

**GENERAL REQUIREMENTS FOR THE  
ASSOCIATE IN APPLIED SCIENCE  
(AAS) DEGREE**

The Associate in Applied Science Degree is an undergraduate award designed for students planning to specialize in technical, business, semi-professional, and supervisory fields that are career oriented. The outline below provides the general guidelines from Board Policy and is used by the college to design specific degree programs. A student pursuing an AAS degrees must follow the specific requirements for the program as outlined in the catalog.

**Area I: Written Composition .....3-6 Credit Hours**

- A course or course combination that promotes effective written and oral communication skills.

**Area II: Humanities and Fine Arts.....3-6 Credit Hours**

- In addition to Literature, disciplines include but are not limited to: Area/Ethnic Studies, Art and Art History, Foreign Languages, Music and Music History, Philosophy, Ethics, Religious Studies, Theater and Dance.

**Area III: Natural Science and  
Mathematics.....6-11 Credit Hours**

- In addition to Mathematics, disciplines in the Natural Sciences include: Astronomy, Biological Sciences, Chemistry, Geology, Physical Geography, Earth Science, Physics, and Physical Science.
- A minimum of 3 hours in Mathematics required.

**Area IV: History, Social, and  
Behavioral Sciences.....3-6 Credit Hours**

- In addition to History, the Social and Behavioral Sciences include, but are not limited to: Anthropology, Economics, Geography, Political Science, Psychology, and Sociology.

**Area I-IV: General Education  
Requirements.....15-29 Credit Hours**

**Area V: Technical Core, Technical  
Concentration, and Electives.....31-61 Credit Hours**

- Area V courses are courses appropriate to the degree requirements, occupational or technical specialty requirements, core courses, and electives.

**Total Hours Required .....60-76 Credit Hours**

**GENERAL REQUIREMENTS FOR THE  
CERTIFICATE (CER)**

The certificate award is designed for students seeking a specialized set of skills for employment or professional advancement. The outline below provides the general guidelines from Board Policy and is used by the college to design specific certificate programs. A student pursuing any of the certificate programs must follow the specific requirements for the program as outlined in the catalog.

**Area I: Written Composition .....3-6 Credit Hours**

- A minimum of one written composition course which may have a discipline specific prefix other than COM or ENG or the integration of written communication proficiencies within a required discipline-specific course(s).

**Area II: Humanities and Fine Arts.....0-6 Credit Hours**

**Area III: Natural Science and  
Mathematics.....3-7 Credit Hours**

- A minimum of one mathematics course which may have a discipline specific prefix other than MAH or MTH or the integration of mathematics proficiencies within a required discipline-specific course(s).

**Area IV: History, Social, and  
Behavioral Sciences.....0 Credit Hours**

**Area I-IV: General Education  
Requirements.....6-19 Credit Hours**

**Area V: Technical Core, Technical  
Concentration, and Electives.....11-54 Credit Hours**

**Total Hours Required .....30-60 Credit Hours**

**GENERAL REQUIREMENTS FOR THE  
CAREER TECHNICAL EDUCATION SHORT  
TERM CERTIFICATE (STC)**

The career technical education short term certificate award is designed to equip students with a focused set of skills for an entry level position in business or industry. The outline below provides the general guidelines from Board Policy and is used by the college to design specific career technical education short term certificate programs. A student pursuing any of the short term certificate programs must follow the specific requirements for the program as outlined in the catalog.

**Area I: Written Composition .....0-3 Credit Hours**

**Area II: Humanities and Fine Arts.....0 Credit Hours**

**Area III: Natural Science and  
Mathematics.....0-3 Credit Hours**

**Area IV: History, Social, and  
Behavioral Sciences.....0 Credit Hours**

**Area I-IV: General Education  
Requirements.....0-6\* Credit Hours**

**Area V: Technical Core, Technical  
Concentration, and Electives.....9-29 Credit Hours**

**Total Hours Required .....9-29 Credit Hours**

*\*Certificates with 6 hours of general education credits, must have a minimum of 15 total credit hours.*

## AIR CONDITIONING AND REFRIGERATION

### Associate in Applied Science Degree Air Conditioning and Refrigeration

#### Area I – Written Composition

ENG 101 English Composition I ..... 3 hours  
**Total..... 3 hours**

#### Area II – Humanities and Fine Arts

SPH 107 Fundamentals of Public Speaking ..... 3 hours  
 Humanities and Fine Arts Elective ..... 3 hours  
 Choose from: ART 100, 203, 204; MUS 101, PHL 206;  
 REL 100, 151, 152; SPA 201, 202; THR 120, 126  
**Total..... 6 hours**

#### Area III – Natural Sciences and Mathematics

CIS 146 Microcomputer Applications ..... 3 hours  
 MTH 116 or any 100-level MTH..... 3-4 hours  
 Math, Science, or CIS Elective ..... 3-4 hours  
**Total..... 9-11 hours**

#### Area IV – History, Social and Behavioral Sciences

Area IV Elective..... 3 hours  
 Choose from: ECO 231, 232; GEO 100, HIS 101, 102, 201, 202;  
 POL 211; PSY 200, 210; SOC 200, 210  
**Total..... 3 hours**

#### Area V – Pre-Professional, Major, and Elective Course

##### Technical Core

ACR 111 Principles of Refrigeration ..... 3 hours  
 ACR 112 HVACR Service Procedures ..... 3 hours  
 ACR 113 Refrigeration and Piping Practices ..... 3 hours  
 ACR 121 Principles of Electricity for HVACR ..... 3 hours  
 ACR 122 HVACR Electric Circuits ..... 3 hours  
 ACR 123 HVAC/R Electrical Components ..... 3 hours  
 WKO 106 Workplace Skills..... 3 hours  
 WKO 110, 131, 132, 133, or 134..... 3 hours  
 Cooperation Education Electives ..... 3 hours  
 Choose from: ADM 150, ADM 151, ADM 152, ADM 153,  
 ADM 154

Technical Specialty ..... 24 hours  
 ACR courses by advisement  
**Total Area V..... 51 hours**  
**Total Hours Required for Degree ..... 72-74 hours**

#### Short-Term Certificate in Air Conditioning and Refrigeration

ACR 111 Principles of Refrigeration ..... 3 hours  
 ACR 112 HVACR Service Procedures ..... 3 hours  
 ACR 113 Refrigeration and Piping Practices ..... 3 hours  
 ACR 121 Principles of Electricity for HVACR ..... 3 hours  
 ACR 122 HVACR Electric Circuits ..... 3 hours  
 ACR 123 HVAC/R Electrical Components ..... 3 hours  
 WKO 110, 131, 132, 133, or 134..... 3 hours  
**Total Hours Required for Short-Term Certificate ..... 21 hours**

#### Certificate in Air Conditioning and Refrigeration

ENG 101 English Composition ..... 3 hours  
 SPH 107 Fundamentals of Public Speaking ..... 3 hours

MTH 116 Mathematical Applications or any  
 100-level MTH..... 3-4 hours  
 CIS 146 Microcomputer Applications ..... 3 hours  
 WKO 106 Workplace Skills..... 3 hours  
 WKO 110, 131, 132, 133, or 134..... 3 hours  
 ACR 111 Principles of Refrigeration ..... 3 hours  
 ACR 112 HVACR Service Procedures ..... 3 hours  
 ACR 113 Refrigeration and Piping Practices ..... 3 hours  
 ACR 121 Principles of Electricity for HVACR ..... 3 hours  
 ACR 122 HVACR Electric Circuits..... 3 hours  
 ACR 123 HVAC/R Electrical Components ..... 3 hours  
 ACR courses by advisement ..... 18 hours  
**Total Hours Required for Certificate ..... 54-55 hours**

### Suggested Career Pathway in Air Conditioning and Refrigeration

This is a suggested Career Pathway for full-time students. Other options are available for part-time students. Students should consult an advisor.

#### Semester 1

ACR 111 Principles of Refrigeration ..... 3 hours  
 ACR 112 HVACR Service Procedures ..... 3 hours  
 ACR 113 Refrigeration Piping Practices ..... 3 hours  
 ENG 101 English Composition I ..... 3 hours  
 WKO 110 NCCER Core ..... 3 hours  
**Total..... 15 hours**

*\*Eligible for certifications in NCCER and EPA 608*

#### Semester 2

ACR 121 Principles of Electricity for HVACR ..... 3 hours  
 ACR 122 HVACR Electric Circuits ..... 3 hours  
 ACR 123 HVACR Electrical Components ..... 3 hours  
 MTH 116 or any 100-level MTH ..... 3 hours  
**Total..... 12 hours**

*\*Eligible for a Short-Term Certificate in Air Conditioning and Refrigeration and HVAC Excellence Electrical Certification*

#### Semester 3

ACR 147 Refrigerant Transition and Rec. Theory ..... 3 hours  
 ACR 134 Ice Machines ..... 3 hours  
 ACR 203 Commercial Refrigeration ..... 3 hours  
 ACR 205 Duct Design and Air Distribution ..... 3 hours  
 CIS 146 Microcomputer Applications ..... 3 hours  
**Total..... 15 hours**

#### Semester 4

ACR 148 Heat Pumps..... 3 hours  
 ACR 210 Troubleshooting HVACR Systems ..... 3 hours  
 SPH 107 Fundamentals of Public Speaking ..... 3 hours  
 Area IV Elective..... 3 hours  
 WKO 106 Workplace Essentials..... 3 hours  
**Total..... 15 hours**

*\*Eligible for a Certificate in Air Conditioning and Refrigeration, HVAC Excellence Troubleshooting Certification, National Career Readiness Certificate and OSHA 10 Hour Card*

**Semester 5**

ACR 128 Heat Load Calculations.....	3 hours
ACR 200 Review For Contractors Exam.....	3 hours
Cooperative Education Electives .....	3 hours
Choose from: ADM 150, ADM 151, ADM 152, ADM 153, ADM 154	
Area II Humanities and Fine Arts Elective .....	3 hours
Area IV Social and Behavioral Science Elective.....	3 hours

**Total..... 15 hours**

*\*Eligible to sit for the State of Alabama Heating and Air Conditioning Contractors Exam*

**Eligible for AAS degree in Air Conditioning and Refrigeration**

**BUILDING CONSTRUCTION & CARPENTRY**

**Short-Term Certificate in Carpentry – Level 1**

WKO 110 NCCER Core .....	3 hours
CAR 111 Construction Basics.....	3 hours
CAR 112 Floors, Walls, and Site Prep.....	3 hours
CAR 113 Floors, Walls, and Site Prep Lab.....	3 hours
CAR 114 Construction Basics Lab .....	3 hours

**Total Hours Required for Short-Term Certificate ..... 15 hours**

**Short-Term Certificate in Carpentry – Level 2**

CMT 102 Construction Blueprint Reading.....	3 hours
CAR 122 Concrete and Forming .....	3 hours
CAR 123 Concrete and Forming Lab .....	3 hours
BUC 131 Interior and Exterior Finishes .....	3 hours
MAS 111 Masonry Fundamentals.....	3 hours
CAR 226 Metal Framing .....	3 hours

**Total Hours Required for Short-Term Certificate ..... 18 hours**

**BUSINESS ADMINISTRATION**

**Associate in Applied Science Degree  
Business Administration**

**Area I – Written Composition**

ENG 101 English Composition I.....	3 hours
<b>Total.....</b>	<b>3 hours</b>

**Area II – Humanities and Fine Arts**

SPH 107 Fundamentals of Public Speaking .....	3 hours
Humanities and Fine Arts Elective .....	3 hours
Choose from: ART 100, 203, 204; MUS 101, PHL 206; REL 100, 151, 152; SPA 201, 202; THR 120, 126	
<b>Total.....</b>	<b>6 hours</b>

**Area III – Natural Sciences and Mathematics**

MTH 116 or any 100-level MTH.....	3-4 hours
CIS 146 Microcomputer Applications .....	3 hours
<b>Total.....</b>	<b>6-7 hours</b>

**Area IV – History, Social and Behavioral Sciences**

Area IV Elective.....	3 hours
Choose from: GEO 100, HIS 101, 102, 201, 202; POL 211; PSY 200, 210; SOC 200, 210	
<b>Total.....</b>	<b>3 hours</b>

**Area V – Pre-Professional, Major, and Elective Courses**

BUS 241 Principles of Accounting I.....	3 hours
BUS 242 Principles of Accounting II .....	3 hours
BUS 263 The Legal and Social Environment of Business .....	3 hours
BUS 275 Principles of Management.....	3 hours
ECO 231 Principles of Macroeconomics.....	3 hours
ECO 232 Principles of Microeconomics .....	3 hours
BUS 245 or BUS 246.....	3 hours
BUS 248 Managerial Accounting .....	3 hours
BUS 215 Business Communication.....	3 hours
ACC 129 Individual Income Taxes.....	3 hours
ACT 249 Payroll Accounting.....	3 hours
Elective Courses by Advisement .....	15 hours
<b>Total Area V.....</b>	<b>48 hours</b>
<b>Total Hours Required for Degree .....</b>	<b>66-67 hours</b>

**General Short-Term Certificate in Accounting**

BUS 241 Principles of Accounting I.....	3 hours
BUS 242 Principles of Accounting II .....	3 hours
BUS 215 Business Communication.....	3 hours
BUS 248 Managerial Accounting .....	3 hours
BUS 245 Accounting with Quickbooks.....	3 hours
ACC 129 Individual Income Taxes.....	2 hours
ACT 249 Payroll Accounting.....	3 hours
OAD 103* Intermediate Keyboarding.....	3 hours
OAD 218 or OAD 231 .....	3 hours
<b>Total Hours Required for Short-Term Certificate .....</b>	<b>27 hours</b>

*\*Prerequisite: Minimum 35 wpm or OAD 101 Beginning Keyboarding*

**COSMETOLOGY**

*See Salon and Spa Management*

**CYBERSECURITY**

*See Computer Information Systems*

**COMPUTER INFORMATION SYSTEMS**

**Associate in Applied Science Degree  
Computer Information Systems**

**Area I – Written Composition**

ENG 101 English Composition I.....	3 hours
<b>Total.....</b>	<b>3 hours</b>

**Area II – Humanities and Fine Arts**

SPH 107 Fundamentals of Public Speaking .....	3 hours
Humanities and Fine Arts Elective .....	3 hours
Choose from: ART 100, 203, 204; MUS 101; PHL 206; REL 100, 151, 152; SPA 201, 202; THR 120, 126	
<b>Total.....</b>	<b>6 hours</b>

**Area III – Natural Science and Mathematics**

CIS 146 Microcomputer Applications .....	3 hours
MTH 100 or higher (excluding MTH 110 & MTH 116).....	3-4 hours
Math, Science or CIS Elective .....	3-4 hours
<b>Total.....</b>	<b>9-11 hours</b>

**Area IV – History, Social, and Behavioral Sciences**

Area IV Elective.....	3 hours
Choose from: ECO 231, 232; GEO 100; HIS 101,102, 201, 202; POL 211; PSY 200, 210; SOC 200, 210	
<b>Total.....</b>	<b>3 hours</b>

**Area V – Pre-Professional, Major, and Elective Courses**

CIS 149 Introduction to Computers.....	3 hours
CIS 150 Introduction to Computer Programming & Logic.....	3 hours
CIS 199 Network Communications.....	3 hours
CIS 268 Software Support.....	3 hours
CIS 269 Hardware Support.....	3 hours
WKO 106 Workplace Skills.....	3 hours
CIS Electives.....	9-15 hours
CIS 212 or CIS 251.....	3-6 hours
MTH 112 or higher (excluding MTH 116).....	3 hours
Business Electives or OAD 101, 103, 243.....	3-6 hours
<b>Total Area V.....</b>	<b>42 hours</b>
<b>Total Hours for Degree.....</b>	<b>63-65 hours</b>

**Short-Term Certificate in Computer Information Systems – Computer Graphics and Web Design**

CIS 151 Graphics for the World Wide Web.....	3 hours
CIS 207 Web Development.....	3 hours
CIS 208 Intermediate Web Development.....	3 hours
CIS 209 Advanced Web Development.....	3 hours
CIS 199 Introduction to Networking Communication.....	3 hours
CIS Elective.....	3 hours
<b>Total Hours Required for Short-Term Certificate.....</b>	<b>18 hours</b>

**Short-Term Certificate in Computer Information Systems – Office Technology Support**

CIS 149 Introduction to Computers.....	3 hours
CIS 146 Microcomputer Applications.....	3 hours
CIS 199 Introduction to Networking Communication.....	3 hours
CIS 207 Web Development.....	3 hours
CIS 268 Software Support.....	3 hours
CIS 269 Hardware Support.....	3 hours
<b>Total Hours Required for Short-Term Certificate.....</b>	<b>18 hours</b>

**Short-Term Certificate in Computer Information Systems – Cybersecurity**

Two options are offered

Option 1 is for those who have expertise, experience, and certification as a network administrator but need additional education for cybersecurity. Option 2 assumes no experience as a network administrator.

