRS 207 Fire Officer III .....6
WPP 200 Workplace Principles .....3

**Total Credits .....55**

## CERTIFICATES

### FIREFIGHTER I

FRS 101 Introduction to Fire Service .....3
FRS 102 Firefighters Basic Skills I .....3
FRS 103 Firefighters Basic Skills II .....3
FRS 104 Firefighters Intermediante Skills I .....3

**Total Credits .....12**

### FIREFIGHTER II

FRS 101 Introduction to Fire Service .....3
FRS 102 Firefighters Basic Skills I .....3
FRS 103 Firefighters Basic Skills II .....3
FRS 104 Firefighters Intermediante Skills I .....3
FRS 105 Firefighters Intermediate Skills II .....3
FRS 201 Firefighters Advanced Skills I .....3
FRS 202 Firefighters Advanced Skills II .....3
FRS 203 Firefighters Advanced Skills III .....3

**Total Credits .....24**

### FIRE OFFICER

FRT 152 Fire Prevention, Public Education And Fire Cause Determination II .....0.5
FRT 153 Firefighter Survival & Rescue .....1.1
FRT 154 Hazardous Materials Technician .....3.4
FRT 156 Managing Company Tactical Operations: ..... Decision Making .....1
FRT 157 Instructional Techniques For Company Officers....1
FRT 158 Company Officer .....3.5
FRT 159 Incident Command System (ICS) .....0.9
FRT 160 Leadership: Strategies For Company Success ....0.8
FRT 161 Fire/arson Detection .....0.8

**Total Credits .....13**

### EMERGENCY MEDICAL TECHNOLOGY

Student in the EMT Program are instructed in the proper care of sick and injured patients. The student is trained in emergency situations such as broken bones, heart attack, puncture wounds, vehicle accidents, etc.** Successful completion of this course prepares the student for the EMT skills test administered by the Cabinet for Human Services. This training is also provided to fire/rescue and other emergency service personnel, industries, institutions, and government agencies.

** Certification comes from the Cabinet of Health Services upon testing.

FRT 155 Emergency Medical Technician .....6
**Total Credits .....6**

Note: See faculty concerning pre-requisites.

## GENERAL OCCUPATIONAL/ TECHNICAL STUDIES

The Associate in Applied Science degree in General Occupational/ Technical Studies provides flexible alternatives for meeting student and employer needs. This program serves two general purposes:

1) Individualized program - provides a flexible curriculum that can be designed to meet specifics student and workplace needs, and

2) Degree completion - provides a structure through which credit may be granted for significant prior learning experiences in occupational/technical areas.

Credit earned through certificate and diploma program completion will be applicable toward the Associate in Applied Science in General Occupational/Technical Studies degree when consistent with the objectives of the student's individual plan of study. This heavily advisor-driven model can combine certificates and/or diplomas in different disciplines for meeting employer needs for unique skill combinations for which there is no established degree program. As much as twenty hours of credit for experiential learning may be applied toward degree completion. KCTCS certificate and diploma credit and acceptable credit transferred from other colleges may also be applied to a student's program completion plan. At least 25 percent of the approved curriculum credits must be completed at BCTC.

### ASSOCIATE IN APPLIED SCIENCE

**General Education Component Minimum Required:**
Mathematics (SACS requires natural sciences/ COE requires mathematics) .....3
Natural/Applied Science (SACS requires natural sciences/ math, COE requires natural or applied sciences) .....3
Behavioral Science/Social Interaction (SACS requires social/behavioral science, COE requires behavioral science) ..... 3
Humanities/Fine Arts (SACS requires humanities/fine arts, COE requires humanities) .....3
Writing/Accessing Information .....3
Additional General Education Coursework..... 0-12
**Subtotal .....15-27**

**Technical Component Minimum**
Computer Literacy (Computer literacy must be demonstrated either by competency exam or by completing a .... computer literacy course .....3
Technical Courses: Industrial Technology, Business Technology, or Health and Human Services ..... 42-58
**Subtotal .....45-61**
**Total Credits .....60-76**

## GEOGRAPHIC INFORMATION SYSTEMS TECHNOLOGY

A Geographic Information System (GIS) is a powerful combination of mapping technology and databases, that, when combined, may create an array of spatially arranged data on a map surface for detailed analysis. Once the domain of a few specialized government agencies and the military, GIS is now utilized by virtually every branch of the government and has become commonplace throughout the private sector. GIS may be employed for a stunning variety of applications: environmental, marketing, demographic and urban planning are just a few of the fields in which GIS is currently utilized.

All students enrolled at Lexington Community College are eligible to pursue the GIS Technology Certificate. There is no application to enroll in the certificate, but it is suggested that if you elect to pursue the certificate that you inform the coordinator of the GIS Certificate as well as your technical advisor and the chair of your technical degree program. The curriculum is tailored to those enrolled in the following technical degree programs: Architectural Technology, Civil Engineering, Computer Information Systems and Environmental Science Technology. The acquisition of a two-year technical degree coupled with a Certificate in GIS Technology will make a graduate more marketable in his/her respective field. Those pursuing a B.A. or B.S. degree in geography will also find the curriculum tailored to their respective degree program. The GIS Technology Certificate requires the completion of twenty-four (24) hours of coursework. Non-certificate seeking students are free to take courses in GIS. All students pursuing the certificate must take the following four core courses:

### CERTIFICATE

**CORE**
CIS 105 Introduction to Computing ..... 3
GIS 110 Spatial Data Analysis and Map Interpretation ... 3
GIS 120 Introduction to Geographic Information Systems 3
GIS 210 Advanced Geographic Information Systems ..... 3

Students must complete one of the following related field course pairings listed below. The student may not complete the requirement by selecting courses from different pairs. It is highly recommended that the student select the course pairing that doubles as requirements for their technical degree (or pre-major requirement for the B.A./B.S. in geography)

#### ELIGIBLE COURSE PAIRINGS FOR GIS TECHNOLOGY CERTIFICATE

- Earth's Physical Environment (GEO 130) *and/or* Pollution, Natural Hazards and Environmental Management (GEO 210) *and/or* Introduction to Planning (GEO 285)
- Fundamentals of Hydrological Geology (ENV 101) *and* Fundamentals of Solid Waste (ENV 203)
- Visual Basic I (CIS 148) *and* Visual Basic II (CIS 248)
- Introduction to Computer-Aided Design (CAD 100) *and* Intermediate Computer-Aided Design (CAD 200)
- Computer Aided Drafting I (ACH 185) *and* Computer Aided Drafting II (ACH 285) *or* Computer 3-D Modeling (ACH 298)

- Introduction to Surveying (CE 211) *and* Intermediate Surveying (CET 220)

Students may utilize an additional six-hour course pairing not listed above with prior written approval from the coordinator of the GIS Certificate.

Students must also take a minimum of six (6) hours of General Education courses in order to receive a certificate in GIS Technology from Bluegrass Community and Technical College, unless otherwise noted on their academic transcript(s).

### RECOMMENDED TRACK FOR GIS TECHNOLOGY CERTIFICATE

**FALL SEMESTER I**

GIS 110 Spatial Data Analysis and Map Interpretation ....3
CIS 105 Introduction to Computing.....3
General Education Course .....3

**SPRING SEMESTER I**

GIS 120 Introduction to Geographic Information Systems3
General Education Course .....3
Course in related field (see above list) .....3

**FALL SEMESTER II**

GIS 210 Advanced Geographic Information Systems .....3
Course in related field (see above list) .....3
**Total ..... 24**

## HUMAN SERVICES/DIRECT SUPPORT

This program prepares individuals for entry level positions in agencies and institutions which provide social, community, educational and mental health services. The curriculum provides an opportunity for the student to develop the knowledge and skills necessary for entry level employment. Included in the curriculum is a core of human services courses, general education courses, and technical courses with a specific human services emphasis. Application of human services principles and skills is provided through a clinical experience in an appropriate setting.

Upon completion of the program the graduate is prepared to seek employment in various areas which may include child care facilities, mental health settings, chemical dependency settings, hospitals, educational institutions, correctional facilities, geriatric settings, child and youth centers, and social service agencies.

### CERTIFICATE

**DIRECT SUPPORT WORK**

HS 102 Values of Human Services in a Contemporary Society.....3
HS 265 Working with Disabilities in Human Services ....3
MNA 100 Medicaid Nurse Aide OR .....3
NAA 100 Nursing Assistant Skills I .....(3)
SWK 275 The Family OR.....3
FAM 252 Introduction of Family Science.....(3)
**Subtotal .....12**

**Electives – choose one course from the following list:**

MH 250 Teaching the Mentally Retarded OR .....3
SWK 180 Introduction to Gerontology OR .....(3)
PY 230 Psychosocial Aspects of Death and Dying OR(3)
MH 200 Dynamics of Human Behavior.....(3)

**Total ..... 15**

## INFORMATION MANAGEMENT AND DESIGN

The Information Management & Design program prepares students to work in an integrated workplace of people, processes, and technologies. In response to the challenging technology-based work environment, this program requires students to become proficient in using computer technology for multifaceted workplace productivity. The program combines cutting-edge computer applications courses with additional industry-standards based courses to provide learning opportunities within the student's area of study. Graduates also complete general education courses in writing, oral communications, social interaction, heritage/humanities/foreign languages, science, and mathematics. Prior to graduation, students participate in a supervised work experience, giving invaluable experience often necessary to secure a position within their chosen field.

Students may choose from four options within the Information Management & Design program to specialize their degree.

The **Computer Office Technologies** option prepares graduates to work in a multitasking environment utilizing skills in electronic commerce, web authoring, project management, workplace management, information management, and employing various industry-standard office applications.

The **Graphic Design** option provides the concepts and skills needed to create and produce design projects such as brochures, flyers, newsletters, logos, product packaging, photo restorations and manipulations, multimedia presentations, simple illustrations, and web sites using industry-standard techniques and graphic design applications.

The **Web Design** option provides the concepts and skills needed to create and produce web sites using industry-standard techniques using graphic and web design applications. The Web Design option graduates will have the ability to create and maintain professional sites and also be capable of working with other web professionals such as programmers, network administrators and database administrators as well as interfacing with management and clients.

The **Library and Information Technology** option prepares graduates for paraprofessional library work.

Graduates may choose to sit for the Certified Administrative Professional Exam and/or the Microsoft Office User Specialist Exam for computer office applications certifications. Graduates from the Graphic Design option would be prepared to sit for

Adobe Certified Expert Exam. The Web Design option graduates would be qualified to sit for three of the five parts of the Certified Internet Webmaster (CIW) certification exam. The Library and Information Technology option courses may be used to meet Kentucky public library certification requirements.

Examples of Careers in Information Management & Design:

- Web Designer
- Marketing Coordinator
- Executive/Administrative Assistants
- Information Coordinator
- Workplace Manager
- Web Design Technician
- Graphic Design Manager (or Coordinator)
- Production Artist
- Graphic Production Manager (or Coordinator)
- Graphic Technician
- Media Specialist
- Project Manager
- Library Paraprofessional

**CORE**

IMD 100 Introduction to Information Systems .....3
IMD 126 Introduction to Desktop Publishing.....3
IMD 133 Beginning Web Design .....2
IMD 150 Presentations .....3
IMD 210 Microsoft Office Applicatons .....3
IMD 235 Advanced Word Processing .....3
IMD 270 Professional Practices.....3
IMD 275 Workplace Management.....3
COE 199 Cooperative Education or.....3
**OR**
IMD 271 Office Internship .....(3)
ENG 101 Writing I * .....3
ENG 102 Writing II *.....3
Social Interaction Course*.....3
Heritage/Humanities/Foreign Language Course *.....3
Mathematics Course * .....3
Oral Communications Course * .....3
Science Course * 3

**Subtotal .....48**

** Satisfies General Education requirement for AAS degree*

**COMPUTER OFFICE TECHNOLOGIES OPTION**

IMD 118 Document Processing.....3
IMD 212 Advanced Microsoft Office Applications .....3
IMD 215 Administrative Office Procedures.....3
IMD 220 Administrative Office Simulations .....3
Accounting Course3-4
Computer Office Technologies Option Courses .....6
Subtotal 21

**GRAPHIC DESIGN OPTION**

IMD 115 Introduction to Graphic Design.....3
IMD 127 Vector Design with Illustrator.....3
IMD 128 Raster Design with PhotoShop.....3
IMD 185 Web Graphics Design .....3
IMD 226 Advanced Desktop Publishing .....3
IMD 280 Applied Graphic Design.....3
Graphic Design Option Courses.....6

**Subtotal 24**

**LIBRARY INFORMATION TECHNOLOGY OPTION**

LIT 115 Introduction to Reference Services*.....3
LIT 124 Library Administration .....3
LIT 132 Library Technical Services* .....3
LIT 243 Library Services for Children**.....3
**OR**
LIT 245 Library Services for Young Adults** .....(3)
**OR**
LIT 247 Library Services for Adults** .....(3)
Library Information Technology Courses .....12
**Subtotal 24**

**WEB DESIGN OPTION**

IMD 180 Intermediate Web Design .....3
IMD 185 Web Graphics Design .....3
IMD 225 Applied Web Graphics.....3
IMD 230 Advanced Web Design .....3
IMD 232 Professional Web Editors .....3
IMD 240 Animation for the Web .....3
IMD 292 Portfolio Practicum: Web Design.....3
Web Design Option Courses .....3

**Subtotal .....24**
**Total ..... 69 -72**

** Select one of these three as a Required Program Course

**COMPUTER OFFICE TECHNOLOGIES OPTION COURSES**

IMD majors with the Computer Office Technologies Option choose 6 credit hours from the Computer Office Technologies Option Courses.

ACC 202 Managerial Uses of Accounting Info. .....3
MGT 120 Personal Finance.....3
MGT 267 Introduction to Business Law.....3
MGT 274 Human Resource Management.....3
MKT 282 Principles of Marketing.....3
MGT 283 Principles of Management.....3
MGT 288 Self Management .....3
CLA 131 Medical Terminology from Greek & Latin.....3
ECO 202 Principles of Economics II .....3
ENG 203 Business Writing .....3
IMD 114 Information Literacy .....3
IMD 127 Vector Design with Adobe Illustrator .....3
IMD 128 Raster Design with Adobe PhotoShop .....3
IMD 175 Web Usability Design.....3
IMD 180 Intermediate Web Design .....3
IMD 185 Web Graphics Design .....3
IMD 225 Applied Graphic Design.....3
IMD 226 Advanced Desktop Publishing .....3
IMD 230 Advanced Web Design .....3
IMD 232 Professional Web Editors .....3
IMD 240 Animation for the Web .....3
IMD 245 Multimedia for the Web.....3
IMD 250 Digital Video Editing.....3
IMD 276 Legal Office Procedures.....3

IMD 278 Medical Office Procedures.....3
IMD 299 Selected Topics: IMD.....1-3
QT 101 Quality Management Principles.....3
Social Interaction Course + .....3
Other Computer Office Technologies courses approved by
Program Coordinator .....1-3
Other Information Technology, Architectural, Business, Communication, Fine Arts or other Option Appropriate Courses Approved by Program Coordinator.....1-3

*+ Cannot be used to fulfill core requirement*

### GRAPHIC DESIGN OPTION COURSES

Information Management and Design majors with the Graphic Design Option choose 6 credit hours from the Graphic Design Option Courses.

IMD 118 Document Processing.....3
IMD 180 Intermediate Web Design .....3
IMD 225 Applied Web Graphics.....3
IMD 230 Advanced Web Design.....3
IMD 232 Professional Web Editors .....3
IMD 240 Animation for the Web .....3
IMD 245 Multimedia for the Web.....3
IMD 250 Digial Video Editing.....3
BE 282 Principles of Marketing.....3
ENG 203 Business Writing .....3
Other Graphic Design Courses Approved By Program .....
Coordinator.....1-3
Other Information Technology, Architectural, Business, Communication, Fine Arts or other Option Appropriate Courses Approved by Program Coordinator.....1-3

### LIBRARY INFORMATION TECHNOLOGY COURSES

Information Management and Design majors with the Library Information Technology Option choose 12 credit hours from the Library Information Technology Option Courses.

LIT 130 Web Publishing for Libraries .....3
LIT 243 Library Services for Children**.....3
LIT 245 Library Services for Young Adults** .....(3)
LIT 247 Library Services for Adults** .....(3)
LIT 285 History of Libraries.....3
LIT 299 Selected Topics: LIT.....1-3
** *If not used to satisfy other option requirements*

### WEB DESIGN OPTION COURSES

Information Management and Design majors with the Web Design Option choose **3** credit hours from the Web Design Option Courses.

IMD 160 Introduction to E-Commerce.....3
IMD 175 Web Usability Design.....3
IMD 212 Advanced Microsoft Office Applications .....3
IMD 245 Multimedia for the Web.....3
CIS 120 Program Design.....3
CIS 140 JavaScript I: JavaScript and the Web .....3
CIS 150 Internet Technologies.....3
Computer Programming Course Approved by
Program Coordinator.....3
Other Web Design Courses Approved By
Program Coordinator.....3
Other Information Technology, Architectural, Business, Communication, Fine Arts or other Option Appropriate Courses Approved by Program Coordinator.....1-3

## CERTIFICATE

### LIBRARY INFORMATION TECHNOLOGY

The certificate in Library Information Technology prepares students for paraprofessional jobs in libraries and particularly in Kentucky public libraries. Upon completion of the academic certificate, students will be able to: perform basic library reference services using print and online sources, plan and produce library services and programs for a selected group of library customers, describe the role of the public library in the community as an agency for information services, and perform readers advisory services and collection development analysis for a selected group of Kentucky authors or genres. Courses taken for the Certificate in Library Information Technology may be used also for the Associate of Applied Science degree in Information Management & Design, Library Information Technology option. All Library Information Technology courses are web-based distance courses.

The Certificate in Library Information Technology requires 18 credit hours.

**THE REQUIRED COURSE IS:**
LIT 115 Intro to Reference Services……..……3

Students will select one course from each of the following groups to complete the certificate requirement of 18 credit hours.

**1. Library Procedures**
LIT 124 Library Administration.....3
OR
LIT 132 Library Technical Services .....3
OR
LIT 230 Web Publishing for Public Libraries.....3

**2. Library Services**
LIT 243 Library Services for Children.....3
OR
LIT 245 Library Services for Young Adults .....3
OR
LIT 247 Library Services for Adults .....3
OR
LIT 248 Library Services for Preschool Children .....3
OR
LIT 280 Genealogy Services in Public Libraries.....3

**3. Library Information Technology Elective**
LIT elective:
Any LIT course above LIT 115……..3

**4. Kentucky Literature (out-of-state students may substitute any English literature course)**
LIT 200 Seminar in Kentucky Literature.....3

OR
LIT 240 Appalachian Literature of Kentucky .....3
OR
LIT 241 Literature of Central Kentucky .....3
OR
LIT 242 Literature of Western Kentucky .....3

**5. General Education**
ENG 101 Writing I3
OR
ENG 102 Writing II3
OR
HIS 108 History of the United States through 1865.....3
OR
HIS 109 History of the United States since 865 .....3
OR
HIS 240 History of Kentucky.....3
**Total .....18**

## Information Technology

The Information Technology Program offers an Associate in Applied Science degree and certificates in Information Technology Fundamentals, Computer Programming, Database Administration, Electronic Commerce, GIS Essentials, Information Security, Computer Support Specialist, Network Administration, and Web Development. This curriculum is supported by a solid foundation of core courses that focus on problem-solving and communication skills for Information Technology professionals involved in computer network environments. The program provides opportunities for practitioners in a variety of career fields to obtain knowledge and skills that enable them to adapt technology use to specific needs in their field of study.

