

































































































































































































































**Auto Body Repair Assistant  
Technical Certificate of Credit**

The Auto Body Repair Assistant certificate is intended to produce graduates who are prepared as autobody repair helpers. Program graduates will be competent in the following occupational areas of auto body: safety, components identification, hand tools and equipment identification, mechanical and electrical systems, fiberglass-plastic-rubber techniques, welding and cutting, trim and glass, damage identification and assessment, and minor collision repair.

**Program Admission**

Age	16
Education Requirements	High School Diploma or GED
Students accepted	Quarterly
Program Length	4 quarters
Major Code	5DV1

<b>Program Courses</b>		<b>Credits</b>
<b>Occupational Education Requirements</b>		
ACR 1000	Safety	1
ACR 1010	Automobile Components Identification	3
ACR 1020	Equipment and Hand Tools Identification	1
ACR 1040	Mechanical and Electrical Systems	2
ACR 1050	Body Fiberglass, Plastic, Rubber Repair Techniques	3
ACR 1060	Welding and Cutting	6
ACR 1070	Trim, Accessories, and Glass	2
ACR 1100	Minor Collision Repair	2
ACR 1280	Bolt-On Body Panel Removal and Replacement	4
ACR 1300	Sanding, Priming, and Paint Preparation	5
<b>Total Credit hours required for Graduation</b>		<b>29</b>

**Painting and Refinishing Specialist  
Technical Certificate of Credit**

The Painting and Refinishing Specialist certificate is intended to produce graduates who are prepared as Paint and Refinishing Specialist. Program graduates will be competent in the following occupational areas of autobody: sand, prime, and paint preparation, special refinishing application, urethane enamels application, tint and match colors, and detailing.

**Program Admission**

Age	16
Education Requirements	High School Diploma or GED
Students accepted	Quarterly
Program Length	3 quarters
Major Code	5DX1

<b>Program Courses</b>		<b>Credits</b>
<b>Occupational Education Requirements</b>		
AXR 1000	Safety	5
ACR 1300	Sanding, Priming, and Paint Preparation	5
ACR 1320	Special Refinishing Application	5
ACR 2340	Urethane Enamels Refinishing Application	5
ACR 2350	Tint and Match Colors	5
ACR 2360	Detailing	2
<b>Total Credit hours required for Graduation</b>		<b>23</b>

# Automotive Technology Program

## Automotive Fundamentals Diploma Program

The Automotive Fundamentals program is a sequence of COURSES designed to prepare students for careers in the automotive service and repair profession. The program includes electronics, mechanical and parts replacements, troubleshooting or diagnosis, automatic transmissions. Industry and safety requirements are stressed. The Automotive Technology program is an Automotive Service Excellence (ASE) Master Certified Program. This certification means that the instructor, curriculum, equipment and tools have all met ASE requirements.

### Program Admission

Age	16
Education Requirements	High School Diploma or GED
Students accepted	Quarterly
Program Length	4 quarters
Major Code	UT02

Program Courses		Credits
<b>General Education Requirements</b>		
ENG 1010	Fundamentals of English I	5
MAT 1012	Foundations of Mathematics	5
EMP 1000	Interpersonal Relations & Professional Development	3
<b>Occupational Education Requirements</b>		
SCT 100	Introduction to Microcomputers	3
AUT 120	Introduction to Automotive Technology	3
AUT 122	Electrical and Electronic Systems	6
AUT 124	Battery Starting and Charging	4
AUT 126	Engine Principles of Operation and Repair	6
AUT 128	Fuel, Ignition, and Emission Systems	7
AUT 130	Automotive Brake Systems	4
AUT 132	Suspension and Steering Systems	4
AUT 134	Drivelines	4
AUT 140	Electronic Engine Control Systems	7
AUT 142	Climate Control Systems	6
AUT 144	Introduction to Automatic Transmissions	4
AUT 220 or	Automotive Technology Internship	6
XXX xxxx	Electives	
<b>Total Credit hours required for Graduation</b>		<b>77</b>

## Automotive Technology Diploma Program

The Automotive Technology program is a sequence of COURSES designed to prepare students for careers in the automotive service and repair profession. The program includes electronics, mechanical and parts replacement, troubleshooting or diagnosis, automatic and manual transmissions. The student is trained on most systems from the front of the vehicle to the rear of it. Industry and safety requirements are stressed. The Automotive Technology program is an Automotive Service Excellence (ASE) Master Certified Program. This certification means that the instructor, curriculum, equipment and tools have all met ASE requirements.

### Program Admission

Age	16
Education Requirements	High School Diploma or GED
Students accepted	Quarterly
Program Length	6 quarters
Major Code	UTA4

Program Courses		Credits
<b>General Education Requirements</b>		
ENG 1010	Fundamentals of English I	5
MAT 1012	Foundations of Mathematics	5
EMP 1000	Interpersonal Relations & Professional Development	
<b>Occupational Education Requirements</b>		
SCT 100	Introduction to Microcomputers	3
AUT 120	Introduction to Automotive Technology	3
AUT 122	Electrical and Electronic Systems	6
AUT 124	Battery Starting and Charging	4
AUT 126	Engine Principles of Operation and Repair	6
AUT 128	Fuel, Ignition, and Emission Systems	7
AUT 130	Automotive Brake Systems	4
AUT 132	Suspension and Steering Systems	4
AUT 134	Drivelines	4
AUT 138	Manual Transmission/Transaxle	4
AUT 140	Electronic Engine Control Systems	7
AUT 142	Climate Control Systems	6
AUT 144	Introduction to Automatic Transmissions	4
AUT 210	Automatic Transmission Repair	7
AUT 212	Advanced Electronic Transmission Diagnosis	3
AUT 214	Advanced Electronic Brake Systems	4
AUT 216	Advanced Electronic Controlled Suspension and Steering Systems	4
AUT 218	Advanced Electronic Engine Control Systems	4
AUT 220 or	Automotive Technology Internship	6
XXX xxx	Electives	
<b>Total Credit hours required for Graduation</b>		<b>103</b>

**Automotive Brake Technician  
Technical Certificate of Credit**

The Automotive Brake Technician certificate is a sequence of courses designed to prepare students for careers in the automotive brake profession.

**Program Admission**

Age	16
Education Requirements	High School Diploma or GED
Admission Test Scores	Yes
Students accepted	Quarterly
Program Length	2 quarters
Major Code	5CU1

<b>Program Courses</b>		<b>Credits</b>
<b>Occupational Education Requirements</b>		
AUT 120	Introduction to Automotive Technology	3
AUT 122	Electrical and Electronic Systems	6
AUT 130	Automotive Brake Systems	4
AUT 214	Advanced Electronic Controlled Brake System Diagnosis	4
<b>Total Credit hours required for Graduation</b>		<b>17</b>

**Automotive Electrical/Electronic Systems  
Technical Certificate of Credit**

This program provides students with the knowledge and skills necessary to diagnose, service, and repair basic electrical/electronic systems as an entry-level automotive technician. Topics include automotive batteries, starting systems, charging systems, instrumentation, lighting, and accessories.

**Program Admission**

Age	16
Education Requirements	High School Diploma or GED
Students accepted	Quarterly
Program Length	2 quarters
Major Code	5AS1

<b>Program Courses</b>		<b>Credits</b>
<b>Occupational Education Requirements</b>		
AUT 120	Introduction to Automotive Technology	3
AUT 122	Electrical and Electronic Systems	6
AUT 124	Battery Starting and Charging Systems	4
XXX xxx	Electives	2
<b>Total Credit hours required for Graduation</b>		<b>15</b>











# Carpentry Program

## Carpentry Framing

### Technical Certificate of Credit

The purpose of the Carpentry Framing certificate is to provide educational opportunities and technical training for individuals to enable them to obtain the knowledge, skills, and attitudes to succeed in the construction industry.

#### Program Admission

Age	16
Education Requirements	No
Students accepted	Quarterly
Program Length	4 quarters
Major Code	CR01

Program Courses	Credits
<b>Occupational Education Requirements</b>	
CAR 101      Safe Use of Hand Power Tools	3
CAR 103      Materials	3
CAR 105      Print Reading	5
CAR 110      Floor Framing	3
CAR 111      Wall Framing	3
CAR 112      Ceiling and Roof Framing	6
<b>Total Credit hours required for Graduation</b>	<b>23</b>

# Commercial Truck Driving Program

## Commercial Truck Driving

### Technical Certificate of Credit

Commercial Truck Driving is designed to provide students with the necessary skills training through classroom, driving range, and on-the-road experiences to become successful drivers in the trucking industry. Upon completion of the program, students will take the Georgia CDL State Exam.

#### Program Admission

Age	21*
Education Requirements	No
Students accepted	Quarterly
Program Length	1 quarter (day) 2 quarters (evening)
Major Code	TU01

\*Based on ability to benefit, (18-20) year olds may enter the program; however, they will be limited to intrastate trucking and licensed for GA only. Most carriers require applicants to be 21+ years of age for insurance purposes.

Program Courses	Credits
<b>Occupational Education Requirements</b>	
CTD 101      Fundamentals of Commercial Truck Driving	5
CTD 102      Basic Operations and Range Work	5
CTD 103      Advanced Operations	5
<b>Total Credit hours required for Graduation</b>	<b>15</b>

# Electrical Construction and Maintenance Program

## Electrical Technician Technical Certificate of Credit

The purpose of the Electrician Technician certificate is to provide training opportunities for persons needing employment skills. This entry-level training in basic electrical wiring skills will enable students to be employed in the manufactured housing and residential wiring field.

### Program Admission

Age	16
Education Requirements	No, but required for completion
Students accepted	Quarterly
Program Length	4 quarters
Major Code	LL01

Program Courses	Credits
<b>General Education Requirements</b>	
MAT 1012 Foundations of Mathematics	5
<b>Occupational Education Requirements</b>	
ELT 100 Electrical Worker	5
IFC 100 Industrial Safety	2
ELT 102 Electrical Principles	9
ELT 120 Residential Wiring I	5
ELT 121 Residential Wiring II	6
ELT 106 Electrical Prints, Schematics, and Symbols	3
ELT 110 State License Preparation	7
<b>Total Credit hours required for Graduation</b>	<b>42</b>

## Electrical Lineworker Apprentice Technical Certificate of Credit

The Electrical Lineworker Apprentice program will prepare individuals for entry level employment as apprentice electrical lineworker candidates with utility companies. The program provides an opportunity to study and practice the basic skills of electrical lineworkers and technicians.

### Program Admission

Age	18
Education Requirements	High School Diploma or GED
Students accepted	Quarterly
Program Length	1 quarters
Major Code	ELL1

Program Courses	Credits
<b>Occupational Education Requirements</b>	
ELC 180 Electrical Lineworker Organizational Principles	4
ELC 182 Electrical Lineworker Workplace Skills	2
ELC 184 Electrical Lineworker Automation Skills	2
ELC 186 Electrical Lineworker Occupational Skills	8
<b>Total Credit hours required for Graduation</b>	<b>16</b>

# Electronics and Telecommunications Program

## Electronics Fundamentals Diploma

The Electronics Fundamentals program is designed to prepare students for careers in electronics professions. Learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes a combination of electronics theory and practical application necessary for successful employment. Program graduates receive an Electronics Fundamentals diploma, which prepares them for entry-level positions in the electronics field and qualifies them for admission to the Electronics Technology program.

### Program Admission

Age	16
Education Requirements	High School Diploma or GED
Students accepted	Spring and Fall Quarters
Program Length	5 quarters
Major Code	EF02

Program Courses		Credits
<b>General Education Requirements</b>		
ENG 1010	Fundamentals of English I	5
MAT 1013	Algebraic Concepts	5
MAT 1015	Geometry & Trigonometry	5
EMP 1000	Interpersonal Relations & Professional Development	3
<b>Occupational Education Requirements</b>		
SCT 100	Introduction to Microcomputers	3
IFC 100	Industrial Safety Procedures	2
IFC 101	Direct Current Circuits I	4
IFC 102	Alternating Current I	4
IFC 103	Solid State Devices I	4
ELC 104	Soldering Technology	2
ELC 108	Direct Current Circuits II	4
ELC 110	Alternating Current II	4
ELC 115	Solid State Devices II	4
ELC 117	Linear Integrated Circuits	4
ELC 118	Digital Electronics I	4
ELC 119	Digital Electronics II	4
ELC 120	Microprocessors Fundamentals	4
<b>Total Credit hours required for Graduation</b>		<b>65</b>

## Electronics Technology Diploma

The Electronics Technology program is a sequence of COURSES designed to prepare students for careers in electronics technology professions. Learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. Program graduates are to be competent in the general areas of communications, mathematics, computer literacy, and interpersonal relations. The program emphasizes a combination of electronics technology theory and practical application necessary for successful employment using both manual and computerized electronics systems. Program graduates receive an Electronics Technology Diploma, which qualifies them as electronics technicians with a specialization in biomedical instrumentation, communications electronics, computer electronics, general electronics, industrial electronics, or telecommunications electronics.

### Program Admission

Age	16
Education Requirements	High School Diploma or GED
Students accepted	Spring and Fall Quarters
Program Length	8 quarters
Major Code	EFA4

Program Courses	Credits
Completion of Electronics Fundamentals and one of the following Specializations	
<i>General Electronics Specialization – GEA4</i>	
ELC 123            Communications Electronics Survey	7
ELC 124            Industrial Electronics Survey	4
XXX xxx            Technically Related Electives	14
<i>Biomedical Instrumentation Specialization – OIA4</i>	
AHS 1011           Anatomy & Physiology	5
AHS 109            Medical Terminology for Applied Health Science	3
BMI 232            Medical Equipment-Function and Operation I	4
BMI 233            Internship-Medical Systems I	5
BMI 242            Medical Equipment-Function and Operation II	3
BMI 243            Internship-Medical Systems II	5
<i>Computer Electronics Specialization – OMA4</i>	
ELC 217            Computer Hardware	7
ELC 218            Operating Systems Technologies	7
ELC 219            Networking I	4
ELC 286            CompTIA A+ Certification	5
XXX xxx            Technically Related Elective	2
<i>Industrial Electronics Specialization – ILA4</i>	
ELC 211            Process Control	6
ELC 212            Motor Controls	6
ELC 213            Programmable Controllers	5
ELC 214            Mechanical Devices	3
ELC 215            Fluid Power	3
ELC 216            Robotics	2
<i>Telecommunications Electronics Specialization – TLA4</i>	
ELC 217            Computer Hardware	7
ELC 219            Networking I	4
ELC 259            Fiber Optics Systems	4
ELC 260            Telecommunications & Data Cabling	4
ELC 261            Telecommunications Systems Installation/Prog	3
ELC 262            Telecommunications & Data Transmission Concepts	3
<b>Total Credit hours required for Graduation</b>	<b>90</b>



**Basic Electronics  
Technical Certificate of Credit**

The Basic Electronics certificate program is intended to produce graduates who are prepared for employment as bench technicians. Program completers will be competent in general areas of math and microcomputer applications. Completers will be competent in the occupational areas of industrial safety procedures, problem solving, OHM's Law, resistor color-coding, meter functions, and basic soldering.

**Program Admission**

Age	16
Education Requirements	High School Diploma or GED
Students accepted	Spring and Fall Quarters
Program Length	2 quarters
Major Code	IES1

<b>Program Courses</b>	<b>Credits</b>
<b>General Education Requirements</b>	
MAT 1013            Algebraic Concepts	5
<b>Occupational Education Requirements</b>	
SCT 100            Introduction to Microcomputers	3
IFC 100            Industrial Safety Procedures	2
IFC 101            Direct Current Circuits I	4
ELC 104            Soldering Technology	2
<b>Total Credit hours required for Graduation</b>	<b>16</b>

**Locomotive Electrical Systems  
Technical Certificate of Credit**

The purpose of the Locomotive Electrical Systems certificate is to prepare individuals to work as electrical technicians in the rail industry specifically focusing on diesel/electric locomotives. Upon completion of this certificate, students will be prepared for entry-level positions in the rail industry as locomotive electrical technicians.

**Program Admission**

Age	16
Education Requirements	High School Diploma or GED
Students accepted	Spring and Fall Quarters
Program Length	4 quarters
Major Code	LES1
Employment Condition	Federal Regulation requires railroad employees to be at least 18 years of age.

<b>Program Courses</b>		<b>Credits</b>
<b>General Education Requirements</b>		
MAT 1013	Algebraic Concepts	5
<b>Occupational Education Requirements</b>		
SCT 100	Introduction to Microcomputers	3
IFC 100	Industrial Safety Procedures	2
ADM 103	Basic Engine Theory	5
ELC 104	Soldering Technology	2
IFC 101	Direct Current Circuits I	4
IFC 102	Alternating Current I	4
ELC 110	Alternating Current II	4
IFC 103	Solid State Devices I	4
IDS 103	Industrial Wiring	6
IDS 105	DC and AC Motors	3
IDS 110	Fundamentals of Motor Control	3
IDS 113	Magnetic Starters and Braking	3
RRI 101	Introduction to the Railroad Industry	7
RRR 101	Locomotive Electrical Systems	3.5

# Environmental Horticulture Program

## Environmental Horticulture Diploma

The Environmental Horticulture program is a sequence of courses that prepares students for careers in environmental horticulture. The program provides learning opportunities which introduce, develop, and reinforce academic and technical knowledge, skills, and attitudes required for job acquisition, retention, and advancement. Additionally, the program provides opportunities to retrain or upgrade present knowledge and skills.

### Program Admission

Age	16
Education Requirements	High School Diploma or GED
Students accepted	Quarterly
Program Length	5 quarters
Major Code	EH02

Program Courses		Credits
<b>General Education Requirements</b>		
ENG 1010	Fundamentals of English I	5
MAT 1012	Foundations of Mathematics	5
EMP 1000	Interpersonal Relations & Professional Dev	3
<b>Occupational Education Requirements</b>		
SCT 100	Introduction to Microcomputers	3
EHO 100	Horticulture Science	5
EHO 101	Woody Ornamental Plant Identification	6
EHO 102	Herbaceous Plant Identification	5
EHO 108	Pest Management	5
EHO 115	Environmental Horticulture Internship	3
<b>Complete one of the following specializations</b>		
<i>Horticulturist Specialization (HOR2)</i>		
EHO 103	Greenhouse Operations	3
EHO 104	Basic Landscape Construction	3
EHO 105	Nursery Production	4
EHO 106	Landscape Design	5
EHO 107	Landscape Installation	3
EHO 112	Landscape Management	5
EHO 114	Garden center Management	3
XXX xxx	Electives	12
<i>Landscape Management Specialization (LNM2)</i>		
EHO 104	Basic Landscape Construction	3
EHO 106	Landscape Design	5
EHO 107	Landscape Installation	3
EHO 112	Landscape Management	5
EHO 131	Irrigation	5
EHO 133	Turfgrass Management	5
XXX xxx	Electives	12
<i>Plant Production Specialization (PPR2)</i>		
EHO 103	Greenhouse Operations	3
EHO 105	Nursery Production	4
EHO 125	Plant Propagation	5
EHO 123	Greenhouse Production	6
EHO 131	Irrigation	5
XXX xxx	Elective(s)	15
<b>Total Credit hours required for Graduation</b>		<b>76</b>

**Plant Production Specialist  
Technical Certificate of Credit**

The Plant Production Specialist certificate provides entry-level skills in plant production. Topics include: horticulture science, plant identification, greenhouse operations and plant production.

**Program Admission**

Age	16
Education Requirements	High School Diploma or GED
Students accepted	Quarterly
Program Length	3 quarters
Major Code	5AD1

<b>Program Courses</b>	<b>Credits</b>
<b>Occupational Education Requirements</b>	
EHO 100      Horticulture Science	5
EHO 101      Woody Ornamental Plant Identification	6
EHO 102      Herbaceous Plant Identification	5
EHO 103      Greenhouse Operations	3
EHO 105      Nursery Production	4
XXX xxx      Electives	3
<b>Total Credit hours required for Graduation</b>	<b>26</b>

**Environmental Horticulture Technician  
Technical Certificate of Credit**

The Environmental Horticulture Technician certificate provides entry-level skills for employment as a horticulture technician.

**Program Admission**

Age	16
Education Requirements	High School Diploma or GED
Admission Test Scores	Yes
Students accepted	Quarterly
Program Length	3 quarters
Major Code	ENH1

<b>Program Courses</b>	<b>Credits</b>
<b>Occupational Education Requirements</b>	
EHO 100      Horticulture Science	5
EHO 105      Nursery Production	4
EHO 107      Landscape Installation	3
EHO 108      Pest Management	5
EHO 131      Irrigation	5
<b>Total Credit hours required for Graduation</b>	<b>22</b>

**Landscape Specialist  
Technical Certificate of Credit**

The Landscape Specialist certificate provides entry-level skills in landscape design and installation. Topics include: horticulture science, plant identification, landscape design and installation skills.

**Program Admission**

Age	16
Education Requirements	No
Admission Test Scores	Yes
Students accepted	Quarterly
Program Length	3 quarters
Major Code	5AE1

<b>Program Courses</b>		<b>Credits</b>
<b>Occupational Education Requirements</b>		
EHO 100	Horticulture Science	5
EHO 101	Woody Ornamental Plant Identification	6
EHO 107	Landscape Installation	3
EHO 108	Pest Management	5
EHO 112	Landscape Management	5
XXX xxx	Electives	5
<b>Total Credit hours required for Graduation</b>		<b>29</b>

# Forestry Technology Program

## Forest Technology Associate of Applied Science Degree

The Forest Technology program is a sequence of courses that prepares students for employment in the field of forestry. The program provides learning opportunities which introduce, develop, and reinforce academic and technical knowledge, skills, and attitudes required for job acquisition, retention, and advancement. The technical knowledge and skills in this program focus on forest biology, forest products, forest protection, forest management, forest measurements, and surveying and mapping. Additionally, the program provides opportunities to retrain or upgrade present knowledge and skills. Graduates of the program receive a Forest Technology Degree which qualifies them as forest technicians.

### Program Admission

Age	16
Education Requirements	High School Diploma or GED
Students accepted	Quarterly
Program Length	6 quarters
Major Code	FO03

Program Courses	Credits
<b>General Education Requirements</b>	
<i>Area I - English/Humanities/Fine Arts</i>	
ENG 1101      Composition & Rhetoric	5
HUM 1101      Introduction to Humanities	5
Or	
ENG 2130      American Literature	5
<i>Area II – Social/Behavioral Sciences</i>	
SPC 1101      Public Speaking	5
PSY 1101      Introduction to Psychology	5
ECO 1101      Principles of Economics	5
<i>Area III – Natural Sciences/Mathematics</i>	
MAT 1111      College Algebra	5
<b>Occupational Education Requirements</b>	
SCT 100      Introduction to Microcomputers	3
FOR 101      Forest Safety & Orientation	1
FOR 102      Forest Soils	4
FOR 103      Dendrology	4
FOR 104      Forest Protection	4
FOR 105      Forest Products	4
FOR 116      Introduction to Surveying & Mapping I	4
FOR 117      Introduction to Surveying & Mapping II	3
FOR 121      Applied Surveying and Mapping I	3
FOR 122      Applied Surveying and Mapping II	3
FOR 126      Introduction to Forest Measurement I	4
FOR 127      Introduction to Forest Measurement II	3
FOR 131      Silviculture I	4
FOR 132      Silviculture II	4
FOR 141      Applied Forest Measurement I	3
FOR 142      Applied Forest Measurement II	3
FOR 146      Forest Management I	5
FOR 147      Forest Management II	5
FOR 158      Wildlife Management	4
or FOR 160      Forest Technology Internship	
<b>Total Credit hours required for Graduation</b>	<b>98</b>

## Forest Technology Diploma

The Forest Technology program is a sequence of COURSES that prepares students for employment in the field of forestry. The program provides learning opportunities which introduce, develop, and reinforce academic and technical knowledge, skills, and attitudes required for job acquisition, retention, and advancement. The technical knowledge and skills in this program focus on forest biology, forest products, forest protection, forest management, forest measurements, and surveying and mapping. Additionally, the program provides opportunities to retrain or upgrade present knowledge and skills. Graduates of the program receive a Forest Technology diploma which qualifies them as forest technicians.

### Program Admission

Age	16
Education Requirements	High School Diploma or GED
Students accepted	Quarterly
Program Length	5 quarters
Major Code	FO02

Program Courses		Credits
<b>General Education Requirements</b>		
ENG 1010	Fundamentals of English I	5
MAT 1012	Foundations of Mathematics	5
EMP 1000	Interpersonal Relations & Professional Development	3
<b>Occupational Education Requirements</b>		
SCT 100	Introduction to Microcomputers	3
FOR 101	Forest Safety & Orientation	1
FOR 102	Forest Soils	4
FOR 103	Dendrology	4
FOR 104	Forest Protection	4
FOR 105	Forest Products	4
FOR 116	Introduction to Surveying & Mapping I	4
FOR 117	Introduction to Surveying & Mapping II	3
FOR 121	Applied Surveying and Mapping I	3
FOR 122	Applied Surveying and Mapping II	3
FOR 126	Introduction to Forest Measurement I	4
FOR 127	Introduction to Forest Measurement II	3
FOR 131	Silviculture I	4
FOR 132	Silviculture II	4
FOR 141	Applied Forest Measurement I	3
FOR 142	Applied Forest Measurement II	3
FOR 146	Forest Management I	5
FOR 147	Forest Management II	5
FOR 158 or	Wildlife Management	4
FOR 160	Forest Technology Internship	4
<b>Total Credit hours required for Graduation</b>		<b>81</b>

**Forest Technician Assistant  
Technical Certificate of Credit**

The Forest Technician Assistant technical certificate of credit provides skills necessary for program completers to obtain entry-level employment in the area of forestry. Topics include: safety, dendrology, product identification and utilization, surveying and mapping, and forest measurements.

**Program Admission**

Age	16
Education Requirements	High School Diploma or GED
Students accepted	Quarterly
Program Length	3 quarters
Major Code	FO01

<b>Program Courses</b>		<b>Credits</b>
<b>Occupational Education Requirements</b>		
FOR 101	Forest Safety & Orientation	1
FOR 103	Dendrology	4
FOR 105	Forest Products	4
FOR 116	Introduction to Surveying & Mapping I	4
FOR 117	Introduction to Surveying & Mapping II	3
FOR 126	Introduction to Forest Measurement I	4
FOR 127	Introduction to Forest Measurement II	3
<b>Total Credit hours required for Graduation</b>		<b>23</b>

**Land Surveying Technician  
Technical Certificate of Credit**

The Land Surveying Technician technical certificate of credit program is intended to produce graduates who are prepared for employment as Land Surveying Technicians in organizations that conduct land surveying activities.

**Program Admission**

Age	16
Education Requirements	High School Diploma or GED
Students accepted	Quarterly
Program Length	3 quarters
Major Code	SUP1

<b>Program Courses</b>		<b>Credits</b>
<b>General Education Requirements</b>		
MAT 1012	Foundations of Mathematics	5
<b>Occupational Education Requirements</b>		
FOR 101	Forest Safety & Orientation	1
FOR 116	Introduction to Surveying & Mapping I	4
FOR 117	Introduction to Surveying & Mapping II	3
FOR 121	Applied Survey and Mapping I	3
FOR 122	Applied Survey and Mapping II	3
<b>Total Credit hours required for Graduation</b>		<b>19</b>



# Industrial Systems Technology Programs

## Industrial Systems Technology Diploma

The Industrial Systems Technology diploma program is designed for the student who wishes to prepare for a career as an Industrial Systems technician/electrician. The program provides learning opportunities that introduce, develop and reinforce academic and technical knowledge, skill, and attitudes required for job acquisition, retention, and advancement. Additionally, the program provides opportunities to retrain or upgrade present knowledge and skill. The diploma program teaches skills in Industrial Systems Technology providing background skills in several areas of industrial maintenance including electronics, industrial wiring, motors, controls, plc's, instrumentation, fluid power, mechanical, pumps and piping, and computers. Graduates of the program receive an Industrial Systems technology diploma that qualifies them for employment as industrial electricians or industrial systems technicians.

### Program Admission

Age	16
Education Requirements	High School Diploma or GED
Students accepted	Quarterly
Program Length	5 quarters
Major Code	ICS4

Program Courses		Credits
<b>General Education Requirements</b>		
ENG 1010	Fundamentals of English I	5
MAT 1013	Algebraic Concepts	5
EMP 1000	Interpersonal Relations & Professional Development	3
<b>Occupational Education Requirements</b>		
SCT 100	Introduction to Microcomputers	3
IFC 100	Industrial Safety Procedures	2
IFC 101	Direct Current Circuits I	4
IFC 102	Alternating Current I	4
IFC 103	Solid State Devices I	4
IDS 101	Industrial Computer Applications	5
IDS 103	Industrial Wiring	6
IDS 105	DC and AC Motors	3
IDS 110	Fundamentals of Motor Control	3
IDS 113	Magnetic Starters and Braking	3
IDS 115	Two-Wire Control Circuits	2
IDS 121	Advanced Motor Controls	2
IDS 131	Variable Speed Motor Controls	3
IDS 141	Basic Industrial PLC's	6
IDS 142	Industrial PLC's	6
IDS 209	Industrial Instrumentation	6
IDS 215	Industrial Mechanics	6
IDS 221	Industrial Fluid Power	7
IDS 231	Pumps and Piping Systems	2
<b>Total Credit hours required for Graduation</b>		<b>90</b>

**Locomotive Mechanical Systems  
Technical Certificate of Credit**

The purpose of the Locomotive Mechanical Systems certificate is to prepare students to work as mechanical technicians in the rail industry specifically focusing on diesel/electrical locomotives. Upon completion of this technical certificate of credit, students will be trained for entry-level positions in the rail industry as locomotive mechanical technicians.