**OPTION 1**

**Short-Term Certificate in Computer Information Systems – Security + Add-on**

*To be eligible, students must show proof of having passed IC<sup>3</sup>, A+ and Network+ certifications.*

CIS 246 Ethical Hacking.....	3 hours
CIS 280 Network Security.....	3 hours
CIS 282 Computer Forensics.....	3 hours
CIS 296 Special Topics.....	3 hours
<b>Total Hours Required for Certificate.....</b>	<b>12 hours</b>

**OPTION 2**

**Short-Term Certificate in Computer Information Systems – Cybersecurity Technician**

CIS 146 Microcomputer Applications.....	3 hours
CIS 149 Introduction to Computers.....	3 hours
CIS 199 Network Communications.....	3 hours
CIS 246 Ethical Hacking.....	3 hours
CIS 268 Software Support.....	3 hours
CIS 269 Hardware Support.....	3 hours
CIS 280 Network Security.....	3 hours
CIS 282 Computer Forensics.....	3 hours
CIS 296 Special Topics.....	3 hours
<b>Total Hours Required for Certificate.....</b>	<b>27 hours</b>

**Computer Information Systems – Data Center Option Short Term Certificate**

CIS 199 Network Communications.....	3 hours
CIS 268 Software Support.....	3 hours
CIS 269 Hardware Support.....	3 hours
ILT 238 Network Cable – Fiber Optic.....	1 hour
<b>Total Hours Required for Short-Term Certificate.....</b>	<b>11 hours</b>

**Associate in Applied Science Degree Computer Information Systems – Data Center Option**

**Area I – Written Composition**

ENG 101 English Composition I.....	3 hours
<b>Total.....</b>	<b>3 hours</b>

**Area II – Humanities and Fine Arts**

SPH 107 Fundamentals of Public Speaking.....	3 hours
Humanities and Fine Arts Elective.....	3 hours
Choose from: ART 100, 203, 204; MUS 101; PHL 206; REL 100, 151, 152; SPA 201, 202; THR 120, 126	
<b>Total.....</b>	<b>6 hours</b>

**Area III – Natural Science and Mathematics**

CIS 146 Microcomputer Applications.....	3 hours
MTH 100 or higher (excluding MTH 110 & MTH 116).....	3-4 hours
Math, Science or CIS Elective.....	3-4 hours
<b>Total.....</b>	<b>9-11 hours</b>

**Area IV – History, Social, and Behavioral Sciences**

Area IV Elective.....	3 hours
Choose from: ECO 231, 232; GEO 100; HIS 101,102, 201, 202; POL 211; PSY 200, 210; SOC 200, 210	
<b>Total.....</b>	<b>3 hours</b>

**Area V – Pre-Professional, Major, and Elective Courses**

CIS 149 Introduction to Computers.....	3 hours
CIS 150 Introduction to Computer Programming & Logic.....	3 hours
CIS 199 Network Communications*.....	3 hours
CIS 268 Software Support**.....	3 hours
CIS 269 Hardware Support**.....	3 hours
WKO 106 Workplace Skills.....	3 hours

**Area V Courses (23-24 hours)**

ILT 238 Network Cable – Fiber Optic.....	2 hours
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CIS 162 Advanced Networking*	3 hours
CIS 171 Linux I	3 hours
CIS 172 Linux II	3 hours
CIS 276 Server Administration	3 hours
CIS 280 Network Security	3 hours
CIS Programming Courses	3 hours
CIS 212 or CIS 251	
MTH 112 or higher (excluding MTH 116)	3-4 hours
<b>Total Area V</b>	<b>41-42 hours</b>
<b>Total Hours for Degree</b>	<b>62-65 hours</b>

\*CompTIA Network+ – Prep for certification exam

\*\*CompTIA A+ – Prep for certification exam

Program Electives	8-9 hours
Choose from: CHD 217; SPA 101, 102, 201, 202; PHL 206; PSY 200, 210; SOC 200, 210; BUS 215	
EMS 100 Cardiopulmonary Resuscitation I	1 hour
WKO 106 Workplace Skills	3 hours
<b>Total Area V</b>	<b>44-45 hours</b>
<b>Total Hours for Degree</b>	<b>65-68 hours</b>

### Short-Term Certificate in Infant/Toddler

CHD 100 Introduction to Early Care and Education	3 hours
CHD 206 Children’s Health and Safety	3 hours
CHD 209 Infant and Toddler Education Programs	3 hours
<b>Total Hours Required for Short-Term Certificate</b>	<b>9 hours</b>

### Short-Term Certificate in Preschool/Family Child Care

CHD 100 Introduction to Early Care and Education	3 hours
CHD 206 Children’s Health and Safety	3 hours
CHD 204 Materials and Methods for Teaching Young Children	3 hours
<b>Total Hours Required for Short-Term Certificate</b>	<b>9 hours</b>

### Short-Term Certificate in Early Childhood Education

CHD 206 Children’s Health and Safety	3 hours
CHD 209 Infant and Toddler Education Programs	3 hours
Choose from: CHD 203, 204, 205, or 215	3 hours
<b>Total Hours Required for Short-Term Certificate</b>	<b>9 hours</b>

### Short-Term Certificate in Child Development

CHD 201 Child Growth and Development	3 hours
CHD 209 Program Planning for Educating Young Children	3 hours
CHD 210 Educating Exceptional Children	3 hours
<b>Total Hours Required for Short-Term Certificate</b>	<b>9 hours</b>

## CHILD DEVELOPMENT

### Associate in Applied Science Degree Child Development

*As required by licensed childcare facilities and state funded preschools, the child development student is required to submit to a criminal background check prior to completing field experiences and the practical teaching experience. Students who cannot clear a background check will not be allowed to complete the necessary experiences for all child development courses and would be required to withdraw from the program.*

#### Area I – Written Composition

ENG 101 English Composition I	3 hours
<b>Total</b>	<b>3 hours</b>

#### Area II – Humanities and Fine Arts

SPH 107 Fundamentals of Public Speaking	3 hours
Humanities and Fine Arts Elective	3 hours
Choose from: ART 100, 203, 204; MUS 101; PHL 206; REL 100, 151, 152; SPA 201, 202; THR 120, 126	
<b>Total</b>	<b>6 hours</b>

#### Area III – Natural Science and Mathematics

MTH 116 or any 100-level MTH	3-4 hours
CIS 146 Microcomputer Applications	3 hours
Math, Science or CIS Elective	3-4 hours
<b>Total</b>	<b>9-11 hours</b>

#### Area IV – History, Social, and Behavioral Sciences

PSY 200 or SOC 200 General Psychology or Introduction to Sociology	3 hours
<b>Total</b>	<b>3 hours</b>

#### Area V – Pre-Professional, Major, and Elective Courses

CHD 100 Introduction to Early Care & Education of Children	3 hours
CHD 201 Child Growth & Development Principles	3 hours
CHD 202 Children’s Creative Experiences	3 hours
CHD 203 Children’s Literature & Language Development	3 hours
CHD 204 Methods & Materials for Teaching Children	3 hours
CHD 205 Program Planning for Education	3 hours
CHD 206 Children’s Health & Safety	3 hours
CHD 209 Infant and Toddler Education Programs	2 hours
CHD 210 Educating Exceptional Children	3 hours
CHD 215 Supervised Practical Experience in Child Development	3 hours
CHD 214 Families and Communities	3 hours

## CRIMINAL JUSTICE

### Associate in Applied Science Degree Criminal Justice

#### Area I – Written Composition

ENG 101 English Composition I	3 hours
<b>Total</b>	<b>3 hours</b>

#### Area II – Humanities and Fine Arts

SPH 107 Fundamentals of Public Speaking	3 hours
Humanities and Fine Arts Elective	3 hours
Choose from: ART 100, 203, 204; MUS 101; PHL 206; REL 100, 151, 152; SPA 201, 202; THR 120, 126	
<b>Total</b>	<b>6 hours</b>

#### Area III – Natural Science and Mathematics

MTH 116 or any 100-level MTH	3-4 hours
CIS 146 Microcomputer Applications	3 hours
Math, Science, or CIS Elective	3-4 hours
<b>Total</b>	<b>9-11 hours</b>

#### Area IV – History, Social, and Behavioral Sciences

Area IV Elective	3 hours
Choose from: ECO 231, 232; GEO 100; HIS 101, 102, 201, 202; POL 211; PSY 200, 210; SOC 200, 210	
<b>Total</b>	<b>3 hours</b>

**Area V – Technical Requirements**

CRJ 100 Introduction to Criminal Justice.....	3 hours
CRJ 110 Introduction to Law Enforcement.....	3 hours
WKO 106 Workplace Skills.....	3 hours
CRJ 280 Internship in Criminal Justice.....	3 hours
CRJ Electives (by advisement).....	24-30 hours
Other Electives.....	0-6 hours
Choose from: POL 211, 220; SOC 200, 210; PSY 200, 210	

**Total Area V..... 42 hours**  
**Total Hours Required for Degree .....63-64 hours**

**Short-Term Certificate in Criminal Justice**

CRJ 100 Introduction to Criminal Justice.....	3 hours
CRJ Electives by advisement.....	12 hours

**Total Hours Required for Short-Term Certificate ..... 15 hours**

**Certificate in Law Enforcement**

ENG 101 English Composition I.....	3 hours
SPH 107 Fundamentals of Public Speaking.....	3 hours
MTH 116 or any 100-level MTH.....	3-4 hours
CIS 146 Microcomputer Applications.....	3 hours
CRJ 100 Introduction to Criminal Justice.....	3 hours
CRJ 110 Introduction to Law Enforcement.....	3 hours
CRJ Electives by advisement.....	21 hours
WKO 106 Workplace Skills.....	3 hours

**Total Hours Required for Certificate .....42-43 hours**

**CULINARY ARTS**

**Short-Term Certificate in Culinary Arts**

CUA 110 Basic Food Preparation.....	3 hours
CUA 111 Foundation in Nutrition.....	3 hours
CUA 112 Sanitation, Safety & Service.....	2 hours
CUA 120 Basic Food Preparation Lab.....	2 hours
CUA 204 Foundations of Baking.....	3 hours
CUA Electives.....	9 hours

Select from:

CUA 114 Meal Management.....	3 hours
CUA 115 Advanced Food Prep.....	3 hours
CUA 130 Chocolate & Truffles.....	3 hours
CUA 203 Stocks & Sauces.....	3 hours
CUA 217 Introduction to Pastries.....	2 hours

**Total Hours Required for Short-Term Certificate ..... 22 hours**

**DRAFTING AND DESIGN TECHNOLOGY**

**Associate in Applied Science Degree  
 Drafting and Design Technology**

**Area I – Written Composition**

ENG 100 or ENG 101.....	3 hours
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**Total..... 3 hours**

**Area II – Humanities and Fine Arts**

SPH 107 Fundamentals of Public Speaking.....	3 hours
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Humanities and Fine Arts Elective.....	3 hours
Choose from: ART 100, 203, 204; MUS 101; PHL 206; REL 100, 151, 152; SPA 201, 202; THR 120, 126	

**Total..... 6 hours**

**Area III – Natural Science and Mathematics**

CIS 146 Microcomputer Applications.....	3 hours
MTH 116 or any 100-level MTH.....	3-4 hours
Math, Science, or Computer Science.....	3-4 hours

**Total..... 9-11 hours**

**Area IV – History, Social, and Behavioral Sciences**

Area IV Elective.....	3 hours
Choose from: ECO 231, 232; GEO 100; HIS 101, 102, 201, 202; POL 211; PSY 200, 210; SOC 200, 210	

**Total..... 3 hours**

**Area V – Pre-Professional, Major, and Elective Courses**

ADM 101 Precision Measurement.....	3 hours
Technical Cooperative Education.....	3 hours
ADM 150, 151, 152, 153, 154	
ADM 160 Additive Manufacturing Production Techniques.....	3 hours
ADM 114 Design Innovation.....	3 hours
DDT 104 Basic Computer-Aided Drafting & Design.....	3 hours
DDT 117 Manufacturing Processes.....	3 hours
DDT 124 Basic Technical Drawing.....	3 hours
DDT 144 Basic 3D Modeling.....	3 hours
DDT 220 Advanced Technical Drawing.....	3 hours
DDT 225 Structural Steel Drafting.....	3 hours
DDT 236 Design Project.....	3 hours
MTT 218 Computer Integrated Manufacturing (CIM).....	3 hours
WKO 106 Workplace Skills.....	3 hours
WKO 110, 131, 132, 133, or 134.....	3 hours
3D Elective Sequence.....	6 hours
MDT 147 and MDT 187 (Inventor) or MDT 202 and MDT 252 (SolidWorks)	

**Total Area V..... 48 hours**

**Total Hours Required for Degree .....69-71 hours**

**Short-Term Certificate in Drafting and Design Technology**

**– 3D Solid Modeling**

ADM 101 Precision Measurement.....	3 hours
ADM 114 Design Innovation.....	3 hours
ADM 160 Additive Manufacturing Production Techniques.....	3 hours
DDT 144 Basic 3D Modeling.....	3 hours
MDT 147 or MDT 202.....	3 hours

**Total Hours Required for the Short-Term Certificate..... 15 hours**

**Certificate in Drafting and Design Technology**

**– 3D Solid Modeling**

ENG 100 or ENG 101.....	3 hours
SPH 107 Fundamentals of Public Speaking.....	3 hours
MTH 116 or any 100-level MTH.....	3-4 hours
CIS 146 Microcomputer Applications.....	3 hours
ADM 101 Precision Measurement.....	3 hours
ADM 114 Design Innovation.....	3 hours
ADM 160 Additive Manufacturing Production Techniques.....	3 hours
DDT 144 Basic 3D Modeling.....	3 hours
MDT 147 or MDT 202.....	3 hours
MDT 187 or MDT 252.....	3 hours

WKO 110, 131, 132, 133, or 134.....3 hours  
**Total Hours Required for the Certificate.....33-34 hours**

**Short-Term Certificate in Drafting and Design Technology  
 – CADD**

ADM 101 Precision Measurement..... 3 hours  
 DDT 104 Basic Computer Aided Drafting and Design ..... 3 hours  
 DDT 124 Basic Technical Drawing ..... 3 hours  
 DDT 144 Basic 3D Modeling ..... 3 hours  
**Total Hours Required for Short-Term Certificate ..... 12 hours**

**Certificate in Drafting and Design Technology – CADD**

ENG 100 or ENG 101 ..... 3 hours  
 SPH 107 Fundamentals of Public Speaking ..... 3 hours  
 MTH 116 or any 100-level MTH.....3-4 hours  
 CIS 146 Microcomputer Applications ..... 3 hours  
 ADM 101 Precision Measurement.....3 hours  
 DDT 104 Basic Computer Aided Drafting and Design ..... 3 hours  
 DDT 124 Basic Technical Drawing ..... 3 hours  
 DDT 144 Basic 3D Modeling ..... 3 hours  
 MTT 218 Computer Integrated Manufacturing (CIM) ..... 3 hours  
 WKO 110, 131, 132, 133, or 134..... 3 hours  
**Total Hours Required for Certificate .....30-31 hours**