Students entering this program will need to have basic computer skills such as would be obtained through CIS 100 (Introduction to Computers) or equivalent.

**The Computer Programming Option/Certificate** provides students with an introduction to programming languages with at least one of the languages studied at the intermediate level. Students will have the opportunity to study one language in depth or develop a breadth of knowledge in several languages. Students completing this option are prepared for the entry-level computer programmer positions.

**The Database Administration Option/Certificate** is intended for students wishing to upgrade or acquire new vocational skills in the fields of database administration, database design, and programming with database management systems. The course of study includes a foundation in business information systems, database theory and design, a procedural programming language, and a database language. A capstone course utilizes a special project, encompassing all of the areas, suitable for job experience and a job portfolio. Upon completion of the option/certificate, the graduate will be qualified to take industry designed and recognized certification examinations. Employment opportunities include entry-level positions to develop, implement, manage and maintain database systems.

**The Electronic Commerce Option/Certificate** provides training in designing, deploying, and managing an Internet e-commerce site. This option will prepare students for careers as web page designers, web masters, or web site managers of a web-based business. A capstone class in web site implementation will encompass all facets of the program of study, and will provide experience and a job portfolio.

**The GIS Essentials Certificate** is designed to develop support in the GIS field and provide students with practical GIS skills and a solid foundation for geographical manipulation. Students will gain experience through developing and implementing GIS Applications.

Students entering this certificate program will need to have basic computer skills and basic program logic skills such as would be obtained through CIS 100 (Introduction to Computers), CIS 120 (Program Design and Development) and CIS 130 (Microcomputer Applications) or equivalent.

### INFORMATION SECURITY OPTION/CERTIFICATE

A program of study designed to provide a solid background in information security. Fundamentals of information security, offensive techniques, defensive techniques, and security topics such as operating system security, network security design, or other security topics are covered. This option will prepare students for entry-level positions in the areas of network security, auditing and penetration testing, firewall configuration, and computer crime investigation.

**The Computer Support Specialist Option/Certificate** will provide an in-depth knowledge of application software, current Microsoft Windows client operating systems and user support skills. Upon completion of the option/certificate, the graduate will be qualified to take industry designed and recognized certification examinations. Employment opportunities include entry-level positions supporting applications, operating systems, and end users.

**The Network Administration Option/Certificate** provides the concepts and skills needed to design, set-up, maintain and expand networked and telecommunications systems. The curriculum provides specific training in Cisco, and/or Microsoft network systems. Upon completion of the option/certificate, the graduate will be qualified to take industry designed and recognized certification examinations. Employment opportunities include entry-level positions in installation and administration of local and wide area networks in medium to large businesses and organizations, and computer network administration positions in small businesses.

**The Web Development and Administration Option/Certificate** will provide training in designing, deploying, and managing a web site from both a hardware and software perspective. This option will prepare students for careers as web site developers, webmasters, and web administrators. A capstone class in web site implementation will encompass all facets of the program of study, and will provide experience and a job portfolio.

## ASSOCIATE IN APPLIED SCIENCE

**GENERAL EDUCATION CORE:**

ENG 101 Writing I....3
ENG 102 Writing II....3
MT 150 College Algebra....3
PHY 152 Introduction to Physics AND....3
PH 162 Introduction to Physics Laboratory II OR....1
PH 171 Applied Physics OR....(4)
PH 217 Applied Industrial Physics....(5)
Oral Communications Course....3
Social Interaction Course....3
Heritage/Humanities Course....3
**Subtotal ....22-23**

**TECHNICAL CORE**

CIS 120 Program Design and Development....3
CIS 130 Microcomputer Applications OR....3
ET 107 Computer Applications for Technicians....(4)
ET 232 Computer Software Maintenance OR....3
CIS 110 Operating Systems Concepts....(3)
ET 234 Computer Hardware Maintenance....3
NIS 160 Networking Core Technologies * OR....3
IT 120 Cisco Internetworking I **....(4)
IT 170 Introduction to Database Design....3
IT 132 Web Page Development OR....3
IT 130 Web Site Design and Production....(4)
Beginning Level Programming Language....3
* recommended for Microsoft Networking Tracks....
** recommended for Cisco Networking Tracks....
**Subtotal ....24-27**

**BEGINNING LEVEL PROGRAMMING LANGUAGE COURSES:**

CIS 143 COBOL Programming....3
IT 147 SQL Programming....3
CIS 148 Visual BASIC I....3
CIS 149 Java Programming I....3
CIS 155 C/C++ Programming I....3
CS 115 Introduction to Computer Programming....3
NIS 150 Perl Programming I*....3
NIS 152 Introduction to Javascript*....3
* Suggested for Electronic Commerce option....

**INTERMEDIATE LEVEL PROGRAMMING LANGUAGE COURSES:**

CIS 232 Programming for Windows Environment....3
CIS 243 COBOL Applications....3
CIS 252 C/C++ Programming II....3
CIS 262 C/C++ Programming III....3
CIS 248 Visual Basic II: Desktop Applications....3
CIS 249 Java Programming II....3
CIS 250 Java Game Development I....4
CS 215 Introduction to Program Design, Abstraction, and Problem Solving....4

**ADVANCED LEVEL PROGRAMMING LANGUAGE COURSES**

CIS 258 Visual Basic III: Distributed Applications....3
CIS 259 Java Programming III....3
CIS 260 Java Game Development II....4

**COMPUTER PROGRAMMING OPTION**

CIS 220 Systems Analysis and Design....3
COE 199 Cooperative Education OR....3
CIS 280 Internship....(3)
ACC 201 Financial Accounting....3
Programming Languages (must include at least 6 credit hours above the beginning level)....12
Management Course (Choose from courses listed below)3
**Subtotal ....24**
**Total ....70-74**

**MANAGEMENT COURSES FOR COMPUTER PROGRAMMING OPTION/CERTIFICATE**

BA 200 Small Business Management....3
BA 274 Human Resource Management....3
BA 287 Supervisory Management....3
BA 288 Personal and Organizational Leadership....3
MFG 256 Production Management....3
OST 275 Office Management....3
QMS 101 Introduction to Quality Systems....3
QMS 201 Customer Service Improvement Skills....3

**DATABASE ADMINISTRATION OPTION:**

IT 147 SQL Programming....3
IT 270 Database Systems – Implementation & Management....3
Intermediate Level Programming Language....3
Select Oracle or Microsoft Track (listed below)....12

**Subtotal ....21**
**Total Credits ....67**

**DATABASE ADMINISTRATION OPTION – ORACLE TRACK (BASIC):**

IT 272 Oracle Database Fundamentals I....3
NIS 213 Administering Microsoft Windows Server OR ..3

NIS 230 UNIX Administration....(3)
Technical Electives (Listed under any IT Option)....6

**Oracle Track ....12**

**DATABASE ADMINISTRATION OPTION – ORACLE TRACK (ENHANCED):**

IT 272 Oracle Database Fundamentals I....3
IT 274 Oracle Database Fundamentals II....3
IT 278 Oracle Database Performance Tuning....3
NIS 213 Administering Microsoft Windows Server OR ..3
NIS 230 UNIX Administration....(3)

**Oracle Track ....12**

**DATABASE ADMINISTRATION OPTION – MICROSOFT TRACK (ENHANCED):**

(A Basic Track is not available for the Microsoft Track at this time)

NIS 246 Microsoft SQL Server Administration....3
NIS 247 Microsoft SQL Server Implementation....3
NIS 248 Microsoft SQL Server Data Warehousing....3

NIS 213 Administering Microsoft Windows Server .....3

**Microsoft Track .....12**

### ELECTRONIC COMMERCE OPTION

B&E 100 Introduction to Business and Economics OR .....1
BA 160 Introduction to Business.....(3)
BA 282 Principles of Marketing.....3
ACC 201 Financial Accounting .....3
BA/CIS 151 Introduction to Electronic Commerce.....3
IT 132 Web Page Development* OR.....3
IT 130 Web Site Design and Production *.....(4)
IT 230 Advanced Web Page Development.....3
IT 235 Data-Driven Web Design .....3
IT 291 E-Commerce Practicum: Site Implementation ...3
* Must take either IT 130 or IT 132 whichever course was not taken in the technical core. .....
**Subtotal .....22-25**
**Total .....68-75**

### COMPUTER SUPPORT SPECIALIST OPTION

CIS 230 Advanced Microcomputer Applications OR.....3
OST 225 Introduction to Desktop Publishing.....(3)
IT 237 Help Desk Service Skills and Tools.....3
IT 210 Operating System Support.....3
IT 215 Application Support.....3
CIS 280 Internship OR.....3
COE 199 Cooperative Education.....(3)
Technical Electives (listed below).....6
**Subtotal .....21**
**Total .....67-71**

**Technical Electives for Computer Support Specialist Option /Certificate**

ACC 201 Financial Accounting .....3
BA 287 Supervisory Management.....3
BA 288 Personal and Organizational Leadership.....3
OST 275 Office Management.....3
Beginning Level Programming Course .....3
(Cannot be same course as technical course).....
Intermediate Level Programming Course.....3
IT 130 Web Site Design and Production .....3
IT 230 Advanced Web Page Development.....3
IT 147 SQL Programming.....3
NIS 213 Administering Microsoft Windows Server: Topic3
NIS 230 UNIX Administration.....3
IT 235 Data-Driven Web Design .....3
CIS 230 Advanced Microcomputer Applications *.....3
OST 225 Introduction to Desktop Publishing *.....3
IT 180 IT Project Management .....3
Other Technical Courses as Approved by Program ..... Coordinator
* If not taken as a requirement in the option above

### NETWORK ADMINISTRATION OPTION MICROSOFT MCSA TRACK

NIS 211 Administering Microsoft Windows Professional: Topic .....3
NIS 213 Administering Microsoft Windows Server: Topic3
NIS 214 Supporting Windows Network Infrastructure Topic: .....3
Take one of the following MCSA Track electives... 3-6
Technical Electives (listed below) .....6
**Subtotal .....18-21**
**Total .....64-71**

### ELECTIVES FOR MCSA TRACK

NIS 216 Implementing and Administering Microsoft Windows Directory Services Topic: .....3
NIS 246 Microsoft SQL Server System Administration Topic: 3
NIS 245 Designing a Secure Windows Network Topic:....3
NIS 262 Microsoft Internet Security and Acceleration Server (ISA) .....3
NIS 264 Implementing and Managing Microsoft Exchange Server.....3
IT 210 Operating System Support* AND .....3
IT 215 Application Support *.....3
* must be completed together to count as single elective

### NETWORK ADMINISTRATION OPTION MICROSOFT MCSE TRACK

NIS 211 Administering Microsoft Windows Professional: Topic .....3
NIS 213 Administering Microsoft Windows Server: Topic3
NIS 214 Supporting Windows Network Infrastructure Topic: .....3
NIS 216 Implementing and Administering Microsoft ..... Windows Directory Services Topic: .....3
NIS 244 Designing a Windows Networking Services ..... Infrastructure Topic:.....3
NIS 242 Designing a Windows Directory Services ..... Infrastructure Topic: OR.....3
NIS 245 Designing a Secure Windows Network Topic:. (3)
Take one of the following MCSE Track electives3
Technical Elective (listed below) .....3
**Subtotal 24**
**Total 70-74**

**Electives for MCSE Track**

NIS 242 Designing a Windows Directory Services Infrastructure Topic:* .....3
NIS 245 Designing a Secure Windows Network Topic:*...3
NIS 246 Microsoft SQL Server System Administration Topic: .....3
NIS 262 Microsoft Internet Security and Acceleration Server (ISA) .....3
NIS 264 Implementing and Managing Microsoft Exchange Server .....3
IT 250 Introduction to Security.....4
* must be different than the course chosen above

### NETWORK ADMINISTRATION OPTION CISCO NETWORKING ASSOCIATE TRACK

IT 122 Cisco Internetworking II.....4
IT 220 Cisco Internetworking III .....4
IT 222 Cisco Internetworking IV.....4
NIS 213 Administering Microsoft Windows Server Topic OR.....3
NIS 230 UNIX Administration.....(3)

Technical Electives (listed below).....6
**Subtotal** .....**21**
**Total** .....**67-71**

### NETWORK ADMINISTRATION OPTION CISCO NETWORKING PROFESSIONAL TRACK

IT 280 Cisco CCNP 1 – Advanced Routing.....4
IT 282 Cisco CCNP 2 – Remote Access .....4
IT 284 Cisco CCNP 3 – Multilayer Switching.....4
IT 286 Cisco CCNP 4 – Network Troubleshooting .....4
Technical Electives (listed below).....6
**Subtotal** .....**22**
**Total** .....**68-72**

### TECHNICAL ELECTIVES FOR NETWORK ADMINISTRATION OPTION/CERTIFICATES:

COE 199 Cooperative Education.....1-6
NIS 270 Network Hardware Installation and Troubleshooting.....3
NIS 290 Selected Topics in Network and Information Systems Technology.....1-4
NIS 295 Independent Problems in Network and Information Systems .....1-4
CIS 280 Internship.....3
CMS 105 Multimedia Production and Applications I.....3
ET 102 Blueprint Reading .....2
ET 112 Digital Logic Circuits OR.....4
ENGT220 Digital II AND .....(2)
ENGT221 Digital II Lab .....(1)
ET 256 Microprocessor Fundamentals.....4
NIS 246 Microsoft SQL Server System Administration Topic: .....3
NIS 247 Microsoft SQL Server Implementation .....3
IT 270 Database Systems – Implementation & Management.....3
NIS 262 Microsoft Internet Security and Acceleration Server (ISA) .....3
NIS 264 Implementing and Managing Microsoft Exchange Server.....3
Any Course from another approved Networking Option Track
Programming or Scripting Language (must be different from technical core).....3
Other technical courses approved by the Program Coordinator .....1-3

### WEB DEVELOPMENT AND ADMINISTRATION OPTION

CIS 248 Visual Basic II: Desktop Applications OR.....3
CIS 249 Java Programming II .....(3)
NIS 150 Perl Programming I OR.....3
NIS 152 Introduction to Javascript .....(3)
NIS 275 Internet Servers Administration.....3
IT 130 Web Site Design and Production .....4
IT 230 Advanced Web Page Development.....3
IT 235 Data-driven Web Design.....3
IT 295 Web Development & Administration Practicum: Site Implementation.....3
Technical Elective (listed below) .....3
**Subtotal** .....**25**
**Total** .....**71-75**

### TECHNICAL ELECTIVES FOR WEB DEVELOPMENT AND ADMINISTRATION OPTION/CERTIFICATES;

NIS 211 Administering Microsoft Windows Professional: Topic .....3
NIS 213 Administering Microsoft Windows Server: Topic .....3
IT 147 SQL Programming.....3
NIS 246 Microsoft SQL Server System Administration Topic: .....3
IT 240 XML .....3
IT 236 Active Server Pages .....3
IT 134 Macromedia Flash.....3
IT 270 Database Systems – Implementation & Management.....3
Beginning Level Programming Language (must be different from technical core.
Recommend CIS 148 Visual BASIC I or CIS 149 Java Programming I) .....3

## CERTIFICATES:

### INFORMATION TECHNOLOGY FUNDAMENTALS

CIS 120 Program Design and Development .....3
CIS 130 Microcomputer Applications OR.....3
ET 107 Computer Applications for Technicians.....(4)
ET 232 Computer Software Maintenance OR .....3
CIS 110 Operating Systems Concepts.....(3)
ET 234 Computer Hardware Maintenance.....3
NIS 160 Networking Core Technologies OR.....3
IT 120 Cisco Internetworking I .....(4)
IT 170 Introduction to Database Design .....3
IT 132 Web Page Development OR .....3
IT 130 Web Site Design and Production .....(4)
Beginning Level Programming Language.....3
**Total** .....**24-27**

### A+ CERTIFICATION

CIS 130 Microcomputer Applications OR.....3
ET 107 Computer Applications for Technicians .....(4)
ET 232 Computer Software Maintenance .....3
ET 234 Computer Hardware Maintenance.....3
**Total** .....**9-10**

Computer Programming
CIS 120 Program Design and Development .....3
CIS 220 Systems Analysis and Design .....3
COE 199 Cooperative Education OR.....3
CIS 280 Internship .....(3)
ACC 201 Financial Accounting .....3
Beginning Level Programming Language.....3
Programming Languages (must include at least 6 credit hours above the beginning level) .....12
Management course (listed in the option).....3
**Total** .....**30**

### DATABASE ADMINISTRATION – BASIC (CERTIFICATE)

(Prerequisite: Moderate knowledge of industry-standard microcomputer operating systems, application software, computer program design and development techniques, and familiarity with

at least one programming language)

**Oracle Track:**

| | | | |
|---|---|---|---|
| IT | 170 | Introduction to Database Design | 3 |
| IT | 147 | SQL Programming | 3 |
| IT | 270 | Database Systems – Implementation and Management | 3 |
| IT | 272 | Oracle Database Fundamentals I | 3 |
| NIS | 213 | Administering Microsoft Windows Server OR | 3 |
| NIS | 230 | UNIX Administration | (3) |
| **Total Credits** | | | **15** |

### DATABASE ADMINISTRATION – ENHANCED (CERTIFICATE)

(Prerequisite: Moderate knowledge of industry-standard microcomputer operating systems, application software, computer program design and development techniques, and familiarity with at least one programming language)

Oracle Track:

| | | | |
|---|---|---|---|
| IT | 170 | Introduction to Database Design | 3 |
| IT | 147 | SQL Programming | 3 |
| IT | 270 | Database Systems – Implementation and Management | 3 |
| IT | 272 | Oracle Database Fundamentals I | 3 |
| IT | 274 | Oracle Database Fundamentals II | 3 |
| IT | 278 | Oracle Performance Tuning | 3 |
| NIS | 213 | Administering Microsoft Windows Server OR | 3 |
| NIS | 230 | UNIX Administration | (3) |
| **Total Credits** | | | **21** |

### DATABASE ADMINISTRATION –MICROSOFT TRACK

| | | | |
|---|---|---|---|
| IT | 170 | Introduction to Database Design | 3 |
| IT | 147 | SQL Programming | 3 |
| IT | 270 | Database Systems – Implementation and Management | 3 |
| NIS | 246 | Microsoft SQL Server System Administration Topic: | 3 |
| NIS | 247 | Microsoft SQL Server Implementation | 3 |
| NIS | 248 | Microsoft SQL Server Data Warehousing | 3 |
| NIS | 213 | Administering Microsoft Windows Server: Topic | 3 |
| **Total** | | | **21** |

### WEB/DATABASE ADMINISTRATION – ORACLE TRACK

| | | | |
|---|---|---|---|
| IT | 170 | Introduction to Database Design | 3 |
| IT | 147 | SQL Programming | 3 |
| IT | 272 | Oracle Database Fundamentals I | 3 |
| BA/CIS | 151 | Introduction to Electronic Commerce | 3 |
| IT | 132 | Web Page Development OR | 3 |
| IT | 130 | Web Site Design and Production | (4) |
| IT | 230 | Advanced Web Page Development | 3 |
| IT | 235 | Data-Driven Web Design | 3 |
| IT | 291 | E-Commerce Practicum: Site Implementation | 3 |
| Programming Course (scripting language preferred) | | | 3 |
| **Total** | | | **27-28** |

