Uniform Course Code
for
Mississippi's Public Community and Junior Colleges

22-23
Revised 3/2/23 at 3:30 p.m.

Table of Contents

Uniform Course Numbering for Career and Technical Education

SECTION I: Introduction

The system of identifying courses in all CTE curricula was adopted in 2005 to become implemented in the fifteen public junior college districts during the 2006-2007 school years. The leadership and efforts provided by the Mississippi Community and Junior College Chief Career-Technical Officers and Deans make this course numbering system possible.

A general revision of the numbering system is prepared each year. New courses are constantly reviewed by a screening committee of the Chief Career-Technical Officers & Deans Association. When a new course is added or an existing course revised, the name of the course, a complete course description, the course number, and the SCH breakdown is revised.

Interpreting Course Identifiers

Each course in the numbering system has a three letter prefix which identifies the subject field to which the course belongs. Examples: BOT identifies a Business Office Technology course; DDT identifies a Drafting and Design Technology course, etc.

Process for Requesting Courses for Inclusion in this Document

Each course in the numbering system has a three letter prefix which identifies the subject field to which the course belongs. Examples: BOT identifies a Business Office Technology course; DDT identifies a Drafting and Design Technology course, etc.

First number designates year

Example: 1000 level courses indicate first year's work 2000 level courses indicate second year's work

Second number designates grouping

NOTE: Grouping are consistent for each year but not from year one to year two

Third number designates sequence in a group

Fourth number designates course credit hours

Colleges have the flexibility to adjust the semester credit hours of a course up 1 hour or down 1 hour (after informing the Mississippi Community College Board [MCCB] of the change). Thus, Credit may vary from course credit shown by varying this number up or down 1 credit hour.

Example: 1213 and 1214 with the same letter prefix indicate the same basic course, but with different credit due to more lecture or laboratory time.

Process for requesting a course for inclusion in this document.

Course developed as part of the statewide program approval and curriculum development/revision process(es) will automatically be included in this document. All other career and technical education courses must be approved for inclusion and pay purposes.

1. The requesting college obtains necessary institutional approval(s).

2. The requesting college completes a new course request form, available from the Mississippi Community College Board (MCCB) Office of Curriculum and Instruction webpage: http://www.sbcjc.cc.ms.us/OCI/OCIDefault.aspx .
3. The requesting college submits the completed course request form to the Director of Curriculum and Instruction at the MCCB.
4. The Director will log the request and forward the form to the Chair of the Chief Career-Technical Officers and Deans' uniform course numbering committee for committee consideration.
5. The committee chair shall notify (1) the requesting institution, and (2) the Director of Curriculum and Instruction of the committee's action on the request.
6. If approved, the Director will forward the course information to the MCCB Accountability Office for pay purposes.
7. Approved courses will be included in the next scheduled addendum to the Career & Technical Education Uniform Course Numbering document.

SECTION II: TECHNICAL COURSES WITHIN THE STATEWIDE CURRICULA

The content of the courses in this section reflects approximately 75 percent of the time allocated to each course. The remaining 25 percent of each course should be developed at the local district level and may reflect:

- Additional competencies and objectives within the course related to topics not found in the State curriculum framework, including activities related to specific needs of industries in the community college district.
- Activities which develop a higher level of mastery on the existing competencies and suggested objectives.
- Activities and instruction related to new technologies and concepts that were not prevalent at the time the current framework was developed/revised.
- Activities which implement components of the Mississippi Tech Prep initiative, including integration of academic and vocational-technical skills and coursework, school-to-work transition activities, and articulation of secondary and postsecondary vocational-technical programs.
- Individualized learning activities, including worksite learning activities, to better prepare individuals in the courses for their chosen occupational area.

Statewide Curricula may be accessed at:
http://www.sbcjc.cc.ms.us/OCI/currdownload.aspx

ABT 1146 Structural Analysis and Damage Repair I
A course to provide skills and practice in welding and cutting procedures that are used in the collision repair industry. This course also covers the complete inspection and non-structural analysis of damaged vehicles. It is designed to enable the student to determine the conditions and severity of the damage, the repair or replacement of parts, the estimated repair time, and correct use of reference manuals. (6 sch: 3 hr. lecture, 6 hr. lab)

ABT 1153 Structural Analysis and Damage Repair II
This course is a continuation of Structural Analysis and Damage Repair I. This course provides instruction and practice in unibody inspection, measurement, and repair.(3 sch: 2 hr. lecture, 2 hr. lab)

ABT 1213 Collision Welding and Cutting (to be removed 1/1/2020)
A course to provide skills and practice in welding and cutting procedures that are used in the collision repair industry. This course also covers the complete inspection and non-structural analysis of damaged vehicles. It is designed to enable the student to determine the conditions and severity of the damage, the repair or replacement of parts, the estimated repair time, and correct use of reference manuals. (3 sch: 2-hr lecture, 2-hr lab)

ABT 1223 Non-Structural Analysis and Damage Repair I
A course in the procedures and practices for metal finishing and body filling. This course also covers the complete inspection and non-structural analysis of damaged vehicles. It is designed to enable the student to determine the conditions and severity of the damage, the repair or replacement of parts, the estimated repair time, and correct use of reference manuals.
(3 sch: 2 hr. lecture, 2 hr. lab)

ABT 1236 Non-Structural Analysis and Damage Repair II
This course is a continuation of Non-Structural Analysis and Damage Repair I.
This course provides instruction for preparation principles and practices. This course provides instruction for outer body panel repair, replacement, and adjustment principles and practices. (6 sch: 3 hr. lecture, 6 hr. lab)

ABT 1313 Refinishing I
A course to provide skills and practices in vehicle preparation, cleaning, sanding, metal treatment, and masking. Included is determining imperfections in paint jobs. Emphasis is placed upon personal safety and environmental concerns. (3 sch: 1 hr. lecture, 4 hr. lab)

ABT 1323 Refinishing II
Continuation of Refinishing I. Included are types of paint defects and paint gun application and maintenance procedures. (3 sch: 1 hr. lecture, 4 hr. lab)

ABT 1443 Mechanical and Electrical Components I
A course designed to provide theory and practice in the areas of restraint systems, cooling systems, and air conditioning/heating systems. An introduction to small business management techniques as applied to the collision repair shop. Includes computerized information and record systems. Also included are financial responsibilities, shop layout, inventory, and employee-employer relations. (3 sch: 3 hr. lecture)

ABT 1453 Mechanical and Electrical Components II
A course designed to provide theory and practice in the areas of brakes and electrical. (3 sch: 3 hr. lecture)

ABT 2163 Structural Analysis and Damage Repair III
This course is a continuation of Structural Analysis and Damage Repair II. This course provides instruction and practice in unibody inspection, measurement, and repair. (3 sch: 2 hr. lecture, 2 hr. lab)

ABT 2173 Structural Analysis and Damage Repair IV (to be removed 1/1/2020)
This course is a continuation of Structural Analysis and Damage Repair III. This course provides the procedures and practices for frame inspection and repair. (3 sch: 2 hr. lecture, 2 hr. lab)

ABT 2243 Non-Structural Analysis and Damage Repair III
This course is a continuation of Non-Structural Analysis and Damage Repair II. This course provides instruction for outer body panel repair, replacement, and adjustment principles and practices. (3 sch: 2 hr. lecture, 2 hr. lab)

ABT 2253 Non-Structural Analysis and Damage Repair IV (to be removed 1/1/2020)
This course is a continuation of Non-Structural Analysis and Damage Repair III. This course provides instruction and practice for the following areas: Moveable glass, hardware associated with glass, plastics and adhesive. (3 sch: 2 hr. lecture, 2 hr. lab)

ABT 2336 Refinishing III
A continuation of Refinishing II with emphasis on advanced painting techniques including paint mixing, matching, and applying and detailing. (6 sch: 2 hr. lecture, 8 hr. lab)

ABT 2343 Refinishing IV (to be removed 1/1/2020)
A continuation of Refinishing III, with emphasis on advanced techniques of painting; including, detailing. (3 sch: 1 hr. lecture, 4 hr. lab)

ABT 2713 Collision Analysis and Estimation
This course covers the complete inspection and analysis of damaged vehicles. It is designed to enable the student to determine the conditions and severity of the damage, the repair or replacement of parts, the estimated repair time, and correct use of reference manuals. (3 sch: 2 hr. lecture, 2 hr. lab)

ABT 2813 Shop Operations and Procedures
An introduction to small business management techniques as applied to the collision repair shop includes computerized information and record systems. Also included are financial responsibilities, shop layout, inventory, and employee-employer relations. (3sch: 2 hr. Lecture, 2 hr. lab)

ABT 291(1-3) Special Problem in Collision Repair Technology
A course to provide students with an opportunity to utilize skills and knowledge gained in other Collision Repair Technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-3 sch: 2-6 hr. lab)

ABT 292(1-6) Supervised Work Experience in Collision Repair Technology
A course which is a cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 sch: 3-18 hr. externship)

ACT 1003 Introduction to Heating and Air Conditioning Technology
This course is designed to introduce students to the fundamental skills associated with all HVAC courses. Safety, basic tools, special tools, and equipment, communication skills, employability skills, and materials handling topics are included. (3 sch: 2 hr. lecture, 2 hr. lab)

ACT 1124 Basic Compression Refrigeration
An introduction to the field of refrigeration and air conditioning. Emphasis is placed on trade math, thermodynamics, and heat transfer. (4 sch: 2 hr. lecture, 4 hr. lab)

ACT 1133 Brazing and Piping
This course includes various tools and pipe connecting techniques. This course includes specialized tools and test equipment required in heating, ventilation, air-conditioning, and refrigeration. (3 sch: 2 hr. lecture, 2 hr. lab)

ACT 1214 Controls
Fundamentals of gas, fluid, electrical, and programmable controls. (4 sch: 2 hr. lecture, 4 hr. lab)

ACT 1313 Refrigeration System Components
This course includes an in-depth study of the components and accessories of a sealed system including metering devices, evaporators, compressors, and condensers. (3 sch: 2 hr. lecture, 2 hr. lab)

ACT 1713 Electricity for Heating, Ventilation, Air Conditioning, and Refrigeration I
This course includes basic knowledge of electricity, power distribution, components, solid state devices, and electrical circuits. (3 sch: 2 hr. lecture, 2 hr. lab)

ACT 1823 Ammonia Refrigeration I
This course prepares the student for entry level employment in the field of industrial ammonia refrigeration. In this course students will explore the necessary tools, safety, and operating procedures essential when working with refrigeration equipment and OSHA standards.

ACT 2324 Commercial Refrigeration
A study of various commercial refrigeration systems. Includes installation, servicing, and maintaining systems. (4 sch: 2 hr. lecture, 4 hr. lab)

ACT 2413 Heating, Ventilation, Air Conditioning, and Refrigeration I
This course includes residential air-conditioning including indoor air quality. This course includes moduels on basic maintenance, air quality equipment, troubleshooting cooling, and troubleshooting gas heating. (3 sch: 1 hr. lecture, 4 hr. lab)

ACT 2424 Heating, Ventilation, and Air Conditioning II
A continuation of Heating, Ventilation, and Air Conditioning I with modules related to introduction to hydronic systems, troubleshooting heat pumps, and troubleshooting accessories. (4 sch: 2 hr. lecture, 4 hr. lab)

ACT 2433 Refrigerant, Retrofit and Regulations
This course includes regulations and standards for new retrofit and government regulations. This course includes EPA regulations, local, and state codes. (3 sch: 2 hr. lecture, 2 hr. lab)

ACT 2513 Heating Systems
Various types of residential and commercial heating systems. Includes gas, oil, electric, compression, and hydronic heating systems. (3 sch: 2 hr. lecture, 2 hr. lab)

ACT 2624 Heat Load and Air Properties
Introduction to heat load calculations for residential and light commercial heating, ventilation, air conditioning, and refrigeration systems. Includes air distribution, duct sizing, selection of grills and registers, types of fans, air velocity, and fan performance. Introduces air testing instruments and computer usage. (4 sch: 2 hr. lecture, 4 hr. lab)

ACT 2713 HVAC Project Commissioning
This course includes basic information related to commissioning of HVAC projects. (3 sch: 3 hr. lecture)

ACT 2823 Ammonia Refrigeration II

This course prepares the student in a more in-depth and fundamental approach to industrial ammonia refrigeration. In this course students will explore the different types of ammonic refrigeration systems, devices, and theories, including proper operation procedures and important safety practices.

ACT 291(1-3) Special Project in Heating, Ventilation, Air Conditioning, and Refrigeration Technology
A course designed to provide the student with practical application of skills and knowledge gained in technical courses. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. (1-3 sch: 2-6 hr. lab)

ACT 292(1-6) Supervised Work Experience in Heating, Ventilation, Air Conditioning and Refrigeration Technology
A course which is a cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 sch: 3-18 hr. externship)

AGT 1111 Survey of Agricultural Technology
A course to provide opportunities for students to gain knowledge, practice, and study in agricultural technology. Includes lectures and seminars on current agricultural topics including government programs and policies, current technological trends and practices, international agriculture, agricultural leadership, and employment opportunities in the agribusiness field. (1 sch: 1 hr. lecture)

AGT 1163 Introduction to Spatial Information Systems
This course provides an overview of spatial information concepts and the tools of spatial information systems (GNSS, GIS, VRT, and remote sensing). Students will recognize the impact of spatial information technology on our lives currently and in the future. They will research potential career opportunities as they relate to the emerging technologies and the basic concepts under which spatial information functions. (3 sch: 3 hr. lecture)

AGT 1214 Applied Principles of Animal Production
A course to provide students with basic principles related to the production of farm animals. Includes instruction in the basic production cycle, breeding, nutrition, and health of beef and dairy cattle, hogs, poultry, and commercial fish. (4 sch: 3-hr. lecture, 2-hr. lab) [Note: Animal Science (AGR 1214) may be substituted for this course.]