**Short-Term Certificate in Drafting and Design Technology  
 – Additive Manufacturing**

ADM 101 Precision Measurement..... 3 hours  
 ADM 114 Design Innovation..... 3 hours  
 DDT 117 Manufacturing Processes ..... 3 hours  
 DDT 144 Basic 3D Modeling ..... 3 hours  
 MTT 218 Computer Integrated Manufacturing (CIM) ..... 3 hours  
 ADM 160 Additive Manufacturing Production Techniques ..... 3 hours  
 MDT 147 or MDT 202..... 3 hours  
**Total Hours Required for Short-Term Certificate ..... 21 hours**

**Certificate in Drafting and Design Technology  
 – Additive Manufacturing**

ENG 100 or ENG 101 ..... 3 hours  
 SPH 107 Fundamentals of Public Speaking ..... 3 hours  
 MTH 116 or any 100-level MTH.....3-4 hours  
 CIS 146 Microcomputer Applications ..... 3 hours  
 ADM 101 Precision Measurement..... 3 hours  
 ADM 114 Design Innovation..... 3 hours  
 DDT 117 Manufacturing Processes ..... 3 hours  
 DDT 144 Basic 3D Modeling ..... 3 hours  
 MTT 218 Computer Integrated Manufacturing (CIM) ..... 3 hours  
 ADM 160 Additive Manufacturing Production Techniques ..... 3 hours  
 MDT 147 or MDT 202..... 3 hours  
 WKO 110, 131, 132, 133, or 134..... 3 hours  
**Total Hours Required for Certificate .....36-37 hours**

**Short-Term Certificate in Drafting and Design Technology  
 – Technical Drawing**

ADM 101 Precision Measurement..... 3 hours  
 DDT 104 Basic Computer Aided Drafting and Design ..... 3 hours  
 DDT 124 Basic Technical Drawing ..... 3 hours  
 DDT 144 Basic 3D Modeling ..... 3 hours  
 DDT 220 Advanced Technical Drawing ..... 3 hours  
 DDT 225 Structural Steel Drafting ..... 3 hours  
**Total Hours Required for Short-Term Certificate ..... 18 hours**

**Certificate in Drafting and Design Technology  
 – Technical Drawing**

ENG 100 or ENG 101 ..... 3 hours  
 SPH 107 Fundamentals of Public Speaking ..... 3 hours  
 MTH 116 or any 100-level MTH.....3-4 hours  
 CIS 146 Microcomputer Applications ..... 3 hours  
 ADM 101 Precision Measurement..... 3 hours  
 DDT 104 Basic Computer Aided Drafting and Design ..... 3 hours  
 DDT 124 Basic Technical Drawing ..... 3 hours  
 DDT 144 Basic 3D Modeling ..... 3 hours  
 DDT 220 Advanced Technical Drawing ..... 3 hours  
 DDT 225 Structural Steel Drafting ..... 3 hours  
 WKO 110, 131, 132, 133, or 134..... 3 hours  
**Total Hours Required for the Certificate.....33-34 hours**

**Suggested Career Pathway  
 in Drafting & Design Technology**

This is a suggested Career Pathway for full-time students. Other options are available for part-time students. Students should consult an advisor.

**Semester 1**

ADM 101 Precision Measurement..... 3 hours  
 DDT 104 Basic Computer Aided Drafting and Design ..... 3 hours  
 DDT 117 Manufacturing Processes ..... 3 hours  
 MTH 116 Mathematical Applications or 100 level Math ..... 3 hours  
 WKO 110, 131, 132, 133, or 134 ..... 3 hours  
**Total..... 15 hours**

*\*Eligible for a certification in NCCER, MSSC, or AUTOCAD Certified User Credential*

**Semester 2**

DDT 124 Basic Technical Drawing ..... 3 hours  
 DDT 144 Basic 3D Modeling ..... 3 hours  
 MTT 218 Computer Integrated Manufacturing (CIM) ..... 3 hours  
 ENG 101 English Composition I ..... 3 hours  
 CIS 146 Microcomputer Applications ..... 3 hours  
**Total..... 15 hours**

*\*Eligible for a Short-Term Certificate in CADD and NOCTI CAD Certification*

**Semester 3**

ADM 114 Design Innovations ..... 3 hours  
 ADM 160 Additive Manufacturing Production Techniques ..... 3 hours  
 DDT 225 Structural Steel Drafting ..... 3 hours  
 SPH 107 Fundamentals of Public Speaking ..... 3 hours  
 Area III Math, Science or Computer Science elective..... 3 hours  
**Total..... 15 hours**

*\*Eligible for a Certificate in CADD*

**Semester 4**

DDT 220 Advanced Technical Drawing ..... 3 hours  
 3D I – ELEC First 3D Elective (MDT 147 or MDT 202) ..... 3 hours  
 WKO 106 Workplace Essentials ..... 3 hours  
 Area II Elective ..... 3 hours  
**Total..... 12 hours**

*\*Eligible for Technical Drawing Short-Term Certificate and Certificate; 3D Modeling Short-Term Certificate; Additive Manufacturing Short-Term Certificate and Certificate; NOCTI Mechanical Drafting Certification; National Career Readiness Certificate and OSHA 10 Hour Card*

**Semester 5**

3D II – ELEC Second 3D Elective (MDT 187 or MDT 252).....	3 hours
DDT 236 Design Project.....	3 hours
Cooperative Education Electives .....	3 hours
.....Choose from: ADM 150, ADM 151, ADM 152, ADM 153	
.....ADM 154	
Area IV Social and Behavioral Science Elective.....	3 hours
<b>Total.....</b>	<b>12 hours</b>

*\*Eligible for Inventor Certified User or Solidworks Associate Credential; 3D Modeling Certificate*

Eligible for AAS degree in Drafting and Design Technology

**EMERGENCY SERVICES**

**Associate in Applied Science Degree  
Emergency Services – Paramedic**

The Northeast Alabama Community College Emergency Services Education Program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.com) upon the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP).

**Area I – Written Composition**

ENG 100 or ENG 101 .....	3 hours
<b>Total.....</b>	<b>3 hours</b>

**Area II – Humanities and Fine Arts**

SPH 107 Fundamentals of Public Speaking .....	3 hours
Humanities and Fine Arts Elective .....	3 hours
Choose from: ART 100, 203, 204; MUS 101; PHL 206**;	
REL 100, 151, 152; SPA 201, 202; THR 120, 126	
<i>**PHL 206 is recommended.</i>	
<b>Total.....</b>	<b>6 hours</b>

**Area III – Natural Science and Mathematics**

BIO 201 Human Anatomy and Physiology I.....	4 hours
MTH 116 or any 100-level MTH.....	3-4 hours
<b>Total.....</b>	<b>7-8 hours</b>

**Area IV – History, Social and Behavioral Sciences**

Area IV Elective.....	3 hours
Choose from: ECO 231, 232; GEO 100; HIS 101, 102, 201, 202;	
POL 211; PSY 200, 210; SOC 200**, 210	
<b>Total.....</b>	<b>3 hours</b>
<i>**SOC 200 is recommended</i>	

**Area V – Pre-Professional, Major, and Elective Courses**

BIO 202 Human Anatomy and Physiology II.....	4 hours
EMS 118 Emergency Medical Technician.....	9 hours
EMS 119 Emergency Medical Technician Clinical .....	1 hour
EMS 240 Paramedic Operations.....	2 hours
EMS 241 Paramedic Cardiology .....	3 hours
EMS 242 Paramedic Patient Assessment.....	2 hours
EMS 257 Paramedic Applied Pharmacology.....	2 hours
EMS 243 Paramedic Pharmacology .....	1 hour
EMS 244 Paramedic Clinical I .....	1 hour

EMS 245 Paramedic Medical Emergencies.....	3 hours
EMS 246 Paramedic Trauma Management .....	3 hours
EMS 247 Paramedic Special Populations.....	2 hours
EMS 248 Paramedic Clinical II.....	3 hours
EMS 253 Paramedic Transition to the Workforce .....	2 hours
EMS 254 Advanced Competencies for Paramedic .....	2 hours
EMS 255 Paramedic Field Preceptorship .....	5 hours
EMS 256 Paramedic Team Preceptorship.....	1 hour
EMS Elective .....	0-10 hours
<b>Total Area V.....</b>	<b>46-56 hours</b>
<b>Total Hours Required for Degree .....</b>	<b>65-76 hours</b>

**Associate in Applied Science Degree  
Emergency Services –  
Rescue Technology Option**

**Area I – Written Composition**

ENG 100 or ENG 101 .....	3 hours
<b>Total.....</b>	<b>3 hours</b>

**Area II – Humanities and Fine Arts**

SPH 107 Fundamentals of Public Speaking .....	3 hours
Humanities and Fine Arts Elective .....	3 hours
Choose from: ART 100, 203, 204; MUS 101; PHL 206**;	
REL 100, 151, 152; SPA 201, 202; THR 120, 126	
<i>**PHL 206 is recommended.</i>	
<b>Total.....</b>	<b>6 hours</b>

**Area III – Natural Science and Mathematics**

MTH 116 or any 100-level MTH.....	3-4 hours
Area III Elective.....	3-4 hours
Choose from any Math, Science, or CIS course.	
<b>Total.....</b>	<b>6-8 hours</b>

**Area IV – History, Social and Behavioral Sciences**

Area IV Elective.....	3 hours
Choose from: ECO 231, 232; GEO 100; HIS 101, 102, 201, 202;	
POL 211; PSY 200, 210; SOC 200**, 210	
<b>Total.....</b>	<b>3 hours</b>
<i>**SOC 200 is recommended</i>	

**Area V – Pre-Professional, Major, and Elective Courses**

EMS 100 Cardiopulmonary Resuscitation I.....	1 hour
EMS 106 Medical Terminology.....	2 hours
EMS 107 or FSC 281.....	1 to 3 hours
EMS 108 Directed Studies in EMS I.....	1 hour
EMS 113 Infection Control for Health Professions .....	1 hour
EMS 118 Emergency Medical Technician.....	9 hours
EMS 119 Emergency Medical Technician Clinical .....	1 hour
EMS 120 or FSC 237.....	2 to 3 hours
EMS 125 or FSC 230.....	2 to 3 hours
FSC 231 Rescue Technician Confined Space .....	3 hours
FSC 232 Rescue Technician Trench .....	3 hours
EMS 155 Advanced Emergency Med. Tech. ....	7 hours
EMS 156 Adv. Emer. Med. Tech. Clinical.....	2 hours
FSC 161 Hazardous Materials .....	3 hours
EMS 189 Applied Anatomy and Physiology .....	4 hours
EMS 234 Decision Making and Problem Solving.....	3 hours
EMS 267 International Trauma Life Support .....	1 hour



EMS or FSC Electives by advisement ..... 6 hours  
**Total Area V** ..... **52-56 hours**  
**Total Hours Required for Degree** ..... **70-76 hours**

**Emergency Medical Technician (EMT)  
 (Short-Term Certificate)**

EMS 106 Medical Terminology for Health Professionals ..... 2 hours  
 EMS 118 Emergency Medical Technician (EMT)..... 9 hours  
 EMS 119 EMT Clinical ..... 1 hour  
**Total Hours Required for Short-Term Certificate** ..... **12 hours**

**Advanced EMT (AEMT) (Short-Term Certificate)**

*Current Alabama EMT license is required for registration.*  
 EMS 155 Advanced Emergency Medical Technician (AEMT).. 7 hours  
 EMS 156 AEMT Clinical..... 2 hours  
**Total Hours Required for Short-Term Certificate** ..... **9 hours**

**Paramedic (Certificate)**

*Current AL EMT license and EMS 189 are required for registration.*  
 ENG 100 or ENG 101 ..... 3 hours  
 MTH 116 or any 100-level MTH..... 3-4 hours  
 EMS 189 ..... 4 hours  
 EMS 240 Paramedic Operations ..... 2 hours  
 EMS 241 Paramedic Cardiology ..... 3 hours  
 EMS 242 Paramedic Patient Assessment..... 2 hours  
 EMS 257 Paramedic Applied Pharmacology..... 2 hours  
 EMS 243 Paramedic Pharmacology ..... 1 hour  
 EMS 244 Paramedic Clinical I ..... 1 hour  
 EMS 245 Paramedic Medical Emergencies..... 3 hours  
 EMS 246 Paramedic Trauma Management ..... 3 hours  
 EMS 247 Paramedic Special Populations..... 2 hours  
 EMS 248 Paramedic Clinical II ..... 3 hours  
 EMS 253 Paramedic Transition to the Workforce ..... 2 hours  
 EMS 254 Advanced Competencies for Paramedic ..... 2 hours  
 EMS 255 Paramedic Field Preceptorship ..... 5 hours  
 EMS 256 Paramedic Team Leadership ..... 1 hour  
**Total Hours Required for Certificate** ..... **42-43 hours**

**Suggested Career Pathway  
 in Emergency Services – Paramedic**

This is a suggested Career Pathway for full-time students. Other options are available for part-time students. Students should consult an advisor.

**Semester 1**

EMS 106 Medical Terminology for Health Professionals ..... 2 hours  
 EMS 118 Emergency Medical Technician..... 9 hours  
 EMS 119 Emergency Medical Technician Clinical ..... 1 hour  
**Total**..... **12 hours**  
*\*Eligible for a Short-Term Certificate in Emergency Medical Services-Basic EMT and to sit for NREMT EMT Certification*

**Semester 2**

ENG 100 or ENG 101 ..... 3 hours  
 BIO 201 Human Anatomy and Physiology I ..... 4 hours  
 MTH 116 or any 100-level MTH..... 3 hours  
 Area II Humanities & Fine Arts Elective..... 3 hours  
**Total**..... **13 hours**

**Semester 3**

EMS 240 Paramedic Operations ..... 2 hours  
 EMS 241 Paramedic Cardiology ..... 3 hours  
 EMS 242 Paramedic Patient Assessment..... 2 hours  
 EMS 257 Paramedic Applied Pharmacology..... 2 hours  
 EMS 243 Paramedic Pharmacology ..... 1 hours  
 EMS 244 Paramedic Clinical I ..... 1 hours  
 BIO 202 Human Anatomy and Physiology II..... 4 hours  
**Total**..... **15 hours**

**Semester 4**

EMS 245 Paramedic Medical Emergencies..... 3 hours  
 EMS 246 Paramedic Trauma Management ..... 3 hours  
 EMS 247 Paramedic Special Populations..... 2 hours  
 EMS 248 Paramedic Clinical II ..... 3 hours  
 SPH 107 Fundamentals of Public Speaking ..... 3 hours  
**Total**..... **14 hours**

**Semester 5**

EMS 253 Paramedic Transition to the Workforce ..... 2 hours  
 EMS 254 Advanced Competencies for Paramedic ..... 2 hours  
 EMS 255 Paramedic Field Preceptorship ..... 5 hours  
 EMS 256 Paramedic Team Preceptorship..... 1 hour  
 Area IV History, Social, and Behavioral Science ..... 3 hours  
**Total**..... **13 hours**  
*\*Eligible for certifications in: Advanced Cardiac Life Support, Pediatric Advanced Life Support, Pre-Hospital Trauma Life Support, Advanced Medical Life Support, Emergency Pediatric Care and The Difficult Airway Course EMS*  
*\*Eligible to sit for NREMT Paramedic Certification*

**Eligible for AAS degree in Emergency Services-Paramedic**

**ENGINEERING TECHNICIAN**

**Associate in Applied Science Degree  
 Engineering Technician**

**Area I – Written Composition**

ENG 101 English Composition I ..... 3 hours  
**Total**..... **3 hours**

**Area II – Humanities and Fine Arts**

SPH 107 Fundamentals of Public Speaking ..... 3 hours  
 Humanities and Fine Arts Elective ..... 3 hours  
 Choose from: ART 100, 203, 204; MUS 101; PHL 206;  
 REL 100, 151, 152; SPA 201, 202; THR 120, 126  
**Total**..... **6 hours**

**Area III – Natural Science and Mathematics**

MTH 112 PreCalculus Algebra ..... 3 hours  
 CIS 146 or CIS 251 ..... 3 hours  
 PHY 201 General Physics I Trig-Based..... 4 hours  
**Total**..... **10 hours**