**Program Admission**

Age	16
Education Requirements	High School Diploma or GED
Students accepted	Quarterly
Program Length	4 quarters
Major Code	LMS1
Employment Condition	Federal regulation requires Railroad Employees to be at least 19 years of age

<b>Program Courses</b>		<b>Credits</b>
<b>General Education Requirements</b>		
MAT 1012	Foundations of Mathematics	5
<b>Occupational Education Requirements</b>		
SCT 100	Introduction to Microcomputers	3
ADM 103	Basic Engine Theory	5
ELC 152	Preparatory Electricity & Electronics	4
IFC 100	Industrial Safety Procedures	2
IDS 215	Industrial Mechanics	6
IDS 221	Industrial Fluid power	7
IDS 231	Pumps and Piping Systems	2
WLD 103	Blueprint Reading I	3
WLD 108	Blueprint Reading for Welders II	3
WLD 133	Metal Welding and Cutting Techniques	3
RRT 102	Introduction to the Railroad Industry	7
RRT 104	Locomotive Mechanical Systems	3.5
<b>Total Credit hours required for Graduation</b>		<b>53.5</b>

# Welding and Joining Technology Program

## Welding & Joining Technology Diploma

The Welding and Joining Technology diploma is designed to prepare students for careers in the welding industry. Program learning opportunities develop academic, technical, professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes welding theory and practical application necessary for successful employment. Program graduates receive a Welding and Joining Technology diploma, have the qualifications of a welding and joining technician, and are prepared to take qualification tests.

### Program Admission

Age	16
Education Requirements	High School Diploma or GED
Students accepted	Quarterly
Program Length	5 quarters
Major Code	WJ02

Program Courses	Credits
<b>General Education Requirements</b>	
ENG 1010      Fundamentals of English I	5
MAT 1012      Foundations of Mathematics	3
EMP 1000      Interpersonal Relations & Professional Dev	3
<b>Occupational Education Requirements</b>	
SCT 100      Introduction to Microcomputers	3
WLD 100      Introduction to Welding Technology	6
WLD 101      Oxyfuel Cutting	4
WLD 103      Blueprint Reading I	3
WLD 104      Shielded Metal Arc Welding I	6
WLD 105      Shielded Metal Arc Welding II	6
WLD 106      Shielded Metal Arc Welding III	6
WLD 107      Shielded Metal Arc Welding IV	6
WLD 108      Blueprint Reading II	3
WLD 109      Gas Metal Arc Welding	6
WLD 110      Gas Tungsten Arc Welding	4
WLD 112      Preparation for Industrial Qualification	4
XXX xxx      Electives	5
<b>Total Credit hours required for Graduation</b>	<b>73</b>

**Flat Shielded Metal ARC Welding  
Technical Certificate of Credit**

Flat Shielded Metal Arc Welder prepares students for careers in shielded metal arc welding.

**Program Admission**

Age	16
Education Requirements	No
Students accepted	Quarterly
Program Length	2 quarters
Major Code	5BR1

<b>Program Courses</b>	<b>Credits</b>
<b>Occupational Education Requirements</b>	
WLD 100      Introduction to Welding Technology	6
WLD 101      Oxyfuel Cutting	4
WLD 104      SMAW I (Flat Position)	6
<b>Total Credit hours required for Graduation</b>	<b>16</b>

**Gas Tungsten Arc Welder  
Technical Certificate of Credit**

Gas Tungsten Arc Welder introduces students to gas tungsten arc welding.

**Program Admission**

Age	16
Education Requirements	No
Admission Test Scores	Yes
Students accepted	Quarterly
Program Length	3 quarters
Major Code	5BT1

<b>Courses</b>	<b>Credits</b>
<b>Occupational Education Requirements</b>	
WLD 100      Introduction to Welding Technology	6
WLD 101      Oxyfuel Cutting	4
WLD 110      GTAW TIG	4
XXX xxx      Elective(s)	3
<b>Total Credit hours required for Graduation</b>	<b>17</b>

**Overhead Shielded Metal Arc Welder  
Technical Certificate of Credit**

Overhead Shielded Metal Arc Welder prepares students for careers in welding.

**Program Admission**

Age	16
Education Requirements	No
Students accepted	Quarterly
Program Length	3 quarters
Major Code	5BU1

<b>Program Courses</b>	<b>Credits</b>
<b>Occupational Education Requirements</b>	
WLD 105      Shielded Metal Arc Welding II	6
WLD 106      Shielded Metal Arc Welding III	6
WLD 107      Shielded Metal Arc Welding IV	6
<b>Total Credit hours required for Graduation</b>	<b>18</b>

**Gas Metal Arc Welder Fabricator  
Technical Certificate of Credit**

Gas Metal Arc Welder prepares students for careers in gas metal arc welding.

**Program Admission**

Age	16
Education Requirements	No
Students accepted	Quarterly
Program Length	3 quarters
Major Code	5BW1

<b>Program Courses</b>	<b>Credits</b>
<b>Occupational Education Requirements</b>	
WLD 100      Introduction to Welding Technology	6
WLD 101      Oxyfuel Cutting	4
WLD 109      GMAW (Gas Metal Arc Welding)	6
XXX xxx      Program Elective(s)	3
<b>Total Credit hours required for Graduation</b>	<b>19</b>

## COURSE DESCRIPTIONS

- ACC 1101 PRINCIPLES OF ACCOUNTING I** 4-4-6  
Introduces the basic concepts of the complete accounting cycle and provides the student with the necessary skills to maintain a set of books for a sole proprietorship. Topics include: accounting vocabulary and concepts, the accounting cycle and accounting for a personal service business, the accounting cycle and accounting for a merchandising enterprise, and cash control. Laboratory work demonstrates theory presented in class.
- ACC 1102 PRINCIPLES OF ACCOUNTING II** 4-4-6  
Applies the basic principles of accounting to specific account classifications and subsidiary record accounting. Topics include: receivables, inventory, plant assets, payroll, payables, partnerships, and sales tax returns. Laboratory work demonstrates theory presented in class.  
Prerequisite: ACC 1101
- ACC 1103 PRINCIPLES OF ACCOUNTING III** 4-4-6  
Emphasizes a fundamental understanding of corporate and cost accounting. Topics include: accounting for a corporation, statement of cash flows, cost accounting, budgeting and long term liabilities. Laboratory work demonstrates theory presented in class.  
Prerequisite: ACC 1102
- ACC 1104 COMPUTERIZED ACCOUNTING** 1-4-3  
Emphasizes operation of computerized accounting systems from manual input forms. Topics include: equipment use, general ledger, accounts receivable and payable, payroll, cash management, and financial reports. Laboratory work includes theoretical and technical application.  
Prerequisite/Corequisite: ACC 1102; SCT 100
- ACC 1106 ACCOUNTING SPREADSHEET FUNDAMENTALS** 1-4-3  
Provides instruction in the use of electronic spreadsheet software packages for program-related spreadsheet applications. Students become proficient in creation, modification, and combination of spreadsheet. Topics include: spreadsheet creation, data entry, data entry modification, computation using functions, and program-related spreadsheet applications. Laboratory work includes theoretical and technical application.  
Prerequisite/Corequisite: SCT 100
- ACC 1151 INDIVIDUAL TAX ACCOUNTING** 4-2-5  
Provides instruction for preparation of both state and federal income tax. Topics include: taxable income, income adjustments, schedules, standard deductions, itemized deductions, exemptions, tax credits, and tax calculations.
- ACC 1152 PAYROLL ACCOUNTING** 4-2-5  
Provides an understanding of the laws that affect a company's payroll structure and practical application skills in maintaining payroll records. Topics include: payroll tax laws, payroll tax forms, payroll and personnel records, computing wages and salaries, taxes affecting employees and employers, and analyzing and journalizing payroll transactions.  
Prerequisite/Corequisite: ACC 1101
- ACC 2154 PERSONAL FINANCE** 5-0-5  
Introduces practical applications of concepts and techniques used to manage personal finance. Topics include: cash management, time value of money, credit, major purchasing decisions, housing, transportation, insurance, investments, retirement, and estate planning.
- ACR 1000 SAFETY** 1-0-1  
Provides instruction in procedures and practices necessary for safe operation of automotive collision repair facilities. Topics include: work facility safety, work facility cleanliness, safety devices, hybrid hazards, supplemental restraint systems, grade D air systems, fire prevention and safety, and environmental safety.

- ACR 1010 AUTOMOBILE COMPONENTS IDENTIFICATION** 3-1-3  
 Introduces the structural configuration and identification of the structural members of various automotive unibodies and frames. Topics include: unibody construction, frame types, stub frame types, body panels, and mechanical components.  
 Prerequisite/Corequisite: ACR 1000
- ACR 1020 EQUIPMENT AND HAND TOOLS IDENTIFICATION** 1-1-1  
 Introduces equipment and hand tools used in automotive collision repair. Topics include: safety procedures, hand tools identification, power hand tools identification, air supply systems, and hydraulic systems.  
 Prerequisite/Corequisite: ACR 1000
- ACR 1040 MECHANICAL AND ELECTRICAL SYSTEMS** 1-3-2  
 Introduces various mechanical and electrical systems requiring repair of damages incurred through automobile collisions. Topics include: engine accessory systems, emission control systems, air conditioning systems, braking systems, steering column damage, engine removal and replacement sequence, lighting systems, and engine wiring, power accessories systems, and restraint systems.  
 Prerequisite/Corequisite: ACR 1000
- ACR 1050 BODY FIBERGLASS, PLASTIC, AND RUBBER REPAIR TECHNIQUES** 1-7-3  
 Provides instruction in non-metallic auto body repair techniques. Topics include: cracked or splintered area repair, bonding agent usage, fiberglass and plastic body parts removal and replacement procedure, partial fiberglass header panel replacement procedure, plastics identification, and plastic and rubber bonding techniques, and sheet molded compound (SMR) repairs.  
 Prerequisite/Corequisite: ACR 1010, ACR 1020
- ACR 1060 WELDING AND CUTTING** 3-7-6  
 Introduces welding and cutting procedures used in auto collision repair. Emphasis will be placed on MIG welding techniques. Topics include: MIG welding, aluminum welding and repair, metal cutting techniques, resistance welding, unibody welding techniques, weld removal techniques, plasma arc cutting, plug welding, butt welding, lap welding and safety procedures.  
 Prerequisite/Corequisite: ACR 1010, ACR 1020
- ACR 1070 TRIM, ACCESSORIES, AND GLASS** 1-3-2  
 Provides instruction in removal and replacement methods of a variety of non-structural cosmetic and safety features of the automobile. Topics include: interior and exterior trim, mirrors, weather stripping, fixed structural and non-stationary glass, interior components, fasteners, and safety procedures.  
 Prerequisite/Corequisite: ACR 1010, ACR 1020
- ACR 1090 DAMAGE IDENTIFICATION AND ASSESSMENT** 2-2-3  
 Introduces procedures and resources used in the identification and assessment of automotive collision damages. Topics include: assessment plan determination, damage analysis, collision estimation, service manual use and computerized estimation.  
 Prerequisite/Corequisite: ACR 1010
- ACR 1100 MINOR COLLISION REPAIR** 1-5-2  
 Introduces the materials and operations required to repair minor collision damage. Topics include: pick, file, and finish procedures; body repair materials identification; body fillers usage; disc grinder procedures; abrasives and sandpaper usage, safety procedures, and stud welders.  
 Prerequisite/Corequisite: ACR 1010, ACR 1020
- ACR 1200 CONVENTIONAL FRAME REPAIR** 1-5-3  
 Emphasizes the diagnosis, straightening, measurement, and alignment of conventional automobile and truck frames. Topics include: alignment measurement systems; damage diagnosis; equipment

types and usage, frame straightening, repair, and alignment; safety precautions, and computerized damage diagnosis.

Prerequisite/Corequisite: ACR 1010, ACR 1020

**ACR 1210 UNIBODY IDENTIFICATION AND DAMAGE ANALYSIS 1-4-2**

Provides instruction in the identification and analysis of various forms of unibody damage. Topics include: collapse or buckle damage identification, sag damage identification, sideways damage identification, twist damage identification, and secondary damage identification, and lift equipment usage and safety.

Prerequisite/Corequisite: ACR 1010, ACR 1020

**ACR 2240 UNIBODY MEASURING, FIXTURING, AND STRAIGHTENING SYSTEMS 3-7-6**

Provides instruction in a variety of alignment measuring, fixturing and straightening systems. Topics include: universal mechanical measuring system/equipment types and usage, universal laser measuring system/safety procedures, dedicated fixture system/primary/rough and secondary damage pull, upper body panel /single pull correction, and English/metric tape alignment measurement/multiple pull correction, and impact or stress relief.

Prerequisite/Corequisite: ACR 1210

**ACR 2250 UNIBODY STRUCTURAL PANEL REPAIR AND REPLACEMENT 1-5-3**

Provides instruction in attachment methods, proper repair and replacement of structural panels, dimensional control, areas of high stress concentration, sectional principles, and crush zones. Selection and preparation of recycled parts will be emphasized. Topics include: primary structure, rear cross member, apron and rails, trans X member, rocker, w/s posts, hinge pillar, center pillar, floor pan, spot weld removal, panel sectional cuts, and damaged panel removal and replacement.

Prerequisite/Corequisite: ACR 1210

**ACR 2260 CONVENTIONAL BODY STRUCTURAL PANEL REPAIR 3-5-5**

Introduces conventional body structural panel repair. A variety of removal and replacement techniques is emphasized. Topics include: partial or complete quarter panel removal and replacement, rocker panel removal and replacement, and center pillar post removal and replacement.

Prerequisite/Corequisite: ACR 1010, ACR 1020

**ACR 1270 UNIBODY SUSPENSION AND STEERING SYSTEMS 2-3-2**

Provides instruction in unibody suspension and steering system damage analysis and repair. Topics include: parallelogram suspension parts removal and replacement, rack and pinion steering system removal and replacement, damage analysis, quick check system damage determination, front end suspension equipment usage, and safety procedures.

Prerequisite/Corequisite: ACR 1010, ACR 1020

**ACR 1280 BOLT-ON BODY PANEL REMOVAL AND REPLACEMENT 2-5-4**

Provides instruction in the removal and replacement of bolt-on automobile body panels. Topics include: hood, deck panels, and header panels removal and replacement; fender removal and installation/coining; door removal and installation, headlamp and filler panels removal and replacement, grill removal and replacement, and headlamp adjustment.

Prerequisite/Corequisite: ACR 1010, ACR 1020

**ACR 1290 MAJOR COLLISION REPAIR INTERNSHIP/PRACTICUM 0-9-3**

Provides occupation-based learning opportunities for students pursuing the Major Collision Repair specialization. Qualified professional technicians will mentor students as they experience working in the Automotive Collision Repair profession in an industry standard commercial repair facility or industry standard simulated on-campus facility. Topics include: conventional frame repair, unibody damage identification and analysis, unibody measuring and fixturing systems, unibody straightening systems and techniques, unibody welding techniques, unibody structural panel repair and replacement, conventional body structural panel repair, unibody suspension and steering systems, and bolt-on body panel removal and replacement.

Prerequisite: Completion of all required courses in the Major Collision Repair specialization



- ACR 1300 SANDING, PRIMING, AND PAINT PREPARATION** 3-4-5  
 Introduces the materials and procedures involved in preparing automobile bodies for refinishing. Topics include: feather edging; masking procedures; safety procedures; surface preparation; corrosion preventative application; primers, sealers, primer surface applications; and spray gun operation and maintenance.  
 Prerequisite/Corequisite: ACR 1010, ACR 1020
- ACR 1320 SPECIAL REFINISHING APPLICATION** 3-5-5  
 Provides instruction in the equipment, material, and techniques used in the application of special paints. Emphasis will be placed on automotive refinishing procedures. Topics include: safety; equipment and procedures, paint identification; base metals preparation and priming; equipment use and maintenance; color application; original finish sealing; panel and spot repair and blending; thinners, reducers, and additives; and fiberglass, plastics, and rubber refinishing.  
 Prerequisite/Corequisite: ACR 1300
- ACR 2340 URETHANE ENAMELS REFINISHING APPLICATION** 2-8-5  
 Provides instruction in the equipment, material, and techniques used in the application of urethane enamels paint. Emphasis will be placed on automotive refinishing procedures. Topics include: safety; paint identification; base metals preparation and priming; equipment use and maintenance; base coat/clear coat application; color application of solid and metallic finishes; original finish sealing; panel and spot repair and blending; thinners, reducers, and additives; and tri-coat finishing.  
 Prerequisite/Corequisite: ACR 1300
- ACR 2350 TINT AND MATCH COLORS** 3-5-5  
 Introduces methods and techniques used in the process of color matching and production. Topics include: tinting methods, gun techniques, variables adjustments, color flip-flop determination and correction, and reduction procedures.  
 Prerequisite/Corequisite: ACR 1300
- ACR 2360 DETAILING** 1-4-2  
 Introduces the methods and techniques used in detailing a refinished automotive surface. Topics include: finish analysis, color sanding, polishes and glazes, cleaning vehicle, and decal and stripes.  
 Prerequisite/Corequisite: ACR 1300
- ACR 2370 PAINT AND REFINISHING INTERNSHIP** 0-9-3  
 Provides occupation-based learning opportunities for students pursuing the Paint and Refinishing specialization. Students will be mentored by qualified professional technicians as they experience working in the Automotive Collision Repair profession in an industry standard commercial repair facility or industry standard simulated on-campus facility. Topics include: sanding, priming, and paint preparation; special refinishing applications; urethane enamels; tint and match colors; detailing; and employability skills.  
 Prerequisite: Completion of all required courses in Paint and Refinish specialization
- ACT 100 REFRIGERATION FUNDAMENTALS** 3-2-4  
 Introduces basic concepts and theories of refrigeration. Topics include: the laws of thermodynamics, pressure and temperature relationships, heat transfer, refrigerant identification, the refrigeration cycle, and safety.
- ACT 101 PRINCIPLES AND PRACTICES OF REFRIGERATION** 5-5-7  
 Introduces the use of refrigeration tools, materials, and procedures needed to install, repair, and service refrigeration systems. Topics include: refrigeration tools, piping practices, service valves, leak testing, refrigerant recovery, recycling, and reclamation; evacuation, charging, and safety.  
 Prerequisite/Corequisite: ACT 100
- ACT 102 REFRIGERATION SYSTEMS COMPONENTS** 5-5-7  
 Provides the student with the skills and knowledge to install, test, and service major components of a refrigeration system. Topics include: compressors, condensers, evaporators, metering devices, service procedures, refrigeration systems, and safety.  
 Prerequisite/Corequisite: ACT 101

<b>ACT 103 ELECTRICAL FUNDAMENTALS</b>	<b>5-5-7</b>
Introduction to fundamental electrical concepts and theories as applied to the air conditioning industry. Topics include: AC and DC theory, electric meters, electric diagrams, distribution system, electrical panels, voltage circuits, code requirements, and safety.	
<b>ACT 104 ELECTRIC MOTORS</b>	<b>2-5-4</b>
Continues the development of skills and knowledge necessary for application and service of electric motors commonly used by the refrigeration and air conditioning industry. Topics include: diagnostic techniques, capacitors, installation procedures, types of electric motors, electric motor service and safety. Prerequisite/Co-requisite: ACT 103	
<b>ACT 105 ELECTRICAL COMPONENTS</b>	<b>3-5-5</b>
Provides instruction in identifying, installing, and testing commonly used electrical components in an air conditioning system. Topics include: pressure switches, overload devices, transformers, magnetic starters, other commonly used controls, diagnostic techniques, installation procedures, and safety. Prerequisite/Co-requisite: ACT 103	
<b>ACT 106 ELECTRICAL CONTROL SYSTEMS AND INSTALLATION</b>	<b>2-5-4</b>
Provides instruction on wiring various types of air conditioning systems. Topics include: servicing procedures, solid state controls, system wiring, control circuits, and safety. Prerequisite/Co-requisite: ACT 105	
<b>ACT 107 AIR CONDITIONING PRINCIPLES</b>	<b>6-4-8</b>
Introduces fundamental theory and techniques needed to identify major components and functions of air conditioning systems. Instruction is given on types of air conditioning systems and use of instrumentation. Topics include: types of AC systems, heat-load calculation, properties of air, psychometrics, duct design, air filtration, and safety principles. Prerequisite/Co-requisites: ACT 102	
<b>ACT 108 AIR CONDITIONING SYSTEMS AND INSTALLATION</b>	<b>2-3-3</b>
Provides instruction on the installation and service of residential air conditioning systems. Topics include: installation procedures, service, split-systems, add-on systems, packaged systems, and safety Prerequisite/Co-requisite: ACT 102; ACT 106	
<b>ACT 109 TROUBLESHOOTING AIR CONDITIONING SYSTEMS</b>	<b>5-5-7</b>
Provides instruction on troubleshooting and repair of major components of a residential air conditioning system. Topics include: troubleshooting techniques, electrical controls, air flow, refrigeration cycle, and safety. Prerequisite/Co-requisites: ACT 108	
<b>ACT 110 GAS HEATING SYSTEMS</b>	<b>2-8-5</b>
Introduces principles of combustion and service requirements for gas heating systems. Topics include: service procedures, electrical controls, piping, gas valves, venting, code requirements, principles of combustion, and safety.	
<b>ACT 111 HEAT PUMPS AND RELATED SYSTEMS</b>	<b>3-7-6</b>
Provides instruction on the principles, application, and operation of a residential heat pump system. Topics include: installation procedures, servicing procedures, electrical components, geothermal ground source energy supplies, dual fuel, troubleshooting, valves, and safety Prerequisite/Corequisite: ACT 102	
<b>ADM 103 BASIC ENGINE THEORY</b>	<b>4-2-5</b>
Provides instruction in the theory of operation, components, and the major operating systems of diesel engines. Topics include: two and four-cycle diesel engine theory, engine components, fuel systems, intake and exhaust systems, lubrication systems, and cooling systems.	

- AHS 1011 ANATOMY AND PHYSIOLOGY** 5-0-5  
 Focuses on basic normal structure and function of the human body. Topics include: general plan and function of the human body; integumentary system; skeletal system; muscular system; nervous and sensory systems; endocrine system; cardiovascular system; lymphatic system; respiratory system; digestive system; urinary system; and reproductive system.
- AHS 102 DRUG CALCULATION AND ADMINISTRATION** 2-2-3  
 Uses basic mathematical concepts and includes basic drug administration. Emphasizes critical thinking skills. Topics include: systems of measurement, calculating drug problems, resource materials usage, basic pharmacology, administering medications in a simulated clinical environment, principles of IV therapy techniques, and client education.  
 Prerequisite: MAT 1012
- AHS 103 NUTRITION AND DIET THERAPY** 2-0-2  
 A study of the nutritional needs of the individual. Topics include: nutrients, standard and modified diets, nutrition throughout the lifespan, and client education.
- AHS 104 INTRODUCTION TO HEALTH CARE** 2-3-3  
 Introduces a grouping of fundamental principles, practices, and issues common to many specializations in the health care profession. In addition to the essential skills, students explore various delivery systems and related issues. Topics include: basic life support/CPR, basic emergency care/first aid and triage, vital signs, infection control, and blood/air-borne pathogens.
- AHS 109 MEDICAL TERMINOLOGY FOR ALLIED HEALTH SCIENCES** 3-0-3  
 Introduces the elements of medical terminology. Emphasis is placed on building familiarity with medical words through knowledge of roots, prefixes, and suffixes. Topics include: origins (roots, prefixes, and suffixes), word building, abbreviations and symbols, terminology related to the human anatomy, reading medical orders and reports, and terminology specific to the student's field of study.
- AHS 1126 HEALTH SCIENCE PHYSICS** 5-0-5  
 This course introduces the student to the basic laws of physics, with specific applications for health science students. Topics include: Basic Newtonian mechanics, static and dynamic fluid concepts, heat and temperature, medical imaging techniques that utilize electromagnetic radiation and sound, basic principles of waves, light, and sound, basic principles of electricity and magnetism, and electrical safety.  
 Prerequisite/Corequisite: MAT 1111
- AMF 152 MANUFACTURING ORGANIZATION PRINCIPLES** 2-0-2  
 Provides an overview of the functional and structural composition of manufacturing organizations. Topics include: manufacturing/consumer connection, manufacturing operational typed, structure of manufacturing organizations, manufacturing business principles, and type of manufacturing processes.
- AMF 154 MANUFACTURING WORKPLACE SKILLS** 3-0-3  
 Provides the knowledge and skills needed to succeed in the manufacturing environment. Topics include: listening, working together, change management, stress management, decision making, and job interview skills and creating a positive image.
- AMF 156 MANUFACTURING PRODUCTION REQUIREMENTS** 1-0-2  
 Provides the knowledge and skills associated with quality and productivity in the manufacturing environment. Topics include: world class manufacturing, tools for excellence, and statistical process control.
- AMF 158 AUTOMATED MANUFACTURING SKILLS** 4-0-4  
 Provides an introduction into computerized process control and the operational requirements associated with automated machines in the manufacturing environment. Topics include: basic mechanics, mechanical systems, hand tools, power tools, industrial controls, electrical safety, hydraulic systems, pneumatic systems, troubleshooting principles, and computers and automation principles.

- AMF 160 REPRESENTATIVE MANUFACTURING SKILLS** 4-2-5  
Provides an introduction to representative manufacturing skills and associated safety requirements. Topics include: plant safety, materials movement equipment, precision measurements for manufacturing, and blueprint reading.
- AUT 120 INTRODUCTION TO AUTOMOTIVE TECHNOLOGY** 3-2-3  
Introduces basic concepts and practices necessary for safe and effective automotive shop operation. Topics include: safety procedures; legal/ethical responsibilities; measurement; machining; hand tools; and shop organization, management, and work flow systems.
- AUT 122 ELECTRICAL AND ELECTRONIC SYSTEMS** 4-6-6  
Introduces automotive electricity. Topics include: general electrical system diagnosis; lighting system diagnosis and repair; gauges, warning devices, and driver information system diagnosis and repair; horn and wiper/washer diagnosis and repair; accessories diagnosis and repair.  
Prerequisite/Corequisite: AUT 120
- AUT 124 BATTERY STARTING AND CHARGING SYSTEMS** 2-6-4  
Emphasizes the basic principles, diagnosis, and service/repair of batteries, starting systems, starting system components, alternators, and regulators. Topics include: battery diagnosis and service; starting system diagnosis and repair; charging system diagnosis and repair.  
Prerequisite/Corequisite: AUT 122
- AUT 126 ENGINE PRINCIPLES OF OPERATION AND REPAIR** 3-9-6  
Introduces automotive engine theory and repair, placing emphasis on inspection, testing, and diagnostic techniques. Topics include: general diagnosis; removal and reinstallation; cylinder heads and valve trains diagnosis and repair; engine blocks assembly diagnosis and repair; lubrication and cooling systems diagnosis and repair.  
Prerequisite: AUT 120
- AUT 128 FUEL, IGNITION, AND EMISSION SYSTEMS** 5-6-7  
Introduces fuel, ignition, and exhaust systems theory, diagnosis, repair, and service for vehicles with carburetion and fuel injection systems. Topics include: general engine diagnosis; ignition system diagnosis and repair; fuel, air induction, and exhaust systems diagnosis and repair; positive crankcase ventilation; exhaust gas recirculation; engine related service.  
Prerequisite/Corequisite: AUT 122, AUT 124, AUT 126
- AUT 130 AUTOMOTIVE BRAKE SYSTEMS** 3-3-4  
Introduces Brake systems theory and its application to automotive systems. Topics include: hydraulic system diagnosis and repair; drum brake diagnosis and repair; disc brake diagnosis and repair; power assist units diagnosis and repair; miscellaneous (wheel bearings, parking brakes, electrical, etc.) diagnosis and repair.  
Prerequisite/Corequisite: AUT 122
- AUT 132 SUSPENSION AND STEERING SYSTEMS** 3-3-4  
Introduces students to principles of steering, suspension, wheel alignment, electronic steering, and electronic active suspension. Topics include: steering systems diagnosis and repair; suspension systems diagnosis and repair; wheel alignment diagnosis, adjustment and repair; wheel and tire diagnosis and repair.  
Prerequisite/Corequisite: AUT 122
- AUT 134 DRIVELINES** 2-6-4  
Introduces basics of rear-wheel drive, front-wheel drive, and four-wheel drive driveline related operation, diagnosis, service and related electronic controls. Topics include: drive shaft and half shaft, universal and constant-velocity (cv) joint diagnosis and repair; ring and pinion gears and differential case assembly; limited slip differential; drive axle shaft; four-wheel drive/all-wheel drive component diagnosis and repair.  
Prerequisite/Corequisite: AUT 122

- AUT 138 MANUAL TRANSMISSION/TRANSAXLES** 3-3-4  
 Introduces basics of front and rear-wheel drive. Clutch operation, diagnosis and service are included. Electronic controls related to transmission/transaxle operation are discussed. Topics include: clutch diagnosis and repair; transmission/transaxle diagnosis and repair  
 Prerequisite/Corequisite: AUT 122
- AUT 140 ELECTRONIC ENGINE CONTROL SYSTEMS** 6-3-7  
 Introduces concept of electronic engine control. Topics include: computerized engine controls diagnosis and repair; intake air temperature controls; early fuel evaporation (intake manifold temperature) controls; evaporative emissions controls.  
 Prerequisite/Corequisite: AUT 128
- AUT 142 CLIMATE CONTROL SYSTEMS** 5-3-6  
 Introduces the theory and operation of automotive heating and air conditioning systems. Students attain proficiency in inspection, testing, service, and repair of heating and air conditioning systems and related components. Topics include: a/c system diagnosis and repair; refrigeration system component diagnosis and repair; heating, ventilation, and engine cooling systems diagnosis and repair; operating systems and related controls diagnosis and repair; refrigerant recovery, recycling, and handling  
 Prerequisite/Corequisite: AUT 122
- AUT 144 INTRODUCTION TO AUTOMATIC TRANSMISSIONS** 3-3-4  
 Introduces students to basic transmission/transaxle theory, inspection, and service procedures. Focuses on minor in-car adjustments, replacements, and repair. Topics include: general transmission and transaxle diagnosis; transmission and transaxle maintenance and adjustment; in-vehicle transmission and transaxle repair.  
 Prerequisite/Corequisite: AUT 122
- AUT 210 AUTOMATIC TRANSMISSION REPAIR** 5-6-7  
 Introduces automatic transmission hydraulic/mechanical operations, transmission repair, and automatic transmission hydraulic/mechanical diagnosis. Topics include: removal, disassembly, and reinstallation; oil pump and converter; gear train, shafts, bushings and case; friction and reaction units.  
 Prerequisite: AUT 144
- AUT 212 ADVANCED ELECTRONIC TRANSMISSION DIAGNOSIS** 2-3-3  
 Introduces automatic transmission hydraulic/mechanical and electronic diagnosis and repair. Topics include: electronically controlled automatic transmission, automatic transmission electrical and electronic problem diagnosis and repair.  
 Prerequisite/Corequisite: AUT 210
- AUT 214 ADVANCED ELECTRONIC CONTROLLED BRAKE SYSTEM DIAGNOSIS** 3-3-4  
 Introduces anti-lock brake system (ABS) to include ABS components and ABS operation, testing and diagnosis. Topics include: general brake and anti-lock brake systems diagnosis and testing, light truck rear anti-lock brake system, four-wheel anti-lock brake system locations, components, and operation.  
 Prerequisite: AUT 130
- AUT 216 ADV. ELECTRONIC CONTROLLED SUSPENSION AND STEERING SYSTEMS** 3-3-4  
 Introduces principles of electronic suspension, electronic steering, and electronic active suspension. Topics include: electronic steering systems diagnosis and adjustment/repair, and diagnosis of electrical and electronic controlled steering and suspension systems.  
 Prerequisite: AUT 132
- AUT 218 ADVANCED ELECTRONIC ENGINE CONTROL SYSTEMS** 3-3-4  
 Introduces On-Board Diagnostics II (OBD II), California Air Research Board (CARB) requirements and monitoring technology, diagnostic trouble code definitions, and essentials of advanced drivability

diagnosis and data interpretation using a scanner. Topics include: OBD II standards; monitoring capabilities; OBD II diagnostics; OBD II terms.  
Prerequisite: AUT 140

**AUT 220 AUTOMOTIVE TECHNOLOGY INTERNSHIP** 0-18-6  
Provides student work experience in the occupational environment. Topics include: application of automotive technology knowledge and skills, appropriate employability skills, problem solving, adaptability to job setting, progressive productivity, and acceptable job performance.  
Prerequisite: AUT 128

**BFM 103 FUNDAMENTALS OF STRUCTURAL MAINTENANCE** 2-8-6  
Provides introductory skills in basic building repair and maintenance. Topics include: carpentry and cabinet repairs, tile and floor repairs, paints and finishes, lab and shop safety, building codes, handicap accessibility, conduit installation, and waterproofing  
Prerequisite/Corequisite: MAT 1012

**BFM 104 BUILDING CLIMATE CONTROLS** 3-2-4  
Provides instruction in heating and cooling control systems used in modern residential and commercial structures. Topics include: thermostats, valves and dampers, pneumatic controls, and refrigeration system schematics and symbols.