AGT 1254 GNSS Data Collection
A course to introduce students to the general principles of Global Navigation Satellite Systems, their use, and realized and potential value in agriculture. Students will learn to acquire, import and export, and use geo-referenced data. The student will also be able to perform basic troubleshooting, grasp the concepts of spatial variability, and interpret different map projections. (4 sch: 3-hr. lecture, 2-hr. lab)

AGT 1313 Applied Principles of Plant Production
A course to provide information related to the growth, nutrition, and general culture of agricultural and horticultural crops. Includes instruction on photosynthesis and transpiration, plant nutrition, pest control, and reproduction. (3 sch: 2-hr. lecture, 2-hr. lab) [Note: Plant Science (AGR 1313) or Botany I (BIO 1314) may be substituted for this course.]

AGT 1333 Vegetab;e Crop Production
This course is a study of vegetable crop techniques including conventional and minimal tillage, greenhouse management, planting, pest control, harvesting, and physical marketing practices. (3sch: 2-hr lec, 2-hr lab)

AGT 1354 Remote Sensing

This course provides an overview of remote sensing technologies for agricultural operations. The course will emphasize basic concepts, and satellite-based, airborne, and ground-based sensing methods. Digital image interpretation and analysis will be a major component. The student will understand how remote sensing is used with spatial information and variable-rate technologies for precision agriculture management. (4 sch: 3-hr. lecture, 2-hr. lab)

AGT 1413 Principles of Agricultural Management
This course provides instruction in organization and structure of agricultural businesses, decision-making, and the planning process for farming operations. (3 sch: 2-hr. lecture, 2-hr. lab) [Note: Farm Management (AGR 2413) may be taken in lieu of this course.]

AGT 1513 Principles of Agricultural Marketing
An introduction to general principles of marketing agricultural products. Includes instruction in general marketing practices and the use of futures contracts. (3 sch: 3-hr. lecture, 0-hr. lab)

AGT 1613 Agricultural Records
An introduction to agricultural record keeping techniques including single entry accounting methods, field and enterprise records, credit purchases, and sinking funds. (3 sch: 2-hr. lecture, 2-hr. lab) [Note: Principles of Accounting I (ACC 1213) may be substituted.]

AGT 1714 Applied Soils-Conservation and Use
A course to introduce student to the general principles of soil conservation and safe use. Includes instruction in the soil formation process, properties of soils, soil texture, and soil management for optimum safe use. (4 sch: 3-hr. lecture, 2-hr. lab) [Note: Basic Soils (AGR 2314) may be substituted for this course.]

AGT 1813 Fitting/Grooming/Judging
Provides information and practice on fitting, grooming, and judging livestock products. (3 sch: 2-hr. lecture, 2-hr. lab)

AGT 1913 Animal Reproduction
Provides information and laboratory opportunities to assist students in learning about animal reproduction. (3 sch: 2-hr. lecture, 2-hr. lab)

AGT 2154 Geographic Information Systems I
This course is an overview of applications of Geographic Information Systems. Commercial software is used to cover user interface, views, themes, tables, and layouts. Basic functions of building, editing, querying, and spatial analysis of layers and databases will be reviewed. Hands-on exercises will encompass several disciplines and will include mobile GIS applications. (4 sch: 3-hr. lecture, 2-hr. lab)

AGT 2164 Variable Rate Technology
An introductory course on basic principles of variable rate technology (VRT) (site-specific, precision farming technology). This course will provide instruction on the importance of variable rate technology; data collection techniques for variable rate applications; development of prescription application maps and components; and calibration, installation, and troubleshooting of variable rate equipment. (4 hr: 3-hr. lecture, 2-hr. lab)

AGT 2174 Agricultural Geographic Information Systems
This course reviews several agricultural Geographic Information Systems, including the use of spatial data and spatial analysis for record keeping, modeling, and management of an agronomic ecosystem. (4 hr: 3-hr. lecture, 2-hr. lab)

AGT 2213 Agricultural Sales

A course in the advertising, sales, and promotion of agricultural supplies and services. (3 sch: 2-hr. lecture, 2-hr. lab)

AGT 2263 Applied Agricultural Economics
A course to introduce the student to economic principles as applied to agribusiness operations. (3 sch: 2-hr. lecture, 2-hr. lab) [Note: Principles of Agricultural Economics (AGR 2713) or Principles of Economics (Macroeconomics) (ECO 2113) or Principles of Economics [Microeconomics (ECO 2123)] may be substituted for this course.]

AGT 2363 Crop Production (General)
This course is a study of crop production techniques including tillage and planting, pest control, and physical marketing practices for crops in Mississippi. (3 sch: 2-hr. lecture, 2-hr. lab)

AGT 2373 Fiber and Oilseed Crops
This course is a study of crop production techniques including tillage and planting, pest control, and physical marketing practices for cotton and soybeans. (3 sch: 2-hr. lecture, 2-hr. lab)

AGT 2383 Grain Crops
This course is a study of grain production techniques including tillage, planting, pest control, and physical marketing practices for grain crops in Mississippi. (Crops included are corn or maize, rice, wheat, and milo.) (3 sch: 2-hr. lecture, 2-hr. lab)

AGT 2413 Weed Control
A course to provide students with information and skills for controlling plant pests in agricultural crops. Includes instruction in the use and application of chemicals for weed control. (3 sch: 2-hr. lecture, 2-hr. lab)

AGT 2434 Crop Management Zones
The focus of this course will be on the identification and management of production zones within crop fields. This course will provide students a working knowledge of geo-spatial tools and remote imaging techniques to identify regions of distinction within a field and methods to develop management strategies to maximize economic gains for cropping systems. The course will introduce the use of various decision support tools available for crop management, including geographic information systems and crop models. (4 sch: 3-hr. lecture, 2-hr. lab)

AGT 2463 Insects and Controls
A course to provide instruction and training in techniques of control of insect pests. Includes instruction in the safe and proper use of chemical and other control methods. (3 sch: 2-hr. lecture, 2-hr. lab)

AGT 2474 Site Specific Pest Management
This course provides instruction and training in conventional and site-specific techniques used in control of agricultural pests including insects, diseases, weeds and nematodes. Students will use pest management techniques and tools including spatial information systems to evaluate impact of pest injury and costs associated with control. Students will learn how variable rate technologies are applied in the field for site specific pest management (4 hr: 3-hr. lecture, 2-hr. lab).

AGT 2483 Agricultural Pest Management
A course to provide students with information and skills for controlling pests. Includes instruction in the use and application of chemicals for control of weeds, insects, and diseases. (3 sch: 2-hr. lecture, 2-hr. lab)

AGT 2513 Management of Commercial Layers

This course is designed to give the student practical principles and application techniques in the management of commercial layers. (3 sch: 3-hr. lecture)

AGT 2523 Introduction to Poultry Production
This course is designed to give the student practical principles and application techniques in the production, processing, and marketing of poultry and/or poultry products. (3 sch: 3-hr. lecture)

AGT 2533 Poultry Nutrition
This course is designed to give the student practical principles and application techniques in poultry nutrition. (3 sch: 3-hr. lecture)

AGT 2543 Hatchery/Feed Mill Management
This course is designed to give the student practical principles and application techniques in hatchery/feed mill management. (3 sch: 3-hr. lecture)

AGT 2553 Broiler Production
This course is designed to give the student practical principles and application techniques in broiler production. (3 sch: 3-hr. lecture)

AGT 2563 Agricultural Machinery and Shop Management
A comprehensive course studying operation and management of farm power machinery and shop repairs and maintenance. (3 sch: 2-hr. lecture, 2-hr. lab) [Note: Farm Machinery (AGR 1413) may be taken in lieu of this course.]

AGT 2573 Broiler Processing
This course is designed to give the student practical principles and application techniques in broiler processing. (3 sch: 2-hr. lecture 2-hr lab)

AGT 2583 Poultry Production & Processing Internship
This course is designed to give the student practical principles and application techniques in poultry production and processing. (3 sch: 3-hr. lecture)

AGT 2613 Forage and Pasture Crops
A comprehensive course in the production and management of forage and pasture crops. (3 sch: 2-hr. lecture, 2-hr. lab)

AGT 2663 Applied Animal Nutrition
A comprehensive course of study on the practical principles and applications of nutrition. (3 sch: 2-hr. lecture, 2-hr. lab)

AGT 2713 Beef Production I
A course to provide knowledge and practice in the area of beef production. Includes instruction in animal breeding and nutrition and livestock handling practices. (3 sch: 2-hr lecture, 2-hr lab)

AGT 2723 Beef Production II
A continuation of Beef Production I with emphasis on management, herd health, and marketing. (3 sch: 2-hr lecture, 2-hr lab)

AGT 2813 Swine Production
A comprehensive course in the production and management of swine. (3 sch: 2-hr lecture, 2-hr lab)

AGT 2823 Fish Management
This course is designed to give the student practical principles and application techniques in the production, harvesting, and marketing of fish. (3 sch: 2-hr lecture, 2-hr lab)

AGT 2863 Horse Production

A comprehensive course in the production and management of horses. (3 sch: 2-hr lecture, 2-hr lab)

AGT 291(1-3) Special Problem in Agricultural Business and Management Technology
A course to provide students with an opportunity to utilize skills and knowledge gained in other Agricultural Business and Management courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-3 sch: 2-6 hr lab)

AGT 292(1-6) Supervised Agricultural Experience
This internship course provides actual work experience in an agriculture business under the direction of the employer and the instructor. (1-6 sch: 3-18 hr externship)

AHT 1113 Medical Terminology
This is a course for Allied Health majors who need to read and be able to use and understand health terms which are most common in health care. Students will learn phonetic pronunciation. (3 sch: 3 hrs. lecture).

AMT 1122 Agricultural Mechanics Fundamentals
A study of safe practices and procedures used in Agricultural Mechanics. Included are personal and shop safety, safe use of tools and equipment, flammable materials and fire safety, disposal of hazardous materials, and a comprehensive safety exam. An introduction to agricultural mechanics occupations, the development of employability skills, the utilization of technical media, and the identification and use of fasteners and hardware identified in the agricultural mechanics industry. (2 sch: 1 hr. lecture 2 hr. lab)

AMT 1213 Basic Electrical/Electronics Systems
A study of electrical/electronic systems and repair as it relates to agricultural power machinery and equipment. (3 sch: 2 hr. lecture, 2 hr. lab)

AMT 1223 Advanced Electrical/Electronics Systems
An advanced study of electrical/electronic systems and repair as it relates to agricultural power machinery and equipment. (3 sch: 1 hr. lecture, 4 hr. lab)

AMT 1313 Basic Power Trains
A study of machines and the principles upon which they operate in the transmission of power. (3 sch: 2 hr. lecture, 2 hr. lab)

AMT 1323 Advanced Power Trains
Advanced study of machines and the principles upon which they operate in the transmission of power. (3 sch: 1 hr. lecture, 4 hr. lab)

AMT 1414 Basic Engines
A study of the theory of operation disassembly/assembly, parts identification, service, and repair of gasoline engines used in compact equipment. (4 sch: 2 hr. lecture, 4 hr. lab)

AMT 1424 Advanced Diesel Engines
A study of the theory of operation disassembly/assembly, parts identification, service, and repair of diesel engines. (4 sch: 2 hr. lecture, 4 hr. lab)

AMT 1511 Principles of Air Conditioning
Principles and service of air conditioning systems used on agricultural equipment. (1 sch: 2 hr. lab)

AMT 1613 Basic Hydraulic Systems
Basic theory and application of hydraulic systems in agricultural machinery and equipment. (3 sch: 2 hr. lecture, 2 hr. lab)

AMT 2111-3 Grain Harvesting Equipment

Procedures for the inspection, adjustment, repair, and lubrication of grain harvesting equipment. (1 sch: 2-hr lab; 2 sch: 1-hr lecture, 2-hr lab; 3 sch: 2-hr lecture, 2-hr lab)

AMT 231(1-3) Cotton Harvesting Equipment
Functions, maintenance, and repair of cotton picker drums and support systems. (1 sch: 2-hr lab; 2 sch: 1-hr lecture, 2-hr lab; 3 sch: 2-hr lecture, 2-hr lab)

AMT 241(1-3) Hay Harvesting Equipment
Procedures for inspection, adjustment, repair, and lubrication of hay harvesting equipment. 1 sch: 2-hr lab; 2 sch: 1-hr lecture, 2-hr lab; 3 sch: 2-hr lecture, 2-hr lab)

AMT 2512 Spray Equipment
Selection, assembly, inspection, adjustment, calibration, and repair of spray equipment including safety procedures and environmental concerns. (2 sch: 4 hr. lab)

AMT 2623 Advanced Hydraulic Systems
Advanced theory and application of hydraulic systems in agricultural machinery and equipment. (3 sch: 1 hr. lecture, 4 hr. lab)

AMT 2712 Row Crop Planting Systems
Setup, inspection, adjustment, and service of row crop planting equipment including an introduction to variable rate application equipment. (2 sch: 1 hr. lecture, 2 hr. lab)

AMT 2812 Compact Engines and Equipment
Inspection, adjustment, and repair of compact equipment. (2 sch: 1 hr. lecture, 2 hr. lab)

AMT 2823 Service Repair Center Management and Operations
Management and daily operation of an agricultural equipment service center including record keeping, reference materials, tool and equipment maintenance, and service scheduling. (3 sch: 2 hr. lecture, 2 hr. lab)

AMT 291(1-3) Special Problem in Agricultural Mechanics Technology
A course to provide students with an opportunity to utilize skills and knowledge gained in other Agricultural Mechanics Technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-3 sch: 2-6 hr. lab)

AMT 292(1-6) Supervised Work Experience in Agricultural Mechanics Technology
A course which is a cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 sch: 3-18 hr. externship)

ANT 1113 Introduction to Aviation
This course covers the development of aviation from early attempts of flight to space travel, including career opportunities in the aviation industry. This course includes a brief survey of the National Airspace System, the airport environment, and the air traffic control environment. (3 sch: 3 hr lecture)

ANT 1123 Aviation Systems
This course is a study of the structure of the aviation system and its functions, including familiarity with the language of air traffic control, the operating principles of navigational equipment, and the federal rules affecting the movement of aircraft. (3 sch: 3 hr lecture) (Prerequisite: AVM 1113 or instructor approval).