**Area IV – History, Social, and Behavioral Sciences**

Area IV Elective..... 3 hours  
 Choose from: ECO 231, 232; GEO 100; HIS 101, 102, 201, 202;  
 POL 211; PSY 200, 210; SOC 200, 210  
**Total**..... **3 hours**

**Area V – Pre-Professional, Major, and Elective Courses**

EGR 101 Engineering Foundations .....	3 hours
ENT 106 Principles of Engineering Tech .....	3 hours
ENT 140 Applied Statics.....	3 hours
ENT 221 Quality and Productivity .....	3 hours
ENT 222 Introduction to Project Management.....	3 hours
ILT 160 DC Fundamentals.....	3 hours
ILT 161 AC Fundamentals.....	3 hours
INT 119 Principles of Mechanical Measurement and Technical Drawing.....	3 hours
MTH 113 PreCalculus Trigonometry .....	3 hours
WKO 106 Workplace Skills.....	3 hours
WKO 110, 131, 132, 133, or 134.....	3 hours
Cooperative Education Electives .....	3 hours
Choose from: ADM 150, ADM 151, ADM 152, ADM 153, ADM 154	
DDT or MDT Elective Sequence.....	6 hours
Program advisor-approved electives.....	12 hours
<b>Total Area V.....</b>	<b>54 hours</b>
<b>Total Hours Required for the AAS Degree .....</b>	<b>76 hours</b>

**Short-Term Certificate in Engineering Technician**

EGR 101 Engineering Foundations .....	3 hours
ENT 106 Principles of Engineering Technology .....	3 hours
INT 119 Principles of Mech. Measurement & Technical Drawing.....	3 hours
ILT 160 DC Fundamentals.....	3 hours
ILT 161 AC Fundamentals.....	3 hours
Program advisor-approved courses.....	12 hours
<b>Total Hours Required for Short-Term Certificate .....</b>	<b>27 hours</b>

**Certificate in Engineering Technician**

ENG 101 English Composition I.....	3 hours
SPH 107 Fundamentals of Public Speaking .....	3 hours
CIS 146 or 251.....	3 hours
WKO 131 MSSC Safety Course.....	3 hours
PHY 201 General Physics I Trig. Based.....	4 hours
EGR 101 Engineering Foundations .....	3 hours
ENT 106 Principles of Engineering Technology .....	3 hours
ENT 140 Applied Statics.....	3 hours
INT 119 Principles of Mech. Measurement & Technical Drawing.....	3 hours
ILT 160 DC Fundamentals.....	3 hours
ILT 161 AC Fundamentals.....	3 hours
MTH 112 PreCalculus Algebra.....	3 hours
MTH 113 PreCalculus Trigonometry .....	3 hours
DDT/MDT Sequence.....	6 hours
<b>Total Hours Required for Certificate .....</b>	<b>46 hours</b>

**Suggested Career Pathway  
in Engineering Technician**

This is a suggested Career Pathway for full-time students. Other options are available for part-time students. Students should consult an advisor.

**Semester 1**

EGR 101 Engineering Foundations .....	3 hours
INT 119 Principles of Mech Measurement.....	3 hours
MTH 112 Precalculus Algebra.....	3 hours

DDT 144 Solid Modeling I.....	3 hours
WKO 131 MSSC Industrial Safety**.....	3 hours
<b>Total.....</b>	<b>15 hours</b>

\*\*MSSC Safety Certification

**Semester 2**

ENT 106 Principles of Engineering Tech .....	3 hours
MTH 113 Precalculus Trigonometry .....	3 hours
ILT 160 DC Fundamentals*.....	3 hours
ILT 161 AC Fundamentals*.....	3 hours
MDT XXX Solid Modeling II .....	3 hours
<b>Total.....</b>	<b>15 hours</b>

\*ETA DC EM1 Exam and ETA DC EM2 Exam

Eligible for STC in ENT

**Semester 3**

CIS 146 Microcomputer Applications .....	3 hours
ENG 101 English Composition .....	3 hours
Elective Mech/Elec/Indus Emphasis Elective .....	3 hours
Area IV History, Social and Behavioral Science .....	3 hours
<b>Total.....</b>	<b>12 hours</b>

**Semester 4**

ENT 140 Applied Statistics.....	3 hours
ENT 222 Intro to Project Management.....	3 hours
Elective Mech/Elec/Indus Emphasis Elective .....	3 hours
PHY 201 General Physics I Trig Based.....	4 hours
SPH 107 Fundamentals of Public Speaking .....	3 hours
<b>Total.....</b>	<b>16 hours</b>

Eligible for CER in ENT

**Semester 5**

Area II Humanities and Fine Arts Elective .....	3 hours
WKO 106 Workplace Skills*.....	3 hours
ENT 221 Industrial Quality and Productivity .....	3 hours
Elective Mech/Elec/Indus Emphasis Elective .....	3 hours
Elective Mech/Elec/Indus Emphasis Elective .....	3 hours
<b>Total.....</b>	<b>15 hours</b>

\*Eligible for OSHA 10-Hour Card

**Semester 6**

Cooperative Education Electives .....	3 hours
Choose from: ADM 150, ADM 151, ADM 152, ADM 153 ADM 154	
<b>Total.....</b>	<b>3 hours</b>

Eligible for NOCTI Certification

Eligible for AAS degree in Engineering Technology

**INDUSTRIAL SYSTEMS TECHNOLOGY**

**Associate in Applied Science Degree  
Industrial Systems Technology –  
Electrical & Instrumentation**

**Area I – Written Composition**

ENG 100 or ENG 101.....	3 hours
<b>Total.....</b>	<b>3 hours</b>

**Area II – Humanities and Fine Arts**

SPH 107 Fundamentals of Public Speaking .....	3 hours
Humanities and Fine Arts Elective .....	3 hours
Choose from: ART 100, 203, 204, MUS 101, PHL 206, REL 100, 151, 152, SPA 201, 202, THR 120, 126	
<b>Total.....</b>	<b>6 hours</b>

**Area III – Natural Science and Mathematics**

MTH 116 or any 100-level MTH.....	3-4 hours
Math, Science, or Computer Science Elective.....	3-4 hours
CIS 146 Microcomputer Applications .....	3 hours
<b>Total.....</b>	<b>9-11 hours</b>

**Area IV – History, Social, and Behavioral Sciences**

Area IV Elective.....	3 hours
Choose from: ECO 231, 232; GEO 100; HIS 101, 102, 201, 202; POL 211; PSY 200, 210; SOC 200, 210	
<b>Total.....</b>	<b>3 hours</b>

**Area V Pre-Professional, Major, and Elective Courses**

**Technical Core – Required of all options**

INT 117 Principles of Industrial Mechanics .....	3 hours
Cooperative Education Electives .....	3 hours
Choose from: ADM 150, ADM 151, ADM 152, ADM 153, ADM 154	
WKO 106 Workplace Skills.....	3 hours
WKO 110, 131, 132, 133, or 134.....	3 hours
<b>Technical Core Total .....</b>	<b>12 hours</b>

ILT 108 Intro to Instruments & Process Control .....	3 hours
ILT 118 Construction Wiring NEC .....	3 hours
ILT 160 DC Fundamentals.....	3 hours
ILT 161 AC Fundamentals.....	3 hours
ILT 162 Solid State Fundamentals.....	3 hours
ILT 163 Digital Fundamentals .....	3 hours
ILT 166 Motors & Transformers I .....	3 hours
ILT 194 Programmable Logic Controls .....	3 hours
ILT 197 Motor Controls I.....	3 hours
ILT 231 National Electric Code .....	3 hours
INT 118 Fundamentals of Industrial Hydraulics and Pneumatics .....	3 hours
Program advisor-approved elective .....	3 hours
<b>Total Area V.....</b>	<b>48 hours</b>
<b>Total Hours Required for Degree .....</b>	<b>69-71 hours</b>

**Short-Term Certificate in Industrial Systems Technology  
– Electrical & Instrumentation**

ILT 160 DC Fundamentals.....	3 hours
ILT 161 AC Fundamentals.....	3 hours
ILT 162 Solid State .....	3 hours
ILT 197 Motor Controls I.....	3 hours
Program advisor-approved elective .....	3 hours
<b>Total Hours Required for the Short-Term Certificate.....</b>	<b>15 hours</b>

**Certificate in Industrial Systems Technology  
– Electrical & Instrumentation**

ENG 100 or ENG 101 .....	3 hours
SPH 107 Fundamentals of Public Speaking .....	3 hours
MTH 116 or any 100-level MTH.....	3-4 hours
CIS 146 Microcomputer Applications .....	3 hours

WKO 106 Workplace Skills.....	3 hours
INT 117 Principles of Industrial Mechanics.....	3 hours
INT 118 Fundamentals of Industrial Hydraulics and Pneumatics .....	3 hours
ILT 231 NEC.....	3 hours
ILT 118 Construction Wiring NEC .....	3 hours
ILT 160 DC Fundamentals.....	3 hours
ILT 161 AC Fundamentals.....	3 hours
ILT 194 Programmable Logic Controls .....	3 hours
Program advisor-approved electives.....	12 hours
<b>Total Hours Required for the Certificate.....</b>	<b>48-49 hours</b>

**Suggested Career Pathway  
in Industrial Systems Technology  
Electrical and Instrumentation Option**

This is a suggested Career Pathway for full-time students. Other options are available for part-time students. Students should consult an advisor.

**Semester 1**

ILT 160 DC Fundamentals.....	3 hours
ILT 161 AC Fundamentals .....	3 hours
Area V Program Advisor Approved Elective.....	3 hours
ENG 100 or ENG 101 .....	3 hours
WKO 110, 131, 132, 133, or 134.....	3 hours
<b>Total.....</b>	<b>15 hours</b>
<i>*Eligible for ETA EMI and EM2 Certification and for a certification in NCCER or MSSC</i>	

**Semester 2**

ILT 197 Motor Controls.....	3 hours
ILT 162 Solid State Fundamentals.....	3 hours
SPH 107 Fundamentals of Public Speaking .....	3 hours
MTH 100 Math 116 or any other 100-level Math .....	3 hours
<b>Total.....</b>	<b>12 hours</b>
<i>*Eligible for Short-Term Certificate in Industrial Systems Technology – Electrical and Instrumentation</i>	

**Semester 3**

ILT 163 Digital Electronics.....	3 hours
ILT 166 Motors & Transformers.....	3 hours
ILT 194 Programmable Logic Controls .....	3 hours
ILT 118 Construction Wiring NEC .....	3 hours
<b>Total.....</b>	<b>12 hours</b>
<i>*Eligible for ETA Digital EM4 Certification</i>	

**Semester 4**

INT 118 Fundamentals of Industrial Hydraulics and Pneumatics .....	3 hours
ILT 231 National Electric Code .....	3 hours
CIS 146 Microcomputer Applications .....	3 hours
Area III Math or Science or Computer Science Elective.....	3 hours
WKO 106 Workplace Essentials.....	3 hours
<b>Total.....</b>	<b>15 hours</b>
<i>*Eligible for a Certificate in Industrial Systems Technology – ISI, National Career Readiness Certificate and OSHA 10 Hour Card</i>	

**Semester 5**

ILT 108 Introduction to Instrumentation & Process Control.....	3 hours
INT 117 Principles of Industrial Mechanics .....	3 hours
Area IV History, Social, and Behavioral Science .....	3 hours
Cooperative Education Electives .....	3 hours
Choose from: ADM 150, ADM 151, ADM 152, ADM 153, ADM 154	
Area II Humanities & Fine Arts Elective.....	3 hours
<b>Total.....</b>	<b>15 hours</b>

**Eligible for AAS degree in Industrial Systems Technology –  
Electrical and Instrumentation**

**Associate in Applied Science Degree  
in Industrial Systems Technology –  
Mechanical Maintenance**

**Area I – Written Composition**

ENG 100 or ENG 101 .....	3 hours
<b>Total.....</b>	<b>3 hours</b>

**Area II – Humanities and Fine Arts**

SPH 107 Fundamentals of Public Speaking .....	3 hours
Humanities and Fine Arts Elective .....	3 hours
Choose from: ART 100, 203, 204, MUS 101, PHL 206, REL 100, 151, 152, SPA 201, 202, THR 120, 126	
<b>Total.....</b>	<b>6 hours</b>

**Area III – Natural Science and Mathematics**

MTH 116 or any 100-level MTH.....	3-4 hours
Math, Science or CIS Elective .....	3-4 hours
CIS 146 Microcomputer Applications .....	3 hours
<b>Total.....</b>	<b>9-11 hours</b>

**Area IV – History, Social, and Behavioral Sciences**

Area IV Elective.....	3 hours
Choose from: ECO 231, 232; GEO 100; HIS 101, 102, 201, 202; POL 211; PSY 200, 210; SOC 200, 210	
<b>Total.....</b>	<b>3 hours</b>

**Area V – Pre-Professional, Major, and Elective Courses**

**Technical Core – Required of all options**

INT 117 Principles of Industrial Mechanics .....	3 hours
Cooperative Education Electives .....	3 hours
Choose from: ADM 150, ADM 151, ADM 152, ADM 153, ADM 154	
WKO 106 Workplace Skills.....	3 hours
WKO 110, 131, 132, 133, or 134.....	3 hours
<b>Technical Core Total .....</b>	<b>12 hours</b>

INT 118 Fundamentals of Industrial Hydraulics and Pneumatics .....	3 hours
INT 126 Preventative Maintenance .....	3 hours
INT 127 Principles of Industrial Pumps and Piping .....	3 hours
MTT 147 Introduction to Machine Shop I.....	3 hours
MTT 148 Introduction to Machine Shop I Lab .....	3 hours
MTT 149 Introduction to Machine Shop II .....	3 hours
MTT 150 Introduction to Machine Shop II Lab .....	3 hours
WDT 108 SMAW Fillet/OFC .....	3 hours
WDT 122 SMAW Fillet/OFC Lab.....	3 hours

WDT 217 SMAW Carbon Pipe.....	3 hours
WDT 257 SMAW Carbon Pipe Lab .....	3 hours
WDT 115 GTAW Carbon Pipe .....	3 hours
WDT 155 GTAW Carbon Pipe Lab .....	3 hours
<b>Total Area V.....</b>	<b>51 hours</b>
<b>Total Hours Required for Degree .....</b>	<b>72-75 hours</b>

**Short-Term Certificate in Industrial Systems Technology**

**– Mechanical Maintenance**

INT 117 Principles of Industrial Mechanics .....	3 hours
INT 118 Hydraulics and Pneumatics .....	3 hours
INT 126 Preventative Maintenance .....	3 hours
INT 127 Principles of Industrial Pumps and Piping Systems.....	3 hours
<b>Total Hours required for Short-Term Certificate .....</b>	<b>12 hours</b>

**Certificate in Industrial Systems Technology**

**– Mechanical Maintenance**

ENG 100 or ENG 101 .....	3 hours
SPH 107 Fundamentals of Public Speaking .....	3 hours
MTH 116 or any 100-level MTH.....	3-4 hours
CIS Elective .....	3 hours
INT 117 Fundamentals of Hydraulics and Pneumatics.....	3 hours
INT 126 Preventative Maintenance .....	3 hours
WKO 106 Workplace Skills.....	3 hours
WKO 110, 131, 132, 133, or 134 .....	3 hours
Mechanical Maintenance Electives by Advisement .....	24 hours
<b>Total Hours Required for the Certificate.....</b>	<b>48-49 hours</b>

**Suggested Career Pathway  
in Industrial Systems Technology  
Mechanical Maintenance Technician Option**

This is a suggested Career Pathway for full-time students. Other options are available for part-time students. Students should consult an advisor.