**BFM 105 FUNDAMENTALS OF PLUMBING** 1-4-3  
Provides introductory skills in basic plumbing. Topics include: basic pipe sizing, fitting identification and terminology, pipe joining, valve identification, plumbing repairs, and lab and shop safety.

**BIO 2113 ANATOMY AND PHYSIOLOGY I** 4-3-5  
Introduces the anatomy and physiology of the human body. Emphasis is placed on the development of a systemic perspective of anatomical structures and physiological processes. Topics include: body organization, cell structure and functions, tissue classifications, the integumentary system, the skeletal system, the muscular system, the nervous and sensory systems. Laboratory experience supports classroom learning.

**BIO 2114 ANATOMY AND PHYSIOLOGY II** 4-3-5  
Continues the study of the anatomy and physiology of the human body. Topics include: the endocrine system; cardiovascular system; the blood and lymphatic systems; immune system; respiratory system; digestive system; urinary system; and reproductive system. Laboratory experience supports the classroom learning.  
Prerequisite: BIO 2113

**BIO 2117 INTRODUCTORY MICROBIOLOGY** 3-4-5  
Provides students with a foundation in basic microbiology with emphasis on infectious diseases. Topics include: microbial cell biology; microbial genetics; interactions and impact of microorganisms and humans; microorganisms and human disease; and laboratory skills.  
Prerequisite/Corequisite: BIO 2113

**BMI 232 MEDICAL EQUIPMENT - FUNCTION AND OPERATION I** 3-3-4  
Introduces the study of electro mechanical systems currently in use throughout the health care field. Provides an overview of typical biomedical instruments used in the field. Topics include: monitors, intensive care units, coronary care units, operating room equipment, telemetry systems, and ECG machines.  
Prerequisite: ELC 120  
Prerequisites/Corequisite: AHS 1101, AHS 109, BMI 233

**BMI 233 INTERNSHIP - MEDICAL SYSTEMS I** 1-12-5  
Introduces the student to an on-site learning experience at an operating biomedical equipment section of a health care facility. Supervision of the intern is shared by the working environment supervisor and the faculty advisor. Internist performance is evaluated at weekly seminars. Topics include: problem solving, use of proper interpersonal skills, interpreting work authorizations,

identifying logistical support requirements, servicing biomedical instruments, evaluating operating cost, and professional development.

Prerequisite/Corequisite: BMI 232

**BMI 242 MEDICAL EQUIPMENT - FUNCTION AND OPERATION II** 3-0-3

Continues the study of electro mechanical systems currently in use throughout the health care field.

Topics include: life support equipment, respiratory instrumentation, measuring brain parameters, medical ultra sound, electro surgery units, and hemodialysis machines.

Prerequisite/Corequisite: BMI 232, BMI 243

**BMI 243 INTERNSHIP - MEDICAL SYSTEMS II** 1-12-5

Continues the student to an on-site experience at an operating biomedical equipment section of health care facility. Supervision of the intern is shared by the working environment supervisor and the faculty advisor. Internist performance is evaluated at weekly seminars. Topics include: problem solving, use of proper interpersonal skills, interpreting work authorizations, identifying logistical support requirement, servicing biomedical instruments, evaluating operating cost, and professional development.

Prerequisite: BMI 233

Prerequisite/Corequisite: BMI 242

**BUS 1100 INTRODUCTION TO KEYBOARDING** 1-4-3

Introduces the touch system of keyboarding placing emphasis on correct techniques. Topics include: learning the alphabetic keyboard, the numeric keyboard and keypad, building speed and accuracy, and proofreading. Students attain a minimum 25 GWAM (gross words a minute) on 3-minute timings with no more than 3 errors.

**BUS 1120 BUSINESS DOCUMENT PROOFREADING AND EDITING** 1-4-3

Emphasizes proper proofreading and editing as applied to business documents. Topics include: applying proofreading techniques and proofreaders marks with business documents; proper content, clarity, and conciseness in business documents; and business document formatting.

Prerequisite: BUS 101 and ENG 1010 or ENG 1101

**BUS 1130 DOCUMENT PROCESSING** 2-8-6

Reinforces the touch system of keyboarding placing emphasis on correct techniques with adequate speed and accuracy and producing properly formatted business documents. Topics include: computer hardware, computer software, file management, reinforcing correct keyboarding technique, building speed and accuracy, formatting business documents, language arts, proofreading, and work area management.

Prerequisite: The ability to key at least 25 wpm or BUS 1100

Corequisite: SCT 100

**BUS 1150 DATABASE APPLICATIONS** 1-4-3

Emphasizes use of database management software packages to access, manipulate, and create file data. Topics include: database concepts structuring databases, entering data, organizing data, and managing databases.

Prerequisite: SCT 100

**BUS 1240 OFFICE PROCEDURES** 2-6-5

Emphasizes essential skills required for the business office. Topics include: office protocol, time management, telecommunications and telephone techniques, office equipment, workplace mail, records management, travel/meeting arrangements, electronic mail, and workplace documents.

Prerequisite: SCT 100

**BUS 1140 WORD PROCESSING** 2-6-5

Emphasizes an intensive use of word processing software to create and revise business documents. Topics include: creating, organizing, and formatting content; collaborating on documents; formatting and managing documents.

Prerequisite: SCT 100

- BUS 2210 APPLIED OFFICE PROCEDURES** 2-6-5  
 This course focuses on applying knowledge and skills learned in all prior courses taken in the program. Topics include: communications skills, telecommunications skills, records management skills, office equipment/supplies, and integrated programs/applications. Serves as a capstone course.  
 Prerequisite: BUS 1130, BUS 1240, BUS 1140, BUS 2120  
 Corequisite: BUS 2200 or ACC 1101, BUS 1120, BUS 1170
- BUS 1120 BUSINESS DOCUMENT PROOFREADING AND EDITING** 1-4-3  
 Emphasizes proper proofreading and editing as applied to business documents. Topics include: applying proofreading techniques and proofreader's marks with business documents; proper content, clarity, and conciseness in business documents; and business document formatting.  
 Prerequisite: BUS 1130 and ENG 1010 or ENG 1101
- BUS 1170 – ELECTRONIC COMMUNICATION APPLICATIONS** 2-6-5  
 Provides an overview of electronic communications as used in an office setting. Topics include: email fundamentals and management, using the Internet, system user security, and wireless/mobile computing and emerging technologies.  
 Prerequisite: SCT 100
- BUS 2110 ADVANCED WORD PROCESSING** 2-6-5  
 Provides instruction in advanced word processing. Topics include: advanced features of formatting and organizing content, advanced features of collaborating on documents and customizing word processing. Prerequisite: BUS 1140
- BUS 2120 SPREADSHEET APPLICATIONS** 1-4-3  
 Provides instruction in the use of electronic spreadsheet software in business applications. Students become proficient in creating and modifying spreadsheets in a business environment and in printing files that meet business standards. Topics include: spreadsheet concepts, data entry and modification, analyzing data, charts and graphs, formatting data and content and managing workbooks.  
 Prerequisite: SCT 100
- BUS 2150 PRESENTATION APPLICATIONS** 1-4-3  
 This course provides a study of creating, modifying and delivering presentations. Topics include: creating a presentation, formatting content, collaborating with others, managing a presentation, creating output and delivering a presentation.  
 Prerequisite: SCT 100
- CAR 101 SAFE USE OF HAND AND POWER TOOLS** 2-4-3  
 Provides instruction in the use of hand and power tools. Emphasis will be placed on the safe use of each tool covered. Topics include: layout and measuring tools, cutting tools, drilling and boring tools, finishing and fastening tools, and ladders and scaffolding safety
- CAR 103 MATERIALS** 3-0-3  
 Introduces the fundamental array of building materials used in residential and commercial construction. Topics include: fasteners, wood products, finishing materials, and manufactured products.
- CAR 105 PRINT READING** 5-0-5  
 Introduces the reading and interpretation of prints and architectural drawings. Topics include: types of plans, scales, specifications, conventions, and schedules.
- CAR 110 FLOOR FRAMING** 2-3-3  
 Introduces materials identification, materials estimation, and installation procedures of floor and sill framing members. On-site construction procedures will be emphasized. Topics include: size selection of girders and joists, materials estimation, and layout and installation procedures.  
 Prerequisite: CAR 101, CAR 103, CAR 105



- CAR 111 WALL FRAMING** 2-3-3  
 Provides instruction in identification, materials estimation, and framing production of wall and partition members. Emphasis will be placed on practical application of competencies. Topics include: estimation and computation procedures, rough opening layouts, construction and erection of wall members, and sheathing installation.  
 Prerequisite: CAR 101, CAR 103, CAR 105
- CAR 112 CEILING AND ROOF FRAMING** 4-6-6  
 Introduces terminology, concepts, and procedures used in identification, estimation, layout, and installation of ceiling system materials estimation, ceiling system layout procedures, scaffolding and ladder safety, ceiling system installation and decking, and vent systems.  
 Prerequisite: CAR 101, CAR 103, CAR 105
- CFC 100 SAFETY** 1-0-1  
 Provides a review of general safety rules and practices and provides students with information about state and federal regulations to include OSHA Hazard Communication Standard and Material Safety Data Sheets (MSDS). Emphasis is placed on electrical, fire, lifting, and ladder and scaffolding hazards. Topics include: overview of safety rules and regulations, protective equipment, barriers and barricades, flammable materials, electrical hazards, ladders and scaffolding, safety in trenches and excavations, and introduction to rigging.
- CHM 1111 CHEMISTRY I** 4-3-5  
 Provides an introduction to basic chemical principles and concepts that explain the behavior of matter. Topics include: measurement; physical and chemical properties of matter; atomic structure; chemical bonding; nomenclature; chemical reactions; stoichiometry and gas laws; basic laboratory skills and lab safety procedures.
- CHM 1112 CHEMISTRY II** 4-3-5  
 Continues the exploration of basic chemical principles and concepts. Topics include: equilibrium theory, solution chemistry, acid-base theory, and nuclear chemistry.  
 Prerequisite: CHM 1111
- CIS 101 KEYBOARDING** 1-4-3  
 Provides an introduction to the effective and efficient use of electronic machine keyboards. Topics include: touch typing skills, and text formatting and manipulation. Manual dexterity is developed using microcomputers and machine driven exercises.
- CIS 103 OPERATING SYSTEMS CONCEPTS** 4-4-6  
 Provides an overview of operating systems functions and commands that are necessary in a computer working environment. Topics include: multiprogramming, single and multi-user systems, resource management, command languages, and operating system utilities, file system utilization and multiple operating systems.  
 Prerequisite/Corequisite: SCT 100
- CIS 105 PROGRAM DESIGN AND DEVELOPMENT** 5-0-5  
 Provides an emphasis on business problem identification and solution through systems of computer programs using such tools as structure charts, flowcharts, and pseudo code. Topics include: problem solving process, fundamentals of structured programming, program development building blocks, fundamentals of file and report structure, and business application structure.  
 Prerequisite: SCT100
- CIS 106 COMPUTER CONCEPTS** 5-0-5  
 Provides an overview of computers and information technology. Topics include: computer history and terminology, data representation, data storage concepts, fundamentals of information processing, fundamentals of hardware operation, fundamentals of communications and networking, structured programming concepts, program development methodology, system development methodology, and computer number systems.  
 Prerequisite/Corequisite: SCT 100

- CIS 122 MICROCOMPUTER INSTALLATION AND MAINTENANCE** 4-6-7  
 Provides an introduction to the fundamentals of installing and maintaining microcomputers. Topics include: identifying components and their functions, safety, installation procedures, troubleshooting techniques, and preventive maintenance.  
 Prerequisite: CIS 106
- CIS 124 MICROCOMPUTER DATABASE PROGRAMMING** 4-6-7  
 Provides a study of database programming using microcomputer database management systems (DBMS) software packages. Topics include: development of systems, structured programming techniques, data editing, and output design.  
 Prerequisite: CIS 105, CIS 2228
- CIS 127 COMPREHENSIVE WORD PROCESSING AND PRESENTATION GRAPHICS** 4-4-6  
 Provides a study of word processing and desktop publishing. Topics include: word processing fundamentals, desktop publishing fundamentals, advanced word processing concepts, development of macros, and presentation graphics fundamentals.  
 Prerequisite: SCT 100
- CIS 156 INTRO TO THE INTERNET & WIDE AREA NETWORKS** 2-6-5  
 Introduces the Internet, a nationwide computer network that links colleges, technical institutes, businesses, and government agencies. Provides an excellent opportunity to understand, investigate, and explore the Internet and related wide area networks. The student will learn how to connect a PC to the Internet as well as how to use communications software to access the many resources available on the network. Topics include: network fundamentals, Internet concepts, electronic mail, file transfer protocol (FTP), Telnet, Internet gophers, and information services.  
 Prerequisite: SCT 100
- CIS 157 INTRO TO VISUAL BASIC** 4-6-7  
 Introduces Microsoft Windows event-driven programming. Along with this new method of programming, common elements of Windows applications will be discussed. These elements will be created and manipulated using Microsoft's Visual BASIC development environment. Topics include: Windows applications, user interface design, capturing and validating input, event-driven programming design, conditional processing, file processing, and incorporating graphics.  
 Prerequisite: CIS 105
- CIS 224 MICROSOFT OFFICE SPECIALIST CERTIFICATION - POWERPOINT** 2-3-3  
 Provides the fundamental, intermediate, and advanced Microsoft PowerPoint competencies to provide the user with the skills necessary to obtain expert user certification. Topics include presentation creation, presentation views, slide shows, templates, animations, HTML creation, navigation, and presentation transition  
 Prerequisite: CIS 127
- CIS 225 MICROSOFT OFFICE SPECIALIST CERTIFICATION – OUTLOOK** 2-3-3  
 Provides the fundamental, intermediate, and advanced Microsoft Outlook competencies to provide the user with the skills necessary to obtain expert user certification. Topics include using Outlook Mail to communicate with others inside and outside your company, to manage your mail, navigating thorough Outlook, using calendar, using task, and using contacts and notes. Integrate Office applications and other applications with Outlook components.  
 Prerequisite: SCT 100
- CIS 265 MICROCOMPUTER TROUBLESHOOTING** 4-6-7  
 Emphasizes the use of system theory and diagnostic routines to isolate failures, replace the defective module or subsystem, and verify proper operation. Topics include: basic system theory, operating systems use, diagnostic programs, subsystem isolation, upgrading systems, preventive maintenance, and service reports preparation.  
 Prerequisite: (ELC 217; ELC 218) or (CIS103; CIS122)

- CIS 276 ADVANCED ROUTERS AND SWITCHES** 4-4-6  
 Introduces LAN design, LAN switching and switch segmentation, advanced routing, and multiple protocols. Topics include: a review of quarters I and II, local area network (LAN) switching, virtual local area networks (VLANs), local area network (LAN) design, interior gateway routing protocols (IGRP), access control lists, and Novell IPX.  
 Prerequisite: CIS 2322
- CIS 277 WAN DESIGN** 4-4-6  
 Emphasizes WAN design utilizing point-to-point protocol (PPP), integrated services digital network (ISDN), and frame relay. Topics include: a review of quarters I, II and III, wide area network, wide area network design, point-to-point protocol, integrated services digital network (ISDN), and frame relay.  
 Prerequisite: CIS 276
- CIS 286 A+ PREPARATION** 4-6-7  
 Provides the student with the fundamentals of configuring, installing, diagnosing, repairing, upgrading, and maintaining computers and their peripherals. To fundamentally prepare the student for the A+ certification examination. Topics include: A+ Core Module, A+ DOS/Windows Operating Systems, PC hardware and configuration, Peripherals, Preventive Maintenance, Customer Interaction, Virus protection, Safety and Electrostatic Discharge, and Networks.  
 Prerequisite: CIS122
- CIS 1104 WEB GRAPHICS USING ADOBE PHOTOSHOP** 3-2-4  
 This course covers the creation and editing of digital photographs and images using Adobe Photoshop. Topics covered include understand file types, file compression, and download capabilities, creating digital images in different file types, setting and using color codecs, adjusting digital images with lighting, filtering, cropping, and resizing, creating transparent digital images, digital image web page positioning techniques, and using other digital image special effects.  
 Prerequisite: Program Admission
- CIS 1114 FUNDAMENTALS FOR WIRELESS LANS** 4-4-6  
 This introductory course to Wireless LANs focuses on the design, planning, implementation, operation and troubleshooting of Wireless LANs. It covers a comprehensive overview of technologies, security, and design best practices with particular emphasis on hands on skills in the following areas: Wireless LAN setup and troubleshooting; 802.11a and 802.11b technologies, products and solutions; Site Surveys; Resilient WLAN design, installation and configuration; WLAN Security - 802.1x, EAP, LEAP, WEP, SSID; and Vendor interoperability strategies.  
 Prerequisite: CIS 2321; CIS2322
- CIS 1123 WEB GRAPHICS AND ANIMATION USING ADOBE FLASH** 4-4-6  
 This course covers the creation and manipulation of images and animation using Adobe Flash and 3D creation software. Topics covered include 3D Digital Image tools, file types, download and image plug-in requirements., a systematic approach to creating images, creating 3D Objects, selecting and grouping objects, object transformation, object shading, lighting, filtering, and coloring, animation tools, file types, compression techniques, plug-in and download requirements, and creating 2D and 3D animations.  
 Prerequisite: CIS 1104 or CIS 1108
- CIS 1131 HELP DESK CONCEPTS** 4-4-6  
 The purpose of the Help Desk Concepts course is to prepare students to work in positions that provide customer and technical support through analysis and problem solving. Students will master the role of a help desk analysis, navigate the help desk environment, and learn crucial problem solving skills. In addition, students will learn to troubleshoot hardware problems, printer problems, OS problems, application problems, and user problems.  
 Prerequisite/Corequisite: CIS 106
- CIS 1140 NETWORKING FUNDAMENTALS** 4-4-6  
 Introduces networking technologies and prepares students to take the CompTIA's broad-based, vendor independent networking certification exam, Network +. Covers a wide range of material about

networking, from careers in networking to local area networks, wide area networks, protocols, topologies, transmission media, and security. Focuses on operating network management systems, and implementing the installation of networks. It reviews cabling, connection schemes, the fundamentals of the LAN and WAN technologies, TCP/IP configuration and troubleshooting, remote connectivity, and network maintenance and troubleshooting.

Prerequisite: SCT 100

#### CIS 1141 NETWORK+ PREPARATION

4-6-7

To fundamentally prepare the student for the CompTIA Network+ certification examination. Provides the student with the fundamentals of configuring, installing, diagnosing, repairing, upgrading, and maintaining local and wide area networks. Topics include: An introduction to networking, networking standards and the OSI model, network protocols, transmission basics and networking media, physical and logical topologies, networking hardware, WANs and remote connectivity, network operating systems and Windows - based networking, NetWare - based networking, networking with UNIX, networking with TCP/IP and the Internet, troubleshooting network problems, maintaining and upgrading a network, ensuring integrity and availability, network security and managing network design and implementation.

Prerequisite: CIS 1140 or CIS 2321

#### CIS 1715 CIS EXTERNSHIP I

0-27-9

This course will give students the opportunity to become well-rounded PC Repair Specialists and to enhance skills learned in the Computer Information Systems programs. Students will also have the opportunity to work on specific activities by participating in ongoing projects.

Prerequisite: Recommendation of a CIS instructor

#### CIS 2149 IMPLEMENTING MICROSOFT WINDOWS PROFESSIONAL

4-4-6

Provides the ability to implement, administrator, and troubleshoot Windows Professional as a desktop operating system in any network environment.

Prerequisite: CIS 103;

Prerequisite/Corequisite: CIS 1140 or CIS 2321

#### CIS 2150 IMPLEMENTING MICROSOFT WINDOWS SERVER

4-4-6

Provides the ability to implement, administrator, and troubleshoot Windows Server as a member server of a domain in an Active Directory.

Prerequisite: CIS 103;

Prerequisite/Corequisite: CIS 1140 or CIS 2321

#### CIS 2153 IMPLEMENTING MICROSOFT WINDOWS NETWORKING INFRASTRUCTURE

4-4-6

Provides students with knowledge and skills necessary for new-to-product support professionals who will be responsible for installing, configuring, managing, and supporting a network infrastructure that uses the Microsoft Windows server family of products.

Prerequisite: CIS 2149, CIS 2150

#### CIS 2154 IMPLEMENTING MICROSOFT WINDOWS NETWORK DIRECTORY SERVICES

4-4-6

Provides students with knowledge and skills necessary to install, configure, and administer the Microsoft Windows Active Directory™ service. The course also focuses on implementing Group Policy and understanding the Group Policy tasks required to centrally manage users and computers.

Prerequisite/Corequisite: CIS 2153

#### CIS 2160 INSTALLING, CONFIGURING, AND ADMINISTRATING MICROSOFT EXCHANGE SERVER

4-4-6

Provides students with the knowledge and skills required to install and configure Microsoft Exchange server. This course covers the component architecture, installing, and core management functionality of Microsoft Exchange server.

Prerequisite: 2145

#### CIS 2202 XHTML FUNDAMENTALS

2-3-5

XHTML Fundamentals is designed to teach basic through intermediate concepts in Hypertext Markup Language (HTML) authoring, including forms, complex table design, graphic elements, and

client-side image maps. Students will design inter-linking pages that incorporate, design, graphic elements, and client-side image maps. Students will design inter-linking pages that incorporate, in practical applications, a wide range of HTML tags and attributes. Student will allow learn how to use Cascading Style Sheets (CSS), XML, and XHTML. All HTML, CSS, XHTML, and XML development will follow the current standards set by the World Wide Web Consortium (W3C). Topics include introduction to HTML, CSS, XHTML, and XML, creating pages using HTML, CSS, XHTML, and XML, incorporating graphical elements, create hyperlinks, create HTML tables, create HTML forms, and image maps.

Prerequisite: Program Admission

CIS 2211 WEB SITE DESIGN TOOLS 4-4-6

Web Site Design Tools teaches an understanding of how to create and manage impressive web sites using the sizeable amounts of new technology available on the Web. Students will learn to create web sites using various web tools such as FrontPage, NetObjects Fusion, Dynamic HTML, and various multimedia and CSS standards. Topics include compare and contrast different web site design tools, design web pages using FrontPage, NetObjects, and Image Composer web site design tools, develop basic layout skills, create shared borders, tables, hyperlinks, and forms, utilize advanced image techniques, connect a web site to a database, publish and manage a web site.

Prerequisite: CIS 2201

CIS 2228 COMPREHENSIVE SPREADSHEET TECHNIQUES 4-4-6

Provides a study of spreadsheets. Topics include: advanced spreadsheet concepts, development of macros, data integration concepts, and troubleshooting spreadsheets.

Prerequisite: SCT 100

CIS 2229 COMPREHENSIVE DATABASE TECHNIQUES 4-4-6

Provides a study of databases. Topics include: advanced database concepts, data integration concepts, development of user interfaces, troubleshooting databases, development of macros, and relational database concepts, and troubleshooting databases.

Prerequisite: SCT 100

CIS 2231 DESIGN METHODOLOGY 4-4-6

Design Methodology teaches students how to design and manage Web sites using design development life cycle. Students will also implement the latest strategies to develop third generation Web site, evaluate design tools, discuss future technology standards, and explore the incompatibility issues surrounding current browsers. The course focuses on theory, design and Web construction, along with information architecture concepts, Web project management, and scenario development and performance evaluations. Students will gain an understanding of layout techniques, typography, color theory, proper use of white space, accessibility and usability issues and standards. The student may use a web site development tool (such as Microsoft FrontPage or Macromedia Dreamweaver), a scripting language (such as JavaScript, Perl, PHP) and/or a web programming language (such as Microsoft VB, Microsoft C#, or Sun Java) for web page development within this course. However, the main focus of this course is on the actual design process used to develop the web site itself. Topics include overview of the Web Site Design Process, web site project team, layout and accessibility design techniques, and web site project

Prerequisite: CIS 220, (CIS 1104 or CIS 1108)

CIS 2261 JAVASCRIPT FUNDAMENTALS 3-2-4

JavaScript Fundamentals teaches developers how to use the features of the JavaScript language. Students learn how to write JavaScript programs that can be plugged into Web pages or customized, and examine advanced issues such as debugging techniques and JavaScript security. Topics include introduction to JavaScript, working with variables and data, functions, methods, and events, developing interactive forms, controlling program flow, JavaScript object model, JavaScript Language objects, cookies and JavaScript security, controlling frames in JavaScript, client-side JavaScript, and custom JavaScript options

Prerequisite: CIS 105, (CIS 2202 or 2201 or CIS 2200)

- CIS 2281 DATABASE CONNECTIVITY** 4-4-6  
 Database Connectivity teaches students how to manipulate data in a database using the Open Database Connectivity (ODBC) model. Students will learn to retrieve, update, and display database information with a web application. Database access may be accomplished using a web programming language (such as ColdFusion, PHP, Microsoft VB, Microsoft C#, or Sun Java). Topics include manipulate data in a database, work with a relational database via Open Database Connectivity (ODBC), working with different database systems, develop forms and applications to interact with a database server(s), modifying data in a database, and controls and validation.  
 Prerequisite: CIS 2202, CIS 105, (CIS 2261 or 2211)
- CIS 2291 NETWORK SECURITY** 4-4-6  
 Network Security introduces students to network security, firewalls, Windows NT network security, UNIX and TCP/IP network security, security auditing, attacks, and threat analysis. Topics include: elements of security, TCP/IP, operating system security, router security, firewalls, security basics, user and group security, file system security, securing the registry, account security, security auditing fundamentals, and additional security measures.  
 Prerequisite: CIS 106
- CIS 2321 INTRODUCTION TO LAN AND WAN** 4-4-6  
 Provides students with classroom and laboratory experience in current and emerging network technology. Topics include safety, networking, network terminology and protocols, network standards, local-area networks (LANs), wide-area networks (WANs), Open System Interconnection (OSI) models, cabling, cabling tools, routers, router programming, Ethernet, Internet Protocol (IP) addressing, and network standards. Particular emphasis is given to the use of decision-making and problem-solving techniques in applying science, mathematics, communication, and social-studies concepts to solve networking problems. In addition, instruction and training are provided in the proper care, maintenance, and use of networking software, tools, and equipment and all local, state, and federal safety, building and environmental codes and regulations.
- CIS 2322 INTRODUCTION TO WANS AND ROUTING** 4-4-6  
 This course provides instruction on performing basic router configuration and troubleshooting.  
 Prerequisite: 2321
- CIS 2554 INTRODUCTION TO LINUX/UNIX** 4-4-6  
 This course introduces the Linux/UNIX operating system skills necessary to perform entry-level user functions. Topics include: History of Linux/UNIX, login and logout, the user environment, user password change, the file system, hierarchy tree, editors, file system commands as they relate to navigating the file system tree, Linux/UNIX manual help pages, using the Linux/UNIX graphical desktop, and command options. In addition, the student must be able to perform directory and file displaying, creation, deletion, redirection, copying, moving, linking files, wildcards, determining present working directory and changing directory locations.  
 Prerequisite: CIS 106, SCT 100
- CIS 2725 SECURING CISCO IOS ROUTER NETWORK** 4-4-6  
 Details the skills to secure CISCO IOS router networks.  
 Prerequisite: CIS 2321; CIS 2322; CIS 276; CIS 277
- CIS 2726 SECURE NETWORK WITH ADVANCED CISCO SECURITY** 4-4-6  
 Details the skills to describe, configure, verify and manage the PIX Firewall product family.  
 Prerequisite: CIS 2321; CIS 2322; CIS 276; CIS 277
- CLT 101 INTRODUCTION TO CLINICAL LABORATORY TECHNOLOGY** 2-3-3  
 Introduces students to the terms, concepts, procedures, and equipment used in a professional medical laboratory. Topics include: professional ethics and regulatory agencies; basic laboratory safety, equipment, and techniques; phlebotomy/specimen processing; quality control concepts; process improvement; documentation; and point of care testing. Practical experience in phlebotomy will be provided in the institution laboratory and/or clinical setting.
- CLT 103 URINALYSIS/BODY FLUIDS** 2-3-3  
 Provides theory and techniques required to conduct tests on urine and various body fluids. Theory and tests are related to disease states and diagnosis. Topics include: theory of urinalysis; physical,

chemical, and microscopic urinalysis; urinalysis and disease state correlation; special urinalysis and related testing; body fluids tests; safety and quality control.