ANT 1213 Private Pilot Ground I
This course includes principles of flight; the flight environment; aircraft systems, and performance. (3 sch: 3 hr lecture)

ANT 1313 Airport Management and Operations
Examines the administration of public airports and their relationship with airlines, fixed-base operators, and the FAA. Federal airport standards for security, fuel handling and storage, noise abatement, bird control, clear zones, lighting, and federal and state financial aid programs to airports for improvements and upgrades. (3 sch: 3 hr lecture)

ANT 1513 Aviation Security
This course is a study of the security framework of commercial airports including familiarity with the process of balancing security needs with economic needs of an airport. Provides a broader view of aviation security beyond the airport. (3 sch: 3 hr lecture)

ANT 1613 Small Unmanned Aerial Systems Part 107
This course is designed to enable students to demonstrate a high level of understanding of small Unmanned Aerial Systems (sUAS) including regulations, aeronautical decision making, airspace, flight restrictions, navigation, airport operations, physiological effects of drugs and alcohol, and weather. After course completion, students will be prepared to take the FAA 107 Remote Pilot Certification Exam and be eligible to become FAA Certified Commercial Drone Operators.
(3 sch: 2 hr lecture 2 hr lab)

ANT 2113 Applied Meterology
This course covers basic weather theory and information services available, including how to interpret various reports and forecasts provided by the National Weather Service and the Federal Aviation Administration. (3 sch: 3 hr lecture)

ANT 2133 Tower Operations and Procedures
Provides an understanding of the operation of an airport control tower. The student will achieve a workable knowledge of the various components of the tower and positions of operation, the phraseologies, the separation criteria, the flight data process, and the rules and procedures for each component. (3 sch: 2 hr lecture 2 hr lab)

ANT 2143 Radar Operations and Procedures
Provides an understanding of the operation of an approach control facility or en route control facility. The student will achieve a workable knowledge of the various components of the facilities, the phraseologies, the separation criteria, the flight data process, and the rules and procedures for each component. (3 sch: 2 hr lecture 2 hr lab)

ANT 2153 Tower Applications
This course will allow the student to apply the various facets of air traffic control that were learned in the prerequisite courses to a simulated tower environment. (3 sch: 2 hr lecture 2 hr lab)

ANT 2163 Radar Applications
This course will allow the student to apply the various facets of air traffic control that were learned in the prerequisite courses to a simulated radar environment. (3 sch: 2 hr lecture 2 hr lab)

ANT 2323 Aviation Safety and Airport inspection
Provides an overview of aviation safety programs and systems including trends in aviation safety practices with emphasis on future safety enhancements. Provides a workable knowledge of the safety inspection of airports as prescribed in Federal Aviation Regulation 139. (3 sch: 3 hr lecture)

ANT 2333 Air Transportation
Provides an overview of the aviation industry. Describes the economic aspects of passenger and cargo air transportation, including practices, problems, and regulations. (3 sch: 3 hr lecture)

ANT 2343 Airport Certified Employee Preparation Preparation
Provides assessment and skill enhancement for preparation for the Airport Certified Examination (ACE), the national certifying examination for Airport Operations Specialists. The ACE is administered by the American Association of Airport Executives (AAAE). (3 sch: 3 hr. lecture)

ANT 2513 Aviation Security and Inspection
Provides an overview of aviation security programs and systems including trends in aviation security practices with emphasis on future security enhancements. Provides a workable knowledge of the security process at airports as prescribed in Transportation Security Regulations 1542, 1544, and 1546. (3 sch: 3 hr lecture)

ANT 2523 Introduction to Homeland Security
Introduces students to the vocabulary and important components of Homeland Security. Explores the state, national, and international laws impacting Homeland Security. Includes an examination of the most critical threats confronting Homeland Security. (3 sch: 3 hr lecture)

ANT 2533 Intelligence Analysis and Security Management
Examines intelligence analysis and its indispensable relationship to the security management of terrorist attacks and other threats. Explores vulnerabilities of our national defense and private sectors, as well as the threats posed to these institutions by terrorists, man-made disasters, and natural disasters. Students will discuss substantive issues regarding intelligence support of Homeland Security. (3 sch: 3 hr lecture)

ANT 2543 Transportation and Border Security
Provides an in-depth view of modern border and transportation security. Specific topics include security for seaports, ships, aircraft, trains, trucks, pipelines, buses, etc. Focuses on the technology need to detect terrorists and their weapons as well as includes discussion on legal, economic, political, and cultural aspects of the problem. (3 sch: 3 hr lecture)

ANT 2553 Airport Certified Employee Preparation Preparation - Security
Provides assessment and skill enhancement for preparation for the Airport Certified Examination (ACE), the national certifying examination for Airport Security. The ACE is administered by the American Association of Airport Executives (AAAE). (3 sch: 2 hr lecture 2 hr lab)

ANT 2613 Basic Flight Skill Development - UAS
Orientation and familiarization with Remotely Piloted Vehicle (RPV) simulator software and hardware systems to include basic flight maneuvers and flight dynamics; practical application of pilot skills of UAS microlight aircraft including aircraft setup, tuning, troubleshooting, and testing. (3sch: 2 hr lecture, 2 hr lab)

ANT 2623 Intermediate Flight Skill Development - UAS
Orientation and familiarization with full-scale aircraft simulation software and hardware systems; intermediate flight skills training to include aircraft preflight and systems check, recovery from unusual attitudes, and flight dynamics of heavily-loaded, high-performance aircraft; practical application in external flight training of basic and advanced UAS aircraft. (3sch: 2 hr lecture, 2 hr lab) (Prerequisites: ANT 2613 or Instructor approval).

ANT 2633 Advanced Flight Skill Development - UAS
Advanced UAS systems overview including video and data link operation; introduction to First Person View (FPV) in basic and advanced UAS aircraft; launch/ recovery techniques and UAS operations in the airport environment. (3sch: 2 hr lecture, 2 hr lab) (Prerequisites: ANT 2623 or Instructor approval).

ANT 2643 Autonomous Systems
Introduction of autonomous systems theory including UAS autopilot operation, setup, tuning, and troubleshooting; practical application of UAS mission planning and aircraft flight testing including launch/recovery, flight following, situational awareness, Crew Resource Management, risk awareness and emergency procedures. (3sch: 2 hr lecture, 2 hr lab)

ANT 2653 Autonomous Systems-Rotary Aircraft
Emphasis on rotary airframe construction and repair techniques, aircraft tuning, and weight/balance considerations; installation of data link, sensors, and autopilot systems. (2 hr lecture, 2hr lab)

ANT 2713 Fixed Wing Airframe Setup and Maintenance - UAS
Airframe construction and repair techniques, aircraft tuning, and weight/balance considerations; installation of data link, sensors, and autopilot systems. (3 sch: 2 hr lecture, 2hr lab) (Prerequisites: ANT 2613 or Instructor approval).

ANT 2723 Rotary Airframe Setup and Maintenance - UAS
Emphasis on rotary airframe construction and repair techniques, aircraft tuning, and weight/balance considerations; installation of data link, sensors, and autopilot systems.
(3 sch: 2 hr lecture, 2hr lab) (Prerequisites: ANT 2613 or Instructor approval).

ANT 2813 Commercial Applications I - UAS
Commercial applications of UAS technology within the agricultural, surveying, and film and videography industries. (3 sch: 2 hr lecture, 2hr lab) (Prerequisites: ANT 2643 or Instructor approval).

ANT 2823 Commercial Applications II - UAS
Commercial applications of UAS technology including aerial photography, film and videography, structural inspections, law enforcement, search and rescue (SAR), sports video, and real estate marketing. (3 sch: 2 hr lecture, 2hr lab) (Prerequisites: ANT 2813 or Instructor approval).

ANT 2853 Linux Essentials - UAS
The fundamentals of the Linux operating system and command line. Students will understand Linux as an operating system, basic open source concept, and how it is used. Students will become familiar with the application of Linux to autopilot technology. (3 sch: 3 hr lecture)

ANT 2863 Linux Administration I - UAS
Provides the knowledge necessary to perform basic Linux server administration at a professional elvel. Install, configure and administer Linux systems; process text and build complex commands. Students will learn to perform flight data processing and retrieval applications. (3 sch: 3 hr lecture)

ANT 2873 Linux Administration II - UAS
Provides the knowledge necessary to perform basic Linux server administration at a professional level. Write shell scripts, manage databases, work with user desktop interface settings, perform administration tasks, configure and run essential services, configure and trouble shoot networking and security tasks. Students will learn to perform telemetry management. (3 sch: 3 hr lecture)

ANT 291(1-6) Special Problems in Aviation Technology
A course to provide students with an opportunity to utilize skills and knowledge gained in other Aviation Technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-6 sch: 2-12 hr. lab)

ANT 292(1-6) Supervised Work Experience
This course provides an internship opportunity in area of specialization. Supervised work in government or industry to gain experience in the aviation fields. (1-6 sch: 3-18 hrs Internship) (Prerequisite: Instructor approval).

APT 1113 Aviation Applied Science
General aviation maintenance practices including orientation to aviation, aircraft maintenance safety procedures, aviation mathematics, aviation physics, and aircraft drawings. (3 sch: 42 clock hr. lecture, 57 clock hr. lab)

APT 1123 Aviation Electricity I
Theory and application of direct and alternating current distribution and utilization of voltage. Practical application of Ohm's Law. (3 sch: 33 clock hr. lecture, 40 clock hr. lab)

APT 1134 Aviation Materials and Processes
Materials and processes used in the construction and repair of aircraft and components, fluid lines and fittings, and corrosion protection. (4 sch: 45 clock hr. lecture, 65 clock hr. lab)

APT 1142 Aircraft Servicing and Weight-and-Balance
Aircraft ground operation and servicing and weight-and-balance checks and records. (2 sch: 28 clock hr. lecture, 46 clock hr. lab)

APT 1153 Maintenance Forms and Regulations
Maintenance publications, maintenance forms and records, and mechanic privileges and limitations. (3 sch: 27 clock hr. lecture, 41 clock hr. lab)

APT 1162 Reciprocating Engine Theory
Theory and principles of operation of reciprocating engines. (2 sch: 37 clock hr. lecture)

APT 1171 Human Factors/General Troubleshooting and Inspection Principles
A study of the human factor element involved in aircraft maintenance and basic development of troubleshooting/inspection skills. (1 sch: 14 clock hr. lecture, 7 clock hr. lab)

APT 1213 Reciprocating Engine Overhaul and Inspection
Actual overhaul of reciprocating engines. Included is a study of the procedures and acceptable techniques used in engine disassembly, inspection, repair, and reassembly. (3 sch: 28 clock hr. lecture, 92 clock hr. lab)

APT 1222 Turbine Engine Theory
Theory of basic gas turbine engines and related accessories including unducted fan systems and turbine-driven auxiliary power units. (2 sch: 37 clock hr. lecture)

APT 1233 Turbine Engine Overhaul and Inspection
Overhaul of basic gas turbine engines and related accessories and components, including disassembly, inspection, assembly, and operation of jet engines. (3 sch: 28 clock hr. lecture, 92 clock hr. lab)

APT 1241 Power Plant Conformity and Airworthiness Inspection
Inspection of aircraft power plants for conformity with airworthiness directives and manufacturer's specifications. Inspections will conform with all Federal Aviation regulations. (1 sch: 14 clock hr. lecture, 18 clock hr. lab)

APT 1254 Lubrication and Fuel Metering Systems
Aircraft lubrication, fuel metering, and fuel system components for reciprocating and turbine engines. Identification and selection of engine fuels and lubricants. (4 sch: 55 clock hr. lecture, 68 clock hr. lab)

APT 1262 Induction, Cooling and Exhaust Systems
Reciprocating and turbine induction and engine airflow systems, engine cooling systems, and engine exhaust and reverser systems. (2 sch: 27 clock hr. lecture, 52 clock hr. lab)

APT 2114 Aviation Electricity II

Aircraft engine systems including instrument, engine fire protection, engine electrical, ignition, and starting. (4 sch: 55 clock hr. lecture, 67 clock hr. lab)

APT 2123 Propellers and Powerplant Review
Inspection, service, and repair of fixed pitch, constant speed, and feathering propellers. Included are propeller governing systems, propeller synchronizing, and ice removal systems. Review of powerplant courses. (3 sch: 36 clock hr. lecture, 45 clock hr. lab)

APT 2135 Structures I
Sheet metal structures and welding processes as applied to aviation mechanics. (5 sch: 43 clock hr. lecture, 131 clock hr. lab)

APT 2143 Structures II
Aircraft wood and non-metallic structures, covering, and finishes. (3 sch: 42 clock hr. lecture, 59 clock hr. lab)

APT 2212 Aircraft Controls
Aircraft rigging and assembly. (2 sch: 17 clock hr. lecture, 42 clock hr. lab)

APT 2222 Aviation Electricity III
Airframe electrical systems and components including wiring, switches, and controls. (2 sch: 28 clock hr. lecture, 41 clock hr. lab)

APT 2232 Hydraulic and Pneumatic Power Systems
Aircraft hydraulic and pneumatic power systems and components. (2 sch: 18 clock hr. lecture, 42 clock hr. lab)

APT 2243 Landing Gear and Protection Systems
Aircraft landing gear systems, position and warning systems, and ice and rain control systems. (3 sch: 32 clock hr. lecture, 42 clock hr. lab)

APT 2251 Environmental Control
Inspecting, troubleshooting, and servicing environmental control systems and cabin atmosphere control systems. (1 sch: 14 clock hr. lecture, 24 clock hr. lab)

APT 2263 Aircraft Instrumentation Systems
Aircraft instrument systems, communications and navigation systems, and aircraft fire protection systems. (3 sch: 42 clock hr. lecture, 42 clock hr. lab)

APT 2271 Aircraft Fuel Systems
Construction, inspection, and maintenance of various fuel systems and components including tanks, pumps, strainers, tubing, and hoses. (1 sch: 18 clock hr. lecture, 18 clock hr. lab)

APT 2282 Airframe Inspection and Review
Airframe conformity and air worthiness inspections and maintenance procedures. Review of all airframe courses. (2 sch: 14 clock hr. lecture, 42 clock hr. lab)

APT 233(1-5) Special Project for Aviation Maintenance Technology
This course includes practical application of skills and knowledge gained in other aviation or aviation-related technical courses. The instructor works closely with the student to ensure that the selection of a project will enhance the student's learning experience. (1-5 sch: 2-10-hr lab)

APT 234(1-6) Supervised Work Experience for Aviation Maintenance Technology
This cooperative program between industry and education is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of 1 semester hour per 45 industrial contact hours. (1-6 sch: 3-18-hr lab)