**Semester 1**

MTT 147 Introduction to Machine Shop I.....	3 hours
MTT 148 Introduction to Machine Shop Lab I .....	3 hours
CIS 146 Microcomputer Applications .....	3 hours
ENG 100 or ENG 101 .....	3 hours
WKO 110, 131, 132, 133, or 134.....	3 hours
<b>Total.....</b>	<b>15 hours</b>

*\*Eligible for a certification in NCCER or MSSC and a NIMS MMSI Certification*

**Semester 2**

INT 117 Principles of Industrial Mechanics .....	3 hours
MTT 149 Introduction to Machine Shop II .....	3 hours
MTT 150 Introduction to Machine Shop Lab II .....	3 hours
SPH 107 Fundamentals of Public Speaking .....	3 hours
MTH 100 Math 116 or any other 100-level Math .....	3 hours
<b>Total.....</b>	<b>15 hours</b>

*\*Eligible for Short-Term Certificate in Industrial Systems Technology – Mechanical Maintenance and a NIMS Drill Press AND/OR Job Planning, Bench Work, Layout Certification*

**Semester 3**

INT 126 Preventive Maintenance .....	3 hours
ILT 118 Fundamentals of Industrial Hydraulics and Pneumatics .....	3 hours
WDT 108 SMAW Fillet/OFC .....	3 hours
WDT 122 SMAW Fillet/OFC Lab .....	3 hours

**Total..... 12 hours**

*\*Eligible for a AWS or NCCER Welding Certification*

**Semester 4**

WDT 217 SMAW Carbon Pipe.....	3 hours
WDT 257 SMAW Carbon Pipe Lab .....	3 hours
WDT 115 GTAW Carbon Pipe .....	3 hours
WDT 155 GTAW Carbon Pipe Lab .....	3 hours
Area III Math or Science or Computer Science Elective.....	3 hours

**Total..... 15 hours**

*\*Eligible for a Certificate in Industrial Systems Technology – IMM and a AWS or NCCER Welding Certification*

**Semester 5**

INT 127 Principles of Industrial Pumps and Piping .....	3 hours
WKO 106 Workplace Essentials.....	3 hours
Area IV History, Social, and Behavioral Science .....	3 hours
Cooperative Education Electives .....	3 hours

Choose from: ADM 150, ADM 151, ADM 152, ADM 153, ADM 154

Area II Humanities & Fine Arts Elective..... 3 hours

**Total..... 15 hours**

*\*Eligible for a National Career Readiness Certificate and OSHA 10 Hour Card*

**Eligible for AAS degree in Industrial Systems Technology – Mechanical Maintenance Option**

**Associate in Applied Science Degree  
Industrial Systems Technology –  
Multi-Skilled Maintenance Technician**

**Area I – Written Composition**

ENG 100 or ENG 101 .....	3 hours
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**Total..... 3 hours**

**Area II – Humanities and Fine Arts**

SPH 107 Fundamentals of Public Speaking .....	3 hours
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Humanities and Fine Arts Elective .....

Choose from: ART 100, 203, 204, MUS 101, PHL 206, REL 100, 151, 152, SPA 201, 202, THR 120, 126

**Total..... 6 hours**

**Area III – Natural Science and Mathematics**

MTH 116 or any 100-level MTH.....	3-4 hours
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Math, Science or CIS Elective .....

CIS 146 Microcomputer Applications .....

**Total..... 9-11 hours**

**Area IV – History, Social, and Behavioral Sciences**

Area IV Elective.....	3 hours
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Choose from: ECO 231, 232; GEO 100; HIS 101, 102, 201, 202; POL 211; PSY 200, 210; SOC 200, 210

**Total..... 3 hours**

**Area V Pre-Professional, Major, and Elective Courses**

**Technical Core – Required of all options**

INT 117 Principles of Industrial Mechanics .....	3 hours
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Cooperative Education Electives .....

Choose from: ADM 150, ADM 151, ADM 152, ADM 153, ADM 154

WKO 106 Workplace Skills.....	3 hours
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WKO 110, 131, 132, 133, or 134..... 3 hours

**Technical Core Total ..... 12 hours**

INT 118 Fundamentals of Industrial

Hydraulics and Pneumatics .....

INT 126 Preventative Maintenance .....

INT 127 Principles of Industrial Pumps and Piping .....

INT 134 Principles of Industrial Maintenance

Welding & Cutting Techniques..... 3 hours

ILT 118 Construction Wiring NEC .....

ILT 160 DC Fundamentals..... 3 hours

ILT 161 AC Fundamentals..... 3 hours

ILT 195 Troubleshooting Techniques .....

ILT 197 Motor Controls I..... 3 hours

ILT 231 NEC..... 3 hours

Program advisor-approved electives..... 6 hours

**Total Area V..... 48 hours**

**Total Hours Required for the Degree..... 69-72 hours**

**Certificate in Industrial Systems Technology**

**– Multi-Skilled Maintenance Technician**

ENG 100 or ENG 101 .....	3 hours
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SPH 107 Fundamentals of Public Speaking .....

MTH 116 or any 100-level MTH..... 3-4 hours

CIS 146 Microcomputer Applications .....

WKO 106 Workplace Skills..... 3 hours

INT 117 Principles of Industrial Mechanics .....

INT 118 Fundamentals of Industrial

Hydraulics and Pneumatics .....

ILT 231 NEC..... 3 hours

ILT 118 Construction Wiring NEC .....

ILT 160 DC Fundamentals..... 3 hours

ILT 161 AC Fundamentals..... 3 hours

ILT 195 Troubleshooting Techniques .....

ILT 197 Motor Controls I..... 3 hours

Program advisor-approved electives..... 12 hours

**Total Hours Required for the Certificate..... 48-49 hours**

**Suggested Career Pathway  
in Industrial Systems Technology  
Multi-Skilled Maintenance Technician Option**

This is a suggested Career Pathway for full-time students. Other options are available for part-time students. Students should consult an advisor.

**Semester 1**

ILT 160 DC Fundamentals.....	3 hours
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ILT 161 AC Fundamentals .....

CIS 146 Microcomputer Applications .....

ENG 100 or ENG 101 .....

WKO 110, 131, 132, 133, or 134.....3 hours  
**Total..... 15 hours**

*\*Eligible for ETA EM1 and EM2 Certification and for a certification in NCCER or MSSC*

**Semester 2**

Area V Program Advisor Approved Elective.....3 hours  
 INT 117 Principles of Industrial Mechanics .....3 hours  
 SPH 107 Fundamentals of Public Speaking .....3 hours  
 MTH 100 Math 116 or any other 100-level Math .....3 hours  
**Total..... 12 hours**

*\*Eligible for Short-Term Certificate in Industrial Systems Technology – Multi-Skilled Technician*

**Semester 3**

INT 126 Preventive Maintenance .....3 hours  
 INT 118 Fundamentals of Industrial Hydraulics & Pneumatics.3 hours  
 ILT 197 Motor Controls.....3 hours  
 ILT 118 Construction Wiring NEC.....3 hours  
**Total..... 12 hours**

**Semester 4**

ILT 195 Troubleshooting Techniques .....3 hours  
 ILT 231 National Electric Code .....3 hours  
 Area V Program Advisor Approved Elective.....3 hours  
 Area III Math or Science or Computer Science Elective.....3 hours  
 WKO 106 Workplace Essentials.....3 hours  
**Total..... 15 hours**

*\*Eligible for a Certificate in Industrial Systems Technology – ISS, National Career Readiness Certificate and OSHA 10 Hour Card*

**Semester 5**

INT 127 Principles of Industrial Pumps and Piping .....3 hours  
 INT 134 Principles of Industrial Maintenance Welding and Metal Cutting .....3 hours  
 Area IV History, Social, and Behavioral Science .....3 hours  
 Cooperative Education Electives .....3 hours  
 Choose from: ADM 150, ADM 151, ADM 152, ADM 153, ADM 154  
 Area II Humanities & Fine Arts Elective.....3 hours  
**Total..... 15 hours**

**Eligible for AAS degree in Industrial Systems Technology – Multi-Skilled Technician Option**

**MACHINE TOOL TECHNOLOGY**

**Associate in Applied Science Degree in Industrial Systems Technology – Machine Tool Technology**

**Area I – Written Composition**

ENG 100 or ENG 101 .....3 hours  
**Total..... 3 hours**

**Area II – Humanities and Fine Arts**

SPH 107 Fundamentals of Public Speaking .....3 hours

Humanities and Fine Arts Elective .....3 hours  
 Choose from: ART 100, 203, 204, MUS 101, PHL 206, REL 100, 151, 152, SPA 201, 202, THR 120, 126

**Total..... 6 hours**

**Area III – Natural Science and Mathematics**

MTH 116 or any 100-level MTH.....3-4 hours  
 Math, Science or CIS Elective .....3-4 hours  
 CIS 146 Microcomputer Applications .....3 hours  
**Total..... 9-11 hours**

**Area IV – History, Social, and Behavioral Sciences**

Area IV Elective.....3 hours  
 Choose from: ECO 231, 232; GEO 100; HIS 101, 102, 201, 202; POL 211; PSY 200, 210; SOC 200, 210

**Total..... 3 hours**

**Area V – Pre-Professional, Major, and Elective Courses**

**Technical Core – Required of all options**

INT 117 Principles of Industrial Mechanics .....3 hours  
 Cooperative Education Electives .....3 hours  
 Choose from: ADM 150, ADM 151, ADM 152, ADM 153, ADM 154

WKO 106 Workplace Skills.....3 hours  
 WKO 110, 131, 132, 133, or 134.....3 hours

**Technical Core Total ..... 12 hours**

INT 119 Principles of Mechanical Measurement and Technical Drawing.....3 hours  
 MTT 218 Computer Integrated Manufacturing.....3 hours  
 MTT Electives (Any MTT or CNC courses) .....27 hours

**Total Area V..... 45 hours**

**Total Hours Required for the AAS Degree .....66-68 hours**

**Short-Term Certificate in Machine Tool Technology**

MTT or CNC Courses (by advisement).....12 hours  
**Total Hours Required for Short-Term Certificate ..... 12 hours**

**Short-Term Certificate in Machine Tool Technology**

**– Stamping and Forming**

CNC 158 Die Fundamentals .....3 hours  
 CNC 160 Die Construction and Tryout .....3 hours  
 CNC 161 Die Maintenance and Repair .....3 hours  
 CNC 232 Basic Tool and Die.....4 hours

**Total Hours Required for Short-Term Certificate ..... 13 hours**

**Certificate in Industrial Systems Technology**

**– Machine Tool Technology**

ENG 100 or ENG 101 .....3 hours  
 SPH 107 Fundamentals of Public Speaking .....3 hours  
 MTH 116 or any 100-level MTH.....3-4 hours  
 CIS 146 Microcomputer Applications .....3 hours  
 INT 117 Principles of Industrial Maintenance.....3 hours  
 INT 119 Principles of Mechanical Measurements

& Technical Drawing.....3 hours  
 WKO 106 Workplace Skills.....3 hours

WKO 110, 131, 132, 133 or 134.....3 hours  
 MTT 218 Computer Integrated Manufacturing.....3 hours

MTT or CNC Electives (by advisement) .....21 hours

**Total Hours Required for Certificate .....48-49 hours**

**Suggested Career Pathway  
in Industrial Systems Technology –  
Machine Tool Technology**

This is a suggested Career Pathway for full-time students. Other options are available for part-time students. Students should consult an advisor.

**Semester 1**

MTT 147 Introduction to Machine Shop I.....	3 hours
MTT 148 Introduction to Machine Shop Lab I .....	3 hours
CIS 146 Microcomputer Applications .....	3 hours
Area IV History or Social or Behavioral Science elective.....	3 hours
INT 119 Principles of Mechanical Measurement and Technical Drawing.....	3 hours
<b>Total.....</b>	<b>15 hours</b>

*\*Eligible for NIMS MMSI Certification*

**Semester 2**

MTT 141 Basic CNC Milling Programming I.....	3 hours
MTT 241 CNC Milling Lab I .....	3 hours
INT 117 Principles of Industrial Mechanics .....	3 hours
ENG 100 or ENG 101 .....	3 hours
<b>Total.....</b>	<b>12 hours</b>

*\*Eligible for a Short-Term Certificate in Machine Tool Technology and a NIMS CNC Mill Operator Certification*

**Semester 3**

MTT 149 Introduction to Machine Shop II .....	3 hours
MTT 150 Introduction to Machine Shop Lab II .....	3 hours
MTH 100 Math 116 or any other 100-level Math .....	3 hours
WKO 110, 131, 132, 133, or 134.....	3 hours
<b>Total.....</b>	<b>12 hours</b>

*\*Eligible for a NIMS Drill Press AND/OR Job Planning, Bench Work, Layout Certification and for a certification in NCCER or MSSC*

**Semester 4**

MTT 140 Basic CNC Turning Programming I.....	3 hours
MTT 243 CNC Turning Lab I.....	3 hours
Area III Math or Science or Computer Science Elective.....	3 hours
SPH 107 Fundamentals of Public Speaking .....	3 hours
WKO 106 Workplace Essentials.....	3 hours
<b>Total.....</b>	<b>15 hours</b>

*\*Eligible for a Certificate in Industrial Systems Technology – MTT, National Career Readiness Certificate and OSHA 10 Hour Card*

**Semester 5**

MTT 213 Advanced CNC Milling.....	3 hours
MTT 242 CNC Milling Lab II .....	3 hours
MTT 218 Computer Integrated Manufacturing (CIM).....	3 hours
Cooperative Education Electives .....	3 hours
Choose from: ADM 150, ADM 151, ADM 152, ADM 153, ADM 154	
Area II Humanities & Fine Arts Elective.....	3 hours
<b>Total.....</b>	<b>15 hours</b>

*\*Eligible for NIMS CNC Milling Certification*

**Eligible for AAS degree in Industrial Systems Technology –  
Machine Tool Technology**

**MECHATRONICS**

**Associate in Applied Science Degree  
Mechatronics**

The Mechatronics Program is approved by the Electronics Technicians Association — International (ETA-I).