### WEB/DATABASE ADMINISTRATION – MICROSOFT TRACK

| | | | |
|---|---|---|---|
| IT | 170 | Introduction to Database Design | 3 |
| IT | 147 | SQL Programming | 3 |
| NIS | 246 | Microsoft SQL Server System Administration Topic: | 3 |
| BA/CIS | 151 | Introduction to Electronic Commerce | 3 |
| IT | 132 | Web Page Development OR | 3 |
| IT | 130 | Web Site Design and Production | (4) |
| IT | 230 | Advanced Web Page Development | 3 |
| IT | 235 | Data-Driven Web Design | 3 |
| IT | 291 | E-Commerce Practicum: Site Implementation | 3 |
| Programming Course (scripting language preferred) | | | 3 |
| **Total** | | | **27-28** |

### ELECTRONIC COMMERCE

| | | | |
|---|---|---|---|
| B & E | 100 | Introduction to Business and Economics OR | 1 |
| BA | 160 | Introduction to Business | (3) |
| BA | 282 | Principles of Marketing | 3 |
| ACC | 201 | Financial Accounting | 3 |
| BA/CIS | 151 | Introduction to Electronic Commerce | 3 |
| IT | 130 | Web Site Design and Production | 4 |
| IT | 132 | Web Page Development | 3 |
| IT | 230 | Advanced Web Page Development | 3 |
| IT | 235 | Data-Driven Web Design | 3 |
| IT | 291 | E-Commerce Practicum: Site Implementation | 3 |
| **Total** | | | **26-28** |

### INFORMATION SECURITY

| | | | |
|---|---|---|---|
| IT | 250 | Introduction to Security | 4 |
| IT | 252 | Attacks and Exploits | 4 |
| IT | 254 | Firewalls and Perimeter Defense | 4 |
| Security Elective (listed in the option) | | | 3 |
| **Total** | | | **15** |

### COMPUTER SUPPORT SPECIALIST

| | | | |
|---|---|---|---|
| CIS | 130 | Microcomputer Applications OR | 3 |
| ET | 107 | Computer Applications for Technicians OR | (4) |
| ET | 232 | Computer Software Maintenance OR | 3 |
| CIS | 110 | Operating Systems Concepts | (3) |
| ET | 234 | Computer Hardware Maintenance | 3 |
| CIS | 230 | Advanced Microcomputer Applications OR | 3 |
| OST | 225 | Introduction to Desktop Publishing | (3) |
| IT | 237 | Help Desk Service Skills and Tools | 3 |
| IT | 210 | Operating System Support | 3 |
| IT | 215 | Application Support | 3 |
| CIS | 280 | Internship OR | 3 |
| COE | 199 | Cooperative Education | (3) |
| Computer Support Elective (listed in the option) | | | 6 |
| **Total** | | | **30-31** |

### CISCO NETWORKING BASIC

| | | | |
|---|---|---|---|
| IT | 120 | Cisco Internetworking I | 4 |
| IT | 122 | Cisco Internetworking II | 4 |
| IT | 220 | Cisco Internetworking III | 4 |
| IT | 222 | Cisco Internetworking IV | 4 |
| **Total** | | | **16** |

### CISCO NETWORKING ENHANCED

| | | | |
|---|---|---|---|
| IT | 120 | Cisco Internetworking I | 4 |
| IT | 122 | Cisco Internetworking II | 4 |
| IT | 220 | Cisco Internetworking III | 4 |
| IT | 222 | Cisco Internetworking IV | 4 |
| NIS | 213 | Administering Microsoft Windows Server: Topic OR | 3 |
| NIS | 230 | UNIX Administration | (3) |
| Electives (listed in the option) | | | 6 |
| **Total** | | | **25** |

### CISCO NETWORKING PROFESSIONAL

| | | | |
|---|---|---|---|
| IT | 280 | Cisco CCNP 1 – Advanced Routing | 4 |
| IT | 282 | Cisco CCNP 2 – Remote Access | 4 |
| IT | 284 | Cisco CCNP 3 – Multilayer Switching | 4 |
| IT | 286 | Cisco CCNP 4 – Network Troubleshooting | 4 |
| Electives (listed in the option) | | | 6 |
| **Total** | | | **22** |

### MICROSOFT NETWORKING MCSA TRACK

| | | | |
|---|---|---|---|
| NIS | 160 | Networking Core Technologies | 3 |
| NIS | 211 | Administering Microsoft Windows Professional: Topic | 3 |
| NIS | 213 | Administering Microsoft Windows Server: Topic | 3 |
| NIS | 214 | Supporting Windows Network Infrastructure Topic: | 3 |
| Electives (listed in the Network Administration Option MCSA Track) | | | 3-6 |
| **Total** | | | **15-18** |

### MICROSOFT NETWORKING MCSE TRACK

| | | | |
|---|---|---|---|
| NIS | 160 | Networking Core Technologies | 3 |
| NIS | 211 | Administering Microsoft Windows Professional: Topic | 3 |
| NIS | 213 | Administering Microsoft Windows Server: Topic | 3 |
| NIS | 214 | Supporting Windows Network Infrastructure Topic: | 3 |
| NIS | 216 | Implementing and Administering Microsoft Windows Directory Services Topic: | 3 |
| NIS | 244 | Designing a Windows Networking Services Infrastructure Topic: | 3 |
| NIS | 242 | Designing a Windows Directory Services Infrastructure Topic: OR | 3 |
| NIS | 245 | Designing a Secure Windows Network Topic: | (3) |
| Elective (listed in the Network Administration Option MCSE Track) | | | 3 |
| **Total** | | | **24** |

### WEB ADMINISTRATOR

| | | | |
|---|---|---|---|
| NIS | 160 | Networking Core Technologies | 3 |
| NIS | 275 | Internet Servers Administration | 3 |
| ET | 232 | Computer Software Maintenance OR | 3 |
| CIS | 110 | Operating Systems Concepts | (3) |
| ET | 234 | Computer Hardware Maintenance | 3 |
| IT | 132 | Web Page Development | 3 |
| NIS | 150 | Perl Programming I OR | 3 |
| NIS | 152 | Introduction to Javascript | (3) |
| Electives (listed in the option) | | | 6 |
| **Total** | | | **24** |

### WEB SITE DEVELOPER

| | | | |
|---|---|---|---|
| CIS | 120 | Program Design and Development | 3 |
| IT | 130 | Web Site Design and Production | 4 |
| IT | 132 | Web Page Development | 3 |
| IT | 170 | Introduction to Database Design | 3 |
| IT | 230 | Advanced Web Page Development | 3 |
| IT | 235 | Data-Driven Web Design | 3 |
| Programming Languages | | | 9 |
| Electives (listed in the option) | | | 6 |
| **Total** | | | **34** |

## INTERDISCIPLINARY EARLY CHILDHOOD EDUCATION

The Interdisciplinary Early Childhood Education Program (IECE) is designed to provide students an understanding of the cognitive, physical, social and emotional development for working with young children. Opportunities to apply this knowledge in practical experiences are incorporated in the curriculum. Curriculum topics include, but are not limited to developmental ages and stages, health and safety, curriculum planning, assessment and family involvement. Employment opportunities are available in public and private preschools, early care educational settings, early intervention programs, Head Start, hospitals, campus child development centers, rehabilitation clinics and recreation centers.

In order to complete the Associate in Applied Science degree in IECE, a student must complete all core courses, as well as a general education component. Students enrolled in the Program must achieve a minimum grade of "C" in each required IECE course (EC/FAM and/or IECE prefixes) to qualify for certificate completion and graduation. Competencies, courses, requirements and experiences will vary depending upon the degree or certificate and achieved.

Kentucky State Licensing Regulations require that any individual who shall be working with children submit to a Criminal Records Check, and/or a Criminal Abuse and Neglect history, and a Tuberculosis (TB) skin test. Therefore, students will be required to submit this documentation before taking applicable courses in the program. Students are also required to carry liability insurance in the courses that require field experience. This is available through the college. Admission to IECE courses may also be dependent upon class availability.

Individuals who are currently working in child care 20 hrs. or more a week may qualify for the Childhood Development Scholarship. Details are available at http://www.kheaa.com

**Required: General Education Courses**

| | | | |
|---|---|---|---|
| ENG | 101 | Writing I | 3 |
| ENG | 102 | Writing II | 3 |
| COM | 181 | Basic Public Speaking | 3 |
| OR | | | |
| COM | 252 | Introduction to Interpersonal Communication | (3) |
| PY | 110 | General Psychology | 3 |
| OR | | | |
| PSY | 100 | Introduction to Psychology | (4) |
| Heritage/Humanities** | | | 3 |

Science .....3
Mathematics .....3
Computer Course .....3
**Sub-Total .....24-25**

**TECHNICAL SUPPORT COURSES**

IECE 101 Orientation to Early Childhood Education .....3
IECE 102 Foundations of Early Childhood Education.....3
IECE 120 Health, Safety, and Nutrition.....3
IECE 130 Early Childhood Development .....3
IECE 140 Guidance of Young Children.....3
IECE 170 Observation and AssessmentOR .....(3)
IECE 180 Approaches to ECE Curriculum..... (3)
OR
IECE 190 Applied Experiences in ECE (3) (CDA ONLY)
IECE 216 Literacy and Language .....3
IECE 221 Creative Expression in IECE .....3
IECE 230 Business Administration of ECE .....3
IECE 235 Introduction to Inclusive Education.....3
IECE 246 Life Sciences in IECE .....3
IECE 240 Administration of ECE Programs ..... 3
OR
IECE 250 School Age Child Care .....(3)
IECE 260 Infant and Toddler Education and Programming 3
IECE 291 IECE Practicum/Cooperative Education .....3
**Sub-Total .....42**
**Total Credits .....66-67**

## CERTIFICATES

**CERTIFICATE - KY CHILD CARE PROVIDER (COMMONWEALTH CREDENTIAL)**

**Required:**
IECE 101Orientation to Early Childhood Education .....3
**Total Credits: .....3**

**CERTIFICATE - CHILD CARE ASSISTANT (CHILD DEVELOPMENT ASSOCIATE (CDA)**

**Required:**
IECE 101 Orientation to Early Childhood Education .....3
IECE 102 Foundations of Early Childhood Education .....3
Any IECE three (3) hour course 3
**Total Credits: .....9**

**CERTIFICATE - EARLY CHILDHOOD ADMINISTRATOR (DIRECTOR'S CREDENTIAL)**

**OPTION ONE: COURSE WORK**

**Required:**
IECE 101 Orientation to Early Childhood Education .....3
IECE 102 Foundations of Early Childhood Education .....3
IECE 230 Business Administration of ECE Programs.....3
IECE 240 Administration of Early Childhood Education...3
**Total Credits: .....12**

**OPTION TWO: WITH A CURRENT CDA**

Articulated credit for IECE 101 and IECE 102
**Required:**
IECE 230 Business Administration of ECE Programs.....3
IECE 240 Administration of Early Childhood Education...3
**Total Credits: .....6**

**OPTION THREE: WITH LIFE SKILLS**

Portfolio to replace competencies for IECE 101 and IECE 102
**Required:**
IECE 230 Business Administration of ECE Programs.....3
IECE 240 Administration of Early Childhood Education ..3
Life Skills is defined as a total of five years (10,000 Hours) of paid, full-time work experience in a licensed child care facility. Two and one-half years (5,000 Hours) must have been within the last five (5) years.

**CERTIFICATE - KY EARLY CHILDHOOD**

**Required:**
IECE 101 Orientation to Early Childhood Education .....3
IECE 102 Foundations of Early Childhood Education .....3
IECE 120 Health, Safety, and Nutrition.....3
IECE 130 Early Childhood Development .....3
IECE 140 Guidance of Young Children.....3
IECE 180 Approaches to Early Childhood Education

**Curriculum 3**
IECE 170 Observation and Assessment .....3
OR
IECE 190 Applied Experiences in Early Childhood Education .....(3)
ENG 101 Writing I .....3
COM 181 Basic Public Speaking OR.....3
COM 252 Introduction to Interpersonal Communication (3)
PY 110 General Psychology OR .....3
PSY 100 Introduction to Psychology.....(4)
Computer Course .....3
**Total Credit Hours .....33**

**CERTIFICATE - INTERDISCIPLINARY EARLY CHILDHOOD EDUCATION TECHNICAL**

**Required:**
IECE 101 Orientation to Early Childhood Education .....3
IECE 102 Foundations of Early Childhood Education .....3
IECE 120 Health, Safety, and Nutrition.....3
IECE 130 Early Childhood Development .....3
IECE 140 Guidance of Young Children.....3
IECE 180 Approaches to Early Childhood Education

**Curriculum 3**
IECE 170 Observation and Assessment OR.....3
IECE 190 Applied Experiences in Early Childhood Education .....(3)
IECE 216 Literacy and Language in IECE .....3
IECE 221 Creative Expression in IECE.....3
IECE 246 Life Sciences in IECE.....3
IECE 235 Introduction to Inclusive Education.....3
IECE 291 IECE Practicum/Cooperative Education.....3
**Total Credit Hours .....36**

## MACHINE TOOL TECHNOLOGY

Work activities in machine shop involve applying knowledge of machine capabilities, the properties of materials, and shop practices

to set-up and operate various machines. The skills needed to position work pieces, adjust machines, and verify the accuracy of machine functions and finish products are taught by classroom instruction, demonstration, and hands on experience.

Students enrolled in the Machine Tool Technology program must achieve a minimum grade of "C" in each BRX, MTT, and IE Core.

## ASSOCIATE IN APPLIED SCIENCE

### MACHINE TOOL TECHNOLOGY

MTT 110 Fundamentals of Machine Tools A AND .....3
MTT 112 Fundamentals of Machine Tools B OR.....4
MTT 114 Fundamentals of Machine Tools .....(7)
MTT 118 Metrology/Control Charts .....3
MTT 120 Applied Machining I AND.....3
MTT 122 Applied Machining II OR .....4
MTT 124 Applied Machining .....(7)
MTT 130 Manual Programming AND .....3
MTT 132 CAD/CAM/CNC OR .....3
MTT 134 Manual Programming/CAD/CAM/CNC.....(6)
MTT 210 Industrial Machining I AND .....3
MTT 212 Industrial Machining II OR.....4
MTT 214 Industrial Machining.....(7)
MTT 220 Advanced Industrial Machining I AND .....4
MTT 222 Advanced Industrial Machining II OR.....2
MTT 224 Advanced Industrial Machining.....(6)
MTT 2301 Intro to Conversational Programming AND 3
MTT 2302 Conversational Editing and Subroutines OR.3
MTT 230 Conversational Programming.....(6)
MTT 2401 Intro to 3-D Code Sequencing and Tool path .... Production AND..... 3
MTT 2402 Advanced 3-D Code Sequencing and Macro ..... Systems OR.....3
MTT 240 Intro to 3-D Programming.....(6)
BRX 110 Basic Blueprint Reading for Machinist AND.....2
BRX 210 Mechanical Blueprint Reading for Machinist OR2
BRX 112 Blueprint Reading for Machinist .....(4)
Eng 101 Writing I .....3
MT115 Technical Mathematics or.....(3)
MT125 Technical Algebra and Trigonometry or Higher.....3
Heritage/Humanities .....3
Science .....3 – 4
Electives .....2 - 3
Social Interaction .....3
Computer Literacy .....2 - 3

**Recommended Additional General Education.....**
COM 181 Basic Public Speaking or .....(3)
COM 252 Introduction to Interpersonal Communications(3)
**Total Credits .....71-77**

## DIPLOMAS

### CNC MACHINIST

MTT 110 Fundamentals of Machine Tools A .....3
AND
MTT 112 Fundamentals of Machine Tools B.....4
OR
MTT 114 Fundamentalsof Machine Tools .....(7)
MTT 118 Metrology/Control Charts .....3
MTT 120 Applied Machining I.....3
AND
MTT 122 Applied Machining II .....4
OR
MTT 124 Applied Machining .....(7)
MTT 130 Manual Programming .....3
AND
MTT 132 CAD/CAM/CNC .....3
OR
MTT 134 Manual Programming/CAD/CAM/CNC.....(6)
MTT 210 Industrial Machining I AND .....3
MTT 212 Industrial Machining II OR.....4
MTT 214 Industrial Machining.....(7)
MTT 220 Advanced Industrial Machining I AND .....4
MTT 222 Advanced Industrial Machining II OR.....2
MTT 224 Advanced Industrial Machining.....(6)
MTT 2301 Intro to Conversational Programming AND 3
MTT 2302 Conversational Editing and Subroutines OR.3
MTT 230 Conversational Programming.....(6)
MTT 2401 Intro to 3-D Code Sequencing and Tool path .... Production AND.....3
MTT 2402 Advanced 3-D Code Sequencing and Macro ..... Systems OR.....3
MTT 240 Intro to 3-D Programming.....(6)
BRX 110 Basic Blueprint Reading for Machinist AND..2
BRX 210 Mechanical Blueprint Reading for Machinist OR .....2
BRX 112 Blueprint Reading for Machinist.....(4)
MT 115 Technical Mathematics or .....3
MT 125 Technical Algebra and Trigonometry or Higher(3)
Computer Literacy2 – 3
General Education/ Applied Academics .....3
Electives2 – 3
**Total Credits .....62-64**

### MACHINIST

MTT 110 Fundamentals of Machine Tools A AND .....3
MTT 112 Fundamentals of Machine Tools B OR.....4
MTT 114 Fundamentals of Machine Tools .....(7)
MTT 118 Metrology/Control Charts .....3
MTT 120 Applied Machining I AND.....3
MTT 122 Applied Machining II OR .....4
MTT 124 Applied Machining .....(7)
MTT 130 Manual Programming OR .....3
MTT 134 Manual Programming/CAD/CAM/CNC.....(6)
MTT 210 Industrial Machining I .....3
MTT 212 Industrial Machining II OR.....4
MTT 214 Industrial Machining.....(7)
MTT 220 Advanced Industrial Machining I AND .....4
MTT 222 Advanced Industrial Machining II OR.....2
MTT 224 Advanced Industrial Machining.....(6)
BRX 110 Basic Blueprint Reading for Machinist AND...2
BRX 210 Mechanical Blueprint Reading for Machinist OR .....2
BRX 112 Blueprint Reading for Machinist .....(4)
MT115 Technical Mathematics or.....3
MT125 Technical Algebra and Trigonometry or Higher...(3)
Computer Literacy .....2 – 3

General Education/ Applied Academics .....3
Electives .....2 – 3
**Total Credits .....47-52**

## CERTIFICATES

### EXPLORATORY MACHINING

MTT 110 Fundamentals of Machine Tools A AND .....3
MTT 112 Fundamentals of Machine Tools B OR.....4
MTT 114 Fundamentals of Machine Tools .....(7)
**Total Credits .....7**

### MACHINE TOOL OPERATOR I

MTT 110 Fundamentals of Machine Tools A AND .....3
MTT 112 Fundamentals of Machine Tools B OR.....4
MTT 114 Fundamentals of Machine Tools .....(7)
MTT 130 Manual Programming OR .....3
MTT 134 Manual Programming CAD/CAM/CNC .....(6)
BRX 110 Basic Blueprint Reading for Machinist .....2
MT115 Technical Mathematics .....3
**Total Credits ..... 15 – 18**

### MACHINE TOOL OPERATOR II

MTT 110 Fundamentals of Machine Tools A AND .....3
MTT 112 Fundamentals of Machine Tools B OR.....4
MTT 114 Fundamentals of Machine Tools .....(7)
MTT 118 Metrology/Control Charts .....3
MTT 120 Applied Machining I AND.....3
MTT 122 Applied Machining II OR .....4
MTT 124 Applied Machining .....(7)
MTT 130 Manual Programming OR .....3
MTT 134 Manual Programming CAD/CAM/CNC .....(6)
BRX 110 Basic Blueprint Reading for Machinist .....2
Computer Literacy .....2 – 3
MT115 Technical Mathematics OR .....3
MT125 Technical Algebra and Trigonometry or Higher ...(3)
**Total Credits ..... 27 – 31**

## MANUFACTURING INDUSTRIAL TECHNOLOGY: COMPUTER AIDED DRAFTING

Computer Aided Drafters are technical specialists with breadbased skills for architectural, civil, mechanical, and manufacturing fields. In this program, the students are taught manual drafting techniques and 2D and 3D CAD. Specific skills taught include, but are not limited to, lettering, geometric construction, orthographic projections, dimensioning and tolerancing, and related technical processes. These skills are required to transform specifications and instructions of architects, designers, and engineers into complete and precise drawings. The drafter is a skilled technician with a thorough understanding of the graphic language and is an indispensable contributor to the engineering design team.
Progression in the Computer Aided Drafting program is contingent upon achievement of a grade of "C" or greater in each technical and mathematics cours e with maintenance of a 2.0 cumulative grade point average or above (on a 4 scale).