ATE 1213 Spanish Conversation for Technology
Special emphasis is placed upon pronunciation and conversation. Some grammar is used. (3 sch: lecture)

ATT 1124 Basic Electrical/Electronic Systems
This is a course designed to provide advanced skills and knowledge related to all components of the vehicle electrical system including lights, battery, and charging components. (4 sch: 2 hr. lecture, 4 hr. lab)

ATT 1134 Advanced Electrical/Electronic Systems
This is a course designed to provide advanced skills and knowledge related to all components of the vehicle electrical system including gauges, driver information systems, horn, wiper/wiper systems, and accessories. (4 sch: 2 hr. lecture, 4 hr. lab)

ATT 1214 Brakes
This is a course designed to provide advanced skills and knowledge related to the repair and maintenance of brake systems on automobiles. It includes instruction and practice in diagnosis of braking systems problems and the repair of brake systems. (4 sch: 2 hr. lecture, 4 hr. lab)

ATT 1313 Manual Drive Trains/Transaxles
This is a course designed to provide advanced skills and knowledge related to the maintenance and repair of manual transmissions, transaxles, and drive train components. It includes instruction in the diagnosis of drive train problems, and the repair and maintenance of transmissions, transaxles, clutches, CV joints, differentials, and other components. (3 sch: 1 hr. lecture, 4 hr. lab)

ATT 1424 Engine Performance I
This is a course designed to provide basic skills and knowledge related to the engine mechanicals, ignition system, fuel, air induction, exhaust systems, and emission systems. It includes instruction, diagnosis, and correction of problems associated within these areas. (4 sch: 2 hr. lecture, 4 hr. lab)

ATT 1715 Engine Repair
This is a course designed to provide advanced skills and knowledge related to the repair and rebuilding of automotive engines. It includes instruction and practice in the diagnosis and repair of engine components including valve trains, blocks, pistons and connecting rods, crankshafts, and oil pumps. (5 sch: 2 hr. lecture, 6 hr. lab)

ATT 1811 Introduction, Safety, and Employability Skills
This is a course designed to provide knowledge of classroom and lab policies and procedures. Safety practices and procedures associated with the automotive program and automotive industry. (1 sch: 1 hr. lecture)

ATT 2112 Introduction to Light Duty Diesel Technology, Tools, and Safety
This course introduces basic knowledge and skills the student must have to succeed in the Diesel Equipment Technology field. Topics include an overview of diesel powered vehicles, diesel technology safety skills, basic tools and equipment, reference materials, measuring instruments, shop operation, mechanical fasteners, welding safety, and basic welding skills. Classroom and lab experiences on safety, precision measuring, and basic shop practices are highly emphasize. (2 sch: 1 lecture, 2 lab)

ATT 2125 Light Duty Diesel Engine Repair
This course covers the theory, construction, inspection, diagnosis, and repair of internal combustion engines and related systems to light duty diesel. Topics include fundamental operating principles of engines and diagnosis, inspection, adjustment, and repair of automotive engines using appropriate service information. Upon completion, students should be able to perform basic diagnosis, measurement and repair of light duty diesel engines using appropriate tools, equipment, procedures, and service information. (5 sch: 2 lecture, 6 lab)

ATT 2214 Light Duty Diesel Engine Performance
This course covers terminology, theory and operation of air induction and boost technologies, exhaust, and emission controls used in light-duty diesel engines. Topics include component identification, operation, diagnosis and repair of air delivery systems including turbochargers, diesel particulate filters and other exhaust catalysts. Upon completion, students should be able to demonstrate skills necessary to research service information, and inspect, test, and repair induction, boost, and after-treatment components. (4 sch: 2 lecture, 4 lab)

ATT 2224 Light Duty Diesel Electrical
This course covers the theory and operation of electric-drive diesel vehicles. Topics include maintenance, diagnosis, repair and safety procedures for electrically propelled diesel vehicles. Upon completion, students should be able to perform diagnostics, maintenance and repairs on electric and hybrid diesel vehicles. (4 sch: 2 lecture, 4 lab**)**

ATT 2334 Steering and Suspension Systems
This is a course designed to provide advanced skills and knowledge related to the inspection and repair of steering and suspension systems of automobiles. Includes instruction and practice in the diagnosis of steering system problems and the repair/replacement of steering components. (4 sch: 2 hr. lecture, 4 hr. lab)

ATT 2434 Engine Performance II
This is a course designed to provide advanced skills and knowledge related to the ignition system, fuel, air induction, and exhaust systems. It includes instruction, diagnosis, and correction of problems associated within these areas. (4 sch: 2 hr. lecture, 4 hr. lab)

ATT 1314 Manual Drive Trains/Transaxles
This is a course designed to provide advanced skills and knowledge related to the maintenance and repair of manual transmissions, transaxles, and drive train components. It includes instruction in the diagnosis of drive train problems, and the repair and maintenance of transmissions, transaxles, clutches, CV joints, differentials, and other components. (4 sch: 2 hr. lecture, 4 hr. lab)

ATT 2324 Automatic Transmissions/Transaxles
This is a course designed to provide skills and knowledge related to the diagnosis of automatic transmissions and transaxles. Includes instruction and practice of testing, inspecting, and repair of these devices. (4 sch: 2 hr. lecture, 4 hr. lab)

ATT 2334 Steering and Suspension Systems
This is a course designed to provide advanced skills and knowledge related to the inspection and repair of steering and suspension systems of automobiles. This course includes instruction and practice in the diagnosis of steering system problems and the repair/replacement of steering/suspension components. (4 sch: 2 hr. lecture, 4 hr. lab)

ATT 2444 Engine Performance III
This is a course designed to provide advanced skills and knowledge related to the ignition system, fuel, air induction, exhaust systems, and emission systems. It includes instruction, diagnosis, and correction of problems associated with in these areas. (4 sch: 2 hr. lecture, 4 hr. lab)

ATT 2614 Heating and Air Conditioning
This course is designed to provide advanced skills and knowledge associated with the maintenance and repair of automotive heating and air conditioning systems. It includes instruction and practice in the diagnosis and repair of heating and air conditioning system components, and control systems. (4 sch: 2 hr. lecture, 4 hr. lab)

ATT 2714 Light Duty Hybrid/Electric Vehicle Systems
This course is designed to provide advanced skills and knowledge related to hybrid/electric vehicles. It includes instruction, diagnosis, and correction of problems associated within these area. (4 sch: 2 hr. lecture, 4 hr. lab)

ATT 291(1-6) Special Problems I in Automotive Technology
A basic course to provide students with an opportunity to utilize basic skills and general knowledge gained in other Automotive Technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project.
(1-6 sch: 2-12-hr lab)

ATT 293(1-6) Special Problem II in Automotive Technology
A continuation of Special Problem I in Automotive Technology. An advanced course to provide students with an opportunity to utilize advanced skills and specific knowledge gained in other Automotive Technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-6 sch: 2-12-hr lab)

ATT 292(1-6) Supervised Work Experience in Automotive Technology
A course which is a cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 sch: 3-18 hr. externship)

BBT 1123 Forming Application
This course includes forming applications for foundations, flatwork reinforcing, concrete patented forms, and tilt-up wall systems. (3 sch: 2 hr. lecture, 2 hr. lab)

BBT 2112 Repair and Restoration
The student will gain experience in the rapir and restoration of brick and masonry structures. (2 sch: 1 hr. lecture, 2 hr. lab)

BBT 2123 Leadership Preparations
The student will gain experience in job skills, leadership, safety, and project control from a management perspective. (3 sch: 2 hr. lecture, 2 hr. lab)

BCT 1113 Broadcast Techniques I
This course covers the elementary principles and practices of television and radio in varied program formats. This includes the basic mechanics of operating video and audio equipment and basic linear editing. 3 hours lecture. (3 sch: lecture)

BCT 1133 Graphic Design for Media
This course introduces the student to the visual graphics standards used in modern television production as well as the principles of computer design for the broadcast media. Students gain experience with Adobe Photoshop and other forms of graphic production effects. (3 sch: lecture)

BCT 1213 Radio and Television Announcing
Diction, pronunciation, articulation and inflection are studied and practiced in this course as applied to announcing on radio and television. Students apply the skills they have learned in the radio and television studios on campus. (3 sch: lecture)

BCT 1223 Broadcast News Writing
This course covers the process of gathering, writing and delivering news for the electronic media. In addition, the role of the reporter, styles of presentation of news and the types of news content involved with the electronic media are also studied and practiced. (3 sch: lecture)

BCT 1423 Introduction to Mass Media
This course covers the origin and development of books, magazines, newspapers, film, radio and television in America as a means to mass communications. The advanced technology of today's diverse electronic media is also covered. (3 sch: lecture)

BCT 1813 Broadcast Assistantship I
This course is designed to give the student supervised work experience in radio and television production both in the studio and in the field. The purpose of this course is to give the student hands-on experience in the field of professional broadcasting. (3 sch: 100 hours minimum lab to be arranged)

BCT 1823 Broadcast Assistantship II
This course is a continuation of BCT 1813. (3 sch: 100 hours minimum lab to be arranged)

BCT 2113 Broadcast Techniques II, 3 cr.
Advanced principles and techniques of producing and directing radio and television broadcasts are stressed in this course. This includes fully integrated news package development. (3 sch: lecture)

BCT 2223 Writing for Radio and TV
This course helps students learn to be creative writers within the confines imposed by the television and radio media and the industry that supports those media. Preparation and research is stressed, along with the importance of communicating effectively through writing. Persuasion is also taught. (3 sch: lecture)

BCT 2233 Broadcast Studio Operation
This course covers the theory and practice of producing television programming that is broadcast ready with a focus on studio production and broadcast news. (3 sch: lecture)

BCT 2243 Non-Linear Concepts
This course introduces students to nonlinear editing, computer animation and video production effects. Digital editing and broadcast production using Media 100 and Adobe After Effects is also covered. (3 sch: lecture)

BCT 2813 Broadcast Assistantship III
This course is designed to give the student supervised work experience in radio and television production. Students are expected to take greater responsibility with the focus being placed on directing, producing and leadership. (3 sch: 100 hours minimum lab to be arranged)

BCT 2823 Broadcast Assistantship IV
See BCT 2813 for description. This course is a continuation of BCT 2813. (3 sch: 100 hours minimum lab to be arranged)

BFT 1213 Principles of Banking
This course presents the fundamentals of bank functions and operations and is the basic course for further studies in finance and banking. (3 sch: 3 hr. lecture)

BFT 1223 Money and Banking
This course presents the basic economic principles most closely related to the subject of money and banking in a context of related topics to strengthen knowledge and appreciation of the role of financial institutions in the functioning of the American economy. Emphasis is placed on such problems as economic stabilization, limitations of central bank control, and government fiscal policy showing their repercussion on the banking industry. (3 sch: 3 hr. lecture)

BFT 1233 Law and Banking Principles
This course provides an overview of legal and regulatory aspects and functions of banking. Emphasis on sources and applications of banking law, distinguishing between torts and crimes and their relationship to banking, explanation of contracts to include legal capacity, legal objectives, mutual assent, and consideration. Also includes real and personal properties and their application to banking, bankruptcy and liquidation, and the legal implications of electronic banking. (3 sch: 3 hr. lecture)

BFT 1313 Consumer Lending
This course provides specific concepts as well as the role consumer credit plays in a commercial bank. Techniques of installment lending are introduced with emphasis on the loan interview, loan application, investigating credit, evaluating credit risks, making credit decisions, documenting credit, and consumer compliance. (3 sch: 2 hr. lecture, 2 hr. lab)

BFT 1323 Commercial Lending
This course is designed to give an overview of the bank's commercial lending function and perspective. The course offers the basic definitions, concepts, and principles of commercial lending, and illustrates the involvement of an interactive process that demands human relations skills. (3 sch: 3 hr. lecture)

BFT 1411 Professional Development in Financial Institutions I
This course provides practical exercises in both the technical and social skills necessary for employment in the finance and banking industry. Involvement in a program of leadership and personal development in occupational competencies, and high standards in personal and professional relationships are stressed. (1 sch: 2 hr. lab)

BFT 1421 Professional Development In Financial Institutions II
This course provides practical exercises in both the technical and social skills necessary for employment in the finance and banking industry. Involvement in a program of leadership and personal development in occupational competencies, and high standards in personal and professional relationships are stressed. (1 sch: 2 hr. lab).

BFT 1513 Banking and Finance Math
This course is designed to develop competency in math skills for financial services use. (3 sch: 3 hr. lecture).