**Area I – Written Composition**

ENG 100 or ENG 101 .....	3 hours
<b>Total.....</b>	<b>3 hours</b>

**Area II – Humanities and Fine Arts**

SPH 107 Fundamentals of Public Speaking .....	3 hours
Humanities and Fine Arts Elective .....	3 hours

    Choose from: ART 100, 203, 204; MUS 101; PHL 206;  
    REL 100, 151, 152; SPA 201, 202; THR 120, 126

<b>Total.....</b>	<b>6 hours</b>
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**Area III – Natural Science and Mathematics**

MTH 100 or higher (excluding MTH 116).....	3-4 hours
CIS 146 Microcomputer Applications .....	3 hours
Math, Science, or Computer Science Elective.....	3 hours
<b>Total.....</b>	<b>9-11 hours</b>

**Area IV – History, Social, and Behavioral Sciences**

Area IV Elective.....	3 hours
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    Choose from: ECO 231, 232; GEO 100; HIS 101, 102, 201, 202;  
    POL 211; PSY 200, 210; SOC 200, 210

<b>Total.....</b>	<b>3 hours</b>
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**Area V – Pre-Professional, Major, and Elective Courses**

ILT 108 Intro to Instrumentation and Process Control .....	3 hours
ILT 109 Electrical Blueprint Reading .....	3 hours
ILT 160 DC Fundamentals.....	3 hours
ILT 161 AC Fundamentals.....	3 hours
ILT 162 Solid State Fundamentals.....	3 hours
ILT 163 Digital Fundamentals .....	3 hours
ILT 166 Motors and Transformers.....	3 hours
ILT 194 Programmable Logic Controls.....	3 hours
ILT 195 Troubleshooting Techniques .....	3 hours
ILT 197 Motor Controls I.....	3 hours
ILT 276 Elements of Industrial Control II .....	3 hours
ILT 277 Elements of Industrial Control II Lab .....	2 hours
WKO 106 Workplace Skills.....	3 hours
WKO 110, 131, 132, 133, or 134.....	3 hours
Cooperative Education Electives .....	3 hours

    Choose from: ADM 150, ADM 151, ADM 152, ADM 153,  
    ADM 154

ILT or Program advisor-approved electives.....	5 hours
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<b>Total Area V.....</b>	<b>49 hours</b>
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<b>Total Hours Required for Degree .....</b>	<b>70-72 hours</b>
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**Short-Term Certificate in Mechatronics – Basic Electrical**

ILT 160 DC Fundamentals.....	3 hours
ILT 161 AC Fundamentals.....	3 hours
ILT 118 Construction Wiring NEC .....	3 hours
ILT 231 National Electric Code .....	3 hours

<b>Total Hours Required for Short-Term Certificate .....</b>	<b>12 hours</b>
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**Short-Term Certificate in Mechatronics– General**

ILT 160 DC Fundamentals.....	3 hours
ILT 161 AC Fundamentals.....	3 hours
ILT Electives (any ILT courses).....	9 hours
<b>Total Hours Required for Short-Term Certificate .....</b>	<b>15 hours</b>

**Short-Term Certificate in Mechatronics – Industrial Electrical Technician**

ILT 109 Electrical Blueprint Reading.....	3 hours
ILT 160 DC Fundamentals.....	3 hours
ILT 161 AC Fundamentals.....	3 hours
ILT 162 Solid State Fundamentals.....	3 hours
ILT 163 Digital Fundamentals.....	3 hours
ILT 166 Motors and Transformers.....	3 hours
ILT 194 Programmable Controls I.....	3 hours
ILT 197 Motor Controls I.....	3 hours
<b>Total Hours Required for Short-Term Certificate .....</b>	<b>24 hours</b>

**Certificate in Mechatronics– Industrial Control Technician**

ENG 100 or ENG 101.....	3 hours
SPH 107 Fundamentals of Public Speaking.....	3 hours
MTH 100 or higher (excluding MTH 116).....	3-4 hours
CIS 146 Microcomputer Applications.....	3 hours
ILT 109 Electrical Blueprint Reading.....	3 hours
ILT 160 DC Fundamentals.....	3 hours
ILT 161 AC Fundamentals.....	3 hours
ILT 162 Solid State Fundamentals.....	3 hours
ILT 163 Digital Fundamentals.....	3 hours
ILT 166 Motors and Transformers.....	3 hours
ILT 194 Programmable Controls I.....	3 hours
ILT 197 Motor Controls I.....	3 hours
WKO 106 Workplace Skills.....	3 hours
<b>Total Hours Required for Certificate .....</b>	<b>39-40 hours</b>

**Suggested Career Pathway  
in Mechatronics**

This is a suggested Career Pathway for full-time students. Other options are available for part-time students. Students should consult an advisor.

**Semester 1**

ILT 160 DC Fundamentals.....	3 hours
ILT 161 AC Fundamentals.....	3 hours
ILT 109 Blueprint Reading.....	3 hours
ENG 100 or ENG 101.....	3 hours
WKO 110, 131, 132, 133, or 134.....	3 hours
<b>Total.....</b>	<b>15 hours</b>

*\*Eligible for ETA EM1 and EM2 Certification and for a certification in NCCER or MSSC*

**Semester 2**

ILT 197 Motor Controls.....	3 hours
ILT 162 Solid State Electronics.....	3 hours
SPH 107 Fundamentals of Public Speaking.....	3 hours
CIS 146 Microcomputer Applications.....	3 hours
<b>Total.....</b>	<b>12 hours</b>

*\*Eligible for ETA Analog EM3 Certification and a Short-Term Certificate in Industrial Electronics Technology*

**Semester 3**

ILT 163 Digital Electronics.....	3 hours
ILT 166 Motors & Transformers.....	3 hours
ILT 194 Programmable Logic Controls.....	3 hours
MTH 116 or any 100-level MTH.....	3 hours
Area III Math or Science or Computer Science Elective.....	3 hours
<b>Total.....</b>	<b>15 hours</b>

**Semester 4**

ILT 195 Troubleshooting Techniques.....	3 hours
ILT 276 Advanced Industrial Controls.....	3 hours
ILT 277 Advanced Industrial Controls.....	3 hours
Area IV History, Social, and Behavioral Science.....	3 hours
WKO 106 Workplace Essentials.....	3 hours
<b>Total.....</b>	<b>15 hours</b>

*\*Eligible for a Certificate in Industrial Electronics Technology, National Career Readiness Certificate and OSHA 10 Hour Card*

**Semester 5**

ILT 216 Industrial Robotics.....	3 hours
ILT 217 Industrial Robotics Lab.....	3 hours
ILT 108 Introduction to Instrumentation & Process Control.....	3 hours
Cooperative Education Electives.....	3 hours
Choose from: ADM 150, ADM 151, ADM 152, ADM 153, ADM 154	
Area II Humanities & Fine Arts Elective.....	3 hours
<b>Total.....</b>	<b>15 hours</b>

**Eligible for AAS degree in Industrial Electronics Technology**

**MEDICAL ASSISTING TECHNOLOGY**

**Associate in Applied Science Degree  
Medical Assisting Technology**

The Medical Assisting Technology Program is approved by the American Medical Technologists Association.

**Area I – Written Composition**

ENG 100 or ENG 101.....	3 hours
<b>Total.....</b>	<b>3 hours</b>

**Area II – Humanities and Fine Arts**

SPH 107 Fundamentals of Public Speaking.....	3 hours
Humanities and Fine Arts Elective.....	3 hours
Choose from: ART 100, 203, 204; MUS 101; PHL 206; REL 100, 151, 152; SPA 201, 202; THR 120, 126	
<b>Total.....</b>	<b>6 hours</b>

**Area III – Natural Science and Mathematics**

MTH 116 or any 100-level MTH.....	3-4 hours
BIO 103 Principles of Biology.....	4 hours
CIS 146 Microcomputer Applications.....	3 hours
<b>Total.....</b>	<b>10-11 hours</b>

**Area IV – History, Social, and Behavioral Sciences**

PSY Elective.....	3 hours
<b>Total.....</b>	<b>3 hours</b>



**Area V – Pre-Professional, Major, and Elective Courses**

MAT 101 or OAD 211 .....	3 hours
MAT 102 or BIO 201 .....	3-4 hours
MAT 103 or BIO 202 .....	3-4 hours
MAT 111 Clinical Procedures I for the Medical Assistant.....	3 hours
MAT 120 Medical Administrative Procedures I .....	3 hours
MAT 121 Medical Administrative Procedures II .....	3 hours
MAT 125 Laboratory Procedures I for the Medical Assistant ....	3 hours
MAT 200 Management of Office Emergencies .....	2 hours
MAT 211 Clinical Procedures II for the Medical Assistant .....	3 hours
MAT 215 Laboratory Procedures II for the Medical Assistant...	3 hours
MAT 216 Medical Pharmacology for the Medical Office .....	4 hours
MAT 229 Medical Assisting Preceptorship .....	3 hours
Electives.....	8-12 hours
Choose from: MAT 128, MAT 220, MAT 218, MAT 222 or OAD 212; MAT 228; MAT 239; HIT 230; HIT 232; HIT 116; HIT 283	
WKO 106 Workplace Skills.....	3 hours
EMS 100 or EMS 101 .....	1 hour
<b>Total Area V.....</b>	<b>48-54 hours</b>
<b>Total Hours Required for Degree .....</b>	<b>70-76 hours</b>

**Short-Term Certificate in Medical Assisting Technology  
– General**

MAT 101 or OAD 211 .....	3 hours
MAT 102 or BIO 201 .....	3-4 hours
MAT 103 or BIO 202 .....	3-4 hours
MAT 111 Clinical Procedures I for the Medical Assistant.....	3 hours
MAT 120 Medical Administrative Procedures I .....	3 hours
MAT 121 Medical Administrative Procedures II .....	3 hours
WKO 106 Workplace Skills.....	3 hours
<b>Total Hours Required for Certificate .....</b>	<b>21-23 hours</b>

**Short-Term Certificate in Medical Assisting Technology  
– Phlebotomist**

MAT 125 Laboratory Procedures I for the Medical Assistant ....	3 hours
MAT 215 Laboratory Procedures II for the Medical Assistant...	3 hours
MAT 239 Phlebotomy Preceptorship.....	3 hours
EMS 100 or EMS 101 .....	1 hour
<b>Total Hours Required for Short-Term Certificate .....</b>	<b>10 hours</b>

**Short-Term Certificate in Medical Assisting Technology  
– EKG Technician**

MAT 101 or OAD 211 .....	3 hours
MAT 102 or BIO 201 .....	3-4 hours
MAT 111 Clinical Procedures I for the Medical Patient.....	3 hours
MAT 218 EKG Technician.....	3 hours
EMS 100 or EMS 101 .....	1 hour
<b>Total Hours Required for Certificate .....</b>	<b>13-14 hours</b>

**Short-Term Certificate in Medical Assisting Technology  
– Medical Coding**

MAT 101 or OAD 211 .....	3 hours
MAT 102 or BIO 201 .....	3-4 hours
MAT 103 or BIO 202 .....	3-4 hours
CIS 146 or OAD 125 .....	3 hours

*(Note: All above are prerequisites for the courses below)*

HIT 116 or MAT 216 .....	2-4 hours
HIT 230 Medical Coding Systems I .....	3 hours
HIT 232 Medical Coding Systems II .....	3 hours

MAT 220 Medical Office Insurance.....	3 hours
HIT 283 Medical Coding Professional Practice .....	2 hours
<b>Total Hours Required for Certificate .....</b>	<b>25-28 hours</b>

**NURSING**

**Associate in Applied Science Degree  
Associate Degree Nursing**

**Area I – Written Composition**

ENG 101 English Composition I .....	3 hours
<b>Total .....</b>	<b>3 hours</b>

**Area II – Humanities and Fine Arts**

SPH 107 Fundamentals of Public Speaking .....	3 hours
Humanities/Fine Arts Elective .....	3 hours
Choose from: ART 100, 203, 204; MUS 101; PHL 206*; REL 100, 151, 152; SPA 201, 202; THR 120, 126; ENG 251, 252, 262, 271 (only after the completion of EH 102) <i>**PHL 206 is preferred.</i>	
<b>Total.....</b>	<b>6 hours</b>

**Area III – Natural Science and Mathematics**

MTH 100, 110, 112, 113, 120 or 125.....	3 hours
BIO 201 Human Anatomy and Physiology I .....	4 hours
BIO 202 Human Anatomy and Physiology II .....	4 hours
BIO 220 General Microbiology .....	4 hours
<b>Total.....</b>	<b>15 hours</b>

**Area IV – History, Social, and Behavioral Sciences**

PSY 200 General Psychology .....	3 hours
PSY 210 Human Growth and Development .....	3 hours
<b>Total.....</b>	<b>6 hours</b>

**Area V – Pre-Professional, Major, and Elective Courses**

NUR 112 Fundamental Concepts of Nursing .....	7 hours
NUR 113 Nursing Concepts I .....	8 hours
NUR 114 Nursing Concepts II .....	8 hours
NUR 115 Evidenced Based Clinical Reasoning .....	2 hours
NUR 211 Advanced Nursing Concepts .....	7 hours
NUR 221 Advanced Evidence Based Clinical Reasoning .....	7 hours
<b>Total Area V.....</b>	<b>39 hours</b>
<b>Total Hours Required for Degree .....</b>	<b>69 hours</b>

**Practical Nursing Certificate**

ENG 101 English Composition I .....	3 hours
MTH 100, 110, 112, 113, or 125 .....	3 hours
BIO 201 Human Anatomy and Physiology I .....	4 hours
BIO 202 Human Anatomy and Physiology II .....	4 hours
PSY 200 General Psychology .....	3 hours
SPH 107 Fundamentals of Public Speaking .....	3 hours
NUR 112 Fundamental Concepts of Nursing .....	7 hours
NUR 113 Nursing Concepts I .....	8 hours
NUR 114 Nursing Concepts II .....	8 hours
NUR 115 Evidenced Based Clinical Reasoning .....	2 hours
<b>Total Hours Required for Certificate .....</b>	<b>45 hours</b>

**OFFICE ADMINISTRATION**

**Associate in Applied Science Degree  
Office Administration**

**Area I – Written Composition**

ENG 101 English Composition I ..... 3 hours  
**Total..... 3 hours**

**Area II – Humanities and Fine Arts**

SPH 107 Fundamentals of Public Speaking ..... 3 hours  
 Humanities and Fine Arts Elective ..... 3 hours  
 Choose from: ART 100, 203, 204; MUS 101, PHL 206;  
 REL 100, 151, 152; SPA 201, 202; THR 120, 126  
**Total..... 6 hours**

**Area III – Natural Sciences and Mathematics**

CIS 146 Microcomputer Applications ..... 3 hours  
 MTH 116 or any 100-level MTH..... 3-4 hours  
**Total..... 6-7 hours**

**Area IV – History, Social and Behavioral Sciences**

Area IV Elective..... 3 hours  
 Choose from: GEO 100, HIS 101, 102, 201, 202; POL 211;  
 PSY 200, 210; SOC 200, 210  
**Total..... 3 hours**

**Area V – Pre-Professional, Major, and Elective Course**

**Technical Core – Required of all options**

OAD 103 Intermediate Keyboarding..... 3 hours  
 OAD 125 Word Processing..... 3 hours  
 OAD 138 Records/Information Management..... 3 hours  
 BUS 215 Business Communication..... 3 hours  
 BUS 241 Principles of Accounting I..... 3 hours  
 WKO 106 Workplace Skills..... 3 hours  
**Technical Core Total ..... 18 hours**

ECO 231 or 232 ..... 3 hours  
 BUS 245 Accounting with Quickbooks..... 3 hours  
 OAD 131 Business English ..... 3 hours  
 OAD 200 or 212..... 3 hours  
 ACT/BUS/OAD Electives ..... 15 hours  
 Choose from: ACT 249; BUS 242, 248; OAD 101, 126,  
 202, 211, 218, 231, 241, 243, 246

**Total Area V..... 45 hours**  
**Total Hours Required for Degree ..... 63-64 hours**

**General Short-Term Certificate in Office Administration**

OAD 103\* Intermediate Keyboarding..... 3 hours  
 OAD 125 Word Processing..... 3 hours  
 OAD 131 Business English ..... 3 hours  
 OAD 138 Records Management..... 3 hours  
 OAD 218 or OAD 231 ..... 3 hours  
 BUS 215 Business Communication..... 3 hours  
 BUS 241 Principles of Accounting..... 3 hours  
 BUS 245 Accounting with Quickbooks..... 3 hours  
 ACT 249 Payroll Accounting..... 3 hours  
**Total Hours Required for Short-Term Certificate ..... 27 hours**

\*Prerequisite: Minimum 35 wpm or OAD 101 Beginning Keyboarding

**Associate in Applied Science Degree  
Office Administration  
Medical Office Option**

**Area I – Written Composition**

ENG 101 English Composition I ..... 3 hours  
**Total..... 3 hours**

**Area II – Humanities and Fine Arts**

SPH 107 Fundamentals of Public Speaking ..... 3 hours  
 Humanities and Fine Arts Elective ..... 3 hours  
 Choose from: ART 100, 203, 204; MUS 101, PHL 206;  
 REL 100, 151, 152; SPA 201, 202; THR 120, 126  
**Total..... 6 hours**

**Area III – Natural Sciences and Mathematics**

CIS 146 Microcomputer Applications ..... 3 hours  
 MTH 116 or any 100-level MTH..... 3-4 hours  
**Total..... 6-7 hours**

**Area IV – History, Social and Behavioral Sciences**

Area IV Elective..... 3 hours  
 Choose from: GEO 100, HIS 101, 102, 201, 202; POL 211;  
 PSY 200, 210; SOC 200, 210  
**Total..... 3 hours**

**Area V – Pre-Professional, Major, and Elective Course**

**Core Courses**

**Technical Core – Required of all options**

OAD 103 Intermediate Keyboarding..... 3 hours  
 OAD 125 Word Processing..... 3 hours  
 OAD 138 Records/Information Management..... 3 hours  
 BUS 215 Business Communication..... 3 hours  
 BUS 241 Principles of Accounting I..... 3 hours  
 WKO 106 Workplace Skills..... 3 hours  
**Technical Core Total ..... 18 hours**