Prerequisite/Corequisite: BIO 2114, AHS 104, CLT 101

**CLT 104 HEMATOLOGY/COAGULATION** 5-7-8

Introduces the fundamental formation, function, and degradation of blood cells. Topics include: reticuloendothelial system and blood cell formation, complete blood count and differential, other related blood tests, correlation of test results to disease states, coagulation and fibrinolysis, instrumentation for hematology and coagulation, critical levels and blood cell dyscrasias, safety and quality control, and process improvement.

Prerequisite/Corequisite: BIO 2114, AHS 104, MAT 1111, CLT 101

**CLT 105 SEROLOGY/IMMUNOLOGY** 3-2-3

Introduces the fundamental theory and techniques applicable to serology and immunology practice in the medical laboratory. Topics include: immune system, antigen and antibody reactions, immunological diseases, common serological techniques, safety and quality control, and process improvement

Prerequisite/Corequisite: BIO 2114, AHS 104, MAT 1111, CLT 101

**CLT 106 IMMUNOHEMATOLOGY** 5-5-7

Provides an in-depth study of immunohematology principles and practices as applicable to medical laboratory technology. Topics include: genetic theory and clinical implications, immunology, donor unit collection, pre-transfusion testing, management of disease states and transfusion reactions, safety and documentation/quality control; and process improvement.

Prerequisite/Corequisite: CLT 105

**CLT 107 CLINICAL CHEMISTRY** 5-5-7

Develops concepts and techniques of clinical chemistry applicable to medical laboratory technology. Topics include: carbohydrates, electrolytes and acid-base balance, nitrogenous compounds, enzymes and endocrinology, liver functions, lipids, toxicology and therapeutic drug monitoring, safety and quality control, correlation of disease states, process improvement (team approach) and critical thinking skills.

Prerequisite/Corequisite: BIO 2114, AHS 104, CHM 1112, MAT 1111, CLT 101

**CLT 108 MICROBIOLOGY** 6-6-8

Introduces fundamental microbiology and parasitology theory and techniques applicable to disease state identification. Topics include: microbiology fundamentals; basic techniques; clinical microbiology; anti-microbial sensitivity; safety and quality control; parasitology; mycology, mycobacteriology, and virology; correlation of disease states; and process improvement.

Prerequisite/Corequisite: BIO 2114, AHS 104, CHM 1112, CLT 101, MAT 1111

**CLT 109 CLINICAL (P/U/S) PRACTICUM** 0-12-4

Provides students with an opportunity for in-depth application and reinforcement of principles and techniques in a medical laboratory job setting. This clinical practicum allows the student to become involved in a work situation at a professional level of technical application and requires concentration, practice, and follows through. Topics include: basic and specialized urinalysis tests, serological tests and techniques, blood and specimen processing, correlation of test results to disease states, and safety and quality control and quality assurance. The clinical practicum is implemented through the use of written training plans, written performance evaluation, and coordinated supervision.

Prerequisite: CLT 103, CLT 105

**CLT 110 CLINICAL IMMUNOHEMATOLOGY PRACTICUM** 0-20-6

Provides students with an opportunity for in-depth application and reinforcement of immunohematology principles and techniques in a medical laboratory job setting. This clinical practicum allows the student to become involved in a work situation at a professional level of technical application and requires concentration, practice, and follows through. Topics include: specimen processing, slide and tube immunological techniques; criteria for special techniques; component and therapy practices; management of disease states; transfusion complications; safety; documentation/quality control; and process improvement. The clinical practicum is implemented

through the use of written training plans, written performance evaluation, and coordinated supervision.

Prerequisite/Corequisite: CLT 106

**CLT 111 CLINICAL HEMATOLOGY/COAGULATION PRACTICUM** 0-20-6

Provides students with an opportunity for in-dept application and reinforcement of hematology/coagulation principles and techniques in a medical laboratory job setting. This clinical practicum allows the student to become involved in a work situation at a professional level of technical application and requires concentration, practice, and follow through. Topics include: complete blood counts and differentials; other related blood tests; coagulation and fibrinolysis tests; correlation of tests results to disease states and critical levels; instrumentation; documentation; quality control; and process improvement. The clinical practicum is implemented through the use of written training plans, written performance evaluation, and coordinated supervision.

Prerequisite/Corequisite: CLT 104

**CLT 112 CLINICAL MICROBIOLOGY PRACTICUM** 0-20-6

Provides students with an opportunity for in-depth application and reinforcement of principles and techniques in a medical laboratory job setting. This clinical practicum allows the student to become involved in a work situation at a professional level of technical application and requires concentration, practice, and follow through. Topics include: specimen inoculations; stains; culture work-ups; bacterial identification; anti-microbial sensitivity; media preparation; safety and special areas documentation/quality control; and process improvement. The clinical practicum is implemented through the use of written training plans, written performance evaluation, and coordinated supervision.

Prerequisite/Corequisite: CLT 108

**CLT 113 CLINICAL CHEMISTRY PRACTICUM** 0-20-6

Provides students with an opportunity for in-dept application and reinforcement of chemistry principles and techniques in a medical laboratory job setting. This clinical practicum allows the student to become involved in a work situation at a professional level of technical application and requires concentration, practice, and follow through. Topics include: therapeutic drugs and toxicology; automated and manual chemistry; immuno chemistry; special chemistry, safety, correlation of test results to disease states and critical values; instrumentation; documentation/quality control; and process improvement. The clinical practicum is implemented through the use of written training plans, written performance evaluation, and coordinated supervision.

Prerequisite/Corequisite: CLT 107

**CLT 118 CLT CERTIFICATION REVIEW I** 0-3-1

Provides a review of basic knowledge from previous courses and helps the student prepare for national certification examinations for the medical laboratory technician level. Topics include: Review of: professional ethics, regulatory agencies, safety, and fundamental techniques; Phlebotomy and specimen processing; Infection control; Quality control; Computers in the lab; Urinalysis/Body Fluids-theory, tests, correlation; Hematology – RE system, blood count, differential, correlation of test results to disease, instrumentation, coagulation, fibrinolysis, critical levels and blood cell dycrasias; Immunology/Serology – immune system, antigen-antibody reactions, diseases of immune system, serological techniques, genetic theory, correlation of results to disease.

Prerequisite/Corequisite, CLT 109, CLT 110, CLT 111, CLT 112, CLT 113

**CLT 119 CLT LICENSURE REVIEW II** 0-3-1

Provides a review of basic knowledge from previous courses and helps the student prepare for national certification examinations for the medical laboratory technician level. Topics include: Review of: Immunohematology-Donor unit collection and storage; Pretransfusion testing; Transfusion reactions, and management of diseases; Clinical chemistry – Carbohydrates, Electrolytes, Acid-base balance, Nitrogenous compounds, Enzymes, Endocrinology, Liver functions, Lipids, Toxicology and drug monitoring; Microbiology – Fundamentals and basic techniques, identification of bacteria, anti-microbial sensitivity, disease correlation to organisms, parasitology, mycology, mycobacteriology, and virology.

Prerequisite/Corequisite: CLT 109, CLT 110, CLT 111, CLT 112, CLT 113



- CNA 100 PATIENT CARE FUNDAMENTALS** 5-6-8  
 Introduces student to the occupation of Certified Nurse Assistant. Emphasis is placed on human anatomy and physiology, cardiac pulmonary resuscitation, and nutrition and diet therapy. Topics include: role and responsibilities of the Certified Nurse Assistant; topography, structure, and function of body systems; legal and safety requirements in the patient care field; equipment use and care; and performance skills standards and procedures.
- COS 100 INTRODUCTION TO COSMETOLOGY THEORY** 5-0-5  
 Introduces the fundamental theory and practices of the cosmetology profession. Emphasis will be placed on professional practices and safety. Topics include: state and local laws, rules, and regulations; professional image; bacteriology; decontamination and infection control; chemistry fundamentals; safety; Hazardous Duty Standards Act compliance; and anatomy and physiology, and types of equipment  
 Prerequisite: Program Admission
- COS 101 INTRODUCTION TO PERMANENT WAVING AND RELAXING** 3-2-4  
 Introduces the chemistry and chemical reactions of permanent wave solutions and relaxers. Topics include: permanent wave techniques, chemical relaxer techniques, chemistry, physical and chemical change, safety procedures, and permanent wave and chemical relaxer application procedures on manikins, hair analysis, and scalp analysis.  
 Prerequisite/Corequisite: COS 100
- COS 103 BASIC CREATIVE TREATMENT OF HAIR, SCALP AND SKIN** 2-2-3  
 Introduces the theory, procedures, and products used in the care and treatment of the skin, scalp, and hair. Topics include: basic corrective hair and scalp treatments, plain facial, products and supplies, and diseases and disorders, and safety precautions.  
 Prerequisite/Corequisite: COS 100
- COS 105 INTRODUCTION TO SHAMPOOING AND STYLING** 2-4-4  
 Introduces the fundamental theory and skills required to shampoo and create shapings, pin curls, finger waves, roller placement, and comb outs. Laboratory training includes styling training to total 20 hours on manikins and 25 hours on live models without compensation. Topics include: braiding/intertwining hair, shampoo chemistry, shampoo procedures, styling principles, pincurls, roller placement, finger waves, comb out techniques, skip waves, ridge curls, and safety precautions.  
 Prerequisite/Corequisite: COS 100
- COS 106 INTRODUCTION TO HAIRCUTTING** 2-2-3  
 Introduces the theory and skills necessary to apply haircutting techniques. Safe use of haircutting implements will be stressed. Topics include: haircutting terminology, safety, decontamination, and precautions, cutting implements, haircutting techniques.  
 Prerequisite: COS 100
- COS 107 ADVANCED HAIRCUTTING** 0-5-2  
 Continues the theory and application of haircutting techniques. Topics include: client consultation, head, hair, and body analysis, style cutting, haircutting techniques, and client consultations/head/hair/body analysis.  
 Prerequisite: COS 106
- COS 108 PERMANENT WAVING AND RELAXING** 2-2-3  
 Provides instruction in the application of permanent waves and relaxers. Precautions and special problems involved in applying permanent waves and relaxers will be emphasized. Application of perms and relaxers on live models is included. Topics include: timed permanent wave, timed relaxer application, safety precautions, and Hazardous Duty Standards Act compliance.  
 Prerequisite: COS 101

- COS 109 HAIR COLOR** 4-4-6  
Presents the application of temporary, semi-permanent, deposit only, and permanent hair coloring and decolorization products. Topics include: basic color concepts, classifications of color, safety precautions, consultation, communication and record and release forms, product knowledge, special problems in hair color and corrective coloring, and special effects.  
Prerequisite/Corequisite: COS 103, COS 105, COS 106, COS 108
- COS 110 SKIN, SCALP, AND HAIR** 2-2-3  
Provides instruction on and application of techniques and theory in the treatment of the skin, scalp, and hair. Emphasis will be placed on work with live models. Topics include: implements, products and supplies, corrective hair and scalp treatments, facial procedures and manipulations, safety precautions, cosmetic chemistry/products and supplies, and treatment theory: electrotherapy, electricity and light therapy.  
Prerequisite/Corequisite: COS 109
- COS 111 STYLING** 1-4-3  
Continues the theory and application of hairstyling and introduces thermal techniques. Topics include: blow dry styling, thermal curling, thermal pressing, thermal waving, advanced cutting and styling, safety precautions, and artificial hair and augmentation.  
Prerequisite/Corequisite: COS 110
- COS 112 MANICURING AND PEDICURING** 2-2-3  
Provides manicuring and pedicuring experience on live models. Topics include: implements, products and supplies, hand and foot anatomy, and physiology, diseases and disorders, manicure techniques, pedicure techniques, nail product chemistry, safety precautions and practices, and advanced nail techniques (wraps, tips, acrylics).  
Prerequisite/Corequisite: COS 100
- COS 113 PRACTICUM I** 1-12-5  
Provides laboratory experiences necessary for the development of skill levels required to be a competent cosmetologist. The allocation of time to the various phases of cosmetology is prescribed by the Georgia State Board of Cosmetology. This course includes a portion of the hours required for licensure. Topics include: permanent waving and relaxers; hair color and bleaching; skin, scalp, and hair treatments; haircutting; styling; dispensary; manicure/ pedicure/advanced nail techniques; reception; safety precautions/decontamination; and Hazardous Duty Standards Act compliance.  
Prerequisite/Corequisite: COS 111, COS 112
- COS 114 PRACTICUM II** 4-12-8  
Provides laboratory experiences necessary for the development of skill levels required to be a competent cosmetologist. The allocation of time to the various phases of cosmetology is prescribed by the Georgia State Board of Cosmetology. This course includes a portion of the hours required for licensure. Topics include: permanent waving and relaxers; hair color and bleaching; skin, scalp, and hair treatments; haircutting; styling; dispensary; manicure/pedicure/advanced nail techniques; reception; safety precautions/decontamination; Hazardous Duty Standards Act compliance; advanced styling and shaping; industry concepts; and surviving in the salon (transition from class to employment).  
Prerequisite/Corequisite: COS 113
- COS 115 PRACTICUM III** 1-12-5  
Provides experience necessary for professional development and completion of requirements for state licensure. Emphasis will be placed on the display of professional conduct and positive attitudes. The appropriate number of applications for completion of state board service credit requirements for this course may be met in a laboratory setting. Topics include: permanent waving and relaxers; hair color and bleaching; skin, scalp, and hair treatment; haircutting; styling; dispensary; manicure/pedicure/advanced nail techniques; reception; safety precautions/decontamination; and Hazardous Duty Standards Act compliance.  
Prerequisite/Corequisite: COS 114

- COS 116 PRACTICUM IV** 1-12-5  
Provides experience necessary for professional development and completion of requirements for state licensure. Emphasis will be placed on the display of professional conduct and positive attitudes. The requirements for this course may be met in a laboratory setting. Topics include: permanent waving and relaxers; hair color and bleaching; skin, scalp, and hair treatments; haircutting; dispensary; styling; manicure/pedicure/advanced nail techniques; reception; safety precautions/decontamination; Hazardous Duty Standards Act compliance; and state licensure preparation.  
Prerequisite/Corequisite: COS 115
- COS 117 SALON MANAGEMENT** 3-2-4  
Emphasizes the steps involved in opening and operating a privately owned cosmetology salon. Topics include: planning a salon, business management, retailing, public relations, sales skills, career development, and client retention.  
Prerequisite/Corequisite: COS 112
- COS 118 NAIL CARE I** 0-21-7  
Provides additional experience in manicuring and pedicuring techniques required of applicants for state licensure. Emphasis is placed on performance, using living models in an actual or simulated occupational setting. Topics include: manicure, nail repair, artificial nails, pedicure, and advanced and new techniques.  
Prerequisite: COS 100, COS 112
- COS 119 NAIL CARE II** 4-15-9  
Provides nail care experience on live models. Emphasis will be placed on the display of professional conduct and positive attitudes. The appropriate number of applications required by the state board of cosmetology in theory and service credit requirements for this course. Emphasis is placed on performance, using live models in an actual or simulated occupational setting. Topics include: manicure/pedicure, nail repair, artificial nails, electric file, advanced/new techniques, HIV and OSHA updates, nail art, receptionist/dispensary, safety/sanitation, and state board licensure preparation.  
Prerequisite/Corequisite: COS 117, COS 118
- COS 152 - State Board Preparation for Cosmetology** 1-3-2  
Provides experience necessary for professional development and completion of requirements for state licensure. Emphasis will be placed on the display of professional conduct and positive attitudes. The appropriate number of applications for completion of state board service credit requirements for this course may be met in a laboratory setting or classroom. Topics include: permanent waving and relaxers; hair color and pre-lightening; skin, scalp, hair treatments, and disorders; haircutting; hair styling; manicure/pedicure/advanced nail techniques; safety precautions/decontamination; Hazardous Duty Standards Act compliance; analysis of license preparation; and theory review.  
Prerequisite/Corequisite: COS 115, COS 116
- COS 156 SALON RECEPTIONIST PRACTICUM/INTERNSHIP** 0-18-6  
Provides experience necessary for professional development and completion of requirements for salon receptionist. Emphasis will be placed on the display of professional conduct and positive attitudes. The requirements for this course may be met in a laboratory setting or in combination of a laboratory setting and approved internship facility. The occupation-based instruction is implemented through the use of written individualized training plans, written performance evaluations by the student and the salon, required weekly meetings, and required practicum or on the job training. Topics include; application of salon receptionist techniques to include phone etiquette, problem solving, proper interpersonal skills, retailing techniques and procedures, client retention, and specific salon rules and regulations.  
Prerequisite: MKT 106, MKT 108, FSM 101, COS 117
- CRJ 101 INTRODUCTION TO CRIMINAL JUSTICE** 5-0-5  
Examines the emergence, progress, and problems of the Criminal Justice system in the United States. Topics include: the American Criminal Justice system; constitutional limitations; organization of enforcement, adjudication, and corrections, and career opportunities and requirements.

- CRJ 103 CORRECTIONS** 5-0-5  
Provides an overview of all phases of the American correctional system and practices, including its history, procedures, and objectives. Topics include: history and evolution of correctional facilities; legal and administrative problems; institutional facilities and procedures; probation, parole, and prerelease programs; alternative sentencing; rehabilitation; community involvement; and staffing.
- CRJ 104 PRINCIPLES OF LAW ENFORCEMENT** 5-0-5  
Examines the principles and organization and administration and the duties of local and state law enforcement agencies. Emphasis is placed on police departments. Topics include: history and philosophy of law enforcement, evaluation of administrative practices, problems in American law enforcement agencies, emerging concepts, professionalism, and community crime prevention programs.
- CRJ 105 INTRODUCTION TO CRIMINAL PROCEDURE** 4-2-5  
Introduces the substantive law of major crimes against persons and property. Attention is given to observation of courtroom trials. Topics include: laws of arrest and search and seizure; procedures governing arrest, trial, and administration of criminal sanctions; rules of evidence; general court procedures; rights and duties of officers and citizens; and Supreme Court rulings that apply to Criminal Justice/overview of Constitutional Law.  
Prerequisite/Corequisite: CRJ 101
- CRJ 158 FUNDAMENTAL ISSUES IN POLICING** 5-0-5  
This course examines the fundamental issues within the occupation of policing. Emphasis is placed on ethics and professionalism, civil liability, interpersonal communications, mental health, substance abuse, health and wellness, equipment preparation, vehicle pullovers, and emergency vehicle operations. Topics include: occupational standards, health related hazards, and daily preparedness.
- CRJ 162 METHODS OF CRIMINAL INVESTIGATION** 5-0-5  
Presents the fundamental principles of criminal investigation. Emphasis is placed on legal requirements stated in Georgia Criminal Law, definition of felony crimes stated in the Georgia Code and fundamentals of: investigative procedures, crime scene searches, identification and collection of evidence, note-taking and report writing, surveillance, identification of witnesses and suspects, interviews and interrogation, and preparation and presentation of evidence in court. Topics include: Georgia Criminal Law, common investigative techniques, and procedures used for investigating various crimes.
- CRJ 163 INVESTIGATION AND PRESENTATION OF EVIDENCE** 1-4-3  
This course presents students with practical exercises dealing with investigations and gathering of evidence. Emphasis is placed on crime scene search, fingerprinting, cast molding, and practical exercises. Topics include: crime scene management, specialized investigation techniques, and homicide and suicide investigation.  
Prerequisite: CRJ 162
- CRJ 168 CRIMINAL LAW** 5-0-5  
This course emphasizes the historical development of criminal law in the United States and the current status of Georgia criminal law. The main focus of the course will be the statutory contents of the Official Code of Georgia Annotated (O.C.G.A), with primary emphasis on the criminal and traffic codes.
- CRJ 175 REPORT WRITING IN CRIMINAL JUSTICE** 5-0-5  
Explains and demonstrates the effectiveness of the entire criminal investigation process by the quality of notes reports and accurate documentation. An examination of what goes into the preparation, content, elements, mechanics, and format of documenting the criminal investigation process. Topics include: Field notes, initial information, observations, evidence, victims, witnesses, property, neighborhood canvass, crime scene, laboratory analysis and results, investigative follow-up, suspect statements, and the characteristics essential to quality report writing.

- CRJ 202 CONSTITUTIONAL LAW 5-0-5  
Emphasizes those provisions of the Bill of Rights which pertain to criminal justice. Topics include: characteristics and powers of the three branches of government, principles governing the operation of the Constitution, and Bill of Rights and the Constitutional Amendments.  
Prerequisite: CRJ 101
- CRJ 206 CRIMINOLOGY 5-0-5  
Introduces the nature, extent, and factors related to criminal behavior, and the etiology of criminal offences and offenders. Topics include: scope and varieties of crime; sociological, psychological, and biological causes of crime; criminal subculture and society's reaction; prevention of criminal behavior, behavior of criminals in penal and correctional institutions; and problems of rehabilitating the convicted criminal.
- CRJ 207 JUVENILE JUSTICE 5-0-5  
Analyzes the nature, extent, and causes of juvenile delinquency, and examines processes in the field of juvenile justice. Topics include: survey of juvenile law, comparative analysis of adult and juvenile justice systems, and prevention and treatment of juvenile delinquency.
- CRJ 209 CRIMINAL JUSTICE TECHNOLOGY PRACTICUM/INTERNSHIP 0-15-5  
Provides experiences necessary for further professional development and exposure to related agencies in the law enforcement field. The student will either pursue a study project directed by the instructor within the institution, or an internship in a related agency supervised by the instructor subject to the availability of an approved site. Topics include: observation and/or participation in law enforcement activities, law enforcement theory applications, and independent study projects.  
Prerequisite: Completion of all required courses
- CRJ 212 ETHICS IN CRIMINAL JUSTICE 5-0-5  
This course provides an exploration of the field of criminal justice ethics, which broadly encompasses the history of justice and theories of morality and ethics. It includes the study of ethics from both the individual perspective and the organizational standpoint. Special attention will be given to concrete ethical issues and dilemmas which are encountered regularly by participants in the major components of the criminal justice system. Four areas of ethical decision making opportunities are therefore studied in this course, including: law enforcement ethics; correctional ethics; legal profession ethics; and policymaking ethics
- CSA 101 INFECTION CONTROL AND INSTRUMENTATION 5-1-5  
Provides experiences necessary for development of skills required for the central service assistant. Emphasis will be placed on the development of professional conduct and positive attitudes. Requirements for this course will be met in a laboratory and classroom setting. The occupation-based instruction is implemented with written lesson plans, demonstration and performance lab activities, instructor lecture, and written performance evaluations. Topics include: orientation to Central Supply, introduction to infection control, introduction to principles of aseptic techniques, introduction to the principles of sterilization and disinfection, introduction to basic instrumentation.  
Prerequisite: ENG 1010, MAT 1012, PSY 1010, SCT 100, AHS 109, AHS 104  
Prerequisite/Corequisite: AHS 1011, SUR 108
- CSA 102 STERILIZATION/DISINFECTIONS 5-1-5  
Provides experiences necessary for development of skills required for the central service assistant. Emphasis will be placed on the development of concepts and skills needed to accurately prepare and sterilize equipment, supplies, and instrumentation in the Central Service Setting. Instruction is implemented using written lesson plans, demonstration and performance lab activities, instructor lecture, and written performance evaluations. Topics include: introduction to the principles of sterilization and disinfection for steam sterilization, ETO sterilization, hydrogen peroxide, and peracetic acid.; use of chemical and disinfectants in preparing supplies, equipment, and instrumentation;  
Prerequisite: AHS 1011, SUR 108  
Prerequisite/Corequisite: CSA 101

- CSA 103 MATERIALS MANAGEMENT** 5-0-5  
 Provides students with knowledge and skills concepts necessary for assisting in the control and distribution of equipment and supplies in the CSR. Emphasis is placed on inventory methods and control systems, physical inventories, prevention of shortages, and current available technology that supports the institutions inventory planning and management of supplies and equipment. Topics include: inventory control, equipment and supply management/distribution and control of supplies and equipment, safety in CSR.  
 Prerequisite: CSA 101  
 Prerequisite/Corequisite: CSA 102
- CTD 101 FUNDAMENTALS OF COMMERCIAL TRUCK DRIVING** 5-0-5  
 Introduces students to the trucking industry, federal and state regulations, records and forms, industrial relations, and other non-driving activities. This course provides an emphasis on safety that will continue throughout the Commercial Truck Driving program.
- CTD 102 BASIC OPERATION** 3-5-5  
 Focuses on familiarizing students with truck instruments and controls and on performing basic maneuvers required to drive safely in a controlled environment. In addition, students acquire basic coupling and uncoupling skills.  
 Prerequisite/Corequisite: CTD 101
- CTD 103 ADVANCED OPERATIONS** 1-13-5  
 Focuses on developing driving skills under actual road conditions. The classroom part of the course stresses following safe operating practices. On the road, safe operating practices are integrated into the development of driving skills. Students drive a total of 750 documented, over the- road miles.  
 Note: State law requires that, whenever a vehicle is operated on public roads, an instructor must be present in the truck while a student is driving.  
 Prerequisite/ Corequisite: CTD 102
- ECE 1010 INTRODUCTION TO EARLY CHILDHOOD CARE AND EDUCATION** 5-0-5  
 Introduces concepts relating the responsibilities and procedures involved in a variety of early childhood care situations. This course addresses key CDA competency goals and functional areas. Topics include: historical perspectives, career opportunities, work ethics, functioning in a team environment, guidance, transitional activities, program management, learning environment cultural diversity, licensing and accreditation, and professional development file (portfolio) guidelines.
- ECE 1030 HUMAN GROWTH AND DEVELOPMENT I** 5-0-5  
 Introduces the student to the physical, social, emotional, and cognitive development of the young child (0 through 5 years of age). Provides for competency development in observing, recording, and interpreting growth and development stages in the young child, advancing physical and intellectual competence, supporting social and emotional development, and providing positive guidance. Topics include: developmental characteristics, observation and recording theory and practice, guidance techniques, developmentally appropriate practice, and introduction to children with special needs.
- ECE 1050 HEALTH, SAFETY, AND NUTRITION** 5-0-5  
 Introduces the theory, practices, and requirements for establishing and maintaining a safe, healthy learning environment. Topics include: CPR and first aid, children's health problems. environmental health and safety, child abuse and neglect, and nutritional needs of children.
- ECE 1012 CURRICULUM DEVELOPMENT** 3-2-3  
 Develops knowledge and skills that will enable the student to establish a learning environment appropriate for young children. Topics include: instructional media, learning environments, curriculum approaches, development of curriculum plans and materials, community resources, transitional activities, approaches to teaching, learning, and assessing.  
 Prerequisite/Corequisite: ECE 1010, ECE 1030
- ECE 1013 ART FOR CHILDREN** 1-4-3  
 Introduces the concepts related to creativity in art. This course combines lecture and lab experiences to introduce the many media areas used by children to express themselves. Topics include: concepts

of creativity; art media, methods, and materials for creative activities; planning and preparation of art experiences; appreciation of children's art processes and products; developmental stages in art; and art appreciation.

**ECE 1014 MUSIC AND MOVEMENT** 1-4-3

Introduces the concepts related to creativity in music and movement. This course combines lecture and lab experiences to introduce the developmental influences of music and movement; their social and emotional value; and media, methods, and materials used to foster musical activity and creative movement. Topics include: spontaneous/planned music and movement, media, methods and material, music material, and coordination of movement and music, developmental stages of music, music appreciation.

**ECE 2115 LANGUAGE ARTS AND LITERATURE** 5-0-5

Develops knowledge and skills that will enable the student to plan and implement developmentally appropriate listening, speaking, writing, and reading readiness activities for young children. Topics include: reading readiness, oral communication activities, writing readiness, listening comprehension, literature selection, story presentation and stages of language acquisition.  
Prerequisite: ECE 1030

**ECE 2116 MATH AND SCIENCE** 5-0-5

Presents the process of introducing science and math concepts to young children. Includes planning and implementation of appropriate activities and development of methods and techniques of delivery. Topics include: cognitive stages and developmental process in math and science, math and science activity planning, development of math and science materials.  
Prerequisite: ECE 1030

**ECE 1021 EARLY CHILDHOOD CARE AND EDUCATION PRACTICUM I** 1-6-3

Provides the student with the opportunity to gain a supervised experience in an actual or simulated work setting allowing demonstration of techniques obtained from course work. Practicum training topics include: good work habits, supervised planning, interaction with children, parents, and co-workers, application of guidance techniques, classroom management, and documentation of child's development.

**ECE 1022 EARLY CHILDHOOD CARE AND EDUCATION PRACTICUM II** 1-6-3

Provides the student with the opportunity to gain additional supervised experience in an actual or simulated work setting allowing demonstration of techniques obtained from course work. The course will emphasize planning and implementation of activities and physical, social, emotional, and cognitive development of the child. Practicum training topics include: good work habits, application of guidance techniques, human relations, program planning, and classroom management.

**ECE 2010 EXCEPTIONALITIES** 5-0-5

Provides for the development of knowledge and skills that will enable the student to understand individuals with special needs and appropriately guide their development. Special emphasis is placed on acquainting the student with programs and community resources that serve families with special needs persons. Topics include: inclusion/least restrictive environment (LRE), physical disabilities and health disorders, intellectual exceptionalities, social/emotional disorders, community resources.  
Prerequisite: ECE 1030

**ECE 2020 SOCIAL ISSUES AND FAMILY INVOLVEMENT** 5-0-5

Enables the student to become familiar with the social problems that affect families of today and to develop a plan for coping with these problems as they occur in the occupational environment. Students are introduced to local programs and agencies that offer services to those in need. Topics include: professional responsibilities, family issues, community resources, parent education and support, teacher-parent communication, community partnerships, social diversity and anti-bias issues, transitioning the child and school family activities.

**ECE 2030 HUMAN GROWTH AND DEVELOPMENT II** 5-0-5

Introduces the student to the physical, social, emotional, and intellectual development of the school age child (6 to 12 years of age). Provides learning experiences related to the principles of human

growth, development and maturation, and theories of learning and behavior. Topics include: developmental characteristics, guidance techniques, and developmentally appropriate practice, introduction to children with special needs, and observation skills.