BFT 2113 Business Policy
This course uses the learn-by-doing approach with activities and cases drawn from the field of finance, business administration, and current economic situation to illustrate how daily tasks are evaluated and performed by business professionals. (3 sch: 2 hr. lecture, 2 hr. lab)

BFT 2431 Professional Development in Financial Institutions III
This course provides practical exercises in both the technical and social skills necessary for employment in the finance and banking industry. Involvement in a program of leadership and personal development in occupational competencies, and high standards in personal and professional relationships are stressed. (1 sch: 2 hr. lab)

BFT 2441 Professional Development in Financial Institutions IV

This course provides practical exercises in both the technical and social skills necessary for employment in the finance and banking industry. Involvement in a program of leadership and personal development in occupational competencies, and high standards in personal and professional relationships are stressed. (1 sch: 2 hr. lab)

BFT 2523 Business Finance
This course introduces the student to business finance management with the principles of finance applied to the operations of the profit-seeking business firm. Fundamental processes of problem solving are emphasized. (3 sch: 2 hr. lecture, 2 hr. lab)

BFT 2533 Financial Management
This course introduces the student to business and personal financial management. The student will learn how to analyze business and personal financial needs. (3 sch: 2 hr. lecture, 2 hr. lab)

BFT 2613 Bank Teller Operations
This course focuses on the skills new tellers need to carry out their daily responsibilities in today's financial services industry. (3 sch: 2 hr. lecture, 2 hr. lab)

BFT 2914 Special Project in Banking and Finance Technology
This course emphasizes development of concepts, terminology, and theory of Banking and Finance. The student will be assigned projects dealing with current situations in the financial services industry. (4 sch: 3 hr. lecture, 2 hr. lab)

BOT 1111 Business Technology Seminar I
This course is designed for students to participate in activities of various professional organizations such as the SkillsUSA and other student activities. Leadership skills, an understanding of group dynamics, Educational enrichment, stimulation of enthusiasm and interest, community service and rapport among health Education professionals are outcomes of this course. One hour per week with additional activities to meet organizational goals. (1 sch: 1 hr. lecture, 0 hr. lab)

BOT 1013 Introduction to Keyboarding
This course provides an introduction to basic word processing commands and essential skill development using the touch system on the alphabetic keyboard. Course emphasis is on speed and accuracy when keying documents and timed writings. (3 sch: 3 hr. lecture OR 2 hr. lecture, 2 hr. lab)

BOT 1113 Document Formatting and Production
This course focuses on improving keyboarding techniques using the touch method and on production of documents using word processing functions. (3 sch: 3 hr. lecture, OR 2 hr. lecture, 2 hr. lab)

BOT 1123 Keyboard Skillbuilding
This course further develops keyboard techniques emphasizing speed and accuracy. (3 sch: 3 hr. lecture OR 2 hr. lecture, 2 hr. lab)

BOT 1133 Microcomputer Applications
This course will introduce an operating system and word processing, spreadsheet, database management, and presentation software applications. (3 sch: 3 hr. lecture OR 2 hr. lecture, 2 hr. lab)

BOT 1143 Word Processing
This course focuses on production of documents using word processing functions. Production with accuracy is stressed and practice is given through a variety of documents for skillbuilding. (3 sch: 3 hr. lecture OR 2 hr. lecture, 2 hr. lab)

BOT 1213 Professional Development
This course emphasizes an awareness of interpersonal skills essential for job success. (3 sch: 3 hr. lecture OR 2 hr. lecture, 2 hr. lab)

BOT 1221 Business Technology Seminar II
This course is designed for students to participate in activities of various professional organizations such as the SkillsUSA and other student activities. Leadership skills, an understanding of group dynamics, Educational enrichment, stimulation of enthusiasm and interest, community service and rapport among health Education professionals are outcomes of this course. One hour per week with additional activities to meet organizational goals. (1 sch: 1 hr. lecture)

BOT 1233 Microsoft® Word® I
This course focuses on improving keyboarding techniques using the touch method and on production of documents using Microsoft® Word® functions. (3 sch: 3 hr. lecture OR 2 Lec and 2 hr. lab)

BOT 1243 Microsoft® Word® II
This course is a continuation of Microsoft® Word® I and focuses on production of documents using Microsoft® Word®. Production with accuracy is stressed and practice is given through a variety of documents for skillbuilding. (3 sch: 3 hr. lecture OR 2 Lec and 2 hr. lab)

BOT 1273 Introduction to Microsoft® Office®
This course will introduce an operating system and word processing, spreadsheet, database management, and presentation software applications using the Microsoft® Office® suite. (3 sch: 3 hr. lecture OR 2 Lec and 2 hr. lab)

BOT 1313 Applied Business Math
This course is designed to develop competency in mathematics for business use, with emphasis on the touch method. (3 sch: 3 hr. lecture OR 2 hr. lab)

BOT 1363 Information Management and Design
This course introduces students to the word processing cycle and how word processing is used in the work place. This course is for anyone who needs to prepare their own business documents. Students will use the Microsoft® Word application to create and edit business documents, enhance page layout, create tables, create reports, create columns, and create form letters and merge with a mailing list. Other topics covered include: Styles, templates, mailing labels, drawing objects, graphics, and WordArt. After this course, the student would be prepared to take the Microsoft® Office® Certified Application Specialist Exam for Word or the OPAC Microsoft® Word Basic. (3 sch: 3 hr. lecture OR 2 Lec and 2 hr. lab)

BOT 1413 Records Management
This course focuses on the systems approach to managing recorded information in any form. Emphasis is placed on the three categories into which records generally fall and the treatment of these categories in proper management, storage, and retrieval. (3 sch: 3 hr. lecture OR 2 hr. lecture, 2 hr. lab)

BOT 1433 Business Accounting
This course is designed to develop an understanding of analyzing, recording, classifying, and summarizing financial information of a sole proprietorship with insight into interpreting and reporting the resulting effects upon the business. (3 sch: 3 hr. lecture OR 2 hr. lecture, 2 hr. lab)

BOT 1443 Advanced Business Accounting
This course is a continuation of Business Accounting with emphasis in accounting for corporations. (3 sch: 3 hr. lecture OR 2 hr. lecture, 2 hr. lab)

BOT 1453 Introduction to Business Management
Study of the basic principles and managerial functions of organizations management with special emphasis on planning, organizing, coordinating, commanding, and controlling. The importance of managing competitively and intelligently within a diverse environment is stressed. Situational cases are completed to reinforce decision-making in each of the function areas. The course will also consist of a series of 'mini' presentations related to each of the topics, delivered by different types of business managers and guest speakers. (3 sch: 3 hr. lecture OR 2 hr. lecture, 2 hr. lab)

BOT 1473 Introduction to Marketing
This course surveys American and international marketing systems in the development, pricing, distribution, and promotion of products and services. Concepts, practices, and policies of manufacturers, wholesalers, and retailers are included. Current trends and developments in marketing practices are analyzed and strategic marketing ideas are implemented in group and individual cases. (3 sch: 3 hr. lecture OR 2 hr. lecture, 2 hr. lab)

BOT 1493 Social Media Management
This course teaches students how to develop and maintain a social media presence in a personal and professional capacity. Students will engage in community and internet-based projects with special emphasis on blogs, wikis, social networking sites, photo-sharing sites, instant messaging, videosharing sites, podcasts, widgets, virtual worlds, and more. (3 sch: 3 hr. lecture OR 2 hr. lecture, 2 hr. lab)

BOT 1513 Machine Transcription
This course is designed to teach transcription of a wide variety of business communications from machine dictation. (3 sch: 3 hr. lecture, OR 2 hr. lecture; 2 hr. lab)

BOT 1613 Medical Office Terminology I
This course is a study of medical language relating to the various body systems including diseases, physical conditions, procedures, clinical specialties, and abbreviations. Emphasis is placed on correct spelling and pronunciation. (3 sch: 3 hr. lecture)

BOT 1623 Medical Office Terminology II
This course presents medical terminology pertaining to human anatomy in the context of body systems. Emphasis is directed toward medical terminology as it relates to the medical office. (3 sch: 3-hr. lecture)

BOT 1643 Pathophysiology
This course will provide an in-depth study of common disease processes and disorders with emphasis placed on etiology, symptoms, diagnoses, treatments, and disease prevention. (3 sch: 3 hr. lecture OR 2 Lec and 2 hr. lab)

BOT 1713 Mechanics of Communication
This course is designed to develop the basic English competencies necessary for success in the business world. A study of the parts of speech, sentence structure, sentence types, capitalization, punctuation, and spelling is emphasized. (3 sch: 3-hr. lecture)

BOT 1763 Communication Essentials

This course focuses on the basic English competencies and communication skills necessary to be successful and effective in the workplace in addition to effectively contributing to a team while working with a diverse population. (3 sch: 3 hr. lecture OR 2 Lec and 2 hr. lab)

BOT 1813 Electronic Spreadsheet
This course focuses on applications of the electronic spreadsheet as an aid to management decision making. (3 sch: 3 hr. lecture OR 2 hr. lecture, 2 hr. lab)

BOT 1823 Microsoft® Excel® I
This course focuses on application Microsoft® Excel® as an aid to management decision making. (3 sch: 3 hr. lecture OR 2 Lec and 2 hr. lab)

BOT 1853 Microsoft® Excel® II
This course is a continuation of Microsoft® Excel® I and focuses on advanced functions and applications of the software. (3 sch: 3 hr. lecture OR 2 Lec and 2 hr. lab)

BOT 2111 Business Technology Seminar III
This course is designed for students to participate in activities of various professional organizations such as the SkillsUSA and other student activities. Leadership skills, an understanding of group dynamics, Educational enrichment, stimulation of enthusiasm and interest, community service and rapport among health Education professionals are outcomes of this course. One hour per week with additional activities to meet organizational goals. (1 sch: 1 hr. lecture)

BOT 2121 Business Technology Seminar IV
This course is designed for students to participate in activities of various professional organizations such as the SkillsUSA and other student activities. Leadership skills, an understanding of group dynamics, Educational enrichment, stimulation of enthusiasm and interest, community service and rapport among health Education professionals are outcomes of this course. One hour per week with additional activities to meet organizational goals. (1 sch: 1 hr. lecture)

BOT 2133 Desktop Publishing
This course presents graphic design techniques, principles of page layout and design, and electronic publishing terminology and applications to create a variety of documents such as flyers, brochures, newsletters, and business cards using advanced features of word processing software. (3 sch: 3 hr. lecture OR 2 hr. lecture, 2 hr. lab)

BOT 2183 Career Readiness
This course is designed to prepare students for employment by teaching the importance of interviewing skills, employer expectations, employability skills, work ethics, and job retention skills. (3 sch: 3 hr. lecture OR 2 Lec and 2 hr. lab)

BOT 2233 Human Resource Management
This course provides a general overview of the concepts and applications of the many parts of Human Resources (HR). Students will learn how the interdependence of the major topics in HR are created and implemented through the use of real world HR issues, community projects, and case studies. (3 sch: 3 hr. lecture OR 2 Lec and 2 hr. lab)

BOT 2323 Database Management
This course applies database concepts for designing and manipulating data files and formatting output as complex documents and reports. (3 sch: 3 hr. lecture OR 2 hr. lecture, 2 hr. lab)

BOT 2333 Microsoft® Access®
This course applies database concepts for designing and manipulating data files and formatting output as complex documents and reports using Microsoft® Access®.(3 sch: 3 hr. lecture OR 2 Lec and 2 hr. lab)

BOT 2413 Computerized Accounting
This course applies basic accounting principles using a computerized accounting system. (3 sch: 3 hr. lecture OR 2 hr. lecture, 2 hr. lab).

BOT 2423 Income Tax Accounting
This course introduces tax accounting including federal income tax laws and report preparation. (3 sch: 3 hr. lecture OR 2 hr. lecture, 2 hr. lab)

BOT 2433 QuickBooks®
This course applies basic accounting principles using QuickBooks®.(3 sch: 3 hr. lecture OR 2 Lec and 2 hr. lab)

BOT 2463 Payroll Accounting
This course provides an in-depth study of payroll accounting. (3 sch: 3 hr. lecture OR 2 hr. lecture, 2 hr. lab)

BOT 2473 Cost Accounting
This course provides an in-depth study of cost accounting for manufacturing business. (3 sch: 3 hr. lecture OR 2 hr. lecture, 2 hr. lab)

BOT 2523 Medical Machine Transcription I
This course is designed to teach transcription of various medical documents. (3 sch: 2-hr. lecture, 2-hr. lab)

BOT 2533 Medical Machine Transcription II
This course is designed to continue teaching transcription of various medical documents including dictation given by doctors with foreign accents and additional medical specialties. (3 sch: 2-hr. lecture, 2-hr. lab)

BOT 2543 Medical Machine Transcription III
This course is designed to continue the development of the student's transcription skills including more difficult dictation, longer and more complex medical records, and more difficult physician dictation (foreign accents, dialects). All major medical specialties are included. (3 sch = 1 hr lecture, 4 hr lab)

BOT 2613 Entrepreneurial Problem Solving
Designed to develop business students into entrepreneurs capable of operating their own companies and to reduce the high failure rate of starting, conducting, and expanding a business. Students will gain experience in problem solving through analyses of case studies, and projects and surveys of current business practices. (3 sch=3 hr lecture)

BOT 2623 Principles of Business Finance
This course is designed to provide a study of how financial data are gathered, analyzed, and used by management in planning and controlling business activities. (3 sch: 3 hr. lecture OR 2 Lec and 2 hr. lab)

BOT 2643/BCT 2123 CPT Coding

This course is an introduction to the field of outpatient procedural coding and requirements for insurance reimbursement. (3 sch: 2-hr. lecture, 2-hr. lab)

BOT 2653/BCT 2133 ICD Coding
This course is an introduction to the field of diagnostic coding and inpatient procedural coding. (3 sch: 2-hr. lecture, 2-hr. lab)

BOT 2663/BCT 2143 Advanced Coding
This course includes advanced analysis of diagnostic and procedural coding systems. (3 sch: 2-hr. lecture, 2-hr. lab)

BOT 2673/BCT 2153 Medical Insurance Billing
This course is a culmination of skills and knowledge of appropriate procedures for generating, processing, and submitting health insurance claims to private and governmental health insurance programs. (3 sch: 2-hr. lecture, 2-hr. lab)

BOT 2723 Administrative Office Procedures
This course will provide comprehensive coverage and integration of business skills and issues, develop critical-thinking and problem-solving skills, and establish a foundation in business procedures. (3 sch: 3 hr. lecture OR 2 hr. lecture, 2 hr. lab)

BOT 2743 Medical Office Concepts
This course will provide coverage and integration of medical office skills. Problem solving will be emphasized. (3 sch: 2-hr. lecture, 2-hr. lab)

BOT 2753 Medical Information Management
This course will provide coverage of medical office practices using software simulation. (3 sch: 2-hr lecture, 2-hr lab)

BOT 2763 Electronic Health Records
This course covers electronic health records (EHR) in the healthcare environment as they pertain to various healthcare settings. (3 sch: 3 hr. lecture OR 2 Lec and 2 hr. lab)

BOT 2813 Business Communication
This course develops communication skills with emphasis on principles of writing business correspondence and reports and preparing presentations using electronic media. (3 sch: 3 hr. lecture OR 2 hr. lecture, 2 hr. lab)

BOT 2823 Communication Technology
This course will present an overview of the resources available for communication using current technology. (3 sch: 3 hr. lecture OR 2 hr. lecture, 2 hr. lab)

BOT 2833 Integrated Computer Applications
This course integrates activities using applications software including word processing, database, spreadsheet, graphics, and multimedia. (3 sch: 3 hr. lecture OR 2 hr. lecture, 2 hr. lab)

BOT 2913 Supervised Work Experience
This course provides related on-the-job training in an office environment. This training must include at least 135 clock hours. (3 sch: 9-hr. externship)