ECO 231 or 232 ..... 3 hours  
 MAT 101 or OAD 211 ..... 3 hours  
 OAD 212 Medical Transcription ..... 3 hours  
 OAD/MAT/HIT Electives ..... 9-12 hours  
 Choose from: MAT 120 or OAD 214; MAT 220 or OAD 215;  
 MAT 121; MAT 128; OAD 241; or HIT 230, HIT 232

ACT/BUS/OAD Electives ..... 6-9 hours  
 Choose from: ACT 249; BUS 242, 248; OAD 101, 126,  
 131, 200, 218, 231, 241, 243, 246

**Total Area V..... 45 hours**  
**Total Hours Required for Degree ..... 63-64 hours**

**Short Term Certificate in Office Administration –  
Medical Option**

OAD 103\* Intermediate Keyboarding..... 3 hours  
 OAD 125 Word Processing..... 3 hours  
 OAD 138 Records Management..... 3 hours  
 OAD 211 or MAT 101 ..... 3 hours  
 OAD 218 or OAD 231 ..... 3 hours  
 BUS 215 Business Communication..... 3 hours  
 OAD 214 or MAT 120 ..... 3 hours  
 MAT 121 Medical Office Procedures I..... 3 hours

MAT 220 or OAD 215 ..... 3 hours  
**Total Hours Required for Short-Term Certificate ..... 27 hours**

\*Prerequisite: Minimum 35 wpm or OAD 101 Beginning Keyboarding

**Associate in Applied Science Degree  
 Office Administration  
 Paralegal Option**

**Area I – Written Composition**

ENG 101 English Composition I ..... 3 hours  
**Total..... 3 hours**

**Area II – Humanities and Fine Arts**

SPH 107 Fundamentals of Public Speaking ..... 3 hours  
 Humanities and Fine Arts Elective ..... 3 hours  
 Choose from: ART 100, 203, 204; MUS 101, PHL 206;  
 REL 100, 151, 152; SPA 201, 202; THR 120, 126  
**Total..... 6 hours**

**Area III – Natural Sciences and Mathematics**

CIS 146 Microcomputer Applications ..... 3 hours  
 MTH 116 or any 100-level MTH..... 3-4 hours  
**Total..... 6-7 hours**

**Area IV – History, Social, and Behavioral Sciences**

Area IV Elective..... 3 hours  
 Choose from: GEO 100; HIS 101, 102, 201, 202; POL 211;  
 PSY 200, 210; SOC 200, 210  
**Total..... 3 hours**

**Area V – Pre-Professional, Major, and Elective Course**

**Technical Core – Required of all options**

OAD 103 Intermediate Keyboarding ..... 3 hours  
 OAD 125 Word Processing..... 3 hours  
 OAD 138 Records/Information Management..... 3 hours  
 BUS 215 Business Communication ..... 3 hours  
 BUS 241 Principles of Accounting I..... 3 hours  
 WKO 106 Workplace Skills..... 3 hours  
**Technical Core Total ..... 18 hours**

BUS 263 The Legal and Social Environment of Business ..... 3 hours  
 OAD 202 Legal Transcription ..... 3 hours  
 ACT/BUS/OAD Electives ..... 3 hours  
 Choose from: ACT 249; BUS 242, 248; OAD 101, 126,  
 218, 231, 241, 243, 246  
 Paralegal electives..... 24 hours  
 Choose eight courses from PRL 101, 102, 103, 150,  
 160, 192, 210, 230, 240, 262, 282, OAD 241  
**Total Area V..... 51 hours**

**Total Hours Required for Degree ..... 69-70 hours**

**SALON AND SPA MANAGEMENT**

**Associate in Applied Science Degree  
 in Salon and Spa Management – Cosmetology**

**Area I – Written Composition**

ENG 100 or ENG 101 ..... 3 hours  
**Total..... 3 hours**

**Area II – Humanities and Fine Arts**

SPH 107 Fundamentals of Public Speaking ..... 3 hours  
 Humanities and Fine Arts Elective ..... 3 hours  
 Choose from: ART 100, 203, 204, MUS 101, PHL 206,  
 REL 100, 151, 152, SPA 201, 202, THR 120, 126  
**Total..... 6 hours**

**Area III – Natural Science and Mathematics**

MTH 116 or any 100-level MTH..... 3-4 hours  
 Math, Science or CIS Elective ..... 3-4 hours  
 CIS 146 Microcomputer Applications ..... 3 hours  
**Total..... 9-11 hours**

**Area IV – History, Social, and Behavioral Sciences**

Area IV Elective..... 3 hours  
 Choose from: ECO 231, 232; GEO 100; HIS 101, 102, 201, 202;  
 POL 211; PSY 200, 210; SOC 200; 210  
**Total..... 3 hours**

**Area V – Pre-Professional, Major, and Elective Courses**

**Technical Core – Required of all options**

SAL 133 Salon Management Technology ..... 3 hours  
 SAL 201 Entrepreneurship for Salon/Spa..... 3 hours  
 WKO 106 Workplace Skills..... 3 hours  
**Technical Core Total ..... 9 hours**

COS 111 Introduction to Cosmetology..... 3 hours  
 COS 112 Introduction to Cosmetology Lab ..... 3 hours  
 COS 113 Theory of Chemical Services ..... 3 hours  
 COS 114 Chemical Services Lab ..... 3 hours  
 COS 115 Hair Coloring Theory ..... 3 hours  
 COS 116 Hair Coloring Lab ..... 3 hours  
 COS 117 Basic Spa Techniques..... 3 hours  
 COS 118 Basic Spa Techniques Lab..... 3 hours  
 COS 123 Cosmetology Salon Practices..... 3 hours  
 COS 143 Specialty Hair Preparation Techniques ..... 3 hours  
 COS 144 Hair Shaping and Design ..... 3 hours  
 COS 190 Internship in Cosmetology ..... 3 hours  
**Total Area V..... 45 hours**

**Total Hours Required for the AAS Degree ..... 66-68 hours**

**Certificate in Salon & Spa Management – Cosmetology**

ENG 100 or ENG 101 ..... 3 hours  
 SPH 107 Fundamentals of Public Speaking ..... 3 hours  
 MTH 116 or any 100-level MTH..... 3-4 hours  
 CIS 146 Microcomputer Applications ..... 3 hours  
 WKO 106 Workplace Skills..... 3 hours  
 SAL 133 Salon Management Technology ..... 3 hours  
 COS 111 Introduction to Cosmetology..... 3 hours  
 COS 112 Introduction to Cosmetology Lab ..... 3 hours

COS 113 Theory of Chemical Services .....	3 hours
COS 114 Chemical Services Lab.....	3 hours
COS 115 Hair Coloring Theory .....	3 hours
COS 116 Hair Coloring Lab .....	3 hours
COS 117 Basic Spa Techniques.....	3 hours
COS 118 Basic Spa Techniques Lab.....	3 hours
COS 123 Cosmetology Salon Practices.....	3 hours
COS 143 Specialty Hair Preparation Techniques .....	3 hours
COS 144 Hair Shaping and Design .....	3 hours
COS 190 Internship in Cosmetology .....	3 hours
<b>Total Hours Required for Certificate .....</b>	<b>54-55 hours</b>

### Suggested Career Pathway in Salon and Spa Management – Cosmetology

This is a suggested Career Pathway for full-time students. Other options are available. Students should consult an advisor.

#### Semester 1

COS 111 Introduction To Cosmetology.....	3 hours
COS 112 Introduction To Cosmetology Lab .....	3 hours
COS 113 Theory Of Chemical Services .....	3 hours
COS 114 Theory Of Chemical Services Lab .....	3 hours
MTH 116 or any 100-level MTH.....	3 hours
<b>Total.....</b>	<b>15 hours</b>

*\*Eligible for Barbicide Certification*

#### Semester 2

COS 115 I Hair Coloring Theory.....	3 hours
COS 116 Hair Coloring Theory Lab.....	3 hours
COS 123 Cosmetology Salon Practices.....	3 hours
SAL 133 Salon Management Technology .....	3 hours
ENG 100 or ENG 101 .....	3 hours
<b>Total.....</b>	<b>15 hours</b>

*\*Eligible for Backscratchers Certification in Gel, Fiberglass and Dip Nails*

#### Semester 3

COS 117 Basic Spa Techniques.....	3 hours
COS 118 Basic Spa Techniques Lab.....	3 hours
COS 143 Specialty Hair Prep Techniques .....	3 hours
WKO 106 Workplace Skills.....	3 hours
SPH 107 Fundamentals of Public Speaking .....	3 hours
<b>Total.....</b>	<b>15 hours</b>

*\*Eligible for National Career Readiness Certificate and OSHA 10 Hour Card*

#### Semester 4

CIS 146 Microcomputer Applications .....	3 hours
SAL 133 Salon Management Technology .....	3 hours
COS 144 Hair Shaping & Design .....	3 hours
COS 190 Internship In Cosmetology.....	3 hours
<b>Total.....</b>	<b>12 hours</b>

*\*Eligible for Certificate in Salon and Spa Management-COS*

#### Semester 5

Area IV History, Social, and Behavioral Science .....	3 hours
SAL 201 Entrepreneurship For Salon.....	3 hours

Area II Humanities & Fine Arts Elective.....	3 hours
<b>Total.....</b>	<b>9 hours</b>

*\*Eligible to sit for the Alabama Board of Cosmetology Exam*

### Eligible for AAS degree in Salon and Spa Management – Cosmetology Option

### Associate in Applied Science Degree in Salon and Spa Management – Esthetics

#### Area I – Written Composition

ENG 100 or ENG 101.....	3 hours
<b>Total.....</b>	<b>3 hours</b>

#### Area II – Humanities and Fine Arts

SPH 107 Fundamentals of Public Speaking .....	3 hours
Humanities and Fine Arts Elective .....	3 hours
Choose from: ART 100, 203, 204, MUS 101, PHL 206, REL 100, 151, 152, SPA 201, 202, THR 120, 126	
<b>Total.....</b>	<b>6 hours</b>

#### Area III – Natural Science and Mathematics

MTH 116 or any 100-level MTH.....	3-4 hours
Math, Science or CIS Elective.....	3-4 hours
CIS 146 Microcomputer Applications .....	3 hours
<b>Total.....</b>	<b>9-11 hours</b>

#### Area IV – History, Social, and Behavioral Sciences

Area IV Elective.....	3 hours
Choose from: ECO 231, 232; GEO 100; HIS 101, 102, 201, 202; POL 211; PSY 200, 210; SOC 200; 210	
<b>Total.....</b>	<b>3 hours</b>

#### Area V – Pre-Professional, Major, and Elective Courses

##### Technical Core – Required of all options

SAL 133 Salon Management Technology .....	3 hours
SAL 201 Entrepreneurship for Salon/Spa.....	3 hours
WKO 106 Workplace Skills.....	3 hours
<b>Technical Core Total .....</b>	<b>9 hours</b>

COS 117 Basic Spa Techniques.....	3 hours
COS 118 Basic Spa Techniques Lab.....	3 hours
COS 127 Esthetics Theory.....	3 hours
COS 134 Advanced Esthetics .....	3 hours
COS 135 Advanced Esthetics Applications .....	3 hours
COS 163 Facial Treatments .....	3 hours
COS 164 Facial Machine.....	3 hours
COS 165 Related Subjects Estheticians.....	3 hours
COS 168 Bacteriology and Sanitation .....	3 hours
COS 190 Internship in Cosmetology .....	3 hours
COS 191 Co-Op.....	3 hours
<b>Total Area V.....</b>	<b>42 hours</b>
<b>Total Hours Required for Degree .....</b>	<b>63-65 hours</b>

#### Short-Term Certificate in Cosmetology – Esthetics

SAL 133 Salon Management Technology .....	3 hours
SAL 201 Entrepreneurship for the Salon/Spa.....	3 hours
COS 117 Basic Spa Techniques.....	3 hours
COS 118 Basic Spa Techniques Lab.....	3 hours

COS 163 Facial Treatments .....	3 hours
COS 164 Facial Machine .....	3 hours
COS 168 Bacteriology and Sanitation .....	3 hours
COS 190 Internship in Cosmetology .....	3 hours
COS 191 Co-op in Cosmetology .....	3 hours
<b>Total Hours Required for Certificate .....</b>	<b>27 hours</b>

**Certificate in Salon & Spa Management – Esthetics**

ENG 100 or ENG 101 .....	3 hours
SPH 107 Fundamentals of Public Speaking .....	3 hours
MTH 116 or any 100-level MTH.....	3-4 hours
CIS 146 Microcomputer Applications .....	3 hours
WKO 106 Workplace Skills.....	3 hours
SAL 133 Salon Management Technology .....	3 hours
SAL 201 Entrepreneurship for Salon/Spa.....	3 hours
COS 117 Basic Spa Techniques .....	3 hours
COS 118 Basic Spa Techniques Lab.....	3 hours
COS 127 Esthetics Theory.....	3 hours
COS 134 Advanced Esthetics .....	3 hours
COS 135 Advanced Esthetics Applications .....	3 hours
COS 163 Facial Treatments .....	3 hours
COS 164 Facial Machines .....	3 hours
COS 165 Related Subjects Estheticians.....	3 hours
COS 168 Bacteriology & Sanitation.....	3 hours
COS 190 Internship in Cosmetology .....	3 hours
COS 191 Co-Op.....	3 hours
<b>Total Hours Required for Certificate .....</b>	<b>54-55 hours</b>

**Suggested Career Pathway  
in Salon and Spa Management  
Esthetics Option**

This is a suggested Career Pathway for full-time students. Other options are available for part-time students. Students should consult an advisor.

**Semester 1**

COS 117 Basic Spa Techniques .....	3 hours
COS 118 Basic Spa Techniques Lab.....	3 hours
COS 190 Internship In Cosmetology .....	3 hours
SAL 201 Entrepreneurship For Salon.....	3 hours
<b>Total.....</b>	<b>12 hours</b>

**Semester 2**

SAL 133 Salon Management Technology .....	3 hours
COS 191 Co-op.....	3 hours
COS 168 Bacteriology And Sanitation .....	3 hours
COS 163 Facial Treatments .....	3 hours
COS 164 Facial Machines .....	3 hours
<b>Total.....</b>	<b>15 hours</b>

*\*Eligible for Short-Term Certificate in Esthetics*

**Semester 3**

MTH 116 or any 100-level MTH.....	3 hours
CIS 146 Microcomputer Applications .....	3 hours
COS 127 Esthetics Theory.....	3 hours
ENG 100 or ENG 101 .....	3 hours
WKO 106 Workplace Skills.....	3 hours
<b>Total.....</b>	<b>15 hours</b>

*\*Eligible for National Career Readiness Certificate and OSHA 10 Hour Card*

**Semester 4**

COS 165 Related Subjects-Estheticians .....	3 hours
COS 134 Advanced Esthetics .....	3 hours
SPH 107 Fundamentals of Public Speaking .....	3 hours
SAL 201 Entrepreneurship For Salon.....	3 hours
COS 135 Advanced Esthetics Applications .....	3 hours
<b>Total.....</b>	<b>15 hours</b>

*\*Eligible for Certificate in Salon and Spa Management-EST*

**Semester 5**

Area IV History, Social, and Behavioral Science .....	3 hours
Area II Humanities & Fine Arts Elective.....	3 hours
Area III Math or Science or Computer Science Elective.....	3 hours
<b>Total.....</b>	<b>9 hours</b>

*\*Eligible to sit for the Alabama Board of Cosmetology Exam*

**Eligible for AAS degree in Salon and Spa Management – Esthetics Option**

**Associate in Applied Science Degree  
in Salon and Spa Management  
– Therapeutic Massage**

**Area I – Written Composition**

ENG 100 or ENG 101 .....	3 hours
<b>Total.....</b>	<b>3 hours</b>

**Area II – Humanities and Fine Arts**

SPH 107 Fundamentals of Public Speaking .....	3 hours
Humanities and Fine Arts Elective .....	3 hours
Choose from: ART 100, 203, 204, MUS 101, PHL 206, REL 100, 151, 152, SPA 201, 202, THR 120, 126	
<b>Total.....</b>	<b>6 hours</b>