## DIPLOMA

### MECHANICAL DRAFTER

**General Education: (6 credits)**
MT 110 Applied Mathematics OR Higher level course .....3

**Choose one from the following categories:**
Heritage/Humanities .....3
Science .....3
Social Interaction .....3
Oral Communication .....3

## MANUFACTURING INDUSTRIAL TECHNOLOGY: ELECTRICAL TECHNOLOGY

The electrical technology program focuses on preparing students for entry-level electrician positions in industry and the building trades. The study of electrical theory and practical application of that theory provides the foundation of this program. Laboratory and classroom instruction include such topics as blueprint reading, motor controls, and residential wiring. Construction Electricity concentrates on residential electrical construction, and industrial electricity on industrial electrical construction.

Students enrolled in the Electrical Technology program are required to achieve a minimum grade of "C" in each technical core and technical elective course.

## ASSOCIATE IN APPLIED SCIENCE

### GENERAL EDUCATION

ENG 101 Writing I .....3
MT 115 Technical Mathematics OR .....3
MT 125 Technical Algebra & Trigonometry OR .....(3)
Higher Level Mathematics Course .....(3)
Science .....3
Social Interaction .....3
Heritage/Humanities .....3
Oral Communications .....3
**Subtotal .....18**

### TECHNICAL CORE

ENGT 110 Circuits I .....3
ENGT 111 Circuits I Lab I .....1
ENGT 113 Circuits I Lab II .....1
ENGT 114 Circuits II .....3
ENGT 115 Circuits II Lab I .....1
ENGT 117 Circuits II Lab II .....1
EET 250 National Electric Code .....4
EET 264 Rotating Machines .....3
EET 265 Rotating Machines Lab .....1
EET 270 Motor Controls I .....3
EET 271 Motor Controls I Lab .....1
Computer Literacy .....3
**Subtotal .....25**

**INDUSTRIAL ELECTRICIAN SPECIALIZATION**

EET 154 Electrical Construction I AND .....2
EET 155 Electrical Construction I Lab AND ..... 2
EET 252 Electrical Construction II AND .....2
EET 253 Electrical Construction II Lab OR .....2
EET 254 Electrical Construction AND .....(3)
EET 255 Electrical Construction Lab .....(4)
EET 272 Motor Controls II AND .....2
EET 273 Motor Controls II Lab AND .....2
EET 276 Programmable Logic Controllers AND .....2
EET 277 Programmable Logic Controllers Lab OR .....2
EET 274 Electrical Motor Controls AND .....(3)
EET 275 Electrical Motor Controls Lab .....(4)
Technical Electives* .....9

**Subtotal .....23-25**
**Total Credits .....66-68**

**CONSTRUCTION ELECTRICIAN SPECIALIZATION**

EET 154 Electrical Construction I AND .....2
EET 155 Electrical Construction I Lab AND .....2
EET 252 Electrical Construction II AND .....2
EET 253 Electrical Construction II Lab OR .....2
EET 254 Electrical Construction AND .....(3)
EET 255 Electrical Construction Lab .....(4)
Technical Electives* .....10

**Subtotal .....17-18**
**Total Credits .....60-61**

**MOTOR CONTROL ELECTRICIAN SPECIALIZATION**

EET 272 Motor Controls II AND .....2
EET 273 Motor Controls II Lab .....2
EET 276 Programmable Logic Controllers AND .....2
EET 277 Programmable Logic Controllers Lab OR..... 2
EET 278 Electrical Motor Control II and PLC's AND ....(3)
EET 279 Electrical Motor Control II and PLC's Lab .....(4)
FPX 100 Fluid Power AND .....3
FPX 101 Fluid Power Lab OR .....2
ET 265 Applied Fluid Power .....(3)
Technical Electives* .....7

**Subtotal .....17-20**
**Total Credits .....60-63**

**TECHNICAL ELECTIVES*:**

*Courses may be taken with approval of the program instructor/advisor.

## DIPLOMAS

**ELECTRICAL TECHNOLOGY**

General Education:
MT 115 Technical Mathematics OR .....3
MT 125 Technical Algebra & Trigonometry OR .....(3)
Higher Level Mathematics Course .....(3)

Choose one of the following from the General Education list :

ENG 101 Writing I OR .....3
Science OR .....(3)
Social Interaction OR .....(3)
Heritage/Humanities OR .....(3)
Oral Communications .....(3)

**Subtotal .....6**

**TECHNICAL CORE:**

ENGT 110 Circuits I .....3
ENGT 111 Circuits I Lab I .....1
ENGT 113 Circuits I Lab II .....1
ENGT 114 Circuits II .....3
ENGT 115 Circuits II Lab I .....1
ENGT 117 Circuits II Lab II ..... 1
EET 250 National Electric Code..... 4
EET 264 Rotating Machines .....3
EET 265 Rotating Machines Lab .....1
EET 270 Motor Controls I .....3
EET 271 Motor Controls I Lab .....1
Computer Literacy .....3

**Subtotal .....25**

**INDUSTRIAL ELECTRICIAN**

EET 154 Electrical Construction I AND .....2
EET 155 Electrical Construction I Lab AND .....2
EET 252 Electrical Construction II AND .....2
EET 253 Electrical Construction II Lab OR .....2
EET 254 Electrical Construction AND .....(3)
EET 255 Electrical Construction Lab .....(4)
EET 272 Motor Controls II AND..... 2
EET 273 Motor Controls II Lab AND .....2
EET 276 Programmable Logic Controllers AND .....2
EET 277 Programmable Logic Controllers Lab OR .....2
EET 274 Electrical Motor Controls AND .....(3)
EET 275 Electrical Motor Controls Lab .....(4)
Technical Electives* .....9

**Subtotal .....23-25**
**Total Credits .....54-56**

**CONSTRUCTION ELECTRICIAN**

EET 154 Electrical Construction I AND .....2
EET 155 Electrical Construction I Lab AND .....2
EET 252 Electrical Construction II AND ..... 2
EET 253 Electrical Construction II Lab OR .....2
EET 254 Electrical Construction AND .....(3)
EET 255 Electrical Construction Lab .....(4)
Technical Electives* .....10

**Subtotal .....17-18**
**Total Credits .....48-49**

**MOTOR CONTROL ELECTRICIAN**

EET 272 Motor Controls II AND .....2
EET 273 Motor Controls II Lab .....2

EET 276 Programmable Logic Controllers AND .....2
EET 277 Programmable Logic Controllers Lab OR .....2
EET 278 Electrical Motor Control II and PLC's AND .... (3)
EET 279 Electrical Motor Control II and PLC's Lab ..... (4)
FPX 100 Fluid Power AND .....3
FPX 101 Fluid Power Lab OR .....2
ET 265 Applied Fluid Power ..... (3)
Technical Electives* ..... 7

**Subtotal .....17-20**
**Total Credits .....48-51**

## CERTIFICATE

### ELECTRICIAN APPRENTICE

ENGT 110 Circuits I .....3
ENGT 111 Circuits I Lab I .....1
ENGT 113 Circuits I Lab II .....1
ENGT 114 Circuits II .....3
ENGT 115 Circuits II Lab I .....1
ENGT 117 Circuits II Lab II .....1
EET 150 Transformers .....2
EET 151 Transformers Lab .....1
EET 250 National Electric Code .....4
EET 154 Electrical Construction I AND .....2
EET 155 Electrical Construction I Lab AND ..... 2
EET 252 Electrical Construction II AND ..... 2
EET 253 Electrical Construction II Lab OR .....2
EET 254 Electrical Construction AND ..... (3)
EET 255 Electrical Construction Lab ..... (4)
EET 264 Rotating Machinery AND .....2
EET 265 Rotating Machinery Lab AND .....2
EET 270 Electrical Motor Controls I AND .....2
EET 271 Electrical Motor Controls I Lab OR .....2
EET 268 Rotating Machinery Electrical Motor Controls I AND ..... (3)
EET 269 Rotating Machinery Electrical Motor Controls I Lab ..... (4)

**Total Credits .....31-33**

### ELECTRICIAN HELPER I

ENGT 110 Circuits I .....3
ENGT 111 Circuits I Lab I .....1
ENGT 113 Circuits I Lab II .....1
Technical Electives .....3

**Total Credits .....8**

### ELECTRICIAN HELPER II

ENGT 110 Circuits I .....3
ENGT 111 Circuits I Lab I .....1
ENGT 113 Circuits I Lab II .....1
ENGT 114 Circuits II .....3
ENGT 115 Circuits II Lab I .....1
ENGT 117 Circuits II Lab II .....1
Technical Electives .....3
**Total Credits .....13**

### RESIDENTIAL ELECTRICIAN I

ENGT 110 Circuits I .....3
ENGT 111 Circuits I Lab I .....1
ENGT 113 Circuits I Lab II .....1
ENGT 114 Circuits II .....3
ENGT 115 Circuits II Lab I .....1
ENGT 117 Circuits II Lab II .....1
EET 154 Electrical Construction I .....2
EET 155 Electrical Construction I Lab .....2

**Total Credits .....14**

### RESIDENTIAL ELECTRICIAN II

ENGT 110 Circuits I .....3
ENGT 111 Circuits I Lab I .....1
ENGT 113 Circuits I Lab II .....1
ENGT 114 Circuits II .....3
ENGT 115 Circuits II Lab I .....1
ENGT 117 Circuits II Lab II .....1
EET 154 Electrical Construction I AND .....2
EET 155 Electrical Construction II OR .....2
EET 254 Electrical Construction AND ..... (3)
EET 255 Electrical Construction Lab ..... (3)
EET 250 National Electrical Code .....4

**Total Credits .....18-20**

### MOTOR CONTROL ELECTRICIAN I

ENGT 110 Circuits I ..... 3
ENGT 111 Circuits I Lab I .....1
ENGT 113 Circuits I Lab II .....1
ENGT 114 Circuits II .....3
ENGT 115 Circuits II Lab I .....1
ENGT 117 Circuits II Lab II ..... 1
EET 150 Transformers AND .....2
EET 151 Transformers Lab AND .....1
EET 264 Rotating Machinery AND .....2
EET 265 Rotating Machinery Lab OR .....2
EET 266 Rotating Machinery and Transformers AND .... (3)
EET 267 Rotating Machinery and Transformers Lab ..... (3)
EET 250 National Electrical Code .....4
EET 270 Electrical Motor Controls I AND .....2
EET 271 Electrical Motor Controls I Lab AND .....2
EET 264 Rotating Machinery AND ..... (2)
EET 265 Rotating Machinery Lab OR..... (2)
EET 268 Rotating Machinery Electrical Motor Controls I AND ..... (3)
EET 269 Rotating Machinery Electrical Motor Controls Lab ..... (4)
CPU 150 Computer Fundamentals OR .....3
CIS 100 Introduction to Computers ..... (3)

**Total Credits .....28-30**

### MOTOR CONTROL ELECTRICIAN II

ENGT 110 Circuits I .....3
ENGT 111 Circuits I Lab I .....1
ENGT 113 Circuits I Lab II ..... 1

ENGT 114 Circuits II .....3
ENGT 115 Circuits II Lab I .....1
ENGT 117 Circuits II Lab II ..... 1
EET 150 Transformers AND .....2
EET 151 Transformers Lab AND .....1
EET 264 Rotating Machinery AND .....(2)
EET 265 Rotating Machinery Lab OR .....(2)
EET 266 Rotating Machinery and Transformers AND ....(3)
EET 267 Rotating Machinery and Transformers Lab .....(3)
EET 250 National Electrical Code .....4
EET 264 Rotating Machinery AND .....2
EET 265 Rotating Machinery Lab AND .....2
EET 270 Electrical Motor Controls I AND .....2
EET 271 Electrical Motor Controls I Lab OR .....2
EET 268 Rotating Machinery Electrical Motor Controls I AND .....(3)
EET 269 Rotating Machinery Electrical Motor Controls I Lab .....(4)
EET 272 Electrical Motor Controls II AND .....2
EET 273 Electrical Motor Controls II Lab AND .....2
EET 276 Programmable Logic Controllers AND .....2
EET 277 Programmable Logic Controllers Lab OR .....2
EET 278 Electrical Motor Control II and PLCs AND ....(3)
EET 279 Electrical Motor Control II and PLCs Lab .....(3)
CPU 150 Computer Fundamentals OR..... 3
CIS 100 Introduction to Computers .....(3)

**Total Credits .....36-38**

## MIT: ENGINEERING TECHNOLOGY

The Engineering Technology program provides course work, competencies and experiences to prepare the students for success in the areas of electronics, computer maintenance, mechanical, industrial, computer aided design, robotics and automation, communications, instrumentation, and telephony.

Progression in the Engineering Technology program is contingent upon achievement of a grade of "C" or better in each technical course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

### ASSOCIATE IN APPLIED SCIENCE

**GENERAL EDUCATION**
MT 150 College Algebra OR .....3
MT 125 Technical Algebra and Trigonometry OR .....(3)
MT 115 Technical Mathematics .....(3)
PH 171 Applied Physics OR .....4
Other Science with Consent of Advisor .....(3)
ENG 101 Writing I .....3
Social Interaction .....3
Oral Communications .....3
Heritage/Humanities .....3

**Subtotal .....18-19**

**CORE**
ENGT 110 Circuits I AND .....3
ENGT 111 Circuits I Lab 1 AND .....1
ENGT 113 Circuits I Lab 2 .....1
ENGT 114 Circuits II AND .....3
ENGT 115 Circuits II Lab 1 AND .....1
ENGT 117 Circuits II Lab 2 .....1
ENGT 210 Devices I AND .....3
ENGT 211 Devices I Lab 1 AND .....1
ENGT 213 Devices I Lab 2 .....1
ENGT 120 Digital I AND .....2
ENGT 121 Digital I Lab .....1
CAD 100 Introduction to Computer Aided Design OR .....3
BRX 120 Basic Blueprint Reading OR .....(3)
EET 148 Electronic Drafting .....(3)
CIS 100 Introduction to Computers OR .....3
ET 107 Computer Applications for Technicians .....(4)
ET 234 Computer Hardware Maintenance OR .....3
ET 250 Programmable Logic Controllers OR .....(4)
ET 256 Microprocessors Fundamentals (..... 4)

Subtotal .....27-29

**ELECTRONICS SPECIALIZATION**
ENGT 214 Devices II AND ..... 3
ENGT 215 Devices II Lab 1 AND .....1
ENGT 217 Devices II Lab 2 .....1
ENGT 220 Digital II AND .....2
ENGT 221 Digital II Lab .....1
Technical Electives * .....16

**Subtotal .....24**
**Total .....**
**69-72**

* Technical Electives: Any EET, ET, ENGT, IMT, CIS, NIS, IT, ISM, CAD, ICT, MFG, or any other course as approved by the program coordinator.

**COMPUTER MAINTENANCE SPECIALIZATION**
ET 232 Computer Software Maintenance ..... 3
ENGT 220 Digital II AND .....2
ENGT 221 Digital II Lab .....1
NIS 160 Networking Core Technologies OR .....3
IT 120 Cisco Internetworking I .....4
Technical Electives * .....12

**Subtotal .....21-22**
**Total .....66-70 ***

Technical Electives: Any EET, ET, ENGT, IMT, CIS, NIS, IT, ISM, CAD, ICT, MFG, or any other course as approved by the program coordinator.

**INDUSTRIAL SPECIALIZATION**
ENGT 214 Devices II AND .....3
ENGT 215 Devices II Lab 1 AND .....1
ENGT 217 Devices II Lab 2 .....1

ENGT 220 Digital II AND .....2
ENGT 221 Digital II Lab .....1
ET 244 Electrical Machinery and Controls .....4
Technical Electives * 15
Subtotal 27
Total 72-75
* Technical Electives: Any EET, ET, ENGT, IMT, CIS, NIS, IT, ISM, CAD, ICT, MFG, or any other course as approved by the program coordinator.

**COMPUTER AIDED DESIGN SPECIALIZATION**
CAD 150 Intro to Programming: CAD OR .....3
ADFT 130/131 Introduction to Architecture / LAB .....(4)
CAD 200 Intermediate CAD .....3
CAD 201 Advanced CAD .....4
Technical Electives * .....14

**Subtotal .....24-25**
**Total .....69-73**

* Technical Electives: Any EET, ET, ENGT, IMT, CIS, NIS, IT, ISM, CAD, ICT, MFG, or any other course as approved by the program coordinator.

COMMUNICATIONS SPECIALIZATION
ENGT 214 Devices II AND .....3
ENGT 215 Devices II Lab 1 AND .....1
ENGT 217 Devices II Lab 2 .....1
ENGT 220 Digital II AND .....2
ENGT 221 Digital II Lab .....1
ENGT 250 Electronics Communication .....3
ENGT 251 Electronics Communication Lab..... 3
Technical Electives * .....12

**Subtotal .....26**
**Total .....71-74**

* Technical Electives: Any EET, ET, ENGT, IMT, CIS, NIS, IT, ISM, CAD, ICT, MFG, or any other course as approved by the program coordinator.