BOT 2923 BOT Externship and Seminar
Students will serve as interns with local businesses and will be given meaningful projects, responsibilities, work deadlines, and expectations similar to what they would expect as a full-time

employee. This capstone course can only be taken in the graduating semester. (3 sch: 2 hr lecture, 3hr extenship)

BOT 2933 Healthcare Data Internship
Students will serve as interns with healthcare facilities and will be given meaningful projects, responsibilities, work deadlines, and expectations similar to what they would expect as a full-time healthcare data employee. (3 sch: 2 hr lecture, 3hr extenship)

BPT 1124 Cookies, Mignardise and Frozen Desserts
This course is designed as instruction on how to make a variety of cookies, biscotti's, miniature desserts, ice creams, anglaise, petit fours and sorbets. Different methods and techniques will be covered such as creaming, tempering, foaming, product knowledge, and terminology. Provide skills in the production of churned and frozen desserts (4 sch: 2 hr lecture, 4 hr lab)

BPT 1314 Restaurant and Catering Operations for Baking and Pastry Arts
Principles of organizing and managing a food and beverage operation. This course includes instruction on how to operate a baking and/or pastry operation/department for a retail market. (4 sch: 2 hr lecture, 4 hr lab)

BPT 1234 Classic Pastry, Pies and Tarts
This course is designed to provide students with the fundamental knowledge of producing various pies, puff pastry, pate a choux, custards, creams and tarts utilizing traditional methods. This course will also include platter and plate design arrangements for different menu styles. (4 sch: 2 hr lecture, 4 hr lab)

BPT-1911-6 Supervised Work Experience in Baking and Pastry Arts
This course is a cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 Semester Credit Hour)

BPT 1921-6 Supervised Work Experience in Baking and Pastry Arts II
This course is a cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 Semester Credit Hour)

BPT 2214 Artisan Breads and ViennoiserieExp
This course is designed to provide students with the knowledge, skills and techniques of artisan breads and viennoiserie production. Laminated doughs, quick breads, yeast breads, rolls and savory quick breads products, techniques and skills are applied. The properties of scaling, mixing, production and baker's percentage are studied. Baking methodology, fermentation, proper mixing and production are emphasized.
(4 sch: 2 hr lecture, 4 hr lab)

BPT 2324 Advanced Cakes and Patisserie
This course is designed for students to apply fundamental skills of icing cakes in creating special occasion cakes. Emphasis is placed on developing skills in making various flowers out of modeling chocolate, marzipan and gum paste. Students are introduced to covering and glazing special occasion cakes with rolled fondant and build their piping skills through intricate patterns and techniques. (4 sch: 2 hr lecture, 4 hr lab)

BPT 2334 Chocolates, Confections Sugar Artistry
This course is designed as a production and history of chocolate and other confection techniques necessary to work with chocolate and sugar. Various candies are to be hand dipped or molded into form. Sugar artistry to include pastillage- blown, pulled or poured while in production. Edible centerpiece showcases design explored. (4 sch: 2 hr lecture, 4 hr lab)

BPT 2414 Advanced Baking and Pastry Arts
This course is designed to integrate students' training in baking and pastry arts, academic studies, and field experience using fundamental baking techniques, topics of contemporary significance, food science, aesthetics, and sensory perception as frameworks. Advanced Pastry is an examination of taste, baking and pastry techniques, ingredients, and spices. Students will research and evaluate recipes, comparing and contrasting ingredient functionality and methodology. This course will emphasize the following learning outcomes: (4 sch: 2 hr lecture, 4 hr lab)

CAT 1113 Graphic Design and Production I
An introduction to the skills of design, typography, and the fundamentals needed of the graphic artist. The course will provide selected experiences involving design, simple renderings, printing processes, industry specifications, and print production formats for mass distribution. (3 sch: 6 hr. lab)

CAT 1123 Graphic Design and Production II
A continuation of Graphic Design and Production I with concentration on color printing, mechanical processes, color separations, screens, cropping, and scaling photographs/artwork for reproduction with continued emphasis on design, typography, assembly, and binding. The course will utilize both traditional and computer techniques. (3 sch: 6 hr. lab)

CAT 1133 History of Graphic Design
Evolution of graphic communications from prehistoric times through present day. (3 sch: 3 hr. lecture)

CAT 1143 Typography
A comparison of traditional uses of typography with those of a more contemporary approach. This is an in-depth exploration of type in relation to meaning and form with a refined application of drawing skills before final output on the computer. (3 sch: 2 hr. lecture, 2 hr. lab)

CAT 1213 Fundamentals of Graphic Computers
An introduction to graphic interface computers related to the graphic design industry, utilizing current software and related hardware emphasizing print production and digital image manipulation. (3 sch: 1 hr. lecture, 4 hr. lab.)

CAT 2133 Graphic Design Studio
A concentrated study in graphic design specifically related to regional industry needs. Emphasis will be placed on projects according to industry needs. (3 sch: 1 hr. lecture, 4 hr. lab)

WDT 2263/CAT 2263 Web Graphic Production
An in-depth study of producing and utilizing graphic elements designed for Internet or web application. Emphasis is placed equally on aesthetics, technical requirements, and principles of interactive design. The course will provide a concentrated study related to color management, typography, graphic development and manipulation, digital imaging, and creating dynamic web experiences. The focus is on the production and manipulation of individual elements and is recommended as a supplement to a web design application course or previous experience. (3 sch: 1 hr. lecture, 4 hr. lab)

CAT 2313 Basic Advertising Design
Concepts and methodology related to the graphic design industry utilizing current software and related hardware. (3 sch: 6 hr. lab)

CAT 2323 Advanced Advertising Design
A continuation of Basic Advertising Design with emphasis on graphic computers to develop and produce advanced graphic design projects. This course utilizes equipment and software used in industry. (3 sch: 6 hr. lab)

CAT 2334 Practical Advertising Techniques
Performance skills needed for productive employment in the graphic design field. (4 sch: 2 hr. lecture, 4 hr. lab)

CAT 2413 Rendering Techniques
A study of various illustration and rendering techniques with emphasis on rendering in markers and color pencils. The student will learn professional methods of illustration and visual production for mass distribution using electronic, mechanical, and traditional art techniques. (3 sch: 6 hr. lab)

CAT 2824 Extended Reality (XR) 3 D Design
This course provides an introduction to 3 D Modeling using industry software and pipeline workflows with an emphasis on artistic development and technical implementation of animation, modeling, texturing, lighting and rendering.

CAT 2834 Advanced Extended Reality (XR) 3 D Design
This course is designed to introduce students to extended reality development as it relates to the graphic and game design industries. This course will provide students with a working knowledge of the the tools, skills, and workflows necessary to develop extended reality experience.

CAT 291(1-6) Special Project in Graphic Design Technology
Practical applications of skills and knowledge gained in other Graphic Design Technology courses. The instructor works closely with the student to ensure that selection of a special project enhances the student's learning experiences. (1-6 sch: 45 contact hours per sch)

CAT 292(1-6) Supervised Work Experience in Graphic Design Technology
This course is a cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 sch: 3-18 hr. externship)

CAT 293(1-6) Special Project in Graphic Design Technology II
Practical applications of skills and knowledge gained in other Graphic Design Technology courses. The instructor works closely with the student to ensure that selection of a special project enhances the student's learning experiences. (1 6 sch: 45 contact hours per sch)

CCT 1113 Fundamentals of Drafting
Fundamentals and principles of drafting to provide the basic background needed for all other drafting courses. (3 sch: 2 hr. lecture, 2 hr. lab)

CCT 1116 Foundations
This course includes site selection, site preparation, site layout, building forms, and construction of foundations. (6 sch: 2 hr. lecture, 8 hr. lab)

CCT 1123 Forming Applications
This course includes forming applications for foundations, flatwork, reinforcing concrete, patented forms, and tilt-up wall systems. (3 sch: 2 hr. lecture, 2 hr. lab)

CCT 1133 Blueprint Reading
This course includes the elements of residential plans and how to prepare a bill of materials from a set of plans. (3 sch: 2 hr. lecture, 2 hr. lab)

CCT 1163 Construction Mathematics
This course includes the fundamental principles of practical problems in mathematics that carpenters may encounter in the workforce. (3 sch: 1 hr. lecture, 4 hr. lab)

CCT 1213 Construction Material
Physical properties of the materials generally used in the erection of a structure, with a brief description of their manufacture. (3 sch: 2 hr. lecture, 2 hr. lab)

CCT 1236 Floor and Wall Framing
This course is designed to give the student experience in floor and wall framing. (6 sch: 2 hr. lecture, 8 hr. lab)

CCT 1245 Ceiling and Roof Framing
This course will apply the techniques of cutting and assembly of framing materials based on predetermined specifications. (5 sch: 1 hr. lecture, 8 hr. lab)

CCT 1315 Interior/Exterior Finishing and Cabinet Making
This course includes thermal and sound protection, types of interior ceilings, wall coverings, floor coverings, trim work, and cabinet installation. It also includes the installation and finishing of wall coverings, cornices and exterior trim. (5 sch: 2 hr. lecture, 6 hr. lab)

CCT 1413 Roofing
This course covers types of roofs, types of roofing materials, and their application. Also covered are basic roofing techniques, including material selection, roof styles, cost estimation, and installation procedures. (3 sch: 1 hr. lecture, 4 hr. lab)

CCT 1911 Carpentry Seminar I
This course is designed for students to participate in activites of various professional organizations such as SkillsUSA and other student activities. Leadership skills, an understanding of group dynamics, educational enrichment, stimulation of enthusiasm and interest, community service and rapport among skilled laborers are outcomes of this course. One hour per week with additional activities to meet organizational goals. (1 sch: 1 hr. lecture)

CCT 1921 Carpentry Seminar II
This course is designed for students to participate in activites of various professional organizations such as SkillsUSA and other student activities. Leadership skills, an understanding of group dynamics, educational enrichment, stimulation of enthusiasm and interest, community service and rapport among skilled laborers are outcomes of this course. One hour per week with additional activities to meet organizational goals. (1 sch: 1 hr. lecture)

CCT 1931 Carpentry Seminar III
This course is designed for students to participate in activites of various professional organizations such as SkillsUSA and other student activities. Leadership skills, an understanding of group dynamics, educational enrichment, stimulation of enthusiasm and interest, community service and rapport among skilled laborers are outcomes of this course. One hour per week with additional activities to meet organizational goals. (1 sch: 1 hr. lecture)

CCT 1941 Carpentry Seminar IV
This course is designed for students to participate in activites of various professional organizations such as SkillsUSA and other student activities. Leadership skills, an understanding of group dynamics, educational enrichment, stimulation of enthusiasm and interest, community service and rapport among skilled laborers are outcomes of this course. One hour per week with additional activities to meet organizational goals. (1 sch: 1 hr. lecture)

CCT 2113 Priniciples of Multi-family and Light Commercial Construction
This course examines the fundamentals of multi-family and light commercial construction. (3 sch: 2 hr. lecture, 2 hr. lab)

CCT 2133 Millwork
This course includes principles of building and installation of cabinets, drawers, and shelves. (3 sch: 1 hr. lecture, 4 hr. lab)

CCT 2243 Cost Estimating
Preparation of material and labor quantity surveys from actual working drawings and specifications. (3 sch: 2 hr. lecture, 2 hr. lab)

CCT 2313 Advanced Interior Finishing
This course includes procedures for advanced ceiling and wall interior finishing and for stair calculation and construction. (3 sch: 2 hr. lecture, 2 hr. lab)

CCT 291(1-3) Special Problem in Residential Carpentry Technology
A course to provide students with an opportunity to utilize skills and knowledge gained in other Residential Carpentry Technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-3 sch: 2-6 hr. lab)

CCT 292(1-6) Supervised Work Experience in Residential Carpentry Technology
A course which is a cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 sch: 3-18 hr. externship)

CCT 2933 NCCER Core Curriculum
This course follows the "Contren Learning Series." It includes the following: Basic Safety, Introduction to Construction Math, Introduction to Power Tools Introduction to Blueprints, and Rigging. This curriculum is endorsed by the national Center for Construction Education and Research (NCCER). (3 SCH = 6-hr. lab)

CDT 1111 Early Childhood Education Seminar I
This course focuses on objectives that would best prepare students for the national exam, collaborate club and on campus activities, and network with state, regional, and national early childhood education activities. (1 sch: 1-hr. lecture)

CDT 1121 Early Childhood Education Seminar II
This course focuses on objectives that would best prepare students for the national exam, collaborate club and on campus activities, and network with state, regional, and national early childhood education activities. (1 sch: 1-hr. lecture)

CDT 1113 Early Childhood Profession
This course is an introduction to the profession of early childhood, types of early childhood programs, and theories of child development. Students are required to develop observational skills through laboratory experience.. (3 sch: 2-hr. lecture, 2-hr. lab)

CDT 1214 Infant and Toddler Development
This course provides knowledge concerning the care and development of infants and toddlers in early childhood programs. Practice of infant and toddler care giving skills (birth to 36 months) in group settings is given in laboratory classroom or collaborative centers. (4 sch: 3-hr. lecture, 2-hr. lab)

CDT 1224 Preschool and Primary Development
This course provides knowledge concerning the care, development, and education of the preschool child in group settings and school age children in afterschool and summer programming. Practice is given in preschool children caregiving in group settings through classroom laboratory or collaborative centers. (ages 3–8) (4 sch: 3-hr lecture, 2-hr lab)

CDT 1313 Creative Arts for Young Children

This course is provides knowledge of the creative arts and strategies for developing and implementing creative art experiences, both as a means of creative expression and as a part of integrated learning with children birth to age eight. Experiences will be implemented during Practicum. (3 sch: 3-hr. lecture)

CDT 1343-4 Child Health, Safety, and Nutrition
This course provides knowledge of general health, safety, and nutrition practices in the care and education of young children that includes health and safety issues required by the Mississippi Department of Health (MDH) Regulations Governing Licensure of Childcare Facilities and referenced in the Infant Toddler Environmental Rating Scale Revised (ITERS-R) and Early Childhood Environmental Rating Scale Revised (ECERS-R). (3 sch: 3-hr lecture or 4 sch: 3-hr lecture 2-hr lab)