**Area III – Natural Science and Mathematics**

MTH 116 or any 100-level MTH.....	3-4 hours
Math, Science or CIS Elective .....	3-4 hours
CIS 146 Microcomputer Applications .....	3 hours
<b>Total.....</b>	<b>9-11 hours</b>

**Area IV – History, Social, and Behavioral Sciences**

Area IV Elective.....	3 hours
Choose from: ECO 231, 232; GEO 100; HIS 101, 102, 201, 202; POL 211; PSY 200, 210; SOC 200; 210	
<b>Total.....</b>	<b>3 hours</b>

**Area V – Pre-Professional, Major, and Elective Courses**

**Technical Core – Required of all options**

SAL 133 Salon Management Technology .....	3 hours
SAL 201 Entrepreneurship for Salon/Spa.....	3 hours
WKO 106 Workplace Skills.....	3 hours
<b>Technical Core Total .....</b>	<b>9 hours</b>

MSG 101 Introduction to Therapeutic Massage.....	2 hours
MSG 102 Therapeutic Massage Lab I .....	3 hours
MSG 103 Anatomy and Physiology .....	3 hours
MSG 104 Musculoskeletal and Kinesiology I.....	3 hours
MSG 105 Therapeutic Massage Supervised Clinical I.....	2 hours
MSG 200 Business and Marketing Plans.....	1 hour

MSG 201 Therapeutic Massage for Special Populations.....	2 hours
MSG 202 Therapeutic Massage Lab II.....	3 hours
MSG 203 Pathology.....	3 hours
MSG 204 Musculoskeletal and Kinesiology II.....	3 hours
MSG 205 Therapeutic Massage Supervised Clinical II.....	2 hours
MSG 206 Licensure Exam Review.....	1 hour
EMS 103 First Aid/CPR.....	1 hour
Electives.....	10 hours

Choose from: BUS, COS, EMS, HED, SAL, or CIS

<b>Total Area V.....</b>	<b>48 hours</b>
<b>Total Hours Required for Degree.....</b>	<b>69-72 hours</b>

**Short-Term Certificate in Therapeutic Massage**

MSG 101 Introduction to Therapeutic Massage.....	2 hours
MSG 102 Therapeutic Massage Lab I.....	3 hours
MSG 103 Anatomy and Physiology*.....	3 hours
MSG 104 Musculoskeletal and Kinesiology I.....	3 hours
MSG 105 Therapeutic Massage Supervised Clinical I.....	2 hours
MSG 200 Business and Marketing Plans.....	1 hour
MSG 201 Therapeutic Massage for Special Populations.....	2 hours
MSG 202 Therapeutic Massage Lab II.....	3 hours
MSG 203 Pathology.....	3 hours
MSG 204 Musculoskeletal and Kinesiology II.....	3 hours
MSG 205 Therapeutic Massage Supervised Clinical II.....	2 hours
MSG 206 Licensure Exam Review.....	1 hour
EMS 103 First Aid/CPR.....	1 hour

<b>Total Hours Required for Short-Term Certificate.....</b>	<b>29 hours</b>
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\*BIO 201 is an approved substitute for MSG 103.

**Certificate in Salon & Spa Management – Therapeutic Massage**

ENG 100 or ENG 101.....	3 hours
SPH 107 Fundamentals of Public Speaking.....	3 hours
MTH 116 or any 100-level MTH.....	3-4 hours
CIS 146 Microcomputer Applications.....	3 hours
WKO 106 Workplace Skills.....	3 hours
SAL 133 Salon Management Technology.....	3 hours
MSG 101 Introduction to Therapeutic Massage.....	2 hours
MSG 102 Therapeutic Massage Lab.....	3 hours
MSG 103 Anatomy & Physiology.....	3 hours
MSG 104 Musculoskeletal & Kinesiology.....	3 hours
MSG 105 Therapeutic Massage Supervised Clinical I.....	2 hours
MSG 200 Business & Marketing Plans.....	1 hour
MSG 201 Therapeutic Massage for Special Populations.....	2 hours
MSG 202 Therapeutic Massage Lab II.....	3 hours
MSG 203 Pathology.....	3 hours
MSG 204 Musculoskeletal & Kinesiology II.....	3 hours
MSG 205 Therapeutic Massage Supervised Clinical II.....	2 hours
MSG 206 Licensure Exam Review.....	1 hour
EMS 103 First Aid/CPR.....	1 hour
Elective (Choose from BUS, COS, EMS, HED, SAL, or CIS).....	7 hours
<b>Total Hours Required for Certificate.....</b>	<b>54-55 hours</b>

**Suggested Career Pathway  
in Salon and Spa Management  
Massage Therapy Option**

This is a suggested Career Pathway for full-time students. Other options are available for part-time students. Students should consult an advisor.

**Semester 1**

MSG 101 Intro To Therapeutic Massage.....	2 hours
MSG 102 Therapeutic Massage Lab I.....	3 hours
MSG 103 Anatomy and Physiology.....	3 hours
MSG 104 Musculoskeletal and Kinesiology.....	3 hours
SPH 107 Fundamentals of Public Speaking.....	3 hours
<b>Total.....</b>	<b>14 hours</b>

\*Eligible for National Career Readiness Certificate and OSHA 10 Hour Card

**Semester 2**

MSG 105 Therapeutic Massage Supervised Clinical I.....	2 hours
MSG 201 Therapeutic Massage For Special Population.....	2 hours
MSG 202 Therapeutic Massage Lab II.....	3 hours
MSG 204 Musculoskeletal And Kinesiology II.....	3 hours
EMS 103 First Aid/CPR.....	1 hours
CIS 146 Microcomputer Applications.....	3 hours
<b>Total.....</b>	<b>14 hours</b>

\*Eligible for AHA CPR/First Aid Certification

**Semester 3**

MTH 116 or any 100-level MTH.....	3 hours
MSG 200 Business and Marketing Plans.....	1 hours
MSG 203 Pathology.....	3 hours
MSG 205 Therapeutic Massage Supervised Clinical II.....	2 hours
MSG 206 National Certification Exam Review.....	1 hours
ENG 100 or ENG 101.....	3 hours
<b>Total.....</b>	<b>13 hours</b>

\*Eligible for Short-Term Certificate in Massage Therapy

**Semester 4**

WKO 106 Workplace Skills.....	3 hours
SAL 133 Salon Management Technology.....	3 hours
Area II Humanities & Fine Arts Elective.....	3 hours
Area III Math or Science or Computer Science Elective.....	3 hours
<b>Total.....</b>	<b>12 hours</b>

\*Eligible for Certificate in Salon and Spa Management-MSG

**Semester 5**

Area IV History, Social, and Behavioral Science.....	3 hours
SAL 201 Entrepreneurship For Salon.....	3 hours
Elective in BUS, COS, HED, SAL or CIS.....	3 hours
Elective in BUS, COS, HED, SAL or CIS.....	4 hours
<b>Total.....</b>	<b>12 hours</b>

\*Eligible to sit for the Alabama Board of Massage Therapy Exam

**Eligible for AAS degree in Salon and Spa Management – Massage Therapy Option**

**WELDING TECHNOLOGY**

**Associate in Applied Science Degree  
in Industrial Systems Technology –  
Welding Technology**

**Area I – Written Composition**

ENG 100 or ENG 101 ..... 3 hours  
**Total.....3 hours**

**Area II – Humanities and Fine Arts**

SPH 107 Fundamentals of Public Speaking ..... 3 hours  
 Humanities and Fine Arts Elective ..... 3 hours  
 Choose from: ART 100, 203, 204, MUS 101, PHL 206,  
 REL 100, 151, 152, SPA 201, 202, THR 120, 126  
**Total..... 6 hours**

**Area III – Natural Science and Mathematics**

MTH 116 or any 100-level MTH.....3-4 hours  
 Math, Science or CIS Elective .....3-4 hours  
 CIS 146 Microcomputer Applications ..... 3 hours  
**Total.....9-11 hours**

**Area IV – History, Social, and Behavioral Sciences**

Area IV Elective..... 3 hours  
 Choose from: ECO 231, 232; GEO 100; HIS 101, 102, 201, 202;  
 POL 211; PSY 200, 210; SOC 200; 210  
**Total..... 3 hours**

**Area V Pre-Professional, Major, and Elective Courses**

**Technical Core – Required of all options**  
 INT 117 Principles of Industrial Mechanics ..... 3 hours  
 Cooperative Education Electives ..... 3 hours  
 Choose from: ADM 150, ADM 151, ADM 152, ADM 153,  
 ADM 154  
 WKO 106 Workplace Skills..... 3 hours  
 WKO 110 NCCER Core ..... 3 hours  
**Technical Core Total ..... 12 hours**

INT 119 Principles of Mechanical Measurement and  
 Technical Drawing..... 3 hours  
 WDT Electives (Any WDT courses) ..... 30 hours  
**Total Area V ..... 45 hours**  
**Total Hours Required for the AAS Degree .....66-68 hours**

**Short-Term Certificate in Welding Technology**

WDT Courses (by advisement)..... 12 hours  
**Total Hours Required for Short-Term Certificate ..... 12 hours**

**Short-Term Certificate in Welding Technology  
– Structural Welding**

WDT 120 Shielded Metal Arc Welding Groove ..... 3 hours  
 WDT 125 SMAW Fillet/OFC Lab ..... 3 hours  
 WDT 108 or WDT 109 ..... 3 hours  
 WDT 122 or WDT 123 ..... 3 hours  
 WKO 110 NCCER Core ..... 3 hours  
**Total Hours Required for Short-Term Certificate ..... 15 hours**

**Certificate in Industrial Systems Technology  
– Welding Technology**

ENG 100 or ENG 101 ..... 3 hours  
 SPH 107 Fundamentals of Public Speaking ..... 3 hours  
 MTH 116 or any 100-level MTH.....3-4 hours  
 CIS 146 Microcomputer Applications ..... 3 hours  
 WKO 106 Workplace Skills..... 3 hours  
 WKO 110 NCCER Core ..... 3 hours  
 INT 117 Principles of Industrial Mechanics ..... 3 hours  
 INT 119 Principles of Mechanical Measurement and  
 Technical Drawing..... 3 hours  
 WDT Electives ..... 24 hours  
**Total Hours Required for the Certificate.....48-49 hours**



**Suggested Career Pathway  
in Industrial Systems Technology  
Welding Option**

This is a suggested Career Pathway for full-time students. Other options are available for part-time students. Students should consult an advisor.

**Semester 1**

WDT 108 SMAW Fillet/OFC ..... 3 hours  
 WDT 122 SMAW Fillet/OFC Lab ..... 3 hours  
 CIS 146 Microcomputer Applications ..... 3 hours  
 Area II Humanities & Fine Arts Elective..... 3 hours  
 WKO 110 ..... 3 hours  
**Total..... 15 hours**

*\*Eligible for a certification in NCCER or MSSC and AWS Certification*

**Semester 2**

WDT 119 Gas Metal Arc/Flux Cored Arc Welding ..... 3 hours  
 WDT 124 Gas Metal Arc/Flux Cored Arc Welding/ Lab ..... 3 hours  
 INT 117 Principles of Industrial Mechanics ..... 3 hours  
 ENG 100 or ENG 101 ..... 3 hours  
**Total..... 12 hours**

*\*Eligible for a Short-Term Certificate in Welding Technology and AWS Certification*

**Semester 3**

WDT 228 Gas Tungsten Arc Welding .....	3 hours
WDT 268 Gas Tungsten Arc Welding/ Lab .....	3 hours
MTH 116 or any 100-level MTHs .....	3 hours
INT 119 Principle of Mechanical Measurement and Technical Drawing.....	3 hours
<b>Total.....</b>	<b>12 hours</b>

*\*Eligible for AWS Certification*

**Semester 4**

WDT 157 Consumable Welding Processes.....	3 hours
WDT 158 Consumable Welding Processes.....	3 hours
Area III Math or Science or Computer Science Elective.....	3 hours
SPH 107 Fundamentals of Public Speaking .....	3 hours
WKO 106 Workplace Essentials.....	3 hours
<b>Total.....</b>	<b>15 hours</b>

*\*Eligible for a Certificate in Industrial Systems Technology-WDT, National Career Readiness Certificate and OSHA 10 Hour Card and AWS Certification*

**Semester 5**

WDT 180 Special Projects.....	3 hours
WDT 181 Special Projects/Lab.....	3 hours
Area IV History, Social, and Behavioral Science .....	3 hours
Cooperative Education Electives .....	3 hours
Choose from: ADM 150, ADM 151, ADM 152, ADM 153, ADM 154	
<b>Total.....</b>	<b>12 hours</b>

*\*Eligible for AWS Certification*

**Eligible for AAS degree in Industrial Systems Technology –  
Welding Option**

**WORKPLACE SKILLS**

**Short-Term Certificate in Workplace Skills  
– Certified Production Technician**

WKO 131 or WKO 110 .....	3 hours
WKO 132, ENT 221, INT 119, ADM 101, or MTT 148 .....	3 hours
WKO 133, MTT 147, ENT 106, or DDT 117.....	3 hours
WKO 134, INT 126, or ENT 242 .....	3 hours
<b>Total Hours Required for Short-Term Certificate .....</b>	<b>12 hours</b>

**ALLIED HEALTH LINKAGE PROGRAMS**

Northeast Alabama Community College is involved in a cooperative linkage program with other community colleges. The first year general education prerequisite courses are completed at Northeast. After acceptance to the health program, students may transfer to complete coursework in their chosen field of study. The following programs are offered through this arrangement:

- Dental Assisting
- Dental Hygiene
- Diagnostic Imaging
- Diagnostic Medical Sonography
- Health Information Technology
- Clinical Laboratory Technician
- Occupational Therapy Assistant

- Physical Therapy Assistant
- Respiratory Therapy

For specific details regarding each program, students should contact Dr. Sharon Totten, Director of Advising, ([tottens@nacc.edu](mailto:tottens@nacc.edu)) for more information. Office: 100 Wallace Administration Building (WA), phone ext. 2245.

Below are some examples of Allied Health Programs:

**Associate in Applied Science in Diagnostic Imaging**

This program is designed to provide technologists for Diagnostic Imaging Departments of hospitals and clinics. Students are taught the fundamental principles underlying all phases of Radiologic Technology. Upon graduation, the student is eligible to apply to take the registry examination of the American Registry of Radiologic Technologists (65 1-687-4448). According to the American Registry of Radiologic Technologists, application for certification to practice as an R.T. may be denied if a person has been convicted of a felony, is guilty of a crime involving moral turpitude, and/or has displayed other grounds for denial by law.

**Associate in Applied Science in Physical Therapist Assistant**

The Physical Therapist Assistant (PTA) is a skilled technical health care worker who assists the physical therapist in providing services that help improve mobility, relieve pain, and prevent or limit permanent physical disabilities of patients suffering from injuries or disease. Patients include accident victims and individuals with disabling conditions such as low-back pain, arthritis, heart disease, fractures, head injuries, and cerebral palsy. Duties of the physical therapist assistant are varied but include rehabilitation of orthopedic, neurological, pediatric, and sports related problems. Once a patient is evaluated and a treatment plan is designed by the physical therapist, the physical therapist assistant can provide many aspects of treatment, as prescribed by the therapist. Components of treatment procedures performed by these workers involve exercise, massage, electrical stimulation, paraffin baths, hot and cold packs, traction, and ultrasound. The physical therapist assistant is responsible for reporting patient responses and treatment outcomes to the physical therapist. Physical therapists assistants are employed by hospitals, rehabilitation centers, nursing homes, home health care agencies, private practices and other specialized health care settings.

**Associate in Applied Science in Respiratory Therapy**

A respiratory therapist is responsible for administering, under physician’s prescription, many types of breathing therapeutics, and utilizing specialized breathing, aerosol and humidification equipment. These include the use of oxygen or oxygen mixtures, chest physiotherapy, mechanical ventilation, and aerosol medications. Respiratory therapists evaluate and treat all types of patients, ranging from premature infants whose lungs are not fully developed to elderly people whose lungs may be diseased. Respiratory therapists provide temporary