## DIPLOMA

**ELECTRONICS**
MT 150 College Algebra and Functions OR .....3
MT 125 Technical Algebra and Trigonometry OR .....(3)
MT 115 Technical Mathematics .....(3)
Any Approved General Education Course .....3

Subtotal .....6

**Core**
ENGT 110 Circuits I AND .....3
ENGT 111 Circuits I Lab 1 AND .....1
ENGT 113 Circuits I Lab 2 .....1
ENGT 114 Circuits II AND .....3
ENGT 115 Circuits II Lab 1 AND .....1
ENGT 117 Circuits II Lab 2 .....1
ENGT 210 Devices I AND .....3
ENGT 211 Devices I Lab 1 AND .....1
ENGT 213 Devices I Lab 2 .....1
ENGT 120 Digital I AND .....2
ENGT 121 Digital I Lab .....1
CAD 100 Introduction to Computer Aided Design OR .....3
BRX 120 Basic Blueprint Reading OR..... (3)
EET 148 Electronic Drafting .....(3)
CIS 100 Introduction to Computers OR .....3
ET 107 Computer Applications for Technicians .....(4)
ET 234 Computer Hardware Maintenance OR .....3
ET 250 Programmable Logic Controllers OR .....(4)
ET 256 Microprocessors Fundamentals..... (4)
**Subtotal .....27-29**

ENGT 214 Devices II AND .....3
ENGT 215 Devices II Lab 1 AND .....1
ENGT 217 Devices II Lab 2 .....1
ENGT 220 Digital II AND .....2
ENGT 221 Digital II Lab .....1
Technical Electives * .....16

**Subtotal .....24**
**Total .....57-59**

* Technical Electives: Any EET, ET, ENGT, IMT, CIS, NIS, IT, ISM, CAD, ICT, MFG, or any other course as approved by the program coordinator.

**INDUSTRIAL**
**General Education**
MT 150 College Algebra OR .....3
MT 125 Technical Algebra and Trigonometry OR .....(3)
MT 115 Technical Mathematics .....(3)
Any Approved General Education Course .....3

**Subtotal .....6**

**Core**
ENGT 110 Circuits I AND .....3
ENGT 111 Circuits I Lab 1 AND .....1
ENGT 113 Circuits I Lab 2 .....1
ENGT 114 Circuits II AND .....3
ENGT 115 Circuits II Lab 1 AND .....1
ENGT 117 Circuits II Lab 2 .....1
ENGT 210 Devices I AND .....3
ENGT 211 Devices I Lab 1 AND .....1
ENGT 213 Devices I Lab 2 .....1
ENGT 120 Digital I AND .....2
ENGT 121 Digital I Lab .....1
CAD 100 Introduction to Computer Aided Design OR .....3
BRX 120 Basic Blueprint Reading OR .....(3)
EET 148 Electronic Drafting .....(3)
CIS 100 Introduction to Computers OR..... 3
ET 107 Computer Applications for Technicians .....(4)
ET 234 Computer Hardware Maintenance OR .....3
ET 250 Programmable Logic Controllers OR .....(4)
ET 256 Microprocessors Fundamentals .....(4)

**Subtotal** .....**27-29**

ENGT 214 Devices II AND .....3
ENGT 215 Devices II Lab 1 AND .....1
ENGT 217 Devices II Lab 2 .....1
ENGT 220 Digital II AND .....2
ENGT 221 Digital II Lab .....1
ET 244 Electrical Machinery and Controls .....4
Technical Electives * .....15

**Subtotal** .....**27**
**Total** .....**60-62**

* Technical Electives: Any EET, ET, ENGT, IMT, CIS, NIS, IT, ISM, CAD, ICT, MFG, or any other course as approved by the program coordinator.

**COMMUNICATIONS**
**General Education:**
MT 150 College Algebra OR .....3
MT 125 Technical Algebra and Trigonometry OR..... (3)
MT 115 Technical Mathematics .....(3)
Any Approved General Education Course .....3

**Subtotal** .....**6**

**Core:**
ENGT 110 Circuits I AND .....3
ENGT 111 Circuits I Lab 1 AND .....1
ENGT 113 Circuits I Lab 2 .....1
ENGT 114 Circuits II AND .....3
ENGT 115 Circuits II Lab 1 AND .....1
ENGT 117 Circuits II Lab 2 .....1
ENGT 210 Devices I AND .....3
ENGT 211 Devices I Lab 1 AND .....1
ENGT 213 Devices I Lab 2 .....1
ENGT 120 Digital I AND ..... 2
ENGT 121 Digital I Lab .....1
CAD 100 Introduction to Computer Aided Design OR .....3
BRX 120 Basic Blueprint Reading OR .....(3)
EET 148 Electronic Drafting .....(3)
CIS 100 Introduction to Computers OR .....3
ET 107 Computer Applications for Technicians .....(4)
ET 234 Computer Hardware Maintenance OR .....3
ET 250 Programmable Logic Controllers OR .....(4)
ET 256 Microprocessors Fundamentals .....(4)

**Subtotal 27-29**

ENGT 214 Devices II AND .....3
ENGT 215 Devices II Lab 1 AND .....1
ENGT 217 Devices II Lab 2 .....1
ENGT 220 Digital II AND .....2
ENGT 221 Digital II Lab .....1
ENGT 250 Electronics Communication .....3
ENGT 251 Electronics Communication Lab .....3
Technical Electives * .....12
**Subtotal** .....**26**
**Total** .....**59-61**

* Technical Electives: Any EET, ET, ENGT, IMT, CIS, NIS, IT, ISM, CAD, ICT, MFG, or any other course as approved by the program coordinator.

**COMPUTER MAINTENANCE**
**General Education:**
MT 150 College Algebra OR .....3
MT 125 Technical Algebra and Trigonometry OR .....(3)
MT 115 Technical Mathematics .....(3)
Any Approved General Education Course .....3

**Subtotal** .....**6**
ENGT 110 Circuits I AND..... 3
ENGT 111 Circuits I Lab 1 AND .....1
ENGT 113 Circuits I Lab 2 .....1
ENGT 114 Circuits II AND ..... 3
ENGT 115 Circuits II Lab 1 AND .....1
ENGT 117 Circuits II Lab 2 .....1
ENGT 210 Devices I AND..... 3
ENGT 211 Devices I Lab 1 AND .....1
ENGT 213 Devices I Lab 2 .....1
ENGT 120 Digital I AND ..... 2
ENGT 121 Digital I Lab .....1
CAD 100 Introduction to Computer Aided Design OR .....3
BRX 120 Basic Blueprint Reading OR..... (3)
EET 148 Electronic Drafting .....(3)
CIS 100 Introduction to Computers OR .....3
ET 107 Computer Applications for Technicians .....(4)
ET 234 Computer Hardware Maintenance OR .....3
ET 250 Programmable Logic Controllers OR .....(4)
ET 256 Microprocessors Fundamentals .....(4)

**Subtotal** .....**27-29**

ET 232 Computer Software Maintenance .....3
ENGT 220 Digital II AND .....2
ENGT 221 Digital II Lab .....1
NIS 160 Networking Core Technologies OR .....3
IT 120 Cisco Internetworking I .....(4)
Technical Electives * .....12

**Subtotal** .....**21-22**
**Total** .....**54-57**

* Technical Electives: Any EET, ET, ENGT, IMT, CIS, NIS, IT, ISM, CAD, ICT, MFG, or any other course as approved by the program coordinator.

## CERTIFICATE

**ELECTRONICS TESTER**
ENGT 110 Circuits I AND .....3
ENGT 111 Circuits I Lab 1 AND .....1
ENGT 113 Circuits I Lab 2 .....1
ENGT 114 Circuits II AND .....3
ENGT 115 Circuits II Lab 1 AND .....1
ENGT 117 Circuits II Lab 2 .....1

**Total** ..... **10**

**ELECTRONICS MECHANIC APPRENTICE**

ENGT 110 Circuits I AND .....3
ENGT 111 Circuits I Lab 1 AND .....1
ENGT 113 Circuits I Lab 2 .....1
ENGT 114 Circuits II AND .....3
ENGT 115 Circuits II Lab 1 AND .....1
ENGT 117 Circuits II Lab 2 .....1
ENGT 210 Devices I AND .....3
ENGT 211 Devices I Lab 1 AND .....1
ENGT 213 Devices I Lab 2 .....1
ENGT 120 Digital I AND .....2
ENGT 121 Digital I Lab .....1

**Total .....18**

**ELECTRONICS TECHNICIAN APPRENTICE**

ENGT 110 Circuits I AND .....3
ENGT 111 Circuits I Lab 1 AND .....1
ENGT 113 Circuits I Lab 2 .....1
ENGT 114 Circuits II AND .....3
ENGT 115 Circuits II Lab 1 AND .....1
ENGT 117 Circuits II Lab 2 ..... 1
ENGT 210 Devices I AND .....3
ENGT 211 Devices I Lab 1 AND .....1
ENGT 213 Devices I Lab 2 .....1
ENGT 214 Devices II AND .....3
ENGT 215 Devices II Lab 1 AND .....1
ENGT 217 Devices II Lab 2 .....1
ENGT 120 Digital I AND ..... 2
ENGT 121 Digital I Lab .....1
ENGT 220 Digital II AND .....2
ENGT 221 Digital II Lab .....1

**Total 26**

**MAINTENANCE TECHNICIAN I**

CAD 100 Introduction to Computer Aided Design OR .....3
BRX 120 Basic Blueprint Reading..... (3)
ENGT 110 Circuits I AND .....3
ENGT 111 Circuits I Lab 1 AND .....1
ENGT 113 Circuits I Lab 2 .....1
ENGT 114 Circuits II AND .....3
ENGT 115 Circuits II Lab 1 AND .....1
ENGT 117 Circuits II Lab 2 .....1
ET 265 Applied Fluid Power .....3

**Total .....16**

**MAINTENANCE TECHNICIAN II**

CAD 100 Introduction to Computer Aided Design OR .....3
BRX 120 Basic Blueprint Reading .....(3)
ENGT 110 Circuits I AND .....3
ENGT 111 Circuits I Lab 1 AND .....1
ENGT 113 Circuits I Lab 2 .....1
ENGT 114 Circuits II AND .....3
ENGT 115 Circuits II Lab 1 AND .....1
ENGT 117 Circuits II Lab 2 .....1
ET 265 Applied Fluid Power .....3
ET 244 Electrical Machinery and Controls .....4
ET 250 Programmable Logic Controllers .....4

**Total .....24**

**COMPUTER MAINTENANCE TECHNICIAN I**

ENGT 110 Circuits I AND .....3
ENGT 111 Circuits I Lab 1 AND .....1
ENGT 113 Circuits I Lab 2 .....1
ENGT 114 Circuits II AND .....3
ENGT 115 Circuits II Lab 1 AND .....1
ENGT 117 Circuits II Lab 2 .....1
ENGT 120 Digital I AND ..... 2
ENGT 121 Digital I Lab ..... 1
CIS 100 Introduction to Computers OR .....3
ET 107 Computer Applications for Technicians .....(4)
ET 234 Computer Hardware Maintenance .....3
ET 232 Computer Software Maintenance .....3

**Total .....22-23**

**INDUSTRIAL TECHNICIAN I**

ENGT 110 Circuits I AND .....3
ENGT 111 Circuits I Lab 1 AND .....1
ENGT 113 Circuits I Lab 2 .....1
ENGT 114 Circuits II AND .....3
ENGT 115 Circuits II Lab 1 AND .....1
ENGT 117 Circuits II Lab 2 .....1
ENGT 120 Digital I AND .....2
ENGT 121 Digital I Lab .....1
ET 250 Programmable Logic Controllers .....4

**Total .....17**

**INDUSTRIAL TECHNICIAN II**

ENGT 110 Circuits I AND .....3
ENGT 111 Circuits I Lab 1 AND .....1
ENGT 113 Circuits I Lab 2 .....1
ENGT 114 Circuits II AND .....3
ENGT 115 Circuits II Lab 1 AND .....1
ENGT 117 Circuits II Lab 2 .....1
ENGT 210 Devices I AND .....3
ENGT 211 Devices I Lab 1 AND .....1
ENGT 213 Devices I Lab 2 .....1
ENGT 214 Devices II AND .....3
ENGT 215 Devices II Lab 1 AND .....1
ENGT 217 Devices II Lab 2 .....1
ENGT 120 Digital I AND .....2
ENGT 121 Digital I Lab .....1
ENGT 220 Digital II AND .....2
ENGT 221 Digital II Lab .....1
ET 244 Electrical Machinery and Controls .....4
ET 250 Programmable Logic Controllers .....4

**Total .....34**

**AUTOMATION TECHNICIAN I**

ET 244 Electrical Machinery and Controls .....4

ET 250 Programmable Logic Controllers ..... 4
ET 265 Applied Fluid Power .....3

**Total** .....**11**

**COMMUNICATIONS TECHNICIAN I**

ENGT 110 Circuits I AND .....3
ENGT 111 Circuits I Lab 1 AND .....1
ENGT 113 Circuits I Lab 2 .....1
ENGT 114 Circuits II AND .....3
ENGT 115 Circuits II Lab 1 AND .....1
ENGT 117 Circuits II Lab 2 .....1
ENGT 210 Devices I AND .....3
ENGT 211 Devices I Lab 1 AND .....1
ENGT 213 Devices I Lab 2 .....1
ENGT 214 Devices II AND .....3
ENGT 215 Devices II Lab 1 AND .....1
ENGT 217 Devices II Lab 2 .....1
ENGT 120 Digital I AND .....2
ENGT 121 Digital I Lab .....1
ENGT 250 Electronics Communication .....3
ENGT 251 Electronics Communication Lab .....3

**Total** .....**29**

**INSTRUMENTATION TECHNICIAN I**

ENGT 110 Circuits I AND .....3
ENGT 111 Circuits I Lab 1 AND .....1
ENGT 113 Circuits I Lab 2 .....1
ENGT 114 Circuits II AND .....3
ENGT 115 Circuits II Lab 1 AND .....1
ENGT 117 Circuits II Lab 2 .....1
ENGT 210 Devices I AND .....3
ENGT 211 Devices I Lab 1 AND .....1
ENGT 213 Devices I Lab 2 .....1
ENGT 214 Devices II AND .....3
ENGT 215 Devices II Lab 1 AND .....1
ENGT 217 Devices II Lab 2 .....1
ENGT 120 Digital I AND ..... 2
ENGT 121 Digital I Lab .....1
ENGT 220 Digital II AND .....2
ENGT 221 Digital II Lab .....1
ISM 102 Fundamentals of Instrumentation .....3
ISM 103 Fundamentals of Instrumentation Lab .....2
ISM 200 Control Valves Theory .....3
ISM 201 Control Valves Theory Lab .....2
ISM 210 Fundamentals of Process Control .....3
ISM 211 Fundamentals of Process Control Lab .....2
ET 250 Programmable Logic Controllers .....4

**Total** .....**45**

## MIT: iNDUSTRIAL MAINTENANCE TECHNOLOGY

An understanding of the requirements and opportunities in maintenance, good safety practices, pride in workmanship, and an understanding of the principles and accepted practices of the maintenance trade are covered in this program.

Students are trained to hold positions in factories, hospitals, hotels, etc., where multi-skilled maintenance personnel are needed. Included are courses in air conditioning, carpentry, electricity, machine tool, metal fabrication, and welding.

Progression in the Industrial Maintenance Technology program is contingent upon achievement of a grade of "C" or better in each technical course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

## ASSOCIATE IN APPLIED SCIENCE

ENG 101 Writing I .....3
MT 115 Technical Mathematics OR .....3
MT 125 Technical Algebra & Trigonometry .....(3)
Science .....3
Heritage/Humanities .....3
Social Interaction .....3
Oral Communications .....3

**Subtotal** .....**18**

**TECHNICAL CORE:**

Computer Literacy .....3
BRX 120 Basic Blueprint Reading OR .....3
BRX 110 Basic Blueprint Reading for Machinist OR .....(2)
BRX 112 Blueprint Reading for Machinist OR .....(4)
ET 102 Blueprint Reading .....(2)
FPX 100 Fluid Power AND .....3
FPX 101 Fluid Power Lab OR .....2
ET 265 Applied Fluid Power .....(3)
IMT 110 Industrial Maintenance Electrical Principles AND .....3
IMT 111 Industrial Maintenance Electrical Principles OR ..2
ENGT 110 Circuits I** AND .....(3)
ENGT 111 Circuits I Lab 1** AND .....(1)
ENGT 113 Circuits I Lab 2** AND..... (1)
ENGT 114 Circuits II **AND .....(3)
ENGT 115 Circuits II Lab 1** AND .....(1)
ENGT 117 Circuits II Lab 2** .....(1)
IMT 150 Maintaining Industrial Equipment I .....3
IMT 151 Maintaining Industrial Equipment I Lab .....2
IMT 220 Industrial Maintenance Electrical Motor Controls I AND .....3
IMT 221 Industrial Maintenance Electrical Motor Controls I Lab OR .....2
EET 270 Electrical Motor Controls I AND .....(2)
EET 271 Electrical Motor Controls I Lab OR .....(3)
EET 274 Electrical Motor Controls AND .....(3)
EET 275 Electrical Motor Controls Lab OR .....(3)
ET 244 Electrical Machinery and Controls OR .....(4)
IMT 120 Industrial Maintenance Rotating Machinery AND .....(3)
IMT 121 Industrial Maintenance Rotating Machinery Lab OR .....(2)
EET 264 Rotating Machinery AND .....(2)

EET 265 Rotating Machinery Lab .....(2)
IMT 100 Welding for Maintenance AND .....3
IMT 101 Welding for Maintenance Lab OR .....2
WLD 120 Shielded Metal Arc Welding (SMAW) AND .(3)
WLD 121 Shielded Metal Arc Welding (SMAW) Fillet Lab OR .....(3)
WLD 152 Basic Welding B .....(5)

**Subtotal .....27-39**

**TECHNICAL ELECTIVES*:**
Eighteen (18) credit hours of electives must be taken from the approved list. This list is not all inclusive. Other courses may be taken with approval of the program instructor/advisor.