**ECE 2110 METHODS AND MATERIALS** 5-0-5  
Develops skills to enable the student to work as a paraprofessional in a program for prekindergarten through elementary aged children. Topics include: instructional techniques, curriculum, materials for instructions and learning environments.  
Prerequisite: ECE 1012

**ECE 2120 PROFESSIONAL PRACTICES AND CLASSROOM MANAGEMENT** 5-0-5  
Develops knowledge that will enable the student to become acquainted with the factors involved in a good program for pre-kindergarten through elementary aged children. Topics include: professional qualifications, professionalism, supervised planning, application of guidance and techniques and classroom management.  
Prerequisite/Corequisite: ECE 2110

**ECE 2170 PROGRAM ADMINISTRATION** 5-0-5  
Provides training in planning, implementation, and maintenance of an effective early childhood organization. Topics include: organization, mission, philosophy, goals, and history of a program; types of programs; laws, rules, regulation, and accreditation and program evaluation; needs assessments; administrative roles and board of directors; marketing, public and community relations, grouping, and enrolling and retention; working with parents; professionalism and work ethics, and time and stress management.

**ECE 2210 FACILITY MANAGEMENT** 5-0-5  
Provides training in early childhood facilities management. Topics include money management/cost containment, space management, and program and equipment supply management.

**ECE 2220 PERSONNEL MANAGEMENT** 5-0-5  
Provides personnel management training in early childhood settings. Topics include: communication; management strategies; personnel planning; personnel policies; managing payroll/cost containment; recruitment, selection, hiring and firing, and staff retention; staff scheduling; staff development; guidance and supervision; conflict resolution; and staff evaluations.

**ECE 2240 EARLY CHILDHOOD CARE AND EDUCATION INTERNSHIP** 0-36-12  
Provides student with the opportunity to gain experience in a simulated or actual work setting. Students will be placed in an approved setting(s) throughout the quarter where planning, implementing, observing, and evaluating activities are the focus of their involvement. An evaluation procedure will be used by the designee of the institution and the on-site supervisor to critique the student's performance on the job. Topics include: problem solving, use of proper interpersonal skills, application of developmentally appropriate practices, professional development, and resource file (portfolio) assessment.

**ECO 1101 PRINCIPLES OF ECONOMICS** 5-0-5  
Provides a description and analysis of economic operations in a contemporary society. Emphasis is placed on developing an understanding of economic concepts and policies as they apply to everyday life. Topics include: basic economic principles; economic forces and indicators; capital and labor; price, competition, and monopoly; money and banking; government expenditures, federal and local; fluctuations in production, employment, and income; and United States economy in perspective.

**EHO 100 HORTICULTURE SCIENCE** 5-0-5  
Introduces the fundamentals of plant science and horticulture as a career field. Topics include: industry overview, plant parts, plant functions, environmental factors in horticulture, soil function and components, fertilizer elements and analysis, and propagation techniques.



- EHO 101 WOODY ORNAMENTAL PLANT IDENTIFICATION 5-2-6  
Provides the basis for a fundamental understanding of the taxonomy, identification, and culture requirements of woody plants. Topics include: introduction to woody plants, classification of woody plants, and woody plant identification and culture requirements.
- EHO 102 HERBACEOUS PLANT IDENTIFICATION 5-0-5  
Emphasizes the taxonomy, identification, and culture requirements of herbaceous plants. Topics include: introduction to herbaceous plants, classification of herbaceous plants, and herbaceous plant identification and culture requirements.
- EHO 103 GREENHOUSE OPERATIONS 2-3-3  
Develops a basic understanding of greenhouse design, construction, and environmental factors affecting plant growth. Topics include: greenhouse construction, greenhouse heating and cooling, greenhouse soil functions and components, irrigation types and effects, fertilizer types and applications, and fall crops for the local area.
- EHO 104 BASIC LANDSCAPE CONSTRUCTION 2-3-3  
Develops skills necessary to design and construct landscape features such as retaining walls and drainage systems. Topics include: tool use and safety, retaining walls, drainage, systems and erosion protection, and landscape paving.
- EHO 105 NURSERY PRODUCTION 2-5-4  
Develops skills necessary to propagate and produce both container and field grown nursery stock. Topics include: industry overview, facility design, propagation techniques and environment, field grown and container production, and managerial functions for nursery production.
- EHO 106 LANDSCAPE DESIGN 2-8-5  
Introduces design principles, drawing skills, and plant selection techniques required to produce landscape plans for residential/commercial clients. Topics include: landscape design principles, sketching and drawing skills, site analysis, plant and material selection, and landscape design process.
- EHO 107 LANDSCAPE INSTALLATION 2-3-3  
Introduces cultural techniques required for proper landscape installation with emphasis on practical application. Topics include: landscape installation procedures and managerial functions for landscape installers.
- EHO 108 PEST MANAGEMENT 5-0-5  
Provides experience in insect, disease, and weed identification and control with emphasis on safety and legal requirements for state licensure. Topics include: identification of insects, diseases, and weeds; safety regulations; equipment use and care; and regulations for licensure.
- EHO 112 LANDSCAPE MANAGEMENT 2-8-5  
Introduces cultural techniques required for proper landscape maintenance with emphasis on practical application and managerial techniques. Topics include: landscape management; landscape equipment safety, operation and maintenance and administrative functions for landscape managers.
- EHO 114 GARDEN CENTER MANAGEMENT 2-3-3  
Presents cultural and managerial techniques required for success in the garden center industry. Topics include: garden center establishment, garden center management, and post-production handling and marketing.
- EHO 115 ENVIRONMENTAL HORTICULTURE INTERNSHIP 0-10-3  
Provides the student with practical experience in an actual job setting. This internship allows the student to become involved in on-the-job environmental horticulture applications that require practice and follow through. Topics include: work ethics, skills, and attitudes; demands of the horticulture industry; horticultural business management; and labor supervision.

- EHO 123 GREENHOUSE PRODUCTION** 4-6-6  
Continues hands on experience in crop production with emphasis on spring foliage crops and managerial skills. Topics include: light and temperature; insects and diseases; production and scheduling; and winter, spring, and foliage crops for the local area.
- EHO 131 IRRIGATION** 4-4-5  
Provides students with exposure to the basic principles of hydraulics and fluidics. Special attention is given to watering plant materials in various soil and climatic conditions through the use of irrigation. Topics include: industry overview; fluidics and hydraulics; system design and installation.
- EHO 133 TURFGRASS MANAGEMENT** 4-4-5  
A study of turfgrass used in the southern United States. Topics include: industry overview, soil and soil modification; soil fertility; turf installation; turf maintenance, turf diseases, insects and weeds: and estimating costs on management practices
- ELC 104 SOLDERING TECHNOLOGY** 1-2-2  
Develops the ability to solder circuits and repair printed circuit boards with accuracy and speed. Topics include: safety practices, soldering, desoldering, anti-static grounding, and surface mount techniques.
- ELC 108 DIRECT CURRENT CIRCUITS II** 3-2-4  
Continues direct current (DC) concepts and applications. Topics include: complex series/parallel circuits and DC theorems.  
Prerequisite/Corequisite: IFC 101, MAT 1013
- ELC 110 ALTERNATING CURRENT II** 3-2-4  
Continues development of AC concepts with emphasis on constructing, verifying, and troubleshooting reactive circuits using RLC theory and oscilloscopes. Topics include: reactive components, simple RLC circuits, AC circuit resonance, passive filters, and non-sinusoidal wave forms.  
Prerequisite/Corequisite: IFC 102
- ELC 115 SOLID STATE DEVICES II** 3-2-4  
Continues the exploration of the physical characteristics and applications of solid state devices. Topics include: PN diodes, power supplies, voltage regulation, special applications, bipolar junction theory, and bipolar junction application.  
Prerequisite/Corequisite: IFC 103
- ELC 117 LINEAR INTEGRATED CIRCUITS** 3-2-4  
Provides in-depth instruction on the characteristics and applications of linear integrated circuits. Topics include operational amplifiers, timers, and three-terminal voltage regulators.  
Prerequisite/Corequisite: ELC 115
- ELC 118 DIGITAL ELECTRONICS I** 3-2-4  
Introduces the basic building blocks of digital circuits. Topics include: binary arithmetic, logic gates and truth tables, Boolean algebra and minimization techniques, logic families, and digital test equipment.  
Prerequisite/Corequisite: IFC 103
- ELC 119 DIGITAL ELECTRONICS II** 1-9-4  
Uses the concepts developed in Digital Electronics I as a foundation for the study of more advanced devices and circuits. Topics include: flip-flops, counters, multiplexers, demultiplexes, encoding, decoding, displays, analog to digital, and digital to analog conversions.  
Prerequisite/Corequisite: ELC 118
- ELC 120 MICROPROCESSORS FUNDAMENTALS** 3-2-4  
Introduces microprocessor fundamentals with a focus on current generation microprocessors. Topics include: microprocessor architecture, instruction set, addressing schemes, debugging, and memory devices.  
Prerequisite/Corequisite: ELC 119

- ELC 123 COMMUNICATIONS ELECTRONICS SURVEY 5-5-7  
Introduces the fundamental concepts and devices used in electronics communications. Topics include: transmission, modulation, detection, receivers, transmitters, propagation, antennas, and deterioration.  
Prerequisite/Corequisite: ELC 115
- ELC 124 INDUSTRIAL ELECTRONICS SURVEY 3-2-4  
Introduces the fundamental concepts and technologies utilized in industrial electronics applications. Topics include: process controls, sensors, motor controls, programmed controls, mechanical devices, fluid power, and robotics.  
Prerequisite/Corequisite: ELC 120
- ELC 152 PREPARATORY ELECTRICITY AND ELECTRONICS TRAINING I 1-9-4  
Provides students with a survey of the fundamental knowledge and skill for understanding direct current and alternating current principles and applications. Topics include: safety, measuring instruments, power supplies, electrical/electronic symbols, device identification codes, Ohm's Law, scientific notation, characteristics of direct and alternating current, and motor and generator principles.
- ELC 180 ELECTRICAL LINEWORKER ORGANIZATION PRINCIPLES 4-0-4  
Provides a comprehensive summary of lineworker requirements. Physical and mechanical ability requirements will be presented and tests given. Other topics include electrical and workplace safety and positive work ethics.
- ELC 182 ELECTRICAL LINEWORKER WORKPLACE SKILLS 2-0-2  
Familiarizes the student with the importance of working together and team building. Topics: Basic tools in the problem solving process; Causes, acceptance, and management of change in the workplace; Creating a positive image; Creating a resume and the job interview.
- ELC 184 ELECTRICAL LINEWORKER AUTOMATION SKILLS 2-0-2  
Familiarizes the student with the identification, the proper use, and the maintenance of hand tools and power tools. This course will prepare the students to understand and safely operate hydraulic and pneumatic systems. Other topics include the fundamental principles of electricity, conductors and insulators, and voltage current and power.
- ELC 186 ELECTRICAL LINEWORKER OCCUPATIONAL SKILLS 2-15-7  
Provides a basic introduction to the principles of ratio and proportion. The information, activities, and practice of this unit will enable participants to identify and understand blueprints. Forklift, Back Hoe, Ditchers, Line trucks, Bucket trucks and other powered industrial equipment will be demonstrated and the students will operate each safely. This course will aid and assist the students in the passing of the commercial driver written test. The student will observe electrical lineworkers as they perform their daily jobs. This observation based instruction offers the student a real life experience as an Electrical Lineworker Apprentice.
- ELC 211 PROCESS CONTROL 4-4-6  
Introduces industrial process control applications with the emphasis on sensors and signal conditioning. Topics include: symbology and drawing standards, control techniques, sensors and signal conditioning, and ISA and other relevant standards.  
Prerequisite: ELC 115
- ELC 212 MOTOR CONTROLS 4-4-6  
Introduces the application of motor controls in the industrial environment. Topics include: AC/DC motors, AC/DC drives, MCC and contractors, NEC and NEMA standards, ladder diagrams, and power sources.  
Prerequisite: ELC 120

- ELC 213 PROGRAMMABLE CONTROLLERS** 4-3-5  
Provides the basic skills and techniques used in industrial application of programmable controls. Topics include: controller hardware, programming, PC applications, and troubleshooting. Prerequisite: ELC 120
- ELC 214 MECHANICAL DEVICES** 2-3-3  
Develops knowledge and skills necessary to transmit mechanical power using common industrial linkage types. Emphasis is placed on use of mechanical devices in combination with electronic controls. Topics include: linkages, motion analysis, gear drives, and preventative maintenance. Prerequisite/Corequisite: MAT 1015
- ELC 215 FLUID POWER** 2-3-3  
Provides an overview of fluid power operation as applied to industrial electronics. Emphasis is placed on the interfacing of electronic and fluid systems. Topics include: safety, fluid dynamics, hydraulics, pneumatics, air logic, and electrical interfacing. Prerequisite/Corequisite: MAT 1015
- ELC 216 ROBOTICS** 1-2-2  
Explores robotics concepts, terminology, and basic applications. Emphasis is placed on programming in robotic languages and robot/human interfacing safety practices. Topics include: safety, terminology, languages, and programming. Prerequisite: ELC 213, ELC 214, ELC 215
- ELC 217 COMPUTER HARDWARE** 4-6-7  
Provides an introduction to the fundamentals of installing, configuring, upgrading, troubleshooting, and repairing microcomputer systems. Topics include: installation, configuration, upgrading, diagnosing, troubleshooting, preventive maintenance basic hardware, printers, and basic networking. Prerequisite: ELC 120
- ELC 218 OPERATING SYSTEMS TECHNOLOGIES** 4-6-7  
Provides an introduction to the fundamentals of Command Line Prompt, Windows 9x, Windows 2000, Windows XP, and future operating systems. Topics include: operating system fundamentals; installing, configuration, and upgrading; diagnosing and troubleshooting; and networks. Prerequisite: ELC 217
- ELC 219 NETWORKING I** 3-3-4  
Provides an introduction to networking technologies. Covers a wide range of material about networking, from careers in networking to local area networks, wide area networks, protocols, topologies, transmission media, and security. Focuses on operating network management systems and implementing the installation of networks. The course reviews cabling, connection schemes, the fundamentals of LAN and WAN technologies, TCP/IP configuring and troubleshooting, remote connectivity, and network maintenance and troubleshooting. Topics include: media and topologies, protocols and standards, network implementation, and network support. Prerequisite: ELC 120
- ELC 259 FIBER OPTIC SYSTEMS** 3-2-4  
Introduces the fundamentals of fiber optics and explores the applications of fiber optic transmission systems. Laboratory exercises give students hands-on experience with fiber optic devices and test equipment. Topics include: fundamentals of fiber optics, types of optical fibers, fiber materials and manufacture, cabling, light sources/transmitters/receivers, connectors, splicing, test measurement, and fiber optic system design. Prerequisite: ELC 219, ELC 260
- ELC 260 TELECOMMUNICATION & DATA CABLING** 3-2-4  
Introduces the basic of cable installation from the initial site survey to splicing cable and making connections. Through laboratory activities, students perform the basic tasks of a cable installer. Topics include: basic standards and practices, cable rating and performance, cable installation and

management, testing and troubleshooting, industry standards, pulling cable, and understanding blueprints.

Prerequisite: ELC 119

**ELC 261 TELECOMMUNICATIONS SYSTEMS INSTALLATION AND PROGRAMMING 2-3-3**

Teaches the installation, programming, testing, and repair of simple and complex telephone systems. Laboratory activities give practical hands-on experience with various telephone systems. Topics include: multi-line system installation, system programming, peripheral devices, and customer relations.

Prerequisite: ELC 260

**ELC 262 TELECOMMUNICATIONS AND DATA TRANSMISSION CONCEPTS 2-3-3**

Provides an introduction to basic concepts on telecommunication and data transmission. Topics include: introduction to frequency and bandwidth, delineation of signal types and characteristics, methods of modulation and detection, transmission modes, characteristics of transmission media, measuring transmission signals, noise and distortion levels, multiplexing and emerging technologies.

Prerequisite: ELC 260

Prerequisite/Corequisite: ELC 261

**ELC 286 CompTIA A+ CERTIFICATION 5-0-5**

Provides the necessary training to meet the CompTIA (Computer Technology Industry Association) A+ Certification requirements. Course covers the CORE and DOS objectives necessary to pass the A+ requirements. Topics include: identifying components and their functions, safety, installation procedures, troubleshooting techniques, and preventative maintenance.

Prerequisite: (ELC 217 and ELC 218) or (CIS 1140 and CIS 122)

**ELT 100 ELECTRICAL WORKER 2-6-5**

Introduces work areas hazards present during the construction of manufacturing of homes or construction sites. Emphasis is placed on the proper use of electrical tools and equipment and maintenance of these tools on the work site. Topics include: hazards of electricity, safe use of electrical tools and equipment, and the repair of electrical cords, plugs, lights, and switches.

**ELT 102 ELECTRICITY PRINCIPLES 8-6-9**

Introduces electrical theory and principles used in residential, commercial, and industrial wiring applications. Emphasis is placed on electron theory, DC and AC circuits, Ohm's law, test equipment, transformers, and electrical power systems. Topics include: electricity production, electrical formulas, test equipment, transformer fundamentals, and fundamentals of AC and DC circuits.

Prerequisite: MAT 1012

**ELT 106 ELECTRICAL PRINTS, SCHEMATICS, AND SYMBOLS 3-1-3**

Introduces electrical symbols and their use in construction blueprints, electrical schematics and diagrams. Topics include: electrical symbols, component identification, and print reading.

**ELT 110 STATE LICENSE PREPARATION 3-12-7**

Provides the student with the rules and regulations they must use while working with electricity. Topics include: general knowledge, wiring protection, wiring method and material, equipment for general use, special occupancies, special equipment, special condition, and tables.

**ELT 111 SINGLE-PHASE AND THREE-PHASE MOTORS 5-1-5**

Introduces the fundamental theories and applications of single-phase and three-phase motors. Topics include: motor theory/operating principles, motor terminology, motor identification, NEMA standards, motor efficiencies, preventive maintenance, troubleshooting/failure analysis, and NEC requirements.

Prerequisite: ELT 102

**ELT 120 - RESIDENTIAL WIRING I 3-6-5**

Introduces residential wiring practices and procedures. Topics include: residential circuits, print reading, National Electrical Code, and wiring materials.

Prerequisite: ELT 102

- ELT 121 - RESIDENTIAL WIRING II** 3-6-5  
 Provides additional instruction on wiring practices in accordance with the National Electrical Code. Topics include: residential single family service calculations, residential two-family service calculations, load balancing, sub-panels and feeders, residential single-family service installation, residential two-family service installation, concepts of TV and CATV installation, swimming pool installation, and remote control of lighting and intercom installation.  
 Prerequisite: ELT 120
- EMP 1000 INTERPERSONAL RELATIONS AND PROFESSIONAL DEVELOPMENT** 3-0-3  
 Provides a study of human relations and professional development in today's rapidly changing world that prepares students for living and working in a complex society. Topics include: human relations skills, job acquisition skills, job retention skills, job advancement skills, and professional image skills.
- EMP 101 JOB ACQUISITION AND EMPLOYABILITY SKILLS** 2-0-2  
 Provides knowledge and skills necessary to attain employment. Topics include: job search, oral communication skills, interview skills, job application analysis of job demands, analysis of job benefits, resume preparation and job marketing. Homework assignments provide an opportunity to practice job acquisition skills and result in production of a usable resume.
- EMS 126 INTRODUCTION TO THE PARAMEDIC PROFESSION** 3-1-3  
 Introduces the student to the paramedic profession. Discussion centers on functions that extend beyond the EMT scope of practice. Topics include: the EMS system/roles and responsibilities, well-being of the paramedic, illness and injury prevention, medical/legal considerations, ethics, ambulance operations, medical incident command, rescue awareness/operations, hazardous materials incidents and crime scene awareness. This course provides instruction on topics in Division 1, Sections 1-5, Division 7, Section 1 and Division 8 sections 1-5 of the USDOT/NHTSA Paramedic National Standard Curriculum.
- EMS 127 PATIENT ASSESSMENT** 3-2-4  
 Introduces the fundamental principles and skills involved in assessing the pre-hospital patient. Emphasis is on the systematic approach to patient assessment, with adaptations for the medical versus the trauma patient. Topics include: therapeutic communications, history taking, techniques of physical exam, patient assessment, clinical decision-making, EMS communications, and documentation. This course provides instruction on topics in Division 1, Section 9 and Division 3, Sections 1-9 of the USDOT/NHTSA Paramedic National Standard Curriculum.
- EMS 128 APPLIED PHYSIOLOGY AND PATHOPHYSIOLOGY** 3-0-3  
 This course introduces the concepts of pathophysiology as it correlates to disease processes. This course will enable caregivers to enhance their overall assessment and management skills. Disease-specific pathophysiology is covered in each related section of the curriculum. This course covers a review of cellular composition and function, including cellular environment as it relates to fluid and acid-base balances. Content on genetics and familial diseases are discussed. Hypoperfusion, including various forms of shock, multiple organ dysfunction syndrome and cellular metabolism impairment are integral components of this course. The next portion of this section provides information on the body's self-defense mechanisms, the inflammatory response, and variances in immunity. The last topic covered is stress and disease, which includes stress responses and the interrelationships among stress, coping, and disease.
- EMS 129 PHARMACOLOGY** 3-2-4  
 This unit is designed to help the paramedic implement a patient management plan based on principles and applications of pharmacology. Discussion of pharmacology includes: identification of drugs, drug calculations, drug administration techniques and procedures and drug safety and standards.
- EMS 130 RESPIRATORY EMERGENCIES** 4-2-5  
 This unit is designed to help the Paramedic assess and treat a wide variety of respiratory related illnesses in the pediatric and adult patient. Topics include a review of anatomy and physiology, pathophysiology of foreign body airway obstruction, recognition of respiratory compromise, use of

airway adjunctive equipment and procedures, current therapeutic modalities for bronchial asthma, chronic bronchitis, emphysema, spontaneous pneumothorax, and hyperventilation syndromes. This section also provides expanded information for adult respiratory distress syndrome, pulmonary thromboembolism, neoplasms of the lung, pneumonia, emphysema, pulmonary edema, and respiratory infections. This course provides instruction on topics in Division 2 (Airway), Section 1 (Airway Management and Ventilation) and Division 5 (Medical), Section 1 (Respiratory) of the USDOT/NHTSA Paramedic National Standard Curriculum.

#### EMS 131 TRAUMA

4-2-5

This Unit is designed to introduce the student to assessment and management of the trauma patient, to include: systematic approach to the assessment and management of trauma, demonstration of the assessment and management of certain types of trauma patients and bodily injuries. Student should complete the requirements for the Basic Trauma Life Support Course or the Pre-Hospital Trauma Life Support Course.

#### EMS 132 CARDIOLOGY I

4-2-5

Emphasizes the study of the cardiovascular system. Cardiology I will introduce and explore cardiovascular epidemiology, anatomy and physiology, pathophysiology, and electrophysiology. This course will also provide instruction on initial cardiovascular assessment, focused history, detailed physical examination, and electrocardiographic monitoring. Management of the cardiovascular patient will be taught in Cardiology II. At the completion of this unit, the paramedic student will be able to integrate pathophysiological principles and assessment findings to formulate a field impression and implement the treatment plan for the patient with cardiovascular disease. This course provides instruction on topics in Division 5 (Medical), Section 2 (Cardiology) of the USDOT/NHTSA Paramedic National Standard Curriculum.

#### EMS 133 CARDIOLOGY II

3-2-4

This course expounds on the objectives in Cardiology I emphasizing advanced patient assessment and management of the cardiac patient. Topics will include advanced cardiovascular assessment, pharmacological intervention, electrical intervention, and emergency resuscitative treatment utilizing the American Heart Association's Advanced Cardiac Life Support (ACLS) Providers course. This course provides instruction on topics in Division 5 (Medical), Section 2 (Cardiology) of the USDOT/NHTSA Paramedic National Standard Curriculum.

#### EMS 134 MEDICAL EMERGENCIES

5-1-5

Provides an in-depth study of the nervous, endocrine, gastrointestinal, renal, hematopoietic, and immune systems. Topics include epidemiology, pathophysiology, assessment, and management of specific injuries/illnesses. Emphasis is placed on allergies/anaphylaxis, toxicology, environmental emergencies, and infectious and communicable diseases. General/specific pathophysiology assessment and management are discussed in detail for environmental emergencies. Infectious and communicable disease topics include public health principles, public health agencies, infection, pathogenicity, infectious agents, and specific infectious disease processes and their management. This course provides instruction on topics in Division 5 (Medical), Sections 3, 4, 5, 6, 7, 8, 9, 10, and 11 of the USDOT/NHTSA Paramedic National Standard Curriculum.

#### EMS 135 MATERNAL/PEDIATRIC EMERGENCIES

4-2-5

Emphasizes the study of gynecological, obstetrical, pediatric and neonatal emergencies. Maternal/Child combines the unique relationships and situations encountered with mother and child. Provides a detailed understanding of anatomy/physiology, pathophysiology, assessment, and treatment priorities for the OB/GYN patient. Pediatric and neonatal growth and development, anatomy and physiology, pathophysiology, assessment and treatment specifics are covered in detail. Successful completion of a PLS/PALS course is required. This course provides instruction on topics in Division's 5 (Medical), Sections 13 (Obstetrics) & 14 (Gynecology) and 6 (Special Considerations), Sections 1 (Neonatology) and 2 (Pediatrics) of the USDOT/NHTSA Paramedic National Standard Curriculum.

#### EMS 136 SPECIAL PATIENTS

2-1-2

Provides an overview of the assessment and management of behavioral emergencies as they pertain to prehospital care. Topics include: communication skills and crisis intervention, assessment and

management of the adult and adolescent patient with behavioral emergencies, management of the violent patient, management of the suicidal patient, medical/legal considerations, and stress management. Life span, geriatrics, abuse, special challenges, and chronic care patients are included.

**EMS 200 CLINICAL APPLICATION OF ADVANCED EMERGENCY CARE** 0-33-11

This course provides a range of clinical experiences for the student paramedic to include clinical application of advanced emergency care.

**EMS 201 SUMMATIVE EVALUATIONS** 4-4-5

Provides supervised clinical experience in the hospital and prehospital advanced life support settings to include: EMS leadership, summative case evaluations, EKG interpretation and pharmacology. This course also includes a comprehensive paramedic program examination and a board examination review.

**EMS 1101 INTRODUCTION TO THE EMT PROFESSION** 3-2-4

The course covers all the components of the National Highway Safety Transportation Administration, National Standard Curriculum, Emergency Medical Technician-Basic, 1994 Standard, Module 1 and Module 7. It also covers Sections 1, 2, 3 and 4 of the NHTSA, National Standard Curriculum, EMT-Intermediate-1985. Topics include: basic cardiopulmonary resuscitation/AED, introduction to emergency medical care, roles and responsibilities of the EMT-Intermediate, EMS Systems for EMT-Intermediates, well being of the EMT– Basic, medical/legal and ethical issues, medical-legal aspects for the EMT-Intermediate, blood and airborne pathogens and infectious diseases, the human body, medical terminology, base line vital signs and SAMPLE history, lifting and moving patients, ambulance operations, gaining access, and overviews of HazMat/MCI.

**EMS 1103 PATIENT ASSESSMENT FOR THE EMT** 1-2-2

The course covers the components of the National Highway Safety Transportation Administration, National Standard Curriculum, Emergency Medical Technician-Basic, 1994 Standard, Module 3. In addition to the NSC-B 1994 standards, this course also includes the NSC EMT-Intermediate 1985 Standard, Section 5 and part of Section 6. Topics include: Scene-Size Up, Intitial Assessment, Focused History & Physical Exam for both Medical and Trauma Patients, Detailed Physical Exam, On-Going Assessment, Communications/Documentation, and EMS communications for the EMT-I.

**EMS 1105 AIRWAY MANAGEMENT FOR THE EMT** 1-2-2

The course covers the components of the National Highway Safety Transportation Administration, National Standard Curriculum, Emergency Medical Technician-Basic, 1994 Standard, Module 2. In addition to the NSC-B 1994 standards, this course also includes the NSC EMT-Intermediate 1985 Standard, Section 7. The 2002 Supplemental Airway Modules for the NSC-B 1994 curriculum will also be used. Topics include: Airway, Advanced Airway and Basic/Advanced Airway.  
Prerequisite: EMS 1103

**EMS 1107 MEDICAL AND BEHAVIORAL EMERGENCIES FOR THE EMT** 2-2-3

The course covers lessons 1 through 8, and parts of Lessons 10 and 11 of Module 4 of the National Highway Safety Transportation Administration, National Standard Curriculum, Emergency Medical Technician-Basic, 1994 Standard. Topics include general pharmacology, respiratory emergencies, cardiovascular emergencies, diabetic/altered mental emergencies, and non-traumatic abdominal emergencies.

Prerequisite: EMS 1113

**EMS 1109 ASSESSMENT FNAD MANAGEMENT ACROSS THE LIFESPAN FOR EMT** 1-2-2

The course covers lessons 11 through 12 of Module 4 of the National Highway Safety Transportation Administration, National Standard Curriculum, Emergency Medical Technician-Basic, 1994 Standard. All of Module 6 of the NSC-B 1994 curriculum is also included. The Georgia Office of EMS specific module for Geriatrics as well as the TCSG specific module for Special Needs Patients is included. Topics include obstetrical/gynecological emergencies, infants & children, geriatrics and patients with special needs.