CDT 1713 Language and Literacy Development for Young Children
This course provides knowledge of oral and written language development of young children and the strategies for the development and implementation of developmentally appropriate language and literacy experiences throughout the curriculum. The Mississippi Early Learning Standards, Infant Toddler Standards, Infant Toddler Environmental Rating Scale Revised (ITERS-R), and Early Childhood Environmental Rating Scale Revised (ECERS-R) are utilized. Activities will be implemented during Practicum. (3 sch: 3-hr lecture)

CDT 2111 Early Childhood Education Seminar III
This course focuses on objectives that would best prepare students for the national exam, collaborate club and on campus activities, and network with state, regional, and national early childhood education activities. (1 sch: 1-hr. lecture)

CDT 2121 Early Childhood Education Seminar IV
This course focuses on objectives that would best prepare students for the national exam, collaborate club and on campus activities, and network with state, regional, and national early childhood education activities. (1 sch: 1-hr. lecture)

CDT 2233 Guiding Social and Emotional Behavior
This course provides knowledge of the typical behaviors of young children at each stage of development, environmental influences affecting their behavior, and the practice of positive guidance principles by adult caregivers. Resources include the Mississippi Department of Health Regulations Governing Licensure of Childcare Facilities, Mississippi Early Learning Standards, the Infant Toddler Standards, Infant Toddler Environmental Rating Scale Revised (ITERS-R), and Early Childhood Environmental Rating Scale Revised (ECERS-R). Lab activities will be implemented during Practicum I and II.. (3 sch: 3-hr lecture)

CDT 2413 Development of the Exceptional Child
This course provides knowledge of atypically developing children, family, and classroom intervention strategies and available support services. Legal, ethical, legislative, and family issues will be explored. Resources include Infant Toddler Environmental Rating Scale Revised (ITERS-R), and Early Childhood Environmental Rating Scale Revised (ECERS-R). (3 sch: 2-hr lecture and 2-hr lab)

CDT 2513 Family Dynamics and Community Involvement
This course provides knowledge for establishing successful partnerships with children's families and communities by creating respectful, reciprocal relationships that support and empower families while involving families in their children's development and learning. (ages birth to 8 years). (3 sch: 3-hr lecture)

CDT 2613 Methods, Materials, and Measurements

This course provides knowledge of an integrated approach to planning, preparing, implementing, and evaluating early childhood curriculum and environments. As students gain a broader understanding of young children, this knowledge will be reflected in their curriculum planning. Students will gain strategies for organizing, analyzing, and interpreting observation data to improve program quality and meet the needs of individual children. The learning experiences will be implemented during Practicum. (3 sch: 3-hr lecture)

CDT 2714 Social Studies, Math, and Science for Young Children
This course provides knowledge of strategies for developing and implementing developmentally appropriate experiences in social studies, math, and science for young children. Lab activities with the children are implemented during Practicum. (4 sch: 4-hr lecture)

CDT 2813 Administration of Programs for Young Children
This course provides knowledge of the development and administration of early childhood education programs. Emphasis is placed on evaluation of policies and procedures, organizational structure, management, and the quality measures through state agencies. (3 sch: 3-hr lecture)

CDT 2914 Initial Practicum
This course is a supervised practicum which includes a minimum of 180 clock hours of observation and supervised teaching in an approved early childhood setting. The course provides the application of evidence based best practices of early education principles and theories. Students work to create an environment that is safe, healthy, and developmentally appropriate to promote an optimum learning environment for young children. (4 sch: 8- hr lab)

CDT 2924 Infant and Toddler Practicum Experience
This course is supervised practicum which includes a minimum of 120 clock hours of observation and supervised teaching in an approved infant and toddler setting. The course provides the application of evidence-based best practices of early education principels and theories. Students work to create an environment that is safe, healthy, and developmentally appropriate to promote an optimum learning environment for young children. (4 sch: 8 hr. lab)

CDT 2934 Preschool Practicum Experience
This course is a supervised practicum which includes a minimum of 180 clock hours of supervised teaching in an approved preschool setting. The course is a capstone course which focuses on the student's demonstration of competencies throughout the daily routine using a unit of study for young children. It is usually the last course taken before completion of the program. (4 sch: 8 hr. lab)

CDT 2944 Advanced Practicum
This course is a supervised practicum which includes a minimum of 180 clock hours of supervised teaching in an approved early childhood setting. The course is a capstone course which focuses on the student's demonstration of competencies throughout the daily routine using a unit of study for young children. It is usually the last course taken before completion of the program. (4 sch: 8 hr. lab)

CET 1113 Satellite Systems
Service, repair, and install home satellite receiving systems. (3 sch: 1-hr. lecture, 4-hr. lab)

CET 2223 Diagnostics and Troubleshooting Lab
Laboratory course in applying skills and knowledge gained in other communications electronics courses in repairing various electronic devices. Isolate, locate, and repair devices in a simulated industry setting. (3 sch: 6-hr. lab)

CET 2323 Video Recording Systems Lab
Maintenance and repair of consumer-type video recording, videocassette recorders, and playback equipment. (3 sch: 6-hr. lab)

CET 2823 Video Systems Repair Lab
Troubleshooting, repairing, and maintenance of consumer video equipment and television receivers. (3 sch: 6-hr. lab)

CET 291(1-3) Special Project
Practical application of skills and knowledge gained in other electronics or electronics-related technical courses. The instructor works closely with the student to ensure that the selection of a project will enhance the student's learning experience. (1-3 sch: 2- to 6-hr. lab)

CET 292(1-6) Supervised Work Experience
This cooperative program between industry and education is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of 1 semester hour per 45 industrial contact hours. (1-6 sch: 3- to 18-hr. externship)

CIT 1114 Route Surveying
This course teaches highway route design and factors in route location. The calculation and layout of simple horizontal and vertical curves, grades, and related earthwork are covered. Modern surveying, measuring, and mapping instruments, including electronic total stations with data collectors, are used. (4 sch: 2 hr. lecture, 4 hr. lab)

CIT 1133 Introduction to Craft Skills
This module explains the role of safety in the construction crafts. Trainees will learn how to identify and follow safe work practices and procedures as well as how to properly inspect and use safety equipment. Trainees will be able to describe safe work procedures for lifting heavy objects, fighting fires, and working around electrical hazards. (3 sch: 2 lecture, 2 lab)

CIT 1213 Road Design and Construction Methods and Materials
A study of equipment, construction methods, and materials used in the construction of roadways and drainage structures. (3 sch: 3 hr. lecture)

CIT 1223 Road Construction Plans and Specifications
A course to provide students with an introduction to the plans and specifications for the construction of streets and highways. Includes instruction in the interpretation of plans and specifications, the bidding process, and estimation of material and labor costs. (3 sch: 3 hr. lecture)

CIT 1413 Elementary Surveying
Basic course dealing with principles of geometry, theory, and use of instruments, mathematical calculations, and the control and reduction of errors. (3 sch: 1 hr. lecture, 4 hr. lab)

CIT 2113/DDT 2433 Legal Principles of Surveying
A study of the legal aspects of boundary controls for the survey and resurvey of real property. (3 sch: 2 hr. lecture, 2 hr. lab)

CIT 2124/DDT 2443 Advanced Surveying Practices
A course designed to provide the student with practical applications of skills and knowledge gained in other surveying and related courses. (4 sch: 2 hr. lecture, 4 hr. lab)

CIT 2313 Soil Mechanics
Elementary study of exploring, sampling, testing, and evaluating sub-surface materials and their effect on types of foundations and construction. (3 sch: 2 hr. lecture, 2 hr. lab)

CIT 2413 Concrete and Hot-Mix Asphalt Testing
A course which emphasizes standard procedures for sampling, testing, and evaluating materials used in concrete and hot-mix asphalt mixtures. (3 sch: 2 hr. lecture, 2 hr. lab)

CIT 2423 Mapping and Topography
Selected drafting techniques are applied to the problem of making maps, traverses, plot plans, plan drawings, and profile drawings using maps, field survey data, aerial photographs, and related references and materials including symbols, notations, and other applicable standardized materials. (3 sch: 2 hr. lecture, 2 hr. lab)

CIT 2434 Land Surveying
This course teaches aspects of boundary controls, principles for land surveying, methods of land boundary location, and land description in accordance with original surveys and re-surveys. (4 sch: 2 hr. lec., 4 hr. lab)

CIT 2444/DDT 2463 GPS Surveying
This course teaches principles of surveying utilizing artificial earth orbit satellites. (4 sch: 2 hr. lecture, 4 hr. lab)

CIT 2453 /GIT 2123Fundamentals of Geographical Information Systems
This course includes the use of computer mapping and databases in multiple applications. Included is incorporation of imagery and data into a graphical oriented database system. Also included are the fundamentals of geographical information systems techniques, approaches, and applications. (3 sch: 2 hr. lecture, 2 hr. lab)

CIT 2513 Water and Water Distribution
A study of the hydrological principles in the distribution and movement of water on and under the earth's surface and in water distribution systems. (3 sch: 2 hr. lecture, 2 hr. lab)

CIT 2523 Hydraulic Design
A study of the hydrological principles in the distribution and movement of water on and under the earth’s surface and in water distribution systems. (3 sch: 2 lecture, 2 lab)

CIT 291(1-3) Special Project
A course designed to provide the student with practical application of skills and knowledge gained in other Civil Technology courses. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. (1-3 sch: 2-6 hr. lab)

CIT 292(1-6) Supervised Work Experience in Civil Technology
A course which is a cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 sch: 3-18 hr. externship)

CNT 2344 Introduction to MS SQL
This course is designed to generate an experience for the student in administering a MS SQL Server; including initial installation, backup methods, user maintenance and log management. This course also targets the programming skills needed by a Data Base Administrator; including the creation of tables and relationships, SQL syntax and functions or stored procedures. (4 sch: 2 hr. lecture, 4 hr. lab)

CNT 2423/CPT 2383 System Maintenance
This course covers the diagnosis, troubleshooting, and maintenance of computer components. Topics include hardware compatibility, system architecture, memory, input devices, video displays, disk

drives, modems, and printers. (3 sch: 2-hr. lecture, 2-hr. lab) Pre/Corequisite CPT 1113 Operating Platforms

CON 1113 Survey of Modern Construction
Fundamentals of the construction environment, methods, materials, and processes from a historical perspective, and the impact on the construction industry. (3 sch: 2-hr. lecture, 2-hr. lab)

CON 1213 Construction Materials
Study and testing of the various materials used in the construction industry including wood, steel, concrete, and soils (3 sch: 2-hr. lecture, 2-hr. lab)

CON 1223 Plans and Document Interpretation
Graphic techniques used in the construction industry. This course includes computation of areas and volumes, interpretation of construction plans and specifications, and symbols and terms used in the residential, and commercial, and heavy construction industry.(3 sch: 2-hr. lecture, 2-hr. lab)

CON 1233 Construction Systems I
Common practices of engineering principles and construction methods. (3 sch: 2-hr. lecture, 2-hr. lab)

CON 1313 Construction Drawing
This course is designed to give construction students the background needed for understanding and interpreting construction drawings. (3 sch: 2-hr lecture, 2-hr lab)

CON 2113 Construction Jobsite Management
Basic techniques of the modern methods of managing construction projects including scheduling, resource allocation, and funds flow. Practical applications are made through simulated projects. (3 sch: 2-hr. lecture, 2-hr. lab)

CON 2123 Construction Cost Estimation
Estimating, quantity survey, unit cost synthesis and analysis, bid organization and planning, and competitive simulations and exercises. (3 sch: 2-hr. lecture, 2-hr. lab)

CON 2233 Construction Systems II
Common practices of construction using engineering techniques to determine relations between equipment production and design criteria. (3 sch: 2-hr. lecture, 2-hr. lab)

CON 2243 Construction Systems III
A study of material properties and common practices of design and construction of civil/highway structures. The operation and cost of construction machinery and equipment, power generating equipment, and powered fastening systems will be covered. (3 sch: 2-hr. lecture, 2-hr. lab)

CON 2313 Construction Layout
Principles of site preparation and layout of structures. Use of levels, tapes, and surveying instruments. Triangle calculations, differential leveling, and erection of batter boards and markers are included. (3 sch: 1-hr. lecture, 4-hr. lab)

CON 2413 Construction Safety Standards
Management of safety and health in the construction environment. Basic elements of a safety and health program for the construction general contractor are examined to include Occupational Safety and Health Administration (OSHA) . (3 sch: 2-hr. lecture, 2-hr. lab)

CON 2513 Leadership and Organization
Study of the effective leadership and management styles in the construction industry. Organization of the construction industry at the local, state, and national levels. (3 sch: 2-hr. lecture, 2-hr. lab)

CON 261(3-6) Internship in Construction Engineering Technology I
This cooperative program between the construction industry and education is designed to integrate the student's technical studies with on-site construction experiences. It is offered only in the summer term. Credit is awarded on the basis of 1 semester hour per 45 hours of on-site experience. (3-6 sch: 135-270 work hr)

CON 262(3-6) Internship in Construction Engineering Technology II
This is a continuation of CON 261(3-6) with advanced placement in the on-site construction. It is offered only in the summer term. Credit is awarded on the basis of 1 semester hour per 45 hours of on-site experience. (3-6 sch: 135-270 work hr)

CON 291(1-3) Special Problem in Construction Engineering Technology
This course is designed to provide students with an opportunity to utilize skills and knowledge gained in other Construction Engineering Technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-3 sch: 2- to 6-hr. lab)

CON 292(1-6) Supervised Work Experience in Construction Engineering Technology
This course is a cooperative program between the industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of 1 semester hour per 45 contact hours. (1-6 sch: 3- to 18-hr. externship)

CPT 1113 Fundamentals of Microcomputer Applications
This course will introduce information processing concepts to including word processing, spreadsheet, and database management software. (3 sch: 2-hr lecture, 2-hr lab)

CPT 1143 Programming Development Concepts
This course is an introduction to programming logic and computer systems. Students will gain hands-on experience in the development of computer programs. (3 sch: 2-hr. lecture, 2-hr lab).

CPT 1323 Survey of Microcomputer Applications
Introduces microcomputer operation, word processing, spreadsheets, and database management. (3 sch: 2 hr. lecture, 2 hr. lab)

CPT 1333 Operating Platforms
This course will provide experience in a variety of operating platforms. Emphasis will be placed on support personnel's interaction with platforms in order to assist users in business environments (3 sch: 2-hr lecture, 2-hr lab).