**Total Credits .....63-75**

**TECHNICAL ELECTIVES LIST*:**
ACR 100 Refrigeration Fundamentals .....3
ACR 101 Refrigeration Fundamentals Lab .....2
ACR 250 Cooling and Dehumidification .....3
ACR 251 Cooling and Dehumidification Lab .....2
ACR 260 Heating and Humidification .....3
ACR 261 Heating and Humidification Lab .....2
BRX 210 Mechanical Blueprint Reading for Machinist .....2
BRX 230 Mechanical Blueprint Reading .....3
CAD 100 Introduction to Computer Aided Design .....3
COE 199 Cooperative Education .....1-8
CAD 150 Introduction to Programming: CAD .....3
EES 225 Programmable Logic Controllers .....4
ENGT 110 Circuits I .....3
ENGT 111 Circuits I Lab 1 .....1
ENGT 113 Circuits I Lab 2 .....1
ENGT 114 Circuits II .....3
ENGT 115 Circuits II Lab 1 .....1
ENGT 117 Circuits II Lab 2 .....1
EET 148 Electronic Drafting .....3
EET 150 Transformers .....2
EET 151 Transformers Lab .....1
EET 152 Electrical Drafting .....2
EET 254 Electrical Construction .....3
EET 255 Electrical Construction Lab .....4
EET 264 Rotating Machinery .....2
EET 265 Rotating Machinery Lab .....2
EET 276 Programmable Logic Controllers .....2
EET 277 Programmable Logic Controllers Lab .....2
ET 106 Mechanical Engineering Graphics II .....2
ET 122 Mechanical Power Transmission Systems .....3
ET 124 Mechanical Power Transmission Systems Lab .....1
ET 243 Electric Power Distribution .....3
ET 245 Electrical Machinery .....3
ET 250 Programmable Logic Controllers .....4
IMT 100 2Welding for Maintenance .....3
IMT 101 Welding for Maintenance Lab .....2
IMT 115 Basic Machine Tool I .....3
IMT 116 Basic Machine Tool I Lab .....2
IMT 120 Industrial Maintenance Rotating Machinery .....3
IMT 121 Industrial Maintenance Rotating Machinery Lab .2
IMT 130 Industrial Maintenance Electrical Concepts .....6
IMT 131 Industrial Maintenance Electrical Concepts Lab ..4
IMT 150 Maintaining Industrial Equipment .....3
IMT 151 Maintaining Industrial Equipment Lab .....2
IMT 198 Practicum .....1-8
IMT 199 Cooperative Education .....1-8
IMT 220 Industrial Maintenance Electrical Motor Controls I .....3
IMT 221 Industrial Maintenance Electrical Motor Controls I Lab .....2
IMT 230 Industrial Maintenance of PLCs .....5
IMT 231 Industrial Maintenance of PLCs Lab .....2
IMT 240 Industrial Maintenance Motor Control Concepts 6
IMT 241 Industrial Maintenance Motor Control Concepts Lab .....4
IMT 250 Maintaining Industrial Equipment II .....3
IMT 251 Maintaining Industrial Equipment II Lab .....3
IMT 280 Advanced Programmable Logic Controllers .....3
IMT 281 Advanced Programmable Logic Controllers Lab ..2
IMT 290 Special Problems .....1
IS 100 Introduction to Industrial Safety .....3
ISX 100 Industrial Safety .....3
MCX 100 Electrical Motor Controls I .....3
MCX 101 Electrical Motor Controls I Lab .....2
MCX 110 Electrical Motor Controls II .....3
MCX 111 Electrical Motor Controls II Lab .....2
MCX 150 Motor Controls .....3
MCX 151 Motor Controls Lab .....2
MGX 220 Rotating Machinery .....3
MGX 221 Rotating Machinery Lab .....2
MTT 110 Fundamentals of Machine Tools A .....3
MTT 112 Fundamentals of Machine Tools B .....4
MTT 114 Fundamentals of Machine Tools .....7
MTT 120 Applied Machining I .....3
MTT 122 Applied Machining II .....4
MTT 124 Applied Machining .....7
MTT 224 Advanced Industrial Machining .....5
PLB 150 Plumbing, Introduction to the Trade .....3
PLB 151 Basic Plumbing Skills .....3
PHS 175 Applied Physics .....6
PHX 150 Introductory Physics .....3
PMX 100 Precision Measurement .....3
WLD 123 Shielded Metal Arc Welding Groove Welds with . Backing Lab .....3
WLD 100 Oxy-Fuel Systems .....2
WLD 101 Oxy-Fuel Systems Lab .....2
WLD 120 Shielded Metal Arc Welding (SMAW) .....2
WLD 121 Shielded Metal Arc Welding Fillet Lab .....3
WLD 151 Basic Welding A .....2
WLD 152 Basic Welding B .....5
ITS 211 Manufacturing Processes .....3
MST 200 Advanced Hydraulic Systems .....3
MST 201 Advanced Hydraulic Systems Lab .....2
MST 204 Advanced Pneumatic Systems .....3
MST 205 Advanced Pneumatic Systems Lab .....2

**If courses equaling 10 credits are taken, five (5) credits may be used as electives.

## DIPLOMA

### INDUSTRIAL MAINTENANCE TECHNICIAN

MT 115 Technical Mathematics OR .....3
MT 125 Technical Algebra & Trigonometry .....(3)
Three (3) credits from the AAS IMT general education requirements .....3

**Subtotal .....6**

**Technical Core:**
Computer Literacy .....3
BRX 120 Basic Blueprint Reading OR .....3
BRX 110 Basic Blueprint Reading for Machinist OR .....(2)
BRX 112 Blueprint Reading for Machinist OR .....(4)
ET 102 Blueprint Reading .....(2)
FPX 100 Fluid Power AND .....3
FPX 101 Fluid Power Lab OR .....2
ET 265 Applied Fluid Power .....(3)
IMT 110 Industrial Maintenance Electrical Principles AND .....3
IMT 111 Industrial Maintenance Electrical Principles OR ..2
ENGT 110 Circuits I** AND .....(3)
ENGT 111 Circuits I Lab 1** AND .....(1)
ENGT 113 Circuits I Lab 2** AND .....(1)
ENGT 114 Circuits II **AND .....(3)
ENGT 115 Circuits II Lab 1** AND .....(1)
ENGT 117 Circuits II Lab 2** .....(1)
IMT 150 Maintaining Industrial Equipment I .....3
IMT 151 Maintaining Industrial Equipment I Lab .....2
IMT 220 Industrial Maintenance Electrical Motor Controls I AND .....3
IMT 221 Industrial Maintenance Electrical Motor Controls I Lab OR .....2
EET 270 Electrical Motor Controls I AND .....(2)
EET 271 Electrical Motor Controls I Lab OR .....(3)
EET 274 Electrical Motor Controls AND .....(3)
EET 275 Electrical Motor Controls Lab OR .....(3)
ET 244 Electrical Machinery and Controls OR .....(4)
IMT 120 Industrial Maintenance Rotating Machinery AND .....(3)
IMT 121 Industrial Maintenance Rotating Machinery Lab OR .....(2)
EET 264 Rotating Machinery AND .....(2)
EET 265 Rotating Machinery Lab .....(2)
IMT 100 Welding for Maintenance AND .....3
IMT 101 Welding for Maintenance Lab OR .....2
WLD 120 Shielded Metal Arc Welding (SMAW) AND .(3)
WLD 121 Shielded Metal Arc Welding (SMAW) Fillet Lab OR .....(3)
WLD 152 Basic Welding B .....(5)

**Subtotal .....27-39**

**Technical Electives*:**
Fifteen (15) credit hours of electives must be taken from the approved list. This list is not all inclusive. Other courses may be taken with approval of the program instructor/advisor.

**Total Credits .....48-60**

## CERTIFICATE

### FLUID POWER MECHANIC

FPX 100 Fluid Power..... 3
FPX 101 Fluid Power Lab ..... 2
MST 200 Advanced Hydraulic Systems AND .....3
MST 201 Advanced Hydraulic Systems Lab OR .....2
MST 204 Advanced Pneumatic Systems AND .....(3)
MST 205 Advanced Pneumatic Systems Lab .....(2)

**Total Credits .....10**

### INDUSTRIAL MAINTENANCE MACHINISTS MECHANIC

BRX 120 Basic Blueprint Reading .....3
IMT 100 Welding for Maintenance AND .....3
IMT 101 Welding for Maintenance Lab OR .....2
WLD 120 Shielded Metal Arc Welding AND .....(3)
WLD 121 Shielded Metal Arc Welding Fillet Lab OR .....(3)
WLD 152 Basic Welding B .....(5)
MTT 114 Fundamentals of Machine Tool OR .....7
MTT 110 Fundamentals of Machine Tool A AND .....(3)
MTT 112 Fundamentals of Machine Tool B .....(4)
IMT 150 Maintaining Industrial Equipment .....3
IMT 151 Maintaining Industrial Equipment Lab .....2

**Total Credits .....20-21**

### INDUSTRIAL MAINTENANCE ELECTRICAL MECHANIC

FPX 100 Fluid Power AND .....3
FPX 101 Fluid Power Lab OR .....2
ET 265 Applied Fluid Power .....(2)
IMT 110 Industrial Maintenance Electrical Principles AND 3
IMT 111 Industrial Maintenance Electrical Principles OR 2
ENGT 110 Circuits I** AND .....(3)
ENGT 111 Circuits I Lab 1** AND .....(1)
ENGT 113 Circuits I Lab 2** AND .....(1)
ENGT 114 Circuits II **AND .....(3)
ENGT 115 Circuits II Lab 1** AND .....(1)
ENGT 117 Circuits II Lab 2** .....(1)
IMT 220 Industrial Maintenance Electrical Motor Controls I AND .....3
IMT 221 Industrial Maintenance Electrical Motor Controls I Lab OR .....2
EET 270 Electrical Motor Controls I AND .....(2)
EET 271 Electrical Motor Controls I Lab OR .....(2)
ET 244 Electrical Machinery and Controls OR .....(4)
IMT 120 Industrial Maintenance Rotating Machinery AND .....(3)
IMT 121 Industrial Maintenance Rotating Machinery Lab OR .....(2)
EET 264 Rotating Machinery AND .....(2)
EET 265 Rotating Machinery Lab OR .....(2)
IMT 280 Advanced Programmable Logic Controllers AND .....(3)
IMT 281 Advanced Programmable Logic Controllers OR (2)
EET 276 Programmable Logic Controllers AND .....(2)
EET 277 Programmable Logic Controllers Lab .....(2)
**Total Credits .....11-20**

**INDUSTRIAL MAINTENANCE MECHANIC LEVEL I**

FPX 100 Fluid Power AND .....3
FPX 101 Fluid Power Lab OR .....2
ET 265 Applied Fluid Power .....(2)
IMT 110 Industrial Maintenance Electrical Principles
AND .....3
IMT 111 Industrial Maintenance Electrical Principles OR ..2
ENGT 110 Circuits I** AND .....(3)
ENGT 111 Circuits I Lab 1** AND .....(1)
ENGT 113 Circuits I Lab 2** AND .....(1)
ENGT 114 Circuits II **AND .....(3)
ENGT 115 Circuits II Lab 1** AND .....(1)
ENGT 117 Circuits II Lab 2** .....(1)
IMT 150 Maintaining Industrial Equipment .....3
IMT 151 Maintaining Industrial Equipment Lab .....2

**Total Credits .....12-20**

**INDUSTRIAL MAINTENANCE MECHANIC LEVEL II**

BRX 120 Basic Blueprint Reading OR .....3
ET 102 Blueprint Reading .....(2)
FPX 100 Fluid Power AND .....3
FPX 101 Fluid Power Lab OR .....2
ET 265 Applied Fluid Power .....(2)
IMT 110 Industrial Maintenance Electrical Principles
AND .....3
IMT 111 Industrial Maintenance Electrical Principles OR ..2
ENGT 110 Circuits I** AND .....(3)
ENGT 111 Circuits I Lab 1** AND .....(1)
ENGT 113 Circuits I Lab 2** AND .....(1)
ENGT 114 Circuits II **AND .....(3)
ENGT 115 Circuits II Lab 1** AND .....(1)
ENGT 117 Circuits II Lab 2** .....(1)
IMT 100 Welding for Maintenance AND .....3
IMT 101 Welding for Maintenance Lab OR .....2
WLD 120 Shielded Metal Arc Welding AND .....(3)
WLD 121 Shielded Metal Arc Welding Fillet Lab OR .....(3)
WLD 152 Basic Welding B .....(5)
MTT 114 Fundamentals of Machine Tool OR .....7
MTT 110 Fundamentals of Machine Tool A AND .....(3)
MTT 112 Fundamentals of Machine Tool B .....(4)

**Total Credits .....21-31**

## MEDICAL ASSISTING

A medical assistant is an integral member of the health care delivery team, qualified by education and experience to work in the administrative office, the examining room and the physician's laboratory. Individuals in this unique position will be involved in many of the following skills:

General: project a professional manner and image, adhere to legal and ethical principles, use medical terminology effectively, and use effective and correct verbal and written communication.

Administrative: schedule, coordinate and monitor appointments, perform telephone and written communications, arrange hospital admissions, manage medical records, process insurance claim forms, manage office financial records, and maintain inventory.

Clinical: prepare patient for examination procedures and treatment, record medical histories, take vital signs, chart patient information, administer medications and injections, provide patient instruction and education, perform venipunctures, collect and prepare other specimens, perform electrocardiograms (ECG), sterilize instruments, and perform basic laboratory tests.

With additional education, the medical assisting graduate may perform limited radiography.

The Medical Assistant is a vital liaison between the doctor and patient and plays an important role in diagnosis and treatment. The many different roles assumed in this profession assure a fast moving and challenging career.

Progression in the Medical Assisting program is contingent upon achievement of a grade of "C" or above in each required course and maintenance of a 2.0 cumulative grade-point average or above (on a 4.0 scale).

Clinical orientation and externship are "non-paid work assignments".

Transportation to the physician's offices/community agencies is the responsibility of each student.

**MEDICAL ASSISTING**

**General Education/Applied Academic Classes**

AHS 109 Introduction to Body Structure and Function OR 4
BIO 135 Basic Anatomy & Physiology .....(4)
OST 108 Editing Skills for Office Professionals OR .....3
ENG 101 Writing I OR .....(3)
TEC 200 Technical Communications .....(3)

**Subtotal .....7**

**Support Classes**

HEA 120 Medical Terminology OR .....1
AHS 115 Medical Terminology OR .....(3)
CLA 131 Medical Terminology from Greek and Latin .....(3)
OST 103 Medical Office Terminology .....(3)
CPR 100 CPR for Healthcare Professionals OR .....1
KHP 190 First Aid and Emergency Care .....(2)
Computer Literacy Course .....3

**Supporting Hours ..... 5-8**

**Core Classes**

MAI 105 Introduction to Medical Assisting .....3
MAI 120 Medical Assisting Laboratory Techniques I .....2
MAI 140 Medical Assisting Clinical Procedures I .....4
MAI 150 Medical Assisting Administrative Procedures I OR 3
OST 217 Medical Office Procedures .....(3)
MAI 170 Dosage Calculations OR .....2
FHM 100 Dosage Calculations .....(2)
MAI 200 Pathophysiology for the Medical Assistant .....3
MAI 220 Medical Assisting Laboratory Techniques II .....3

MAI 230 Medical Insurance OR .....3
OST 104 Introduction to Medical Insurance .....3
MAI 240 Medical Assisting Clinical Procedures II .....4
MAI 250 Medical Assisting Administrative Procedures II
OR .....3
OST 227 Medical Software Applications .....(3)
MAI 270 Pharmacology for the Medical Assistant .....3
MAI 281 Clinical Orientation .....1
MAI 282 Medical Assistant Externship .....3

**Subtotal .....37**
**Total Credit .....49-52**

**Electives**
OST 100 Keyboarding .....(1)
OSTL 101 Keyboarding Lab .....(1)
MAI 101 Medical Keyboarding .....(1)
MAI 260 Medical Transcription .....(3)
MAI 299 Selected Topics: Medical Assisting: (Topic) ... (1-4)

## CERTIFICATE

### MEDICAL OFFICE CLINICAL ASSISTANT

HEA 120 Medical Terminology OR .....1
AHS 115 Medical Terminology OR .....(3)
CLA 131 Medical Terminology from Greek and Latin .....(3)
OST 103 Medical Office Terminology .....(3)
CPR 100 CPR for Healthcare Professionals OR .....1
KHP 190 First Aid and Emergency Care .....(2)
AHS 109 Introduction to Body Structure and Function OR 4
BIO 135 Basic Anatomy & Physiology .....(4)
MAI 120 Medical Assisting Laboratory Techniques I .....2
MAI 140 Medical Assisting Clinical Procedures I .....4
MAI 281 Clinical Orientation .....1
Computer Literacy Course .....3

**Total Hours .....16-19**

### MEDICAL OFFICE INSURANCE BILLING AND CODING

HEA 120 Medical Terminology OR .....1
AHS 115 Medical Terminology OR .....(3)
CLA 131 Medical Terminology from Greek and Latin .....(3)
OST 103 Medical Office Terminology .....(3)
AHS 109 Introduction to Body Structure and Function OR 4
BIO 135 Basic Anatomy & Physiology .....(4)
MAI 230 Medical Insurance OR .....3
OST 104 Introduction to Medical Insurance .....3
MAI 250 Medical Assisting Administrative Procedures II
OR .....3
OST 227 Medical Software Applications .....(3)
MAI 281 Clinical Orientation .....1
Computer Literacy Course .....3

**Total Hours .....15-17**

### MEDICAL OFFICE ADMINISTRATIVE ASSISTANT

HEA 120 Medical Terminology OR .....1
AHS 115 Medical Terminology OR .....(3)
CLA 131 Medical Terminology from Greek and Latin .....(3)
OST 103 Medical Office Terminology .....(3)
AHS 109 Introduction to Body Structure and Function
OR .....4
BIO 135 Basic Anatomy & Physiology .....(4)
MAI 150 Medical Assisting Administrative Procedures I
OR .....3
OST 217 Medical Office Procedures .....(3)
MAI 250 Medical Assisting Administrative Procedures II
OR .....3
OST 227 Medical Software Applications .....(3)
MAI 260 Medical Transcription .....3
MAI 281 Clinical Orientation .....1
Computer Literacy Course .....3

**Total Hours .....18-20**

## NUCLEAR MEDICINE TECHNOLOGY

The nuclear medicine technology program prepares the individual to become a nuclear medicine technologist. Nuclear medicine is the medical specialty that utilizes the nuclear properties of radioactive and stable nuclides to make diagnostic evaluation of the anatomic or physiologic conditions of the body and to provide therapy with unsealed radioactive sources. The skills of the nuclear medicine technologist complement those of the nuclear medicine physician and other professionals in the field. Nuclear medicine technologists have responsibilities in the following areas: (a) patient care and monitoring, (b) technical skills related to radiation safety, radiopharmacy, clinical instrumentation, diagnostic and therapeutic procedures, quality control, and computers, and (c) administrative functions related to supplies and equipment, documentation of operations related to disposition of radioactive materials, quality control data, and patient records.

The nuclear medicine technology program is a selective admission program. A student must earn a grade of C or better in the prerequisite and concurrent mathematics and science courses to be admitted to and to remain enrolled in the program. Also, a student must earn a grade of C or better in each of the nuclear medicine technology courses to be retained in the program. After graduation from the program, the individual is eligible to write either the Nuclear Medicine Technology Certification Board (NMTCB) or the American Registry of Radiologic Technologists (ARRT) nuclear medicine technology examination to earn credentials. Please see the guidelines for the selective admission requirements to the nuclear medicine technology program.

**FIRST YEAR**
**First Summer Term**
ENG 101 Writing I* .....3
BIO 137 Human Anatomy & Physiology I* .....4
Subtotal .....7

**Second Summer Term**
MA 109 College Algebra* .....3
BIO 139 Human Anatomy & Physiology II .....4
Subtotal .....7

**Fall Semester**
CHE 104 Introductory General Chemistry I .....3
ENG 102 Writing II*.....3
PH 172 Physics for Health Sciences .....2
NUC 140 Nuclear Medicine Principles & Clinic I.....6
*prereq: Admission to NMT program, CPR certification, 137 & 139 BIO, 109 MA & concur: 104 CHE 14*

**Spring Semester**
CHE 106 Introduction to Inorganic, Organic, & Biochemistry.....4
Oral Communications Course* .....3
NUC 150 Nuclear Medicine Principles & Clinic II .....6

**SECOND YEAR**
**First Summer Term**
NUC 230 Nuclear Medicine Principles & Clinic III .....6

**Fall Semester**
Humanities/Foreign Language Course* ..... (3)-4
NUC 240 Nuclear Medicine Principles & Clinic IV.....8
*prereq: 230 NUC and current CPR certification*

Spring Semester
Social Interaction Course* (3)-4
NUC 280 Nuclear Medicine Principles & Clinic V .....8
*prereq: 240 NUC*

**TOTAL CREDIT HOURS ..... (69)-71**
This curriculum requires course attendance in the summer session.
** Satisfies General Education requirement for AAS degree*

All NUC and required science and math courses must be completed with a grade of C or better to remain in the program.