Prerequisite: EMS 1113



- EMS 1111 TRAUMA EMERGENCIES AND WMD RESPONSE 3-2-4  
 The course covers the components of the National Highway Safety Transportation Administration, National Standard Curriculum, Emergency Medical Technician-Basic, 1994 Standard, Module 5. In addition to the NSC-B 1994 standards, this course also includes portions the NSC EMT-Intermediate 1985 Standard. The Georgia Office of EMS specific module for Emergency Response to Wapons of Mass Destruction is also included. Topics include: bleeding and shock, soft tissue injuries, musculoskeletal care, injuries to the head/spine, patient access and extrication, and emergency medical response to WMD.  
 Prerequisite: EMS 1103
- EMS 1113 – CLINICAL APPLICATIONS FOR THE EMT BASIC 0-3-1  
 The course will include clinical hours to be spent in both Hospital Emergency Departments and on Ambulance Clinical Rotations. This course will include all of the EMT-Basic Clinical Procedures Requirements With Accompanying Psychomotor Objectives listed under module-C(Clinical) of the Georgia Office of EMS, EMT-Basic Curriculum standard. This course will include a minimum of 30 clinical hours.  
 Prerequisite: EMS 1103
- EMS 1115 PRACTICAL APPLICATIONS FOR THE EMT – BASIC 1-2-2  
 The course covers the components of the National Highway Safety Transportation Administration, National Standard Curriculum, Emergency Medical Technician-Basic, 1994 Standard, as well as Sections 1 through 7 of the NSC-B 1985 standards and the Georgia Office of EMS specific modules on CPR, Geriatrics and WMD. This course will focus on critical thinking skills and will enhance the assessment based management skills for EMT students. Topics include Based Management for the EMT-Basic.  
 Prerequisite: EMS 1113
- EMS 1201 PHARMACOLOGY AND SHOCK/TRAUMA MANAGEMENT FOR EMT-INTERMEDIATE 2-2-3  
 The course covers Section 8 of the National Highway Safety Transportation Administration, National Standard Curriculum, Emergency Medical Technician-Intermediate, 1985 standard. Topics include" general pharmacology review, IV and IO therapy and shock/trauma assessment and management.  
 Prerequisite: EMS 1203
- EMS 1203 CLINICAL APPLICATIONS FOR THE EMT-INTERMEDIATE I 0-3-1  
 The course will cover clinical hours to be spent in both Hospital Emergency Departments and Ambulance Clinical Rotations. This course will include all of the EMT-Intermediate Clinical Procedures Requirements With Accompanying Psychomotor Objectives listed under module-C(Clinical) of the Georgia Office of EMS, EMT-Basic Curriculum standard. This course will include a minimum of 30 clinical hours, and along with Clinical Applications for the EMT-Intermediate-I, will include a minimum skill set.  
 Prerequisite: EMS 1113
- EMS 1205 – CLINICAL APPLICATIONS FOR THE EMT – INTERMEDIATE II 0-3-1  
 The course will cover clinical hours to be spent in both Hospital Emergency Departments and Ambulance Clinical Rotations. This course will include all of the EMT-Intermediate Clinical Procedures Requirements With Accompanying Psychomotor Objectives listed under module-C(Clinical) of the Georgia Office of EMS, EMT-Intermediate Curriculum standard. This course will include a minimum of 30 clinical hours, and along with Clinical Applications for the EMT-Intermediate-I, will include a minimum skill set.  
 Prerequisite: EMS 1203
- EMS 1207 – PRACTICAL APPLICATIONS FOR THE EMT – INTERMEDIATE 1-2-2  
 This is the final course for those pursuing EMT-Intermediate Certification. This course expands upon the critical thinking skills and assessment based management techniques covered in the 'Practical Applications for the EMT-Basic' course. This course integrates all components of the US DOS EMT-Basic 1994 Curriculum as well as the US DOT EMT-Intermediate 1985 Curriculum, and all Georgia specific modules for the EMT-Basic and EMT-Intermediate curricula. Preparation for the national certification exam for EMT-Intermediate/85s will be paramount throughout the course, and students will be required to complete this course prior to being eligible to

sit for the National Registry Intermediate-1985 Exam. Topics will include skills competency verification and assessment based management techniques for the EMT-Intermediate.

Prerequisite: EMS 1203

ENG 095 ENGLISH I 0-10-5 I.C.

Introduces fundamental grammar. Topics include basic vocabulary, basic sentence structure, sentence capitalization and punctuation, and basic writing.

Prerequisite: Entrance English score in accordance with approved TCSG admission score levels

ENG 096 ENGLISH II 5-0-5 I.C.

Emphasizes standard English usage. Topics include capitalization, basic punctuation, subject and verb agreement, correct verb forms, spelling, and basic paragraph development.

Prerequisite: ENG 095, or entrance English score in accordance with approved TCSG admission score levels

ENG 097 ENGLISH III 5-0-5 I.C.

Emphasizes the rules of grammar, punctuation, capitalization, spelling, and writing in order to ensure a smooth transition into communicating orally and in writing. Topics include basic grammar, mechanics, spelling, sentence writing and paragraphing skills needed for writing memos, letters, reports, and short essays.

Prerequisite: ENG 096, or entrance English score in accordance with approved TCSG admission score levels

ENG 098 ENGLISH IV 5-0-5 I.C.

Emphasizes the ability to communicate using written and oral methods. Topics include writing and the process of writing, revising, and oral communication.

Prerequisite: ENG 097 or entrance English score in accordance with approved TCSG admission score levels.

ENG 1010 FUNDAMENTALS OF ENGLISH I 5-0-5

Emphasizes the development and improvement of written and oral communication abilities. Topics include: analysis of writing techniques used in selected readings, writing practice, editing and proofreading, research skills, oral presentation skills. Homework assignments reinforce classroom learning.

Prerequisite: ENG 097, or entrance English score in accordance with approved TCSG admission score levels; and RDG 097, or entrance reading score in accordance with approved TCSG admission score levels

ENG 1012 FUNDAMENTALS OF ENGLISH II 5-0-5

Provides knowledge and application of written and oral communications found in the workplace.

Topics include: writing fundamentals and speaking fundamentals.

Prerequisite: ENG 1010

ENG 1101 COMPOSITION AND RHETORIC 5-0-5

Explores the analysis of literature and articles about issues in the humanities and in society. Students practice various modes of writing, ranging from exposition to argumentative and persuasion. The course includes a review of standard grammatical and stylistic usage in proofreading and editing. And introduction to library resources lays the foundation for research. Topics include: writing analysis and practice; revision; and research. Students write a research paper using library resources and using a formatting and documentation style appropriate to the purpose and audience.

Prerequisite: Entrance English score in accordance with approved TCSG admission score level or ENG 098 and RDG 098 or ENG 1010

ENG 2130 AMERICAN LITERATURE 5-0-5

A survey of important works in American literature. Includes a variety of literary genres: short stories, poetry, drama, nonfiction, and novels. Emphasizes American literature as a reflection of culture and ideas. Topics include: literature and culture; essential themes and ideas; literature and history; research skills; and oral presentation skills.

Prerequisite: ENG 1101

- FSM 101 FASHION FUNDAMENTALS 5-0-5  
Emphasizes the basic fashion industry environment. Topics include: fashion terminology; history of fashion industry, costume, and silhouettes; environmental influences; fashion cycles; fashion forecasting; secondary markets; wholesale markets and distribution; retail stores; and career awareness.
- FOR 101 FOREST SAFETY AND ORIENTATION 1-0-1  
Introduces the fundamentals of safety in the field and of forestry as a profession. Topics include: history and importance of forestry and forest safety.
- FOR 102 FOREST SOILS 3-2-4  
Introduces the role of forest soils in the forest ecosystem and the importance of forest soil properties as they relate to modern forestry practices. Topics include: forest soil formation, forest soil properties and site productivity, soils and their influence on silvicultural recommendations, and fertilization.
- FOR 103 DENDROLOGY 3-2-4  
Provides the basis for fundamental understanding of the taxonomy and identification of trees and shrubs. Topics include: tree and shrub classification, tree and shrub identification, tree and shrub structure identification, and leaf structure identification.
- FOR 104 FOREST PROTECTION 3-2-4  
Provides experience in identification and control of destructive and harmful agents in the forest environment. Topics include: detrimental growth factors; biological and economic factors for forest pests; chemical pest control; classification and description of wildfires; and fire fighting methods, tools, and equipment.
- FOR 105 FOREST PRODUCTS 3-2-4  
Presents identification of primary and secondary forest products and their manufacturing processes and uses. Topics include: history of forest products manufacturing, and raw forest resource identification.
- FOR 116 INTRODUCTION TO SURVEYING AND MAPPING I 3-2-4  
Introduces the fundamental principles and practices of land surveying and mapping and the use of surveying and mapping instruments. Topics include: surveying and mapping equipment and surveying and mapping measurements.  
Prerequisite/Corequisite: MAT 1012; FOR 117
- FOR 117 INTRODUCTION TO SURVEYING AND MAPPING II 2-3-3  
Introduces the fundamental principles and practices of land surveying and mapping and the use of surveying and mapping instruments. Topics include: surveying and mapping methods and introduction to global positioning systems and geographical information systems.  
Prerequisite/Corequisite: MAT 1012; FOR 116
- FOR 121 APPLIED SURVEY AND MAPPING I 2-3-3  
Focuses on application of the fundamental principles and practices of land surveying and mapping, and the use of surveying and mapping instruments. Emphasizes areas of plane and boundary surveying, and area determination. Topics include: deed search, tract location, surveying, and area determination.  
Prerequisite/Corequisite: MAT 1012; FOR 116, FOR 117, FOR 122
- FOR 122 APPLIED SURVEY AND MAPPING II 2-3-3  
Focuses on application of the fundamental principles and practices of land surveying and mapping, and the use of surveying and mapping instruments. Emphasizes areas of plane and boundary surveying, and area determination. Topics include: area determination, global positioning systems, geographical information systems, and aerial photography.  
Prerequisite/Corequisite: MAT 1012, FOR 116, FOR 117, FOR 121

- FOR 126 INTRODUCTION TO FOREST MEASUREMENTS I 3-2-4  
 Introduces the fundamental principles and practices of timber cruising. Emphasizes fixed plot method of statistical sampling. Topics include: importance of forest measurements, forest measurement tools and equipment, and forest measurement methods.  
 Prerequisite/Corequisite: MAT 1012, FOR 127
- FOR 127 INTRODUCTION TO FOREST MEASUREMENTS II 2-3-3  
 Introduces the fundamental principles and practices of timber cruising. Emphasizes fixed plot method of statistical sampling. Topics include: importance of forest measurements, forest measurement methods, and cruising and scaling methods.  
 Prerequisite/Corequisite: MAT 1012, FOR 126
- FOR 131 SILVICULTURE I 3-2-4  
 Provides an overview of the activities that are involved in regeneration and maintenance of forest stands. Topics include: timber stand improvement methods.
- FOR 132 SILVICULTURE II 3-2-4  
 Provides an overview of the activities that are involved in regeneration and maintenance of forest stands. Topics include: regeneration methods and environmental impact of silvicultural practices.
- FOR 141 APPLIED FOREST MEASUREMENTS I 2-3-3  
 Focuses on the application of the fundamental principles and practices of timber cruising. Emphasizes fixed plot and prism method of statistical sampling. Topics include: map construction and cruising methods.  
 Prerequisite/Corequisite: FOR 127
- FOR 142 APPLIED FOREST MEASUREMENTS II 2-3-3  
 Focuses on the application of the fundamental principles and practices of timber cruising. Emphasizes fixed plot and prism method of statistical sampling. Topics include: cruising methods and volume determination.  
 Prerequisite/Corequisite: FOR 127, FOR 141
- FOR 146 FOREST MANAGEMENT I 5-0-5  
 Introduces the techniques of multiple-use forest resource management. Topics include: multiple-use management, prescribed burning, site preparation methods and logging.  
 Prerequisite/Corequisite: FOR 131, FOR 132, FOR 147
- FOR 147 FOREST MANAGEMENT II 5-0-5  
 Introduces the techniques of multiple-use forest resource management. Topics include: land ownership, timber marking, and forest management plan.  
 Prerequisite/Corequisite: FOR 131, FOR 132, FOR 146
- FOR 158 WILDLIFE MANAGEMENT 3-2-4  
 Develops a basic understanding of the living processes and classification of animals. Emphasizes population dynamics. Topics include: plant and animal classification, adaptation, and evolution; population dynamics; and basic principles of wildlife management.
- FOR 160 FOREST TECHNOLOGY O.B.I. 0-12-4  
 Focuses on the application and reinforcement of forest technology skills in an actual workplace environment. Students are acquainted with occupational responsibilities through realistic work situations and are provided with insights into forestry applications on the job. Topics include: problem solving, adaptability to the job setting, use of proper interpersonal skills, application of forest technology skills in a workplace setting, and professional development.
- HUM 1101 INTRODUCTION TO HUMANITIES 5-0-5  
 Explores the philosophic and heritage of humanity expressed through a historical perspective on visual arts, music and literature. The humanities are presented as a source of subjective insights for the understanding of people and society. Topics include: historical and cultural developments, and contributions of the humanities.  
 Prerequisite: ENG 1101

- IDS 101 INDUSTRIAL COMPUTER APPLICATIONS** 3-5-5  
 Provides a foundation in industrial computers and computer systems with a focus in linking computers to the plant floor process. Topics include: hardware, software, boot sequence, configuration, troubleshooting, and communication platforms.  
 Prerequisite: IFC 101; SCT 100
- IDS 103 INDUSTRIAL WIRING** 3-9-6  
 Teaches the fundamental concepts of industrial wiring with an emphasis on installation procedures. Topics include: grounding, raceways, three-phase systems, transformers (three-phase and single-phase), wire sizing, overcurrent protection, NEC requirements, industrial lighting systems, and switches, receptacles, and cord connectors.  
 Prerequisite/Corequisite: IFC 101; IFC 102
- IDS 105 DC AND AC MOTORS** 2-3-3  
 Introduces the fundamental theories and applications of single-phase and three-phase motors. Topics include: motor theory and operating principles, motor terminology, motor identification, NEMA standards, AC motors, DC motors (series, shunt, and compound), scheduled preventive maintenance, and troubleshooting and failure analysis.  
 Prerequisite/Corequisite: IFC 101, IFC 102
- IDS 110 FUNDAMENTALS OF MOTOR CONTROLS** 2-3-3  
 Introduces the fundamental concepts, principles, and devices involved in industrial motor control. Emphasis is placed on developing a theoretical foundation of industrial motor control devices. Topics include: principles of motor control, control devices, symbols and schematic diagrams, and Article 430 NEC.  
 Prerequisite/Corequisite: IDS 105
- IDS 113 MAGNETIC STARTERS AND BRAKING** 1-5-3  
 Provides instruction in wiring motor control circuits. Emphasis is placed on designing and installing magnetic starters in across-the-line, reversing, jogging circuits, and motor braking. Topics include: control transformers, full voltage starters, reversing circuits, jogging circuits, and braking.  
 Prerequisite/Corequisite: IDS 110
- IDS 115 TWO-WIRE CONTROL CIRCUITS** 0-5-2  
 Provides instruction in two-wire motor control circuits using relays, contractors, and motor starters with application sensing devices. Topics include: wiring limit switches, wiring pressure switches, wiring float switches, wiring temperature switches, wiring proximity switches, and wiring photo switches.
- IDS 121 ADVANCED MOTOR CONTROLS** 1-3-2  
 Continues the study and application of motor control circuits with emphasis on sequencing circuits, complex circuits, and motor control centers. Topics include, sequencing circuits, reduced voltage starting, motor control centers, and troubleshooting.
- IDS 131 VARIABLE SPEED MOTOR CONTROL** 2-3-3  
 Provides instruction in the fundamentals of variable speed drives, industrial motors, and other applications of variable speed drives. Topics include: fundamentals of variable speed control, AC frequency drives, DC variable speed drives, installation procedures, and ranges.
- IDS 141 BASIC INDUSTRIAL PLC'S** 4-6-6  
 Introduces operational theory, systems, terminology, PLC installations, and programming procedures for programmable logic controls. Emphasis is placed on plc programming, connections, installations, and start-up procedures. Topics include: plc hardware and software, plc functions and terminology, introductory numbering systems, plc installation and set up, plc programming basics, relay logic instructions, timers and counters, connecting field devices to I/O cards, and plc safety procedures.  
 Prerequisite/Corequisite: IDS 121
- IDS 142 INDUSTRIAL PLC'S** 4-6-6  
 Provides for hands-on development of operational skills in the maintenance and troubleshooting of industrial control systems and automated industrial equipment. Emphasis is placed on applying skills

developed in previous courses in programmable logic controls (PLC's) in an industrial setting. This course includes advanced skills necessary to complete the students knowledge and skills to understand and work with PLC's in an industrial plant.

Prerequisite/Corequisite: IDS 141

**IDS 209 INDUSTRIAL INSTRUMENTATION** 4-6-6

Provides instruction in the principles and practices of instrumentation for industrial process control systems with an emphasis on industrial maintenance techniques for production equipment. Topics include: Instrument Tags, Process Documentation, sensing Pressure, Flow, Level, and Temperature, Instrument calibration, and Loop tuning.

Prerequisite/Corequisite: IDS 141, IDS 142

**IDS 215 INDUSTRIAL MECHANICS** 4-6-6

Provides instruction in basic physics concepts applicable to mechanics of industrial production equipment, and teaches basic industrial application of mechanical principles with emphasis on power transmission and specific mechanical components. Topics include: mechanical tools, fasteners, basic mechanics, lubrication, bearings, and packings and seals.

**IDS 221 INDUSTRIAL FLUIDPOWER** 6-4-7

Provides instruction in fundamental concepts and theories for safely operating hydraulic systems and pneumatic systems. Topics include: hydraulic theory, suction side of pumps, actuators, valves, pumps/motors, accumulators, symbols and circuitry, fluids, filters, pneumatic theory, compressors, pneumatic valves, air motors and cylinders, and safety.

**IDS 231 PUMPS AND PIPING SYSTEMS** 1-4-2

Studies the fundamental concepts of industrial pumps and piping systems. Topics include: pump identification; pump operations; pump installation, maintenance, and troubleshooting; piping systems; and installation of piping systems.

**IFC 100 INDUSTRIAL SAFETY PROCEDURES** 2-1-2

Provides an in-depth study of the health and safety practices required for maintenance of industrial, commercial, and home electrically operated equipment. Topics include: introduction to OSHA regulations, safety tools, equipment, and procedures; and first aid and cardiopulmonary resuscitation.

**IFC 101 DIRECT CURRENT CIRCUITS I** 3-2-4

Introduces direct current (DC) concepts and applications. Topics include: electrical principles and laws; batteries; DC test equipment; series, parallel, and simple combination circuits; and laboratory procedures and safety practices

Prerequisite/Corequisite: MAT 1013

**IFC 102 ALTERNATING CURRENT I** 3-2-4

Introduces the theory and application of varying sine wave voltages and current. Topics include: magnetism, AC wave generation, AC test equipment, inductance, capacitance, and basic transformers.

Prerequisite/Corequisite: IFC 101

**IFC 103 SOLID STATE DEVICES I** 3-2-4

Introduces the physical characteristics and application of solid state devices. Topics include: introduction to semiconductor fundamentals, diode applications, basic transistor fundamentals, basic amplifiers, and semiconductor switching devices.

Prerequisite/Corequisite: IFC 102

**ISA 132 CLINICAL PRACTICE** 0-8-2

Introduces students to the hospital clinical setting and provides an opportunity for students to participate in or observe radiographic procedures. Topics include: Hospital area and hospital protocol, film processing procedures, basic patient care and radiation safety radiographic procedure responsibilities and office and file room procedures.

Prerequisite: AHS 1011, RAD 101

Prerequisite/Corequisite: AHS 104

- MAS 101 LEGAL ASPECTS OF THE MEDICAL OFFICE** 3-0-3  
 Introduces the basic concept of medical assisting and its relationship to the other health fields. Emphasizes medical ethics, legal aspects of medicine, and the medical assistant's role as an agent of the physician. Provides the student with knowledge of medical jurisprudence and the essentials of professional behavior. Topics include: introduction to medical law, physician-patient-assistant relationship, medical office in litigation, as well as ethics, bioethics issues and HIPAA.
- MAS 103 PHARMACOLOGY** 5-0-5  
 Introduces drug therapy with emphasis on safety, classification of drugs, their action, side effects, and/or adverse reactions. Also introduces the basic concept of mathematics used in the administration of drugs. Topics include: introduction to pharmacology, calculation of dosages, sources and forms of drugs, drug classification, and drug effects on the body systems.  
 Prerequisite: AHS 1011, AHS 109, MAT 1012
- MAS 106 MEDICAL OFFICE PROCEDURES** 4-2-5  
 Emphasizes essential skills required for the typical business office. Topics include: office protocol, time management, appointment scheduling, medical office equipment, mail services, medical references, medical records, and professional communications.  
 Prerequisite/Corequisite: BUS 101
- MAS 108 MEDICAL ASSISTING SKILLS I** 2-10-6  
 Introduces the skills necessary for assisting the physician with a complete history and physical in all types of medical practices. The course includes skills necessary for sterilizing instruments and equipment and setting up sterile trays. The student also explores the theory and practice of electrocardiography. Topics include: infection control and related OSHA guidelines; prepare patients/assist physician with age and gender-specific examinations and diagnostic procedures; vital signs/mensuration; medical office surgical procedures and electrocardiography.  
 Prerequisite: MAS 101, MAS 103, MAS 106  
 Corequisite: MAS 110
- MAS 109 MEDICAL ASSISTING SKILLS II** 2-10-6  
 Furthers student knowledge of the more complex activities in a physician's office. Topics include: collection/examination of specimens and CLIA regulations/risk management; urinalysis; venipuncture; hematology and chemistry evaluations; advanced reagent testing (Strep Test, HcG etc); administration of medications; medical office emergency procedures and emergency preparedness; respiratory evaluations; principles of IV administration; rehabilitative therapy procedures; principles of radiology safety and maintenance of medication and immunization records.  
 Prerequisite: MAS 108  
 Corequisite: MAS 111
- MAS 110 MEDICAL INSURANCE MANAGEMENT** 1-5-3  
 Emphasizes essential skills required for the medical practice. Topics include: managed care, reimbursement, and coding.  
 Prerequisite: MAS 101, MAS 103, MAS106  
 Corequisite: MAS 108
- MAS 111 ADMINISTRAIVE PRACTICE MANAGEMENT** 2-5-4  
 Emphasizes essential skills required for the medical practice in the areas of computers and medical transcription. Topics include: medical transcription/electronic health records; application of computer skills; integration of medical terminology; accounting procedures; and application of software.  
 Prerequisite: MAS 108, MAS 110  
 Corequisite: MAS 109
- MAS 112 HUMAN DISEASES** 5-0-5  
 Provides clear, succinct, and basic information about common medical conditions. Taking each body system, the disease condition is highlighted following a logical formation consisting of: description, etiology, signs and symptoms, diagnostic procedures, treatment, prognosis, and prevention. Topics include: introduction to disease and diseases of body systems.  
 Prerequisite: AHS 1011, AHS 109

- MAS 117 MEDICAL ASSISTING EXTERNSHIP** 0-24-8  
 Provides students with an opportunity for in-depth application and reinforcement of principles and techniques in a medical office job setting. This clinical practicum allows the student to become involved in a work setting at a professional level of technical application and requires concentration, practice, and follow-through. Topics include: application of classroom knowledge and skills; functioning in the work environment; communication; and following directions.  
 Prerequisite: Completion of all required courses except MAS 118  
 Corequisite: MAS 118
- MAS 118 MEDICAL ASSISTING SEMINAR** 4-0-4  
 Seminar focuses on job preparation and maintenance skills and review for the certification examination. Topics include: letters of application, resumes, job applications, job interviews, letters of resignation and review of program competencies for employment and certification.  
 Prerequisite: Completion of all required courses except MAS 117  
 Corequisite: MAS 117
- MAT 095 LEARNING SUPPORT MATHEMATICS I** 5-0-5 I.C  
 Introduces elementary arithmetic needed for advancement to the level of basic mathematics. Topics include: standard notation, addition and subtraction of whole numbers, multiplication and division of whole numbers, rounding and estimating whole numbers, solving equations, applications and problem solving, exponential notation and order of operations, factorizations, divisibility, and least common multiples.  
 Prerequisite: Entrance arithmetic score in accordance with approved TCSG admission score levels.
- MAT 096 LEARNING SUPPORT MATHEMATICS II** 5-0-5 I.C  
 Teaches the student basic arithmetic skills needed for the study of mathematics related to specific occupational programs. Topics include: whole numbers, fractions, decimals, and measurement.  
 Prerequisite: MAT 095, or entrance arithmetic score in accordance with approved TCSG admission score levels.
- MAT 097 LEARNING SUPPORT MATHEMATICS III** 5-0-5 I.C  
 Emphasizes in-depth arithmetic skills needed for the study of mathematics related to specific occupational programs and for the study of basic algebra. Topics include: whole numbers, fractions, decimals, percents, measurement, geometry, and application problems.  
 Prerequisite: MAT 096, or entrance arithmetic score in accordance with approved TCSG admission score levels.
- MAT 098 ELEMENTARY ALGEBRA** 5-0-5 I.C  
 This course provided instruction in basic algebra. Topics include: introduction to real numbers and algebraic expressions, solving equations, polynomial operations and polynomial factoring.  
 Prerequisite: MAT 097, or entrance arithmetic score in accordance with approved TCSG admission score levels.
- MAT 099 INTERMEDIATE ALGEBRA** 5-0-5 I.C  
 This course provides instruction in intermediate algebra. Topics include: factoring, inequalities, rational expressions and equations, linear graphs, slope, and applications, systems of equations, radical expressions and equations, and quadratic equations.  
 Prerequisite: MAT 098, MAT 1013, or entrance arithmetic score in accordance with approved TCSG admission score levels.
- MAT 1012 FOUNDATIONS OF MATHEMATICS** 5-0-5  
 Emphasizes the application of basic mathematical skills used in the solution of occupational and technical problems. Topics include: fractions, decimals, percents, ratios and proportions, measurement and conversion, formula manipulation, technical applications, and basic statistics.  
 Prerequisite: MAT 097 or entrance arithmetic score in accordance with approved TCSG admission score levels.



- MAT 1013 ALGEBRAIC CONCEPTS** 5-0-5  
 Introduces concepts and operations, which can be applied to the study of algebra. Course content emphasizes: basic mathematical concepts; basic algebraic concepts; and intermediate algebraic concepts. Class includes lecture, applications, and homework to reinforce learning.  
 Prerequisite: MAT 098 or entrance algebra scores in accordance with approved TCSG admission score levels.
- MAT 1015 GEOMETRY AND TRIGONOMETRY** 5-0-5  
 Introduces and develops basic geometric and trigonometric concepts. Course content emphasizes: geometric concepts and trigonometric concepts.  
 Prerequisite: MAT 1013
- MAT 1011 BUSINESS MATHEMATICS** 5-0-5  
 Emphasizes mathematical concepts found in business situations. Topics include: basic mathematical skills, mathematical skills in business-related problem solving, mathematical information for documents, graphs, and mathematical problems using electronic calculators (not to include the touch method).  
 Prerequisite: MAT 097 or entrance arithmetic score in accordance with approved TCSG admission score levels.
- MAT 1111 COLLEGE ALGEBRA** 5-0-5  
 Emphasizes techniques of problem solving using algebraic concepts. Topics include: algebraic concepts and operations, linear and quadratic equations and functions, simultaneous equations, inequalities, exponents and powers, graphing techniques, and analytic geometry.  
 Prerequisite: MAT 099 or entrance test scores in accordance with approved TCSG admission score levels
- MKT 100 INTRODUCTION TO MARKETING** 5-0-5  
 Emphasizes the trends and the dynamic forces that affect the marketing process and the coordination of the marketing functions. Topics include: marketing strategies, marketing mix, marketing trends, and dynamic forces affecting markets.
- MKT 101 PRINCIPLES OF MANAGEMENT** 5-0-5  
 Develops skills and behaviors necessary for successful supervision of people and job responsibilities. Emphasis will be placed on personnel management, the basic supervisory functions, supervisory skills and techniques, and the special challenges and demands of supervising employees. Topics include: management theories; employee morale; motivating, supervising, and evaluating employees; recruitment, screening, and selection of employees; supervision techniques; and functions of management.  
 Prerequisite: ENG 1010
- MKT 103 BUSINESS LAW** 5-0-5  
 Introduces the study of contracts and other business obligations in the legal environment. Topics include: creation and evolution of laws, court decision processes, sales contracts, commercial papers, risk-bearing devices, and Uniform Commercial Code.
- MKT 104 PRINCIPLES OF ECONOMICS** 5-0-5  
 Provides a study of micro and macro economic principles, policies, and applications. Topics include: supply and demand, money and the banking system, business cycle, and economic systems.
- MKT 106 FUNDAMENTAL OF SELLING** 5-0-5  
 Emphasizes sales strategies and techniques to assist the student in the sales process. Topics include: customer relations, professional image, product/service knowledge, selling techniques and procedures, sales presentations, and ethics of selling.
- MKT 108 ADVERTISING** 3-2-4  
 Introduces the fundamental principles and practices associated with advertising activities. Topics include: purposes of advertising; principles of advertising; budgeting; marketing and advertising plans;

regulations and controls; media evaluation, target marketing, and selection; campaign planning; and trends in advertising.

**MKT 109 VISUAL MERCHANDISING** 3-2-4

Focuses on the components of display necessary for the effective visual presentation of goods and services. Opportunities will be provided to utilize the principles and techniques that are common to display work in various types of businesses. Emphasis will be placed on design, color, tools, and materials, and installation of displays. Topics include: design principles, color principles, tools and materials of the trade, props and fixtures, lighting and signing, installation of displays, store planning, and safety.

**MKT 110 ENTREPRENEURSHIP** 6-4-8

Provides an overview of the activities that are involved in planning, establishing, and managing a small business enterprise. Topics include: planning, location analysis, financing, and development of a business plan.

**MKT 122 BUYING & MERCHANDISE MANAGEMENT** 5-0-5

Introduces the fundamental principles of buying, merchandising, and accounting for products and services. Topics include: assortment planning; locating resources; ordering merchandise; just-in-time or quick response inventory control; pricing for profit; and financial statements, ratios, and accounting vocabulary, principles of merchandising, traffic patterns, basic stock and inventory, inventory control, mark-ups and mark-downs, and types of discounts.

**MKT 123 SMALL BUSINESS MANAGEMENT** 5-0-5

Summarizes competencies included in the entrepreneurship specialization and provides opportunities for application and demonstration of skills. Topics include: management principles, marketing functions, financial applications, and entrepreneurial growth potential.

**MKT 125 RETAIL OPERATIONS MANAGEMENT** 5-0-5

Emphasizes the planning, organizing, and managing of retail firms. Topics include: organizational development, strategic planning, short-term planning, human resource management, inventory controls, analysis of profit and loss statements and balance sheets, and entrepreneurship.