CPT 2133 Career Development
This course provides practical exercises in both the technical and social skills necessary for employment. Interpersonal skills, the job search process, and the importance of high standards of personal and professional relationships are stressed. (3 sch: 2 hr. lecture, 2 hr. lab)

CPT 2354 Web Site and Systems Development
This course introduces techniques used in systems analysis and design, maintenance, security, and evaluation. Emphasis will be placed on the design and development of Web-based systems. (4 sch: 2-hr lecture, 4-hr lab)

CPT 2364 Team Project Management
This course is designed to generate experience for the student in working in a team environment. This course involves working as a team to develop an efficient network design for a corporate infrastructure while taking into account the hardware needed and its projected lifespan. Also involved in this course is the design of an application as a team taking into account who the projected users are, what their

level of expertise is and the infrastructure of the network it is designed for use on. (4 sch: 2 hr. lecture, 4 hr. lab)

CPT 2383/CNT 2423 System Maintenance
This course covers the diagnosis, troubleshooting, and maintenance of computer components. Topics include hardware compatibility, system architecture, memory, input devices, video displays, disk drives, modems, and printers. (3 sch: 2-hr lecture, 2-hr lab)

CPT 2454 Game Programming Using Flash and ActionScript
This course is designed to further introduce the student to creating interactive applications, through the format of a game. This course will help the student become more adept at creating functional user interfaces and help them deal with program paths based on user input through the use of the Stage and Timeline combined with programming code added to the elements providing full functionality through an animated user interface. (4 sch: 2 hr. lecture, 4 hr. lab)

CJT 1313 Introduction to Criminal Justice
History, development, and philosophy of law enforcement in a democratic society, introduction to agencies involved in the administration of criminal justice; career orientation. (3 sch: 3 hr lecture)

CJT 1323 Police Administration and Organization
Principles of organization and administration in law enforcement agencies; introduction to concepts of organizational behavior. (3 sch: 3 hr lecture)

CJT 1343 Police Administration and Community Relations
Study of current issues between police and community. The role and influence of officers in community relations; tensions and conflict; and the problem areas of race and juveniles will be covered. (3 sch: 3 hr lecture)

CJT 1353 Internship in Criminal Justice
Course includes supervised practical experience in an approved criminal justice agency. It gives students the opportunity to apply theory presented in the classroom in a supervised work setting. (3 sch: 9 hrs externship) Prerequisite: Instructor approved.

CJT 1363 Introduction to Corrections
An overview of the correctional field; its origins, historical and philosophical background development, current status; and relationship with other facets of the criminal justice system and future prospects. (3 sch: 3 hrs lecture)

CJT 1383 Criminology
The study and practice the nature and significance of criminal behavior. It also explores the theories, statistics, trends, and programs concerning criminal behavior. (3 sch: 3 hrs lecture)

CJT 1413 Probation and Parole
This course is a study of the supervision of offenders in the community, including history, philosophy, legal foundations, strategies, professional roles and contemporary models, programs and services. (3 sch: 3 hrs lecture)

CJT 2113 Correctional Counseling
This course introduces students to the role of the correctional counselor. It defines the goals and methods, as well as the theroies associated with institutional counseling. It also exposes students to the different issues associated with different offender typologies. (3 sch: 3 hrs lecture)

CJT 2213 Traffic Law
An overview of traffic law and its components. A major focus of this course will be the history, development, and philosophy of law enforcement in a democratic society, introduction to the traffic

law, and overview of enforcement. Specifically, this course will cover such topics as examining the role of government in coping with traffic problems. Emphasis is placed on the history, development, and enforcement of statustes pertaining to motor vehicles. (3 sch: 3 hrs lecture)

CJT 2313 Police Operations and Ethics
A study of the operation and administration of law enforcement agencies. Particular emphasis is placed on the functions of the patrol division. (3 sch: 3 hrs lecture)

CJT 2323 Criminal Law
Basic elements of criminal law under the Constitution of the United States, state Constitutions, and federal and state statutes. (3 sch: 3 hrs lecture)

CJT 2333 Criminal Investigation I
Includes fundamentals, search and recording, collection and preservation of evidence, finger printing, photography, sources of information, interviews and interrogation. (3 sch: 3 hrs lecture)

CJT 2343 Investigative Report Writing
This course focuses on preparing analytical investigative reports and explores techniques of organizing, structuring, and investigating the report to comply with proper guidelines. (3 sch: 3 hrs lecture)

CJT 2353 Drugs and Society
This course is designed to introduce the student to the social reality of drug use and drug users. Study of the historical significance and social construction of drug use, users, abuse and addiction. Additionally, the course focuses on drug use and abuse as a social rather than as a medical or psychopathological phenomenon. (3 sch: 3 hrs lecture)

CJT 2393 Survey of Criminalistics
The study of scientific crime detection methods; modus operandi, crime scene search, preservation of evidence, research projects and class participation required. (3 sch: 3 hrs lecture)

CJT 2513 Juvenile Justice
Identifies the role of police in juvenile delinquency and control. It covers organization, functions, and jurisdiction of juvenile agencies as well as processing, detention, and disposition of cases. Statutes and court procedures applied to juveniles will also be covered in this course. (3 sch: 3 hrs lecture)

CJT 2613 Computer Security
Introduces the student to current technological advances in the field of forensic science as well as some novel concepts in crime scene investigation. This class will also cover what the future may hold for forensic science in terms of new ideas, technology, and instrumentation. (3 sch: 3 hrs lecture)

CJT 2623 Asset Protection
This course entails security awareness of management and employees; vulnerability training; internal/external theft and fraud; disaster control; physical security planning; investigation; guard protection; and alcohol and drug abuse in the work place. (3 sch: 3 hrs lecture)

CJT 2713 Mental Health Aspects of Criminal Behavior
This course is a study of deviant behavior with emphasis on dealing with the mentally disturbed, sexal deviates, and drug addicts. It examines the role of the psychologist in criminal justice cases. (3 sch: 3 hrs lecture)

CJT 2723 Intelligence Analysis and Security Management
This course is designed to develop an understanding of how intelligence assists in maintaining national security, the laws, guidelines, executive directives and oversight relating to intelligence as well as the methodologies used in the intelligence community. (3 sch: 3 hr lecture)

CJT 2733 Transportation and Border Security
This course provides a student with an analysis of issues that concern the protection of the borders of the United States and U. S. policies regarding the safety of the U. S. Transportation System. (3 sch: 3 hr lecture)

CJT 2743 Foundations of Homeland Security and Terrorism
A study of the issues pertaining to the role and mission of the Department of Homeland Security and related agencies, both domestic and international. (3 sch: 3 hrs lecture)

CJT 2813 Criminal Procedures
An in depth study of the criminal case within the state and federal court systems. (3 sch: 3 hrs lecture)

CJT 2823 Criminal Investigation II
Introduces the student to advanced concepts specific to crime scene processing. Beyond the identification, documentation, and collection of evidence on a crime scene lies the true field of crime scene analysis. The ability to give interpretive value to data gained from a crime scene is what makes a crime scene technician an expert on the witness stand. (4 sch: 4 hr lecture).

CJT 2833 Fingerprint Analysis and Comparison
Introduces the student to concepts and technologies associated with fingerprint analysis and comparison. A quality crime scene investigator should have advanced knowledge in developing fingerprints on a variety of surfaces as well as how to search fingerprint databases and identify fingerprints to individuals. This is an important skill that will be used daily in the field of crime scene processing and investigations. By the end of this class the student will be able to process a variety of items for prints, explain how a fingerprint would be searched against databases, and understand the concepts behind identifying an individual with fingerprint evidence. (3 sch: 3 hrs lecture)

CJT 2843 Death Investigation
Introduces the student to intermediate concepts specific to crime scene processing. Using physical evidence to develop leads in an investigation begins with crime scene investigation. Much more goes in to crime scene investigation than documenting and collecting evidence. This class will build on Crime Scene Investigation I by reviewing particular scene types and techniques for analyzing each specific scene type. (3 sch: 3 hrs lecture)

CJT 2853 Criminal Investigation III
Introduces the student to advanced concepts specific to crime scene processing. Beyond the identification, documentation, and collection of evidence on a crime scene lies the true field of crime scene analysis. The ability to give interpretive value to data gained from a crime scene is what makes a crime scene technician an expert on the witness stand. (3 sch: 3 hr lecture)

CJT 291(1-3) Special Problems in Criminal Justice
This course is designed to provide students with an opportunity to utilize skills and knowledge gained in other courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-3 sch: 2-6 hrs lab)

CJT 292(1-3) Supervised Work Experience in Criminal Justice
This course is a cooperative program between industry and education, is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of 1 semester hour per 45 industrial contact hours. (1-3 sch: 3-9 hrs externship)

CRM 1113 Fundamentals of Maintenance Services
Emphasis on basic concepts and practices in the maintenance programs for commercial and residential facilities including scheduling, work order systems, workforce management, inventory control, and safety and right-to-know programs. (3 sch: 2 hr. lecture, 2 hr. lab)

CRM 1122 Maintenance Regulations
Basic information on the various federal, state, and local regulations agencies that govern maintenance operations and practices, including Occupational and Safety Health Act (OSHA), Environmental Protection Agency (EPA), and American with Disabilities Act (ADA.) (2 sch: 2 hr. lecture)

CRM 1134 Mathematics and Blueprint Interpretation
Basic instruction in mathematics and the methods of interpreting information and the relationship of details and sections to an overall blueprint utilizing scale drawings, symbols, abbreviations, floor plans, elevations, and specifications tables. (4 sch: 2 hr. lecture, 4 hr. lab)

CRM 1214 Carpentry
Basic course in carpentry skills required to perform building maintenance activities. Covers the installation methods and materials available to make repairs to building structures using accepted trade practices. (4 sch: 1 hr. lecture, 6 hr. lab)

CRM 1222 Surface Finishes
Various techniques and processes of surface cleaning, preparation, and repair. (2 sch: 1 hr. lecture, 2 hr. lab)

CRM 1313 Masonry
Techniques of brick, block, and ceramic tile laying and repair processes to include safety practices. (3 sch: 1 hr. lecture, 4 hr. lab)

CRM 1414 Plumbing
Basic design, function, maintenance, repair, and replacement of all types of light commercial and residential plumbing fixtures. (4 sch: 1 hr. lecture, 6 hr. lab)

CRM 1422 Pool and Spa Maintenance
Basic skills and techniques for the safe and proper maintenance of pools and spas. (2 sch: 1 hr. lecture, 2 hr. lab)

CRM 1432 Landscape Irrigation
Basic use of irrigation in residential and light commercial applications. Sprinkler designs and plans, practices, equipment, and maintenance for single-family dwellings, light commercial buildings, and apartment/townhouse complexes. (2 sch: 1 hr. lecture, 2 hr. lab)

CRM 1514 Electrical
Basic electrical diagnosis and repair techniques including basic circuit theory, safety and grounding essentials, wiring systems, circuitry, and electrical troubleshooting. (4 sch: 1 hr. lecture, 6 hr. lab)

CRM 1616 Heating, Ventilating, and Air Conditioning (HVAC)
Basic principles, operation, maintenance, and repair of heating, ventilation, air conditioning, ice machines, and refrigerators in residential and light commercial buildings. (6 sch: 2 hr. lecture, 8 hr. lab)

CRM 1713 Welding
Basic course in the development of welding skills in the safe use of the oxyfuel and arc welding techniques. (3 sch: 1 hr. lecture, 4 hr. lab)

CRM 291(1-3) Special Project in Commercial/Residential Maintenance
Practical application of skills and knowledge gained in other building maintenance courses. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. (1-3 sch: 2-6 hr. lab)

CRM 292(1-6) Supervised Work Experience in Commercial/Residential Maintenance
A cooperative program between industry and education designed to integrate the student's technical studies with work experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 sch: 3-18 hr. externship)

CRT 1113 Stenotype Machine Shorthand I
This course provides instruction in writing the spoken word with punctuation using a stenogype realtime translation theory to provide instantaneous English translation with speed and accuracy development. (3 sch: 2-hr lecture, 2-hr lab)

CRT 1123 Stenotype Machine Shorthand II
This course is a continuation of Stenotype Machine Shorthand I. Emphasis is placed on machine theory reinforcement, vocabulary, dictionary building, and speed development using carefully graded and timed practice material. (3 sch: 2-hr lecture, 2-hr lab)

CRT 1133 Speed Building I
This course is an initial course for building speed using the stenotype machine in taking dictation at speeds of 20–100 wpm through live, online, or electronic media not limited to two-voice and multi-voice testimony, literary, jury charge, and current events. Salable transcription of dictated material through stenotype notes is required. (3 sch: 2-hr lecture, 2-hr lab)

CRT 1143 Speed Building II
This is a continuation course for building speed using the stenotype machine in taking dictation at speeds of 120–140 wpm through live, online, or electronic media not limited to two-voice and multi-voice testimony, literary, jury charge, and current events. Salable transcription of dictated material through stenotype notes is required. (3 sch: 2-hr lecture, 2-hr lab)

CRT 1153 Realtime Reporting Procedures
This course is a study of the criminal and civil law process. The role of the reporter in trials, depositions, and congressional and administrative hearings; transcript preparation and formatting; proofreading; marking exhibits; indexing and storing notes; judicial and freelance reporting techniques; and proper use of library and reference materials; instruction in the National Court Reporters Association (NCRA) Code of Professional Ethics; and an introduction to captioning and Communication Access Realtime Translation (CART) are included. (3 sch: 2-hr lecture, 2-hr lab)

CRT 1163 Realtime Reporting English and Grammar I
This course is an in-depth analysis and application of modern English and grammar usage. The course includes the writing experience with attention to the basic mechanical and structural elements of the writing process. The course is offered to meet the foundation needed for English, grammar, and punctuation of the spoken word taught in CRT 1173 Realtime Reporting English & Grammar II. (3 sch: 2-hr lecture, 2-hr lab)

CRT 1173 Realtime Reporting English and Grammar II
This course is an in-depth analysis and application of punctuation, capitalization, and numbers usage of the spoken rather than written English language and proofreading of printed dictated material. (3 sch: 2-hr lecture, 2-hr lab)

CRT 1223 Stenotype