## Nursing

The Associate Degree Nursing Curriculum offered by the Bluegrass Community and Technical College is accredited by the National League for Nursing Accrediting Commission (61 Broadway, New York, New York 10006, (212) 363-5555). and approved by the Kentucky Board of Nursing. The curriculum combines general education and nursing education. Classroom lectures are held at the college and nursing faculty direct the learning of nursing practice in a variety of community settings. Classroom instruction is closely correlated with selected experiences in the health care facilities. Transportation to the facilities is the responsibility of each student.

Preference in admission to the program will be given to persons who have completed all admission requirements prior to February 15.

The program prepares graduates to write the National Council Licensure Examination to become registered nurses, who are eligible to work in beginning staff level positions. The beginning registered nurse prepared at the Associate Degree level has the responsibility of performing nursing functions with clients who are under the supervision of a physician, assists in the assessment and planning of the day-to-day care of clients, evaluates the client's physical and emotional reactions to therapy, and may supervise other workers in nursing care. Employment is usually in hospitals, nursing facilities, physician's offices, clinics, and public health agencies. Please see the guidelines for the selective admission requirements to the Associate Degree Nursing Program.

## ASSOCIATE IN APPLIED SCIENCE

**FIRST YEAR**

**Summer Sessions**
MA 109 College Algebra **or** MA 111 Contemporary Mathematics or higher .....3
PY 110 General Psychology* or..... 3
PSY 100 Introduction to Psychology*..... ..... ..... (4)
BIO 137 Human Anatomy & Physiology I*..... ..... 4
ENG 101 Writing I*..... 3

**Fall Semester**
NR 115 Nursing I..... 9
BIO 139 Human Anatomy & Physiology II..... 4
PSY 223 Developmental Psychology..... 3
Computer Literacy Course..... 1-3

**Spring Semester**
NR 125 Nursing II..... 2
NR 235 Nursing III..... 4
NR 245 Nursing IV..... 4
ENG 102 Writing II*..... 3

**SECOND YEAR**

**Fall Semester**
NR 255 Nursing V..... 9
BSL 214 Medical Microbiology*..... 4
Oral Communication Course*.....3

**Spring Semester**
NR 265 Nursing VI..... 9
Heritage/Humanities/Foreign Language Course*..... 3
Elective Course(s)..... 1-3

**Totl ..... 72 - 77**
* Satisfies General Education requirement for AAS degree
-A letter grade of "C" or higher is required for each nursing course, each biological/physical science course, and each math course.
-Each course must be taken prior to or concurrent with the semester sequence in which the student is enrolled in Nursing.
-Successful completion of each course in each semester is required before one may progress to the next semester of the program.
-Failure to complete the delineated sequencing of the courses and curriculum will result in withdrawal from the program.
-Credits earned in biological and behavioral sciences that are 6 years or older will be evaluated on an individual basis and may require a special examination to update concepts.
The Nursing Program at Bluegrass Community and Technical College requires that PY 110 or PSY 100, Math, ENG 101, and BSL 110 be successfully completed prior to beginning NSG 115.

# NURSING: PRACTICAL NURSING

The Practical Nursing Program, approved by the Kentucky State Board of Nursing, combines classroom instruction with hands-on skill labs and supervised clinical instruction in local health care and/or other community facilities. Graduates who meet the program's academic and the Kentucky Board of Nursing requirements may apply to the National Council Licensure Exam (NCLEX) to become licensed practical nurses (LPNs). Following successful completion of the Practical Nursing Program and NCLEX-PN, the graduate will:

- Assume the role of a competent, caring practical nurse in a variety of settings
- Use the human caring phenomena and the nursing process in providing nursing care;
- Demonstrate self-direction and responsibility for maintaining nursing competence by pursuing personal and professional development;
- Communicate effectively with all members of the health care team; and
- Demonstrate accountability of practice with adherence to ethical and legal standards of the profession.

Acceptance in the Practical Nursing program is based on a selective admission process. Admission to the college does not guarantee admission to the Practical Nursing Program. An admissions committee appointed for this purpose will make selection of students for the Practical Nursing Program.

Progression in the Practical Nursing program is contingent upon achievement of a grade of "C" or better in each course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

CPR requirements must be successfully completed prior to enrolling in the first nursing course and must be kept current throughout the program. Documentation of active status on the Medicaid Nurse Aide Registry or successful completion of an equivalent nursing course within the past three years is required prior to enrolling in the first nursing course.

Note: The Kentucky Board of Nursing (KBN) may deny a nursing graduate admission to the NCLEX-PN Exam if an individual has been convicted of a misdemeanor or felony that involves acts that bear directly on the qualifications of the graduate to practice nursing. To find out further information contact the KBN at http://kbn.ky.gov/

## DIPLOMA

AHS 100 Human Growth & Development OR .....2
PY 110 General Psychology AND.....(3)
PSY 223 Developmental Psychology .....(3)
AHS 109 Introduction to Body Structure and Function
OR .....4
BIO 135 Basic Anatomy & Physiology with Laboratory
OR .....(4)
BIO 137 Human Anatomy & Physiology I AND.....(4)
BIO 139 Human Anatomy & Physiology II.....(4)
CPU 150 Computer Fundamentals OR.....3
CIS100 Introduction to Computers .....(3)
TEC 200 Technical Communications OR.....3
ENG 101 Writing I OR .....(3)
COM 181 Basic Public Speaking OR.....(3)
COM 252 Introduction to Interpersonal Communication (3)
NPN 100 Introduction to Nursing & Health Care System
AND .....2
NPN 105 Development of Care Giver Role AND.....6
NPN 110 Pharmacological & Other Therapeutic Modalities
OR .....2
NPN 115 *Practical Nursing Bridge Course.....(6)
*Note: Not offered at BCTC*
NPN 120 Child Bearing Family.....3
NPN 125 Mental Health.....3
NPN 130 Pharmacology II.....3
NPN 135 Introduction to Health Deviations.....6
NPN 200 Med-Surg I .....5
NPN 205 Med-Surg II.....5
NPN 210 Practicum .....4
NPN 215 Nursing Trends & Issues .....1

**Total Credits: ..... 48 - 63**

**Taken by advanced nursing assistant and allied health graduates only. Not offered on every campus.*

## CERTIFICATE

### MEDICAID NURSE AIDE

MNA 100 Medicaid Nurse Aide OR .....3
NAA 100 Nursing Assistant Skills I.....(3)

**Total Credits: .....3**

### KENTUCKY MEDICATION AIDE

KMA 100 Kentucky Medication Aide .....4

**Total Credits .....4**

# OFFICE SYSTEMS TECHNOLOGY

Five programs are offered under the broader heading of Business Studies. They are Accounting Technology, Business Administration, Medical Information Technology, Office Systems Technology, and Realtime Captioning Technology.

The Office Systems Technology program is an integrated curriculum which prepares graduates at the certificate, diploma, and associate degree level. The Office Systems Technology program prepares students to work in an office environment of people, processes, and technologies. Job titles may include Administrative Assistant, Office Assistant, Office Manager, and Financial Assistant. These personnel use a variety of office technology and computer-based applications (word processing, electronic mail, desktop publishing, graphics, database, and spreadsheet). They support and help facilitate accurate communication and information exchange to internal and external customers on a timely basis. Technical courses combined with general education courses prepare students for today's

workforce and provide a basis for lifelong learning, a necessity for the workforce of the future. Students select an area of specialty from the following options: financial assistant, administrative, desktop publishing, legal, and medical. All associate degree as well as diploma-seeking students must complete supervised work experience in an office prior to graduation. Program graduates are employed in professional offices, education, government, businesses, and industries. Graduates may choose to sit for the Certified Professional Secretary Examination.

## ASSOCIATE IN APPLIED SCIENCE

**General Education**
ENG 101 Writing I .....3
Second Writing Course approved by Program Coordinator ..3
MT 105 Business Mathematics OR .....3
MT 110 Applied Mathematics OR .....(3)
Higher Level Mathematics Course .....(3)
Heritage/Humanities Course .....3
Oral Communication Course .....3
Science Course* .....3-4
Social Interaction Course** .....3
Computer Literacy Course .....3

**General Education Credit Hours .....24-25**

**Technical Core**
OST 110 Document Formatting and Word Processing .....3
OST 210 Advanced Word Processing Applications .....3
OST 240 Software Integration OR .....3
CIS 130 Microcomputer Applications .....(3)
OST 235 Business Communications Technology .....3
OST 275 Office Management .....3

**Technical Core Credit Hours .....15**
** Medical Option Students must take BIO 135 or BIO 130 or BIO 137*
***ACBSP accredited colleges must require Economics*

### ADMINISTRATIVE OPTION
ACT 101 Fundamentals of Accounting OR .....3
Higher Level Accounting .....(3)
OST 150 Transcription and Office Technology OR .....3
Course Approved by Program Coordinator .....(3)
OST 160 Records and Database Management OR .....3
OST 230 Medical Records and Database Management ....(3)
OST 215 Office Procedures OR .....3
OST 217 Medical Office Procedures .....(3)
OST 220 Administrative Office Simulations .....3
OST 225 Introduction to Desktop Publishing .....3
OST 295 Office Systems Technology Internship OR .....3
COE 199 Cooperative Education .....(2-3)
Course Approved by Program Coordinator .....3

**Total Administrative Option Credit Hours ..... 23- 24**
**Total Hours OST AAS Administrative Option .....62-64**

### FINANCIAL ASSISTANT OPTION
ACT 101 Fundamentals of Accounting I OR .....3
Higher Level Accounting Course .....(3)
ACT 102 Fundamentals of Accounting II OR .....3
Higher Level Accounting Course .....(3)
ACT 279 Computerized Accounting Systems OR .....3
OST 114 Computerized Financial Management .....(3)
OST 112 Financial Management OR .....3
Course Approved by Program Coordinator .....(3)
OST 160 Records and Database Management .....3
OST 215 Office Procedures .....3
OST 295 Office Systems technology Internship OR .....3
COE 199 Cooperative Education .....(2-3)
Course Approved by Program Coordinator .....3

**Total Financial Assistant Option Credit Hours .....23-24**
**Total OST AAS Financial Assistant Option .....62-64**

### DESKTOP PUBLISHING OPTION
OST 130 Typography .....3
OST 160 Records and Database Management .....3
OST 215 Office Procedures .....3
OST 225 Introduction to Desktop Publishing .....3
OST 250 Advanced Desktop Publishing .....3
OST 255 Introduction to Business Graphics .....3
OST 272 Presentation Graphics .....3
OST 295 Office Systems Technology Internship OR .....3
COE 199 Cooperative Education .....(2-3)

**Total Desktop Publishing Option Credit Hours .....23-24**
**Total Hours OST AAS Desktop Publishing Option .62-64**

## DIPLOMA

### ADMINISTRATIVE ASSISTANT
**General Education/Applied Academics**
OST 108 Editing Skills for the Office Professional OR .....3
ENG 101 Writing I .....(3)
OST 213 Business Calculations for the Office Professional OR .....3
MT 105 Business Mathematics OR .....(3)
Higher Level Mathematics Course .....(3)

**Total General Education/Applied Academic Hours .....6**

**Technical Courses**
Computer Literacy Course .....3
ACT 101 Fundamentals of Accounting I (or higher) .....3
Course Approved by Program Coordinator .....3
OST 110 Document Formatting and Word Processing .....3
OST 150 Transcription and Office Technology OR .....3
Course Approved by Program Coordinator .....(3)
OST 160 Records and Database Management .....3
OST 210 Advanced Word Processing Applications .....3
OST 215 Office Procedures .....3
OST 225 Introduction to Desktop Publishing .....3
OST 235 Business Communications Technology .....3
OST 240 Software Integration OR .....3
CIS 130 Microcomputer Applications .....(3)
OST 295 Office Systems Technology Internship OR .....3
COE 199 Cooperative Education .....(2-3)

**Total Technical Hours .....35-36**
**Total Credit Hours .....41-42**

**OFFICE ASSISTANT**
**General Education /Applied Academics**
OST 108 Editing Skills for the Office Professional-OR .....3
ENG 101 Writing I .....(3)
OST 213 Business Calculations for the Office Professional
OR .....3
MT 105 Business Mathematics OR .....(3)
Higher Level Mathematics Course .....(3)

**Total General Education/Applied Academic Hours .....6**

**Technical Courses**
Computer Literacy Course .....3
OST 110 Document Formatting and Word Processing .....3
OST 160 Records and Database Management .....3
OST 210 Advanced Word Processing Applications .....3
OST 215 Office Procedures .....3
OST 235 Business Communications Technology .....3
OST 240 Software Integration OR .....3
CIS 130 Microcomputer Applications .....(3)
OST 295 Office Systems Technology Internship OR .....3
COE 199 Cooperative Education .....(3)
Courses Approved by Program Coordinator .....6

Total Technical Hours .....30
Total Credit Hours .....36

**FINANCIAL ASSISTANT**
**General Education/Applied Academics**
OST 108 Editing Skills for the Office Professional OR..... 3
ENG 101 Writing I .....(3)
OST 213 Business Calculations for the Office Professional
OR .....3
MT 105 Business Mathematics OR .....(3)
Higher Level Mathematics Course .....(3)

**Total General Education/Applied Academic Hours .....6**

**Technical Courses**
Computer Literacy Course .....3
ACT 101 Fundamentals of Accounting I OR .....3
Higher Level Accounting Course .....(3)
ACT 102 Fundamentals of Accounting II OR .....3
Higher Level Accounting Course .....(3)
OST 114 Computerized Financial Management OR .....3
ACT 279 Computerized Accounting Systems .....(3)
OST 110 Document Formatting and Word Processing .....3
OST 112 Financial Management OR .....3
Course Approved by Program Coordinator .....(3)
OST 160 Records and Database Management .....3
OST 215 Office Procedures .....3
OST 240 Software Integration OR .....3
CIS 130 Microcomputer Applications .....(3)
OST 295 Office Systems Technology Internship OR .....3
COE 199 Cooperative Education .....(3)
Course Approved by Program Coordinator .....3

**Total Technical Hours .....33**
**Total Credit Hours .....39**

**DESKTOP PUBLISHING SPECIALIST**
**General Education /Applied Academic**
OST 108 Editing Skills for the Office Professional OR..... 3
ENG 101 Writing I .....(3)
OST 213 Business Calculations for the Office Professional
OR .....3
MT 105 Business Mathematics OR .....(3)
Higher level mathematics course .....(3)

**Total General Education/Applied Academic Hours 6**

**Technical Courses**
Computer Literacy Course .....3
OST 110 Document Formatting and Word Processing .....3
OST 130 Typography .....3
OST 160 Records and Database Management .....3
OST 210 Advanced Word Processing Applications .....3
OST 215 Office Procedures .....3
OST 225 Introduction to Desktop Publishing .....3
OST 235 Business Communications Technology .....3
OST 240 Software Integration OR .....3
CIS 130 Microcomputer Applications .....(3)
OST 250 Advanced Desktop Publishing .....3
OST 255 Basic Business Graphics .....3
OST 272 Presentation Graphics .....3
OST 295 Office Systems Technology Internship OR .....3
COE 199 Cooperative Education ..... (2-3)

**Total Technical Hours .....38-39**
**Total Credit Hours .....44-45**

## CERTIFICATE

**DATA ENTRY OPERATOR**
Computer Literacy Course .....3
OST 110 Document Formatting and Word Processing .....3

**Total Credit Hours 6**

**INTEGRATED OFFICE SKILLS**
OST 108 Editing Skills for the Office Professional OR .....3
ENG 101 Writing I .....(3)
Computer Literacy Course .....3
OST 110 Document Formatting and Word Processing .....3
OST 160 Records and Database Management .....3
OST 210 Advanced Word Processing Applications .....3
OST 215 Office Procedures .....3
OST 240 Software Integration OR .....3
CIS 130 Microcomputer Applications .....(3)

**Total Credit Hours .....21**

**FINANCIAL ASSISTANT CLERK**
Computer Literacy Course .....3
ACT 101 Fundamentals of Accounting I OR .....3
Higher Level Accounting Course .....(3)

OST 108 Editing Skills for the Office Professional OR .....3
ENG 101 Writing I .....(3)
OST 110 Document Formatting and Word Processing .....3
OST 160 Records and Database Management .....3
OST 213 Business Calculations for the Office Professional
OR .....3
MT 105 Business Mathematics OR .....(3)
Higher Level Mathematics Course .....(3)

**Total Credit Hours .....18**

**FINANCIAL ASSISTANT TRAINEE**

Computer Literacy Course .....3
ACT 101 Fundamentals of Accounting I OR .....3
Higher Level Accounting Course .....(3)
OST 110 Document Formatting and Word Processing .....3
OST 213 Business Calculations for the Office Professional
OR .....3
MT 105 Business Mathematics OR .....(3)
Higher Level Mathematics Course .....(3)

**Total Credit Hours .....12**

**FINANCIAL RECORD KEEPER**

Computer Literacy Course .....3
ACT 101 Fundamentals of Accounting I OR .....3
Higher Level Accounting Course .....(3)
OST 114 Computerized Financial Management OR .....3
Higher Level Accounting Course .....(3)
OST 108 Editing Skills for the Office Professional OR .....3
ENG 101 Writing I .....(3)
OST 110 Document Formatting and Word Processing .....3
OST 112 Financial Management OR .....3
Course Approved by Program Coordinator .....(3)
OST 160 Records and Database Management .....3
OST 213 Business Calculations for the Office Professional
OR .....3
MT 105 Business Mathematics OR .....(3)
Higher Level Mathematics Course .....(3)
OST 215 Office Procedures .....3
OST 240 Software Integration OR .....3
CIS 130 Microcomputer Applications .....(3)

**Total Credit Hours .....30**

**RECEPTIONIST**

Computer Literacy Course .....3
OST 108 Editing Skills for the Office Professional OR .....3
ENG 101 Writing I .....(3)
OST 160 Records and Database Management .....3
OST 110 Document Formatting and Word Processing .....3

**Total Credit Hours .....12**

**DESKTOP PUBLISHING**

ENG 101 Writing I OR .....3
OST 108 Editing Skills for the Office Professional .....(3)
OST 213 Business Calculations for the Office Professional
OR .....3
MT 105 Business Mathematics OR .....(3)
Higher Level Mathematics Course .....(3)
Computer Literacy Course .....3
OST 110 Document Formatting and Word Processing .....3
OST 130 Typography .....3
OST 160 Records and Database Management .....3
OST 225 Introduction to Desktop Publishing .....3
OST 255 Introduction to Business Graphics .....3
OST 272 Presentation Graphics .....3

**Total Credit Hours .....27**

## RADIOGRAPHY

Prepares the individual to become a radiographer. The radiographer is prepared to administer ionizing radiation for medical diagnostic imaging purposes. Emphasis is on radiation protection and quality patient care. The curriculum is comprised of specialized courses in radiography with concentrated study in the basic sciences, mathematics and general education. Students enrolled in the Radiography program must achieve a minimum grade of "C" in each Radiography course. Upon completion of the program, the graduate is eligible to apply to write the examination for registration as a radiographer by the American Registry of Radiologic Technologists. Radiographers may find positions in hospitals, health clinics, and physicians' offices. Research laboratories and some industrial firms may also employ radiographers.