**MKT 134 ENTREPRENEURSHIP O.B.I.I** 0-10-3

Introduces the application and reinforcement of entrepreneurship and employability principles in an actual job placement or practicum experience. Students are acquainted with occupational responsibilities through realistic work situations and are provided with insights into entrepreneurship applications on the job. Topics include: problem solving, adaptability to the job setting, use of proper interpersonal skills, application of entrepreneurship techniques, and professional development. The occupation-based instruction is implemented through the use of written individualized training plans, written performance evaluation, required weekly seminar, and required practicum or on-the-job training.

Prerequisite/Corequisite: ENG 1010, MKT 101

**MKT 135 ENTREPRENEURSHIP O.B.I.II** 0-10-3

Focuses on the application and reinforcement of entrepreneurship and employability principles in an actual job placement or practicum experience. Students are acquainted with occupational responsibilities through realistic work situations and are provided with insights into entrepreneurship applications on the job. Topics include: problem solving, adaptability to the job setting, use of proper interpersonal skills, application of entrepreneurship techniques, and professional development. The occupation-based instruction is implemented through the use of written individualized training plans, written performance evaluation, required weekly seminar, and required practicum or on-the-job training.

Prerequisite/Corequisite: MKT 134

**MKT 136 RETAIL MANAGEMENT O.B.I.I** 0-10-3

Introduces the application and reinforcement of retail management and employability principles in an actual job placement or practicum experience. Students are acquainted with occupational responsibilities through realistic work situations and are provided with insights into retail management

applications on the job. Topics include: problem solving, adaptability to the job setting, use of proper interpersonal skills, application of retail management techniques, and professional development. The occupation-based instruction is implemented through the use of written individualized training plans, written performance evaluation, required weekly seminar, and required practicum or on-the-job training.

Prerequisite/Corequisite: ENG 1010, MKT 101

**MKT 137 RETAIL MANAGEMENT O.B.I.II**

0-10-3

Focuses on the application and reinforcement of retail management and employability principles in an actual job placement or practicum experience. Students are acquainted with occupational responsibilities through realistic work situations and are provided with insights into retail management applications on the job. Topics include: problem solving, adaptability to the job setting, use of proper interpersonal skills, application of retail management techniques, and professional development. The occupation-based instruction is implemented through the use of written individualized training plans, written performance evaluation, required weekly seminar, and required practicum or on-the-job training.

Prerequisite/Corequisite: MKT 136

**MSD 103 LEADERSHIP AND DECISION MAKING**

5-0-5

Familiarizes the student with the principles and methods of sound leadership and decision making. Topics include: basic leadership principles and how to use them to solicit cooperation, use of leadership to develop the best possible senior-subordinate relationships, the various decision making processes, the ability to make sound and timely decisions, leadership within the framework of the major functions of management, and delegation of authority and responsibility.

**NPT 112 MEDICAL SURGICAL NURSING PRACTICUM I**

0-21-7

Focuses on health management and maintenance and the prevention of illness, care of the individual as a whole, and deviations from the normal state of health. The definition of client care includes using the nursing process, performing assessments, using critical thinking, and providing client education. Topics include: health management and maintenance and prevention of illness, care of the individual as a whole, and deviations from the normal state of health in the cardiovascular, respiratory, endocrine, urinary, and gastrointestinal systems; client care, treatment, pharmacology, medication administration, and diet therapy related to the cardiovascular, respiratory, endocrine, urinary, and gastrointestinal systems; and standard precautions.

Prerequisite: AHS 102, AHS 103, AHS 109, NSG 110

Prerequisite/Corequisite: NSG 112

**NPT 113 MEDICAL SURGICAL NURSING PRACTICUM II**

0-21-7

Focuses on health management and maintenance and the prevention of illness, care of the individual as a whole, and deviations from the normal state of health. The definition of client care includes using the nursing process, performing assessments, using critical thinking, and providing client education. Topics include: health management and maintenance and prevention of illness, care of the individual as a whole, and deviations from the normal state of health in the musculoskeletal, neurological, integumentary, and sensory systems, mental health, and oncology; client care, treatment, pharmacology, medication administration, and diet therapy related to the musculoskeletal, neurological, integumentary, and sensory systems, mental health, and oncology; and standard precautions.

Prerequisite: AHS 102, AHS 103, AHS 109, NSG 110

Prerequisite/Corequisite: NSG 113

**NPT 212 PEDIATRIC NURSING PRACTICUM**

0-6-2

Focuses on health management and maintenance and the prevention of illness, care of the individual as a whole, and deviations from the normal state of health. The definition of client care includes using the nursing process, performing assessments, using critical thinking, and providing client education. Topics include: health management and maintenance and prevention of illness, care of the child as a whole, and deviations from the normal state of health in the pediatric client; client care, treatments,

pharmacology, medication administration, and diet therapy of the pediatric client, growth and development; and standard precautions.

Prerequisite: AHS 102, AHS 103, AHS 109, NSG 110

Prerequisite/Corequisite: NSG 212, NSG 213, NPT 213

#### NPT 213 OBSTETRICAL NURSING PRACTICUM

0-9-3

Focuses on health management and maintenance and the prevention of illness, care of the individual as a whole, and deviations from the normal state of health. The definition of client care includes using the nursing process, performing assessments, using critical thinking, and providing client education. Topics include: health management and maintenance and prevention of illness; care of the individual as a whole; and deviations from the normal state of health in the reproductive system, obstetric clients, and the newborn; client care, treatments, pharmacology, medication administration, and diet therapy related to the reproductive system, obstetric clients, and the newborn; and standard precautions.

Prerequisite: AHS 102, AHS 103, AHS 109, NSG 110

Prerequisite/Corequisite: NPT 212, NSG 212, NSG 213

#### NPT 215 NURSING LEADERSHIP PRACTICUM

0-7-2

Builds on the concepts presented in prior nursing courses and develops the skills necessary for successful performance in the job market. Topics include: application of the nursing process, critical thinking, supervisory skills, client education methods, group and other TQM processes, and conflict resolution.

Prerequisite: AHS 102, AHS 103, AHS 109, NSG 110

Prerequisite/Corequisite: NSG 215

#### NSG 110 NURSING FUNDAMENTALS

5-12-10

An introduction to the nursing process. Topics include: orientation of the profession; ethics and law; community health; client care which is defined as using the nursing process, using critical thinking, and providing client education and includes principles and skills of nursing practice, documentation, and an introduction to physical assessment; geriatrics; customer/client relationships; and standard precautions.

Prerequisite: AHS 1011, AHS 103, AHS 104, AHS 109, ENG 1010, MAT 1012, PSY 1010

#### NSG 112 MEDICAL SURGICAL NURSING I

9-0-9

Focuses on health management and maintenance and the prevention of illness, care of the individual as a whole, and deviations from the normal state of health. The definition of client care includes using the nursing process, performing assessments, using critical thinking, and providing client education. Topics include: health management and maintenance, prevention of illness, care of the individual as a whole, and deviations from the normal state of health in the cardiovascular, respiratory, endocrine, urinary, and gastrointestinal systems; client care, treatment, pharmacology, and diet therapy related to the cardiovascular, respiratory, endocrine, urinary, and gastrointestinal systems; and standard precautions related to the cardiovascular, respiratory, endocrine, urinary, and gastrointestinal systems.

Prerequisite: AHS 102, AHS 103, AHS 109, NSG 110

Prerequisite/Corequisite: NPT 112

#### NSG 113 MEDICAL SURGICAL NURSING II

9-0-9

Focuses on health management and maintenance and the prevention of illness, care of the individual as a whole, and deviations from the normal state of health. The definition of client care includes using the nursing process, performing assessments, using critical thinking, and providing client education. Topics include: health management and maintenance and prevention of illness, care of the individual as a whole, and deviations from the normal state of health in the musculoskeletal, neurological, integumentary, and sensory systems, mental health, and oncology; client care, treatment, pharmacology, and diet therapy related to the musculoskeletal, neurological, integumentary, and sensory systems, mental health, and oncology; and standard precautions.

Prerequisite: AHS 102, AHS 103, AHS 109, NSG 110

Corequisite: NPT 113

- NSG 212 PEDIATRIC NURSING** 5-0-5  
 Focuses on health management and maintenance and the prevention of illness, care of the child as a whole, and deviations from the normal state of health. The definition of client care includes using the nursing process, performing assessments, using critical thinking, and providing client education. Topics include: health management and maintenance and prevention of illness, care of the child as a whole, and deviations from the normal state of health in the pediatric client; client care, treatments, pharmacology, and diet therapy of the pediatric client; growth and development; and standard precautions.  
 Prerequisite: AHS 102, AHS 103, NSG 110  
 Prerequisite/Corequisite: NPT 212, NSG 213, NPT 213
- NSG 213 OBSTETRICAL NURSING** 5-0-5  
 Focuses on health management and maintenance and the prevention of illness, care of the individual as a whole, and deviations from the normal state of health. The definition of client care includes using the nursing process, performing assessments, using critical thinking, and providing client education. Topics include: health management and maintenance and prevention of illness, care of the individual as a whole, and deviations from the normal state of health in the reproductive system, obstetric clients, and the newborn; client care, treatments, pharmacology, and diet therapy related to the reproductive system, obstetric clients, and the newborn; and standard precautions.  
 Prerequisite: AHS 102, AHS 103, AHS 109, NSG 110  
 Prerequisite/Corequisite: NPT 213, NPT 212, NSG 212
- NSG 215 NURSING LEADERSHIP** 2-0-2  
 Builds on the concepts presented in prior nursing courses and develops the skills necessary for successful performance in the job market. Topics include: application of the nursing process, critical thinking, supervisory skills, client education methods, group and other TQM processes, and conflict resolution.  
 Prerequisite: AHS 102, AHS 103, AHS 109, NSG 110  
 Prerequisites/Corequisite: NPT 215
- PCT 105 ADVANCED PATIENT CARE** 3-7-6  
 An introduction to patient care techniques and skills needed to function in a hospital and/or health care setting. Topics include: growth and development, communication skills, pain assessment, care of the disoriented client, vital signs, heights, weights, patient safety, patient education, and advanced technical skills.  
 Prerequisite: MAT 1012, PSY 1010, SCT 100, AHS 104, CNA 100
- PHL 103 INTRODUCTION TO VENIPUNCTURE** 2-2-4  
 Provides an introduction to blood collecting techniques and processing specimens. Emphasis is placed on the knowledge and skills needed to collect all types of blood samples from hospitalized patients. Topics include: venipuncture procedure and safety; isolation techniques, venipuncture problems, and definitions; lab test profiles, other specimen collections, and patient care areas; test combinations and skin punctures; specimen processing and CPR; professional ethics and malpractice; and certification and licensure.  
 Prerequisite: AHS 1011, AHS 109
- PHL 105 CLINICAL PRACTICE** 0-24-8  
 Provides work experience in a clinical setting. Emphasis is placed on enhancing skills in venipuncture techniques. Topics include: introduction to hospital policies and procedures and work ethics; routine collections: adults, pediatrics, and newborn; and special procedures.  
 Prerequisite: PHL 103
- PSY 1010 BASIC PSYCHOLOGY** 5-0-5  
 Presents the basic principles of human behavior and their application to everyday life and work. Topics include: introduction to psychology; social environments; communications and group processes; personality; emotions and motives; conflicts, stress, and anxiety; perception and learning; and life span development.

- PSY 1101 INTRODUCTION TO PSYCHOLOGY 5-0-5  
Emphasizes the basics of psychology. Topics include: science of psychology; social environments; life stages; physiology and behavior; personality; emotions and motives; conflicts, stress, and anxiety; abnormal behavior; and perception, learning, and intelligence.
- RAD 101 INTRODUCTION TO RADIOLOGIC TECHNOLOGY 4-2-5  
Provides the student with an overview of radiography and patient care. Students will be oriented to the radiographic profession as a whole. Emphasis will be placed on patient care with consideration of both physical and psychological conditions. Topics include: ethics, medical and legal considerations, "Right to Know Law," professionalism, basic principles of radiation protection, basic principles of exposure, equipment introduction, health care delivery systems, hospital and departmental organization, hospital and technical college affiliation, medical emergencies, pharmacology, contrast agents/media, OR and mobile procedures, patient preparation, death and dying, and body mechanics/transportation..
- RAD 103 BODY, TRUNK, AND UPPER EXTREMITY PROCEDURES 2-3-3  
Introduces the knowledge required to perform radiographic procedures applicable to the human anatomy. Emphasis will be placed on the production of quality radiographs, and laboratory experience will demonstrate the application of theoretical principles and concepts. Topics include: procedures, anatomy, and topographical anatomy related to body cavities, bony thorax, upper extremities, and the shoulder girdle; and anatomy and routine projections of the bony thorax.  
Prerequisite: AHS 1011, RAD 101
- RAD 106 LOWER EXTREMITY AND SPINE PROCEDURES 2-3-3  
Continues to develop knowledge required to perform radiographic procedures. Topics include: anatomy and routine projections of the lower extremities, anatomy and routine projections of the pelvic girdle, anatomy and routine projections of the spine.  
Prerequisite: RAD 101
- RAD 107 PRINCIPLES OF RADIOGRAPHIC EXPOSURE I 3-3-4  
Introduces knowledge of the factors that govern and influence the production of the radiographic image on radiographic film. Laboratory experiences will demonstrate applications of theoretical principles and concepts. Emphasis will be placed on knowledge and techniques required to process radiographic film. Topics include: radiographic density, radiographic contrast, recorded detail, distortion, exposure latitude, film holders and intensifying screens, processing area considerations, chemicals, handling and storage of film, characteristics of films utilized in radiographic procedures, automatic processor, artifacts, silver recovery, processing quality assurance concepts, and state and federal regulations; and basic principles of digital imaging.  
Prerequisite: RAD 101
- RAD 109 CONTRAST PROCEDURES 2-2-3  
Continues development of the knowledge and skill required prior to execution of radiographic procedures in the clinical setting. Topics include: gastrointestinal (GI) procedures, genitourinary (GU) procedures, biliary system procedures, sterile techniques, and minor procedures; and sectional anatomy of the neck, thorax, and abdomen.  
Prerequisite: RAD 101
- RAD 113 CRANIUM PROCEDURES 1-2-2  
Continues to develop the knowledge required to perform radiographic procedures. Topics include: anatomy and routine cranial radiography and anatomy and routine facial radiography; and sectional anatomy of the head.  
Prerequisite: RAD 101, RAD 109
- RAD 116 PRINCIPLES OF RADIOGRAPHIC PROCEDURES II 3-0-3  
Continues to develop knowledge of the factors that govern and influence the production of the radiographic image on radiographic film and digital image acquisition. Topics include: beam limiting devices, beam filtration, scattered/secondary radiation, control of the remnant beam, technique formation, and exposure calculations.  
Prerequisite: RAD 107

- RAD 117 RADIOGRAPHIC IMAGING EQUIPMENT** 3-3-4  
 Provides knowledge of equipment routinely utilized to produce diagnostic images. Various recording media and techniques are discussed. Topics include: radiographic equipment, image intensified fluoroscopy, recording media and techniques, image noise, other imaging equipment, digital imaging/PACS, monitoring and maintenance, and state and federal regulations.  
 Prerequisite: RAD 116
- RAD 119 RADIOGRAPHIC PATHOLOGY & MEDICAL TERMINOLOGY** 3-0-3  
 Provides the student with an introduction to the concepts of disease. Pathology and disease as they relate to various radiographic procedures are discussed. Topics include: pathology fundamentals, trauma/physical injury, systemic classifications of disease and medical terminology.  
 Prerequisite: AHS 1011
- RAD 120 PRINCIPLES OF RADIATION BIOLOGY AND PROTECTION** 5-0-5  
 Provides instruction on the principles of cell radiation interaction. Radiation effects on cells and factors affecting cell response are presented. Acute and chronic effects of radiation are discussed. Topics include: radiation detection and measurement, patient protection, personnel protection, absorbed dose equivalencies, agencies and regulations, introduction to radiation biology, cell anatomy, radiation/cell interaction, and effects of radiation.
- RAD 123 RADIOLOGIC SCIENCE** 5-0-5  
 Introduces the concepts of basic physics and emphasizes the fundamentals of x-ray generating equipment. Topics include: atomic structure, structure of matter, magnetism and electromagnetism, electrodynamics, and control of high voltage and rectification, x-ray tubes, x-ray circuits, and production and characteristics of radiation.  
 Prerequisite/Corequisite: MAT 1013
- RAD 126 RADIOLOGIC TECHNOLOGY REVIEW** 4-0-4  
 Provides a review of basic knowledge from previous courses and helps the student prepare for national certification examinations for radiographers. Topics include: image production and evaluation; radiographic procedures; anatomy, physiology, pathology, and terminology; equipment operation and quality control; radiation protection; and patient care and education.  
 Prerequisite/Corequisite: RAD 134, RAD 138
- RAD 132 CLINICAL RADIOGRAPHY I** 0-14-5  
 Introduces students to the hospital clinical setting and provides an opportunity for students to participate in or observe radiographic procedures. Topics include: orientation to hospital areas and procedures; orientation to mobile/surgery; orientation to radiography and fluoroscopy; participation in and/or observation of procedures related to body cavities, the shoulder girdle, and upper extremities. Activities of students are under direct supervision.  
 Prerequisite/Corequisite: RAD 103 or RAD 108
- RAD 133 CLINICAL RADIOGRAPHY II** 0-21-7  
 Continues introductory student learning experiences in the hospital setting. Topics include: equipment utilization; exposure techniques; participation in and/or observation of routine projections of the lower extremities, pelvic girdle, spine, and bony thorax; and participation in and/or observation of procedures related to the gastrointestinal (GI), genitourinary (GU), and biliary systems. Execution of radiographic procedures will be conducted under direct and indirect supervision.  
 Prerequisite: RAD 101, RAD 132
- RAD 134 CLINICAL RADIOGRAPHY III** 0-21-7  
 Provides students with continued hospital setting work experience. Students improve skills in executing procedures introduced in Radiographic Procedures and practiced in previous clinicals. Topics include: equipment utilization; exposure techniques; participation in and/or observation of gastrointestinal (GI), genitourinary (GU), and biliary system procedures; and participation in and/or

observation of cranial and facial radiography. Execution of radiographic procedures will be conducted under direct and indirect supervision.

Prerequisite: RAD 101, RAD 133

**RAD 135 CLINICAL RADIOGRAPHY IV** 0-21-7

Provides students with continued hospital setting work experience. Students continue to develop proficiency in executing procedures introduced in Radiographic Procedures. Topics include: patient care; behavioral and social competencies; sterile techniques; participation in and/or observation of minor special procedures, special equipment use, and genitourinary system procedures; and participation in and/or observation of cranial and facial radiography. Execution of radiographic procedures will be conducted under direct and indirect supervision.

Prerequisite: RAD 101

**RAD 136 CLINICAL RADIOGRAPHY V** 0-21-7

Provides students with continued hospital setting work experience. Students demonstrate increased proficiency levels in skills introduced in Radiographic Procedures and practiced in previous clinical radiography courses. Topics include: advanced radiographic anatomy; equipment utilization; exposure techniques; sterile techniques; participation in and/or observation of angiographic, interventional, minor special, and special genitourinary system procedures; and participation in and/or observation of special equipment use. Execution of radiographic procedures will be conducted under direct and indirect supervision.

Prerequisite: RAD 135

**RAD 137 CLINICAL RADIOGRAPHY VI** 0-24-10

Provides a hospital setting in which students continue to develop proficiency levels in skills introduced in previous Radiographic courses and practiced in previous clinical radiography courses. Topics include: patient care; behavioral and social competency; equipment utilization; exposure techniques; and participation in and/or observation of routine and special radiographic procedures. Execution of radiographic procedures will be conducted under direct and indirect supervision

Prerequisite/Corequisite: RAD 120, RAD 136

**RAD 138 CLINICAL RADIOGRAPHY VII** 0-24-10

Provides a culminating hospital setting work experience which allows the students to synthesize information and procedural instruction provided throughout the program. Topics include: patient care; behavioral and social competency; equipment utilization; exposure techniques; participation in and/or observation of routine and special radiographic procedures; and final completion of all required clinical competencies. Execution of radiographic procedures will be conducted under direct and indirect supervision.

Prerequisite: RAD 137

**RDG 095 READING I** 0-10-5 I.C

This course provides instruction for the development of reading with emphasis on practical reading skills for the adult learner. Topics include vocabulary and comprehension skills.

Prerequisite: Entrance reading score in accordance with approved TCSG admission score levels.

**RDG 096 READING II** 5-0-5 I.C

This course emphasizes the strengthening of fundamental reading competencies. Topics include vocabulary skills, comprehension skills, and study skills.

Prerequisite: RDG 095, or entrance reading score in accordance with approved TCSG admission score levels.

**RDG 097 READING III** 5-0-5 I.C

This course emphasizes vocabulary, comprehension and critical skills development. Topics include: vocabulary skills, comprehension skills, critical reading skills, study skills, content reading skills.

Prerequisite: RDG 096, or entrance reading score in accordance with approved TCSG admission score levels.



- RDG 098 READING IV** 5-0-5 I.C  
 This course provides instruction in vocabulary and comprehension skills with emphasis on critical reading skills. Topics include vocabulary skills, comprehension skills, critical reading skills, study skills, and content reading skills.  
 Prerequisite: RDG 097, or entrance reading score in accordance with approved TCSG admission score levels.
- RRI 101 INTRODUCTION TO THE RAIL INDUSTRY** 6-2-7  
 Introduces the fundamental concepts and operations in the Railroad Industry. Topics include introduction to the rail industry orientation, locomotive familiarization, EMD locomotives, GE locomotives, introduction to locomotive air brake systems, introduction to the Department of Transportation, and FRA rules overview.
- RRE 101 LOCOMOTIVE ELECTRICAL SYSTEMS** 3-1-3.5  
 This course introduces a basic understanding of locomotive electrical systems and how to use blueprints and charts to identify and locate them on the locomotive. This course would be a prerequisite to interviewing for a student electrician (apprenticeship) position with a Class I railroad.  
 Prerequisite/Corequisite: RRI 101
- RRM 101 LOCOMOTIVE MECHANICAL SYSTEMS** 3-1-3.5  
 Introduces the fundamental concepts and operations of locomotive mechanical systems. Topics include: EMD diesel engines, EMD cooling and lubrication systems, EMD fuel and engine systems, GE diesel engines, GE cooling and lubrication systems, and GE fuel and engine air systems.  
 Prerequisite/Corequisite: RR1 101
- RTT 111 PHARMACOLOGY** 5-0-5  
 Introduces the physiologic and pharmacologic basis of pulmonary and cardiac medications. Focuses on the preparation and calculation of dosages and mixtures and general principles of pharmacology. Topics include: drug preparation, dosage calculation, mixture preparation, pharmacology principles, bronchoactive drugs, and cardiopulmonary system related drugs.  
 Prerequisite: BIO 2113; BIO 2114; MAT 1111
- RTT 112 INTRODUCTION TO RESPIRATORY THERAPY** 5-0-5  
 Provides students with the principles of chemistry and physics as they apply to respiratory therapy. Emphasizes specific modes of respiratory care in order to understand principles of application to patients, indications, hazards, contraindications, evaluation of therapy, and patient assessment. Topics include: respiratory therapy chemistry and physics principles, patient assessment, medical gases, humidity/aerosol therapy, positive pressure breathing, incentive spirometry, postural drainage, percussion/vibration, universal precautions, and hospital safety.  
 Prerequisite: BIO 2113; MAT 1111  
 Prerequisite/Corequisite: RTT 113, BIO 2114, BIO 2117, AHS 1126
- RTT 113 RESPIRATORY THERAPY LAB I** 0-10-5  
 Provides students with the opportunity to gain hands-on experience with basic respiratory therapy equipment. Students perform simulated clinical exercises as well as bedside assessments and cardiopulmonary resuscitation. Topics include: patient assessment, medical gases, humidity/aerosol therapy, positive pressure breathing, incentive spirometry, postural drainage, percussion/vibration, and medical ethics.  
 Prerequisite/Corequisite: RTT 112
- RTT 193 CARDIOPULMONARY ANATOMY AND PHYSIOLOGY** 10-0-10  
 Provides an in-depth study of cardiac and pulmonary anatomy and physiology, and the diagnostic procedures commonly used in the hospital to evaluate these systems. Emphasizes the heart-lung relationship and clinical applications of these phenomena in the cardiopulmonary system. Topics include: respiratory function; ventilatory mechanisms; gas transport; laboratory analysis; natural and chemical regulation of breathing; circulation, blood flow and pressure, and cardiac function; and renal physiology.  
 Prerequisite/Corequisite: BIO 2113; BIO 2114; MAT 1111

- RTT 209 CLINICAL PRACTICE I 0-8-2  
 Introduces students to clinical practice in basic respiratory care procedures. Topics include: introduction to clinical affiliate, medical gas therapy, oxygen therapy, aerosol therapy, incentive spirometry, patient assessment, and cardiopulmonary resuscitation.  
 Prerequisite/Corequisite: RTT 111, RTT 112, RTT 113
- RTT 210 CLINICAL PRACTICE II 0-8-2  
 Continues to develop skills used in the clinical practice. Topics include: medical gas therapy, oxygen therapy, aerosol therapy, incentive spirometry, and patient assessment.  
 Prerequisite/Corequisite: RTT 209
- RTT 211 PULMONARY DISEASE 5-0-5  
 Provides students with information concerning assessment of etiology, pathophysiology, treatment, and prognosis of common cardiopulmonary, cardiovascular, and pulmonary diseases and conditions. Topics include: infectious diseases and conditions, respiratory diseases and conditions, neuromuscular diseases and conditions, cardiovascular diseases and conditions, patient assessment, laboratory tests, chest radiographs, and trauma.  
 Prerequisite: RTT 111, RTT 112
- RTT 212 CRITICAL RESPIRATORY CARE 5-0-5  
 Provides students with knowledge on all phases of adult critical care and continuous mechanical ventilation. Topics include: mechanical ventilation history, adult critical care, continuous mechanical ventilation, ventilator implementation, ventilation monitoring, ventilator weaning, and ventilator discontinuance.  
 Prerequisite: RTT 112, RTT 113
- RTT 213 MECHANICAL VENTILATION EQUIPMENT AND AIRWAY CARE 2-7-5  
 Provides instruction in the theory, set-up, operation, and maintenance of mechanical ventilators and equipment used to establish and maintain both adult and pediatric airways and emergency airway disorders. Topics include: ventilator operation, ventilator maintenance, emergency airway disorders, adult airway establishment and maintenance, pediatric airway establishment and maintenance, fiber optic bronchoscopy, thoracentesis, chest tube maintenance, and arterial blood gas sampling.  
 Prerequisite: RTT 112, RTT 113  
 Prerequisite/Corequisite: RTT 212
- RTT 214 ADVANCED CRITICAL CARE MONITORING 2-0-2  
 Provides a study of advanced critical care techniques for hemodynamic and noninvasive monitoring. Topics include: arterial pressure monitoring, central venous catheters, pulmonary artery catheters, cardiac output measurement, and noninvasive monitoring techniques.  
 Prerequisite: RTT 112, RTT 113, RTT 193
- RTT 215 PULMONARY FUNCTION TESTING 1-1-1  
 Provides knowledge regarding normal and abnormal pulmonary functions. Emphasizes performance, interpretation, and evaluation of various pulmonary function studies. Topics include: pulmonary function testing, pulmonary function interpretation, pulmonary function evaluation, and blood gas analysis and polysmnography.  
 Prerequisite: RTT 193
- RTT 216 PEDIATRIC AND NEONATAL RESPIRATORY CARE 3-0-3  
 Provides concepts on the processes of growth and development related to respiratory care from the fetus to the adolescent. Relates physiologic function to respiratory care assessment. Topics include: fetal growth and development, neonatal growth and development, fetal and neonatal assessment, neonatal respiratory care, neonatal pathology, pediatric pathology, adolescent assessment, and adolescent respiratory care.  
 Prerequisite: RTT 193, RTT 212, RTT 213
- RTT 217 ADVANCED RESPIRATORY CARE SEMINAR 5-0-5  
 Review of respiratory therapy as it pertains to the national credential examinations administered by the NBRC. Emphasizes decision making and problem solving as they relate to clinical respiratory

care. Topics include: medical ethics, basic computer literacy, CRTT exam preparation, and RRT exam preparation.

Prerequisite/Corequisite: RTT 212, RTT 213, CHM 1111, BIO 2117

**RTT 218 CLINICAL PRACTICE III** 0-8-2

Continues development of proficiency levels in skills introduced in Clinical Practices I and II. In addition, intermittent positive pressure breathing, chest physiotherapy, and airway care are introduced. Case presentations are required to integrate clinical and classroom theory. Topics include: intermittent positive pressure breathing, chest physiotherapy, airway care, medical gas therapy oxygen therapy, aerosol therapy, incentive spirometry, and patient assessment.

Prerequisite/Corequisite: RTT 210

**RTT 219 CLINICAL PRACTICE IV** 0-8-2

Continues development of proficiency levels in skills introduced in Clinical Practices I, II, and III. In addition, the student is introduced to critical respiratory care. Case presentations are required to integrate clinical and classroom theory. Topics include: intermittent positive pressure breathing, chest physiotherapy, airway care, medical gas therapy, oxygen therapy, aerosol therapy, incentive spirometry, patient assessment, and respiratory care of the critical care patient.

Prerequisite/Corequisite: RTT 218

**RTT 220 CLINICAL PRACTICE V** 0-16-5

Continues development of skills required in the intensive care of the respiratory patient. Case presentations are required to integrate clinical and classroom theory. Topics include: basic respiratory care of critical care patients, airway management, ventilator monitoring, arterial blood collection, blood gas analysis, and EKG.

Prerequisite/Corequisite: RTT 212, RTT 213, RTT 218

**RTT 222 CLINICAL PRACTICE VI** 0-32-10

Provides students with an opportunity for in-depth application and reinforcement of adult intensive care. In addition, students are provided an opportunity for application and reinforcement of pediatric and neonatal intensive care, advanced diagnostics, and rehabilitation/home care. Topics include: mechanical ventilation initiation, patient stabilization, critical care monitoring, homodynamic measurement, homodynamic evaluation, bronchial hygiene, weaning mechanics, extubation, arterial line sampling, advanced diagnostics, pediatric/neonatal respiratory care, and rehabilitation/home care.