Note: CPR certificate must be obtained prior to enrolling in RADI 100 and certification must be kept current throughout the program. The curriculum requires attendance in the summer session, fall and spring semesters.

Radiographers interested in advanced credit in the Radiography Program should contact the program coordinator or the admissions office.

### ASSOCIATE IN APPLIED SCIENCE

**General Education:**

PY 110 General Psychology ..... 3
PSY 100 Introduction to Psychology(4)
ENG 101 Writing I ..... 3
BSL 110 Human Anatomy & Physiology I .....4
BSL 111 Human Anatomy & Physiology II.....4
MA 109 College Algebra **OR** ..... 3
MT109 College Algebra & Functions.....(3)
Heritage/Humanities .....3
Oral Communications.....3

**Subtotal .....23-24**

**Additional General Education:**

PSY 223 Developmental Psychology .....(3)
ENG 102 Writing II .....(3)
PHY 152 Introduction to Physics **OR**..... (3)

PH 171 Applied Physics ..... (4)

**General Education Subtotal ..... 23-34**

**Technical Courses:**
RADI 100 Radiography I ..... 8
RADI 101 Radiography Clinical I ..... 1
RADI 110 Radiography II ..... 7
RADI 111 Radiography Clinical II ..... 2
RADI 201 Radiography Clinical III ..... 2
RADI 210 Radiography IV ..... 4
RADI 211 Radiography Clinical IV ..... 4
RADI 220 Radiography V ..... 3
RADI 221 Clinical V ..... 4
Computer Literacy ..... 3

**Subtotal ..... 38**
**Total Credits ..... 61-72**

### ADVANCED IMAGING IN RADIOGRAPHY

Advanced Imaging in Radiography focuses on the areas of Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) in the Radiological Sciences. A combination of clinical and classroom instruction prepares the technologist to work in the areas of CT and MRI in the healthcare setting and to sit for the Advanced Board Exams given by the American Registry of Radiologic Technologists. These courses are offered for technologists who are currently registered by the American Registry of Radiologic Technologists in Radiography or by the Nuclear Medicine Technology Certification Board in Nuclear Medicine, or students who have completed one year and are currently enrolled in an accredited radiography or nuclear medicine program, or by consent of the instructor. The core curriculum courses are intended to provide the student with an overall knowledge of advanced patient care and sectional anatomy. The CT and MRI options focus on the physics, instrumentation and imaging techniques of these modalities. The student may choose CT or MRI or both. Although these courses are organized in a hierarchical pattern, depending on the entry-level knowledge and the needs of the student, they may be taken out of sequence with consent of the instructor. Individuals interested in these courses should contact the Advanced Imaging Coordinator at 859.246.6248

**Core**

RDL 230 Sectional Anatomy for Advanced Imaging ..... 3
RDL 240 Advanced Patient Care ..... 3

**COMPUTED TOMOGRAPHY OPTION**
RDL 250 Computed Tomography Physics and Instrumentation ..... 3
RDL 260 Computed Tomography Imaging Technology ..... 3
RDL 270 Computed Tomography Clinical Imaging Seminars ..... 3

**MAGNETIC RESONANCE IMAGING OPTION**
RDL 255 Magnetic Resonance Physics and Instrumentation ..... 3
RDL 265 Magnetic Resonance Imaging Technology ..... 3
RDL 275 Magnetic Resonance Imaging Clinical Seminars ..... 3

## RESPIRATORY CARE

This program prepares competent practitioners who engage in the prevention, diagnosis and management of cardiopulmonary disorders. The curriculum includes intensive course work in the supporting sciences and general education areas. Classroom instruction is supplemented with learning experiences in the campus laboratory and in area hospitals. Students enrolled in the Respiratory Care Program are required to achieve a minimum grade of C in each Respiratory Care course, BSL 110 and BSL 111 Human Anatomy and Physiology I & II, and the math requirement.

Although hospitals employ the majority of respiratory therapists, other employers include home care providers, medical clinics, nursing homes and industry. Graduates are qualified to take all of the national board examinations in Respiratory Care, including the Certified Respiratory Therapist (C.R.T.) and Registered Respiratory Therapist (R.R.T.) credentials.

### ASSOCIATE IN APPLIED SCIENCE

*Note: RRT courses were previously listed as RCP.*

**First Year**
**Summer I**
MAH 151 Applied Mathematics* or ..... 3
MA 109 College Algebra* ..... (3)
BSL 110 Human Anatomy & Physiology I* ..... 4

**Summer II**
BSL 111 Human Anatomy & Physiology II ..... 4
ENG 101 Writing I* ..... 3

**Fall**
ENG 102 Writing II* ..... 3
BSL 214 Medical Microbiology or ..... 4
BIO 208 Principles of Microbiology ..... (3)
Heritage/Humanities/Foreign Language Course* ..... 3-4
Oral Communications Course ..... 3

**Spring**
RRT 110 Cardiopulmonary Anatomy & Physiology ..... 3
RRT 120 Fundamentals of Respiratory Care ..... 4
RRT 121 Respiratory Care Practice I ..... 1
RRT 130 Cardiopulmonary Pharmacology ..... 2
PY 110 General Psychology* ..... 3

**Summer I**
RRT 131 Respiratory Care Practice II ..... 2
RRT 140 Cardiopulmonary Evaluation ..... 2

**Summer II**
RRT 141 Respiratory Care Practice III ..... 2
RRT 150 Intro to Mechanical Ventilation ..... 2

**Fall**

RRT 200 Patient-Ventilator System Management.....4
RRT 210 Cardiopulmonary Pathophysiology .....3
RRT 220 Neonatal/Pediatric Respiratory Care.....3
RRT 221 Respiratory Care Practice IV.....4

**Spring**

RRT 230 Preventive & Long-term Respiratory Care .....2
RRT 231 Respiratory Care Practice V .....4
RRT 240 Advanced Cardiopulmonary Evaluation.....3
RRT 250 Advanced Cardiac Life Support .....2
RRT 260 Respiratory Care Seminar .....1

* Satisfies General Education requirement for AAS degree
*-This curriculum requires course attendance in both summer sessions.*
*-A letter grade of "C" or higher is required for each Respiratory Care course, BSL 110, BSL 111, and the course used to satisfy the math requirement.*
*-The Respiratory Care Program at Bluegrass Community and Technical College requires that MAH 151 or MA 109, BSL 110 & BSL 111 be successfully completed prior to beginning RRT 110, RRT 120, RRT 121, and RRT 130.*
*-A valid Health Care Provider CPR card must be obtained prior to enrolling in RCP 121 and must be kept current throughout the program.*

## SECURITY MANAGEMENT

The Security Management Coordinator program provides a comprehensive overview of physical security policies, procedures and techniques. Topics covered are perimeter protection, intrusion detection, access control, CCTV, locks and locking devices, lighting, security design and surveys, contingency planning, and acts of violence. Instruction in all types of security hardware: electronic and mechanical door locks, access control systems and their devices, as well as intrusion detection systems and cameras, safes and safe hardware is available.

The Supply Chain Security program provides an overview of the needs and requirements for a safe, secure supply chain. The program looks at threats, and offers solutions. The House Select Committee on Homeland Security issued a comprehensive assessment (February 2004) on the United State's levels of preparation against terrorist activity. The Committee concluded in part *"Pathways to the United States by land, sea and air are insecure."* Security throughout transportation, storage, shipping and receiving of cargo is addressed in this program. The concept of proactive verses reactive, planning and the overall needs of a security operation are discussed. Specific security systems are discussed, as well as the creation and implementation of security policies. Basic security equipment and procedures, including perimeter protection, intrusion detection, security surveys and CCTV systems are covered, as well as management issues to include terrorism, crisis management and basic guard force management. A Security Design section of the program looks at ways to maximize the security benefit within operational (financial and aesthetic) constraints.

The Antiterrorism Physical Security Specialist program provides a comprehensive overview of a physical security program. Topics covered are access control systems; intrusion detection, both interior and exterior; crisis management; national incident management systems; contracting guard forces; international and domestic terrorism and their threat to America; security surveys/ security audits; managing a security operation; IT security; CCTV; contingency planning; locks and locking devices; workplace violence; and perimeter security.

The Safe & Lock Technician program provides a comprehensive hands-on knowledge of safes and locks. This program will provide the technician with the training to service, maintain and troubleshoot safes and locks. Topics covered are electronic access control systems, safe lock servicing – electronic and mechanical, combination lock manipulation, basic safe penetration, locks and locking devices, safe and safe hardware, security hardware, electronic and mechanical door locks.

For all programs: Students will be required to undergo a criminal background investigation. If a student is presently employed by a law enforcement or federal agency that requires criminal checks, this requirement may be waived by LSI.

## CERTIFICATES

### SECURITY MANAGEMENT COORDINATOR

LSI 120 Comprehensive Security Specialist.....4
LSI 140 Managing Terrorism & Other Crises .....1
LSI 150 Professional Locksmithing .....4

**Total Credits .....12**

**Electives: A minimum of 3 credit hours must be taken from this list of electives:**

LSI 100 Physical Security.....2
LSI 105 Force Protection .....3
LSI 110 Security Surveys .....2
LSI 115 Command Security Officer Training .....4
LSI 130 GSA: Locks, Vaults & Containers.....4
LSI 131 GSA: Locks, Vaults & Containers Certified Inspector Training .....1
LSI 151 Basic Safe Penetration .....1
LSI 152 Combination Lock Manipulation .....1
LSI 153 Safe Lock Servicing - Mechanical and Electronic2
LSI 160 Fundamentals of Electricity.....2
LSI 170 Electronic Access Control .....2
LSI 180 Security and Crime Prevention Management .....1
LSI 185 Security and Crime Prevention Countermeasures1
LSI 190 Security Hardware & Bypass Techniques.....1
LSI 195 Tactical Lock (restricted enrollment) .....8

### SUPPLY CHAIN SECURITY

LSI 125 Supply Chain Security.....2
LSI 127 Cargo Crime.....2

**Total Credits .....16**

**ELECTIVES: A minimum of 12 credit hours must be taken from this list of electives:**

LSI 112 Security Surveys/Security Audits .....2
LSI 101 Perimeter Security .....2
LSI 174 Access Control Technology .....2
LSI 103 Closed Circuit Television.....2
LSI 144 Terrorism .....2
LSI 146 Crisis Management/Contingency Planning .....2
LSI 177 Information Technology Security.....2
LSI 107 Intrusion Detection .....2
LSI 182 Managing Security Operations.....2
LSI 184 Guard Force Contracting .....2

**ANTITERRORISM PHYSICAL SECURITY SPECIALIST**

LSI 120 Comprehensive Security Specialist Training .....4
LSI 182 Managing Security Operations.....2

**Total Credits .....16**

**Electives: A minimum of 10 credit hours must be taken from this list of electives.**

LSI 112 Security Surveys/Security Audits .....2
LSI 101 Perimeter Security.....2
LSI 174 Access Control Technology.....2
LSI 103 Closed Circuit Television .....2
LSI 144 Terrorism .....2
LSI 146 Crisis Management/Contingency Planning.....2
LSI 177 Information Technology Security.....2
LSI 107 Intrusion Detection.....2
LSI 184 Guard Force Contracting .....2

**SAFE & LOCK TECHNICIAN**

LSI 150 Professional Industrial Locksmithing.....4
LSI 153 Safe Lock Servicing .....2

**Total Credits .....16**

**Electives: A minimum of 10 credit hours must be taken from this list of electives.**

LSI 110 Security Surveys .....2
LSI 130 GSA: Lock, Vault & Container.....4
LSI 151 Basic Safe Penetration.....1
LSI 152 Combination Lock Manipulation .....1
LSI 160 Fundamentals of Electricity .....2
LSI 170 Electronic Access Control .....2
LSI 182 Managing Security Operations.....2

## SURGICAL TECHNOLOGY

Surgical technologists are allied health professionals who are an integral part of the team of medical practitioners providing surgical care to patients in a variety of settings such as medical offices, out-patient clinics, and the operating room.

The surgical technologist works under medical supervision to facilitate the safe and effective conduct of invasive surgical procedures. This individual works under the supervision of a surgeon to ensure that the operating room environment is safe, that equipment functions properly, and that the operative procedure is conducted under conditions that maximize patient safety.

A surgical technologist possesses expertise in the theory and application of sterile and aseptic techniques and combines the knowledge of human anatomy, surgical procedures, and implementation tools and technologies to facilitate a physician's performance of invasive therapeutic and diagnostic procedures.

This program provides clinical experience built upon classroom instruction in the basic sciences, patient care, aseptic techniques and surgical procedures. Students enrolled in the Surgical Technology Program are required to achieve a minimum grade of "C" in each Surgical Technology, mathematics, and science course.

Programs are accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) and graduates are eligible to take the certifying examination offered by the Liaison Council on Certification for the Surgical Technologist (LCC-ST).

Bluegrass Community and Technical College and its educational programs are accredited and/or approved by the following bodies: Commission of the Council on Occupational Education (COE) 41 Perimeter Center East, NE, Suite 640, Atlanta, Georgia 30346 Phone (770) 396-3898; Commission on Colleges of the Southern Association of Colleges and Schools (SACS) 1866 Southern Lane, Decatur, Georgia 30033-4097 Phone (404) 679-4501 to award the associate degree.

The Surgical Technology program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) (www.caahep.org) will act upon the recommendation from the Accreditation Review Committee on Education in Surgical Technology (ARC-ST) (www.arcst.org) and students receiving a Diploma/Degree will eligible to sit for the Surgical Technologist Certifying Exam to receive certification from the Liaison Council on Certification for the Surgical Technology (LCC-ST). For more information on certification visit Liaison Council on Certification for the Surgical Technologist (www.lcc-st.org) and for information on the Association of Surgical Technology please feel free to visit (www.ast.org)

Commission on Accreditation of Allied Health Education Programs (CAAHEP) upon the recommendation of Accreditation Review Committee on Education in Surgical Technology. 1361 Park Street, Clearwater, FL 33756 Phone (727) 210-2350. Fax (727) 210-2354, www.caahep.org

Accreditation Review Committee on Education in Surgical Technology (ARC-ST) 6 West Dry Creek Circle, Suite 210, Littleton, Colorado 80120-8031, Phone (303) 694-9262, Fax (303) 741-3655, www.arcst.org

## ASSOCIATE IN APPLIED SCIENCE (GOTS)

CIS 100 Introduction to Computers OR .....3
CPU 150 Computer Fundamentals .....(3)

BIO 137 Anatomy & Physiology I AND .....4
BIO 139 Anatomy & Physiology II .....4
CLA 131 Medical Terminology from Greek & Latin OR ...3
AHS 115 Medical Terminology OR .....(3)
OST 103 Medical Office Terminology .....(3)
BIO 225 Medical Microbiology OR .....4
BIO 227 Principles of Microbiology with Laboratory .....(5)
MT 110 Applied Mathematics OR .....3
MT 150 College Algebra .....(3)
ENG 101 Writing I .....3
Social Interaction .....3
Heritage/Humanities .....3

**Subtotal .....30-31**

**Recommended Additional General Education**
COM 181 Basic Public Speaking OR .....3
COM 252 Introduction to Interpersonal Communications (3)

**Total .....30-34**

SUR 100 Surgical Technology Fundamentals/Theory .....12
SUR 101 Surgical Technology Fundamentals Lab .....1
SUR 125 Surgical Technology Skills Practicum I .....2
SUR 130 Principles of Surgical Pharmacology .....2
SUR 200 Surgical Technology Advanced Theory .....9
SUR 201 Surgical Technology Skills Practicum II .....6
SUR 275 Surgical Technology Advanced Clinical Practicum 2

**Subtotal .....34**

**Recommended Electives:**
SUR 103 Surgical Technology Didactic Practicum .....(1)
BA 120 Personal Finance .....(3)
MNA 100 Medicaid Nurse Aide .....(3)

**Subtotal ..... (7)**
**Total AAS Program Credit Hours .....64-75**
*Note: CPR certificate must be obtained prior to enrolling in the first Surgical Technology course and certification must be kept current throughout the Program*

## DIPLOMA

### SURGICAL TECHNOLOGIST

CIS 100 Introduction to Computers OR .....3
CPU 150 Introduction to Computers .....(3)
BIO 135 Basic Anatomy & Physiology with Lab OR .....4
BIO 137 Anatomy & Physiology I AND .....(4)
BIO 139 Anatomy & Physiology II OR .....(4)
AHS 109 Introduction to Body Structure and Function ....(4)
CLA 131 Medical Terminology from Greek & Latin OR ...3
AHS 115 Medical Terminology OR .....(3)
OST 103 Medical Office Terminology OR .....(3)
HEA 120 Medical Terminology .....(1)
BIO 225 Medical Microbiology OR .....4
BIO 227 Principles of Microbiology with Laboratory .....(5)
AHS 130 Infection Control .....(2)
BA 250 Business Employability Seminar OR .....1
WPP 200 Workplace Principles .....(3)
SUR 100 Surgical Technology Fundamentals/Theory .....12
SUR 101 Surgical Technology Fundamentals Lab .....1
SUR 125 Surgical Technology Skills Practicum I .....2
SUR 130 Principles of Surgical Pharmacology .....2
SUR 200 Surgical Technology Advanced Theory .....9
SUR 201 Surgical Technology Skills Practicum II .....6
SUR 275 Surgical Technology Advanced Clinical Practicum 2

**Recommended Elective(s):**
SUR 103 Surgical Technology Didactic Practicum .....(1)
EFM 100 Personal Financial Management OR .....(3)
BA 120 Personal Finance OR .....(3)
TEC 200 Technical Communications .....(3)
MNA 100 Medicaid Nurse Aide .....(3)

**Total Diploma Credits Hours .....45-63**

Note: CPR certificate must be obtained prior to enrolling in the first Surgical Technology course and certification must be kept current throughout the Program.

# WELDING TECHNOLOGY

Welding occupations are primarily concerned with joining, surfacing, or repairing structures or parts made of metal or other weldable materials. The skills and knowledge needed to determine the appropriate welding technique required for a specific project and to successfully perform that technique are gained through course work and practical experience.

## DIPLOMA

COMBINATION WELDER
ENG 101 Writing I OR 3
TEC 100 Communications for Business and Industry OR (3)
TEC 200 Technical Communications OR (3)
WPP 200 Workplace Principles (3)
MT 110 Applied Mathematics OR 3
MT 115 Technical Mathematics OR (3)
MT 145 Contemporary College Mathematics OR (3)
MT 150 College Algebra (3)
General Education Total Credits 6

Required
CIS 100 Introduction to Computers OR 3
CPU 150 Computer Fundamentals OR (3)
Computer Literacy (1-4)
WLD 100 Oxy-Fuel Systems OR 2
WLD 110 Cutting Processes (2)
WLD 101 Oxy-Fuel Systems Lab OR 2
WLD 111 Cutting Processes Lab (3)
WLD 120 Shielded Metal Arc Welding (SMAW) 2
WLD 121 Shielded Metal Arc Welding (SMAW) Fillet Laboratory 3
WLD 123 Shielded Metal Arc Welding (SMAW) Groove Welds with Backing Lab OR .....3
WLD 225 Shielded Metal Arc Welding (SMAW)