Prerequisite: RTT 219

**RTT 227 REHABILITATION AND HOME CARE** 1-1-1

Provides an overview of the concepts, procedures, and equipment used in rehabilitation and in the delivery of long-term care to persons with chronic pulmonary disorders. Topics include: cardiopulmonary rehabilitation/home care concepts, cardiopulmonary rehabilitation/home care procedures, and cardiopulmonary rehabilitation/home care equipment.

Prerequisite/Corequisite: RTT 112

**SCT 100 INTRODUCTION TO MICROCOMPUTERS** 1-4-3

Introduces the fundamental concepts and operations necessary to use microcomputers. Emphasis is placed on basic functions and familiarity with computer use. Topics include: computer terminology, introduction to the Windows environment, introduction to networking, introduction to word processing, introduction to spreadsheets, introduction to databases, introduction to presentation graphics.

**SOC 1101 INTRODUCTION TO SOCIOLOGY** 5-0-5

Explores the sociological analysis of society, its culture, and structure. Sociology is presented as a science with emphasis placed on its methodology and theoretical foundations. Topics include: basic sociological concepts, socialization, social interaction and culture, social groups and institutions, deviance and social control, social stratification, and social change; and marriage and family.

- SPC 1101 PUBLIC SPEAKING 5-0-5  
Introduces the fundamentals of oral communication. Topics include: selection and organization of materials, preparation and delivery of individual and group presentations, and analysis of ideas presented by others and professionalism.
- SUR 101 INTRODUCTION TO SURGICAL TECHNOLOGY 5-2-6  
Provides an overview of the Surgical Technology profession and develops the fundamental concepts and principles necessary to successfully participate on a surgical team. Topics include: orientation to Surgical Technology, asepsis and the surgical environment, basic instrumentation and equipment, principles of the sterilization process, and application of sterilization principles.
- SUR 102 PRINCIPLES OF SURGICAL TECHNOLOGY 4-3-5  
Provides continued study of surgical team participation by wound management and technological sciences for the operating room. Topics include: biomedical principles; minimal invasive surgery; outpatient surgical procedures; hemostasis; wound healing; surgical dressings, catheters, and drains; incisions; and tissue handling techniques. Prerequisite: SUR 101, SUR 108 (diploma), SUR 109 and PSY 1010 (diploma), or PSY 1101 (degree), BIO 2117 (degree)
- SUR 108 SURGICAL MICROBIOLOGY 3-0-3  
Introduces the fundamentals of surgical microbiology. Topics include: historical development of microbiology, cell structure and theory, microbial function, human and pathogen relationships, infectious process, blood borne and airborne pathogens, defense microorganisms, infection control, and principles of microbial control and destruction.  
Prerequisite/Corequisite: AHS 104, AHS 109, BIO 2113, SCT 100, ENG 1010, MAT 1012, (diploma), or ENG 1101 and MAT 1111 (degree)  
Corequisite: SUR 101, PSY 1010, (diploma), or PSY 1101 (degree)
- SUR 109 SURGICAL PATIENT CARE 2-2-3  
Introduces a complex diversity of surgical patients. Topics include: Biopsychosocial diversities and needs, preoperative routine, intraoperative patient care, postoperative patient care, and health and wellness.  
Prerequisite: MAT 1012 or MAT 1111 PSY 1010 or PSY 1101), SCT 100, ENG 1010 or ENG 1101, ENG 1102, SOC 1101, AHS 109, AHS 104, AHS 1011 or BIO 2114  
Corequisite: SUR 101; SUR 108 (diploma); BIO 2117 (degree)
- SUR 110 SURGICAL PHARMACOLOGY 2-2-3  
Introduces the fundamentals of intraoperative pharmacology, and emphasizes concepts of anesthesia administration. Topics include: weights and measurements, drug conversions, interpretation of drug orders, legal aspects of drug administration, intraoperative pharmacologic agents, and anesthesia fundamentals.  
Prerequisite: PSY 1010 (diploma), or PSY 1101 (degree),  
Prerequisite/Corequisite: SUR 101, SUR 102, SUR 108, SUR 109
- SUR 112 INTRODUCTORY SURGICAL PRACTICUM 0-21-7  
Orients students to the clinical environment and provides experience with basic skills necessary to the surgical technologist. Topics include: scrubbing, gowning, gloving, and draping; assistance with patient care; processing of instruments and supplies; maintenance of a sterile field; basic instrumentation; and environmental sanitation.  
Prerequisite: BIO 2113, SUR 101  
Prerequisite/Corequisite: SUR 102
- SUR 203 SURGICAL PROCEDURES I 5-2-6  
Continues introduction to surgical procedures, incisions, wound closure, operative pathology, and common complications as applied to general and specialty surgery. Topics include: general surgery and special techniques, obstetrical and gynecological surgery, gastrointestinal surgery, genitourinary surgery, head and neck surgery, and plastic and reconstructive surgery.  
Prerequisite: SUR 102, SUR 109, SUR 110, SUR 112  
Prerequisite/Corequisite: SUR 213

- SUR 204 SURGICAL PROCEDURES II** 5-2-6  
 Continues development of student knowledge and skills applicable to specialty surgery areas. Topics include: ophthalmic surgery, orthopedic surgery, thoracic surgery, vascular surgery, cardiovascular surgery, and neurosurgery.  
 Prerequisite: SUR 203, SUR 213  
 Prerequisite/Coequisite : SUR 214
- SUR 213 SPECIALTY SURGICAL PRACTICUM** 0-24-8  
 Continues development of surgical team participation through clinical experience. Emphasis is placed on observation/participation in routine procedures and procedures for general and specialty surgery. Topics include: participation in and/or observation of general surgery, gastrointestinal surgery, obstetrical and gynecological surgery, genitourinary surgery, head and neck surgery, and plastic and reconstructive surgery.  
 Prerequisite: SUR 102, SUR 109, SUR 110, SUR 112  
 Prerequisite/Corequisite: SUR 203
- SUR 214 ADVANCED SURGICAL PRACTICUM** 0-24-8  
 Provides opportunity for students to complete all required Surgical Technology procedures through active participation in surgery in the clinical setting. Topics include: primary scrub on specialty surgical procedures; participation as a surgical team conducting ophthalmic, orthopedic, thoracic, vascular, cardiovascular, and neurosurgery procedures; independent case preparation and implementation of intraoperative skills; and demonstration of employability skills.  
 Prerequisite: SUR 203, SUR 213  
 Prerequisite/Corequisite: SUR 204, SUR 224
- SUR 224 SEMINAR IN SURGICAL TECHNOLOGY** 3-0-3  
 Prepares students for entry into careers as surgical technologists and enables them to effectively review for the national certification examination. Topics include: professional preparation, certification review, and test-taking skills.  
 Prerequisite: SUR 203, SUR 213  
 Prerequisite/Corequisite: SUR 204, SUR 214
- WCM 100 WOUND CARE MANAGEMENT** 3-3-4  
 Focuses on various methods of providing wound care management as well as the importance of maintaining a medical as well as surgical asepsis when providing wound care.
- WLD 100 INTRODUCTION TO WELDING TECHNOLOGY** 4-4-6  
 Provides an introduction to welding technology with an emphasis on basic welding laboratory principles and operating procedures. Topics include: industrial safety and health practices; hand tool and power machine operations; measurement; laboratory procedures; introduction to codes and standards; welding career potentials; basic electricity and power sources; preparation, and testing procedures.
- WLD 101 OXYFUEL CUTTING** 2-6-4  
 Introduces fundamental principles, safety practices, equipment, and techniques necessary for metal heating and oxyfuel cutting. Topics include: metal heating and cutting principles, safety procedures, use of oxyfuel cutting torch and flame cutting apparatus, metal heating and cutting techniques, cutting with manual and automatic cutting machines, and oxyfuel pipe cutting. Practice in the laboratory is provided.  
 Prerequisite: WLD 1012
- WLD 103 BLUEPRINT READING I** 1-4-3  
 Introduces the knowledge and skills necessary for reading welding and related blueprints and sketches. Topics include: basic lines, sketches, basic views, notes and specifications, dimensions, structural shapes, isometrics, sectional views, joint design, and detail and assembly prints.  
 Prerequisite/Corequisite: MAT 1012

- WLD 104 SHIELDED METAL ARC WELDING I 3-7-6  
 Introduces the fundamental theory, safety practices, equipment, and techniques required for shielded metal arc welding (SMAW) in the flat position. Qualification tests, flat position, are used in the evaluation of student progress toward making industrial standard welds. Topics include: SMAW safety and health practices; SMAW theory; basic electrical principles; introduction to SMAW machines; equipment set up; identification and selection of low hydrogen, mild steel, and other common electrodes; joint design; selection and preparation of materials; and production of beads and joints in the flat position.  
 Prerequisite: WLD 100
- WLD 105 SHIELDED METAL ARC WELDING II 3-7-6  
 Introduces the major theory, safety practices, and techniques required for shielded metal arc welding (SMAW) in the horizontal position. Qualification tests, horizontal position, are used in the evaluation of student progress toward making industrial standard welds. Topics include: horizontal SMAW safety and health practices, selection and applications of electrodes, selection and applications for horizontal SMAW, horizontal SMAW joints, and horizontal SMAW to specification.  
 Prerequisite: WLD 104
- WLD 106 SHIELDED METAL ARC WELDING III 3-7-6  
 Introduces the major theory, safety practices, and techniques required for shielded metal arc welding (SMAW) in the vertical position. Qualification tests, vertical position, are used in the evaluation of student progress toward making industrial standard welds. Topics include: vertical SMAW safety and health practices, selection and applications of electrodes for vertical SMAW, vertical SMAW joints, and vertical SMAW to specification.  
 Prerequisite: WLD 104
- WLD 107 SHIELDED METAL ARC WELDING IV 3-7-6  
 Introduces the major theory, safety practices, and techniques required for shielded metal arc welding (SMAW) in the overhead position. Qualification tests, overhead position, are used in the evaluation of student progress toward making industrial standard welds. Topics include: overhead SMAW safety and health practices, selection and applications of electrodes for overhead SMAW, overhead SMAW joints, and overhead SMAW to specification.  
 Prerequisite: WLD 104
- WLD 108 BLUEPRINT READING II 1-4-3  
 Emphasizes welding symbols and definitions through which the engineer or designer communicates with the welder. Welding symbols are considered an integral part of blueprint reading for the welder. Topics include: welding symbols and abbreviations; basic joints for weldment fabrications; industrially used welds; surfacing back or backing, and melt-thru welds; and structural shapes and joint design.  
 Prerequisite/Corequisite : WLD 103
- WLD 109 GAS METAL ARC WELDING (GMAW/MIG) 3-7-6  
 Provides knowledge of theory, safety practices, equipment and techniques required for successful gas metal arc welding. Qualification tests, all positions, are used in the evaluation of student progress toward making industrial standard welds. Topics include: GMAW safety and health practices; GMAW theory, machines, and set up; transfer modes; wire selection; shielded gas selection; and GMAW joints in all positions.  
 Prerequisite : WLD 100
- WLD 110 GAS TUNGSTEN ARC WELDING (GTAW/TIG) 2-5-4  
 Provides knowledge of theory, safety practices, inert gas, equipment, and techniques required for successful gas tungsten arc welding. Qualification tests, all positions, are used in the evaluating of student progress toward making industrial standard welds. Topics include: GTAW safety and health practices; shielding gases; metal cleaning procedures; GTAW machines and set up; selection of filler rods; GTAW weld positions; and production of GTAW beads, bead patterns, and joints.  
 Prerequisite : WLD 100

WLD 112 PREPARATION FOR INDUSTRIAL QUALIFICATION

2-6-4

Introduces industrial qualification methods, procedures, and requirements. Students are prepared to meet the qualification criteria of selected national welding codes and standards. Topics include: qualification test methods and procedures, codes and standards, fillet and groove weld test specimens, and national industrial student preparation for qualification and job entry.

Prerequisite: WLD 101, WLD 105, WLD 106, WLD 107

WLD 133 METAL WELDING AND CUTTING TECHNIQUES

2-3-3

Provides instruction in the fundamental use of the electric arc welder and the oxyacetylene cutting outfit. Emphasis is placed on safe setup and use of equipment. Topics include: arc welding, flame cutting, safety practices, oxyfuel welding, and brazing.

WLD 150 ADVANCED GAS TUNGSTEN ARC WELDING

2-8-5

Provides knowledge of theory, safety practices, inert gas, equipment, and techniques required for successful advanced gas tungsten arc welding (GTAW). Qualification tests, all positions, are used in the evaluation of student progress toward making advanced level industrial standard welds. Topics include: GTAW safety and health practices; shielding gases, metal cleaning procedures; GTAW machines and equipment set up; selection of filler rods; GTAW weld positions; and advanced production of GTAW beads, bead patterns, and joints in all positions.

Prerequisite: WLD 110

## PERSONNEL DIRECTORY

### Office of the President

Fax: 912-287-6584

Thaxton, Gail  
Office of the President  
Ed.D., Educational Leadership, Valdosta State  
University  
912-287-5828  
gthaxton@okefenokeetech.edu

Boyett, Chad  
Director, Facilities  
M.Ed., Valdosta State University  
912-287-5808  
cboyett@okefenokeetech.edu

Brannen, Andy  
Vice President, Economic Development  
M.S.M., Troy State University; CEDT  
912-287-5856  
abrannen@okefenokeetech.edu

Cannon, Danita M.  
Vice President, Student Affairs  
Ed.S., Valdosta State University  
912-284-2509  
dcannon@okefenokeetech.edu

Farr, Pamela D.  
Vice President, Administrative Services  
B.B.A., Valdosta State University; CPA  
912-287-5842  
pfarr@okefenokeetech.edu

Johnson, Austin  
Campus Dean, Alma Technical Center  
M.Ed. Adult Education, University of GA  
912-632-0951  
ajohnson@okefenokeetech.edu

Johnson, Shaylyn  
Project Assistant  
B.B.A. Finance, Columbus State University  
912-287-5829  
sjohnson@okefenokeetech.edu

Lawson, Debbie  
System Operator, DTAE Data Center  
A.S., Waycross College  
(912) 287-6589  
dlawson@dtae.org

Fairley, Margaret  
Executive Assistant to the President  
912-287-5827  
mfairley@okefenokeetech.edu

Pearce, Steve  
Vice President, Academic Affairs  
Ed.D., Valdosta State University  
912-287-5818  
spearce@okefenokeetech.edu

Tanner, Cindy  
Director of Public Relations  
M.Ed., Valdosta State University  
912-287-5829  
ctanner@okefenokeetech.edu



**Office of Administrative Services**  
**Fax: 912-287-6584**

Farr, Pamela D.  
Vice President, Administrative Services  
B.B.A., Valdosta State University; CPA  
912-287-5842  
pfarr@okefenokeetech.edu

Barnes, Lisa  
Administrative Operations Specialist  
Diploma, Okefenokee Technical College  
912-338-5222  
lbarnes@okefenokeetech.edu

Crews, Angie  
Personnel Technician  
A.A.T., Okefenokee Technical College  
912-287-5830  
acrews@okefenokeetech.edu

Dryden, Cheryl  
Accounting Technician  
912-287-5831  
cdryden@okefenokeetech.edu

Harrell, Beverly  
Bookstore Manager  
A.A.T., Okefenokee Technical College  
912-285-6199  
bharrell@okefenokeetech.edu

Harrison, Jackie  
Cashier  
Asset Management  
Diploma, Okefenokee Technical College  
912-285-6319  
jharrison@okefenokeetech.edu

Linder, Cynthia  
Human Resources Coordinator  
BBA, Georgia Southern University/HRM  
912-287-4098  
clinder@okefenokeetech.edu

Pearson, Glenna  
Accounting Technician  
912-287-5832  
gpearson@okefenokeetech.edu

Williams-Broadly, Shayvon  
Purchasing Technician  
Diploma, Okefenokee Technical College  
912-287-5841  
sbroadly@okefenokeetech.edu

**Office of Economic Development**  
**Fax: 912-287-5857**

Brannen, Andy  
Vice President, Economic Development  
M.S.M., Troy State University; CEDT  
912-287-5856  
abrannen@okefenokeetech.edu

Hesters, Judy L.  
Continuing Education Director  
M.S. Postsecondary Ed., Troy University  
912-449-2230  
jscott@okefenokeetech.edu

Coffee, Hazel  
Secretary, Adult Education  
A.A., Waycross College  
912-287-6580  
hcoffee@okefenokeetech.edu

Mills, James Peter  
Executive Director of Adult Education  
BS in Education, Eastern Michigan  
University  
912-287-6662  
pmills@okefenokeetech.edu

Dixon, Sonya  
Clerical Services Worker  
Diploma, Okefenokee Technical College  
912-287-6580  
sdixon@okefenokeetech.edu

Moore, Sue  
Administrative Assistant to VP, Economic  
Development  
912-287-6569  
smoore@okefenokeetech.edu

Golden, Tiffany  
Secretary 2  
AAT/Okefenokee Technical College  
912-287-5854  
tgolden@okefenokeetech.edu

**Office of Academic Affairs**  
**Fax: 912-284-2503**

Pearce, Steve  
Vice President, Academic Affairs  
Ed.D., Valdosta State University  
912-287-5818  
spearse@okefenokeetech.edu

Allbritton, Susan  
Administrative Assistant to VP of AA  
A. A. S. Computer Information Systems  
Okefenokee Technical College  
912-287-5817  
sallbritton@okefenokeetech.edu

Clemons, Cassie  
Library Assistant  
BA, Valdosta State University  
912-287-6655  
cclemons@okefenokeetech.edu

Dial, Thomas  
Technical Support Specialist  
Computer Info/Networking Specialist  
Okefenokee Technical College  
(912) 285-6008  
Dixon, Arlene  
Receptionist, Evening  
912-287-6585  
adixon@okefenokeetech.edu

Dryden, Amanda Morris  
Coordinator of Distance Education/Web  
Master  
M. Ed., Valdosta State University  
Master Cert., Georgia Southwestern State  
912-287-5851  
amorris@okefenokeetech.edu

Godair, Larry  
Dean for Academic Affairs  
MBA, University of Notre Dame  
912-284-2509  
lgodair@okefenokeetech.edu

Lefevre, Jason  
Evening Library Assistant  
B.A. Journalism, Thomas Edison State  
912-287-5834  
jlefevre@okefenokeetech.edu

Ogundu, Temple  
Dean of Academic Affairs  
MBA/Alabama A&M University  
912-287-5807  
togundu@okefenokeetech.edu

Rigdon, Shelia  
Library Assistant, Alma Campus  
912-632-0951  
srigdon@okefenokeetech.edu

Sweat, Jewell  
Dean for Academic Affairs  
Ed.D., Valdosta State University  
912-287-4861  
jsweat@okefenokeetech.edu

Thomas, Tanya "Deedee"  
High School Coordinator  
M.S. Applied Sociology, Valdosta State  
University  
912-284-2510  
dthomas@okefenokeetech.edu

Pittman, David  
Information Systems Administrator  
B.S. Information Technology, Valdosta State  
University  
912-285-6008  
dpittman@okefenokeetech.edu

**Office of Student Affairs**  
**Fax: 912-284-2508**

Cannon, Danita M.  
Vice President, Student Affairs  
Ed.S., Valdosta State University  
912-284-5806  
dcannon@okefenokeetech.edu

Murphy, Neal  
Admissions Director  
B.S., Georgia Southern University  
912-338-5251  
nmurphy@okefenokeetech.edu

Boyle, Karen  
Retention Coordinator  
MSW, Tulane University  
912-285-6119  
kboyle@okefenokeetech.edu

Shugart, Carol  
Director, Institutional Effectiveness  
M.Ed., Valdosta State University  
912-287-5809  
cshugart@okefenokeetech.edu

Bussey, Katherine  
Career Counselor, Alma Center  
B.A., Economics, Georgia Southern University  
912-632-0951  
kbussey@okefenokeetech.edu

Reeves, Gail  
Student Affairs Assistant  
912-287-5812  
preeves@okefenokeetech.edu

Gibson, Charlie  
Director of Career Placement & Development  
M.Ed., Valdosta State University  
912-287-5813  
cgibson@okefenokeetech.edu

Thrift, Tara  
Registrar  
B.S., Kaplan University  
912-287-4837  
tthrift@okefenokeetech.edu

Hancock, Gail  
Receptionist  
912-287-6584  
ghancock@okefenokeetech.org

Wilson, Angie  
Director, Financial Aid  
M.B.A., Valdosta State University  
912-287-5819  
awilson@okefenokeetech.edu

Lee, Melissa  
Student Affairs Assistant  
Diploma, Okefenokee Technical College  
912-338-5250  
mlee@okefenokeetech.edu

Yawn, Debbie  
Financial Aid Technician  
A.A.S., Okefenokee Technical College  
912-338-5252  
dyawn@okefenokeetech.edu

**Facilities**  
**Fax: 912-287-6584**

Boyett, Chad  
Director, Facilities  
M.Ed., Valdosta State University  
912-287-5808  
cboyett@okefenokeetech.edu

Dowling, Paul  
Maintenance Technician  
912-287-6584

Hicks, Lucious  
Maintenance Supervisor  
912-287-6584  
lhicks@okefenokeetech.edu

Hill, Jeffrey  
Custodian  
912-287-6584  
jhill@okefenokeetech.edu

Johnson, Fleet  
Custodian  
912-287-5808

Pittman, Samuel  
Custodian  
912-287-6584  
spittman@okefenokeetech.edu

Rager, Lisa  
Custodian  
912-287-6584

Roppe, Jimmy  
Security Officer  
912-287-6584  
jroppe@okefenokeetech.edu

Thrift, Charles  
Maintenance Technician  
Air conditioning Technology  
Okefenokee Technical College

Welch, Larry  
Maintenance Technician  
Alma Campus  
912-632-0951

Woodie, Marvin  
Security Personnel  
(912) 287-6584

## Full-Time Instructors

Fax: 912-284-2503

Aldridge, Victoria  
Instructor, C.N.A. Health Occupations  
LPN, Okefenokee Technical College

Basile, Brenda  
Technical Instructor/Program Director, Practical  
Nursing  
M.S.N., Valdosta State University  
912-287-5836  
bbasile@okefenokeetech.edu

Braddock, Marcia  
Technical Instructor, SCT 100/BOT  
A.A.S. Microcomputer Specialist, Okefenokee  
Technical College  
912-287-5835  
mbraddock@okefenokeetech.edu

Bratcher, Melvin  
Technical Instructor, Construction Cluster  
Diploma, South Georgia Tech  
912-632-6670  
melvin@okefenokeetech.edu

Carr, Larry  
Technical Instructor, Automotive Technology  
Diploma, Okefenokee Technical College  
912-287-5825  
lcarr@okefenokeetech.edu

Casey, Darrell  
Adult Literacy Instructor  
BS/ Adult & Career Education  
Valdosta State University  
dcasey@okefenokeetech.edu  
(912) 496-4941

Clemmer, Brent  
Technical Instructor/Clinical Coordinator  
Radiologic Technology  
BS/Columbia Union College  
912-287-5837  
bclemmer@okefenokeetech.edu

Daniels, Cathy  
Instructor, Adult Education  
B.A., Syracuse University  
912-285-6041  
cdaniels@okefenokeetech.edu

Davis, Carlton, Jr.  
Commercial Truck Driving Instructor  
Economic Development Department  
912-338-5238  
cdavis@okefenokeetech.edu

Deal, Mark  
Technical Instructor, Environmental Horticulture  
Waycross College, A. A. Business Administration  
GGIA Certified Plant Professional  
Georgia Certified Landscape Professional  
Georgia Commercial Pesticide Applicator  
Georgia Master Gardener  
912-338-5284  
mdeal@okefenokeetech.edu

Deason, Donna  
Technical Instructor, Early Childhood Care and  
Education  
M.Ed. / E.C.E., Georgia Southwestern State  
University  
912-287-5824  
ddeason@okefenokeetech.edu

Downs, Debra  
Technical Instructor/Program Director  
Medical Assisting  
AAT, Okefenokee Technical College  
912-338-5953  
ddowns@okefenokeetech.edu

Furman, Doug  
Technical Instructor, Welding and Joining  
Technology  
Diploma, Okefenokee Technical College  
912-287-5853  
dfruman@okefenokeetech.edu

Goodman, Heather  
Instructor, Adult Education  
BSW Social Work, NC State University  
912-487-5673  
hgoodman@okefenokeetech.edu

Harkleroad, Ollie  
Technical Instructor, Cosmetology  
Diploma, Ben Hill-Irwin Tech; Dublin School of Hair  
Design  
912-287-6587  
oharkleroad@okefenokeetech.edu

Harris, Derrell  
Technical Instructor, Computer Information  
Systems  
M.Ed., Valdosta State University  
912-287-5850  
dharris@okefenokeetech.edu

Harrison, Darrene  
Technical Instructor/Practical Nursing  
BSN, Valdosta State College  
(912) 338.5255  
dharrison@okefenokeetech.edu

Helms, James  
General Education Instructor, Mathematics  
Ed.D., University of Georgia  
912-287-5840  
jhelms@okefenokeetech.edu

Henderson, Lori T.  
Technical Instructor, Practical Nursing  
A.D.N., South Georgia College  
912-287-5836  
lorih@okefenokeetech.edu

Henderson, M. Lynn  
Technical Instructor, Practical Nursing  
A.D.N., South Georgia College  
912-632-6650  
mhenderson@okefenokeetech.edu

Henry, Theresa D.  
Technical Instructor, Practical Nursing  
A.D.N., South Georgia College  
912-285-6117  
thenry@okefenokeetech.edu

Hursey, Mary Ann  
Technical Instructor/Program Director  
Clinical Laboratory Technology  
M.Ed., Valdosta State University  
912-285-6166  
mhursey@okefenokeetech.edu

Justice, Peggy  
Instructor, Adult Education  
Ed.S., University of Georgia  
912-462-7923  
pjbcae@btconline.net

Lee, Mandy E.  
Technical Instructor/Clinical Coordinator  
Respiratory Care Technology  
B.S., Valdosta State University  
(912) 287 – 5821  
mlee@okefenokeetech.edu

Logan, John  
Technical Instructor, Commercial Truck Driving  
912-338-5238  
jlogan@okefenokeetech.edu

Mathis, Faye L.  
Technical Instructor/Program Director  
Respiratory Care Technology  
M.Ed., Valdosta State University  
912-287-6515  
fmathis@okefenokeetech.edu

Metts, Kevin  
Instructor, Electrical Lineman  
912-338-5941  
kmetts@okefenokeetech.edu

Mock, Ryan  
Welding Technology Instructor  
Welding & Joining Technology  
Okefenokee Technical College  
rmock@okefenokeetech.edu

Moody, Debra  
Cosmetology Instructor  
Master Cosmetologist Certification  
Cosmetology Instructor License  
(912) 287-6587  
dmoody@okefenokeetech.edu

Moye, Jack  
Technical Instructor, Air Conditioning Technology  
Diploma, Okefenokee Technical College  
912-287-5823  
jmoye@okefenokeetech.edu

Murray, Terrell "Eddie"  
Technical Instructor  
AAT/Microsoft Networking & Micro Computer  
Specialist  
Okefenokee Technical College  
912-287-5850  
emurray@okefenokeetech.edu

Peagler, Tommy  
Technical Instructor, Forestry Technology  
B.S.F.R., The University of Georgia  
912-284-2569  
tpeagler@okefenokeetech.edu

Reid, Gloria  
Instructor, Adult Education  
M.S., Armstrong Atlantic State University  
912-462-7923  
greid@okefenokeetech.edu

Rouse, Deborah  
Instructor, C.N.A. Health Occupations  
RN/Waycross College  
drouse@okefenokeetech.edu

Simmons, Terry  
Instructor, Automotive Collision & Repair  
Diploma, Okefenokee Technical College  
NAPA Certified  
912-287-5826  
tsimmons@okefenokeetech.edu

Slaughter, Mary  
Technical Instructor, Business and Administrative  
Office Technology  
912-287-5835  
mslaughter@okefenokeetech.edu

Smith, Sally M.  
Technical Instructor/Program Director  
Surgical Technology  
M.Ed., Valdosta State University  
912-287-5839  
smsmith@okefenokeetech.edu

Strickland, Beth  
Instructor, Adult Education  
B.S.Ed., Georgia Southern University  
912-632-6659  
bstrickland@okefenokeetech.edu

Strickland, Karen  
C.N.A. Instructor/Program Director  
ASN-South Georgia College  
(912) 287-6584

Sweat, Leighan  
Instructor, Accounting  
BBA, Georgia Southwestern State University  
912-284-2991  
[lsweat@okefenokeetech.edu](mailto:lsweat@okefenokeetech.edu)

Thomas, Laree  
Technical Instructor, Computer Technology  
B.A.S., Valdosta State University  
912-449-5635  
[lthomas@okefenokeetech.edu](mailto:lthomas@okefenokeetech.edu)

Thornton, K.C.  
General Education Instructor, English  
M.Ed., Valdosta State University  
912-338-5989  
[kthornton@okefenokeetech.edu](mailto:kthornton@okefenokeetech.edu)

Wainright, Vickie  
Practical Nursing Instructor  
AAS Degree Nursing from South Georgia  
College  
[vwainright@okefenokeetech.edu](mailto:vwainright@okefenokeetech.edu)

Waters, B. Keith  
Allied Health Instructor  
Doctor of Chiropractic, Life University  
912-287-5838  
[kwaters@okefenokeetech.edu](mailto:kwaters@okefenokeetech.edu)

Wesley, Thomas  
Technical Instructor, Electronics Technology  
B.S., Information Technology,  
American InterContinental University  
912-287-5859  
[twesley@okefenokeetech.edu](mailto:twesley@okefenokeetech.edu)

Whitley, Christine  
General Education Instructor, Psychology  
M.S., University of Neuchatel, Switzerland  
912-287-6598  
[cwhitley@okefenokeetech.edu](mailto:cwhitley@okefenokeetech.edu)

Johnson, Jacquelyn "Jaki"  
Criminal Justice Instructor  
MS/Criminal Justice  
Albany State University  
(912) 338.5254  
[jjohnson@okefenokeetech.edu](mailto:jjohnson@okefenokeetech.edu)

Yeomans, Donna  
Technical Instructor/Program Director  
Radiologic Technology  
B.S.Ed., Valdosta State University  
912-287-5837  
[dyeomans@okefenokeetech.edu](mailto:dyeomans@okefenokeetech.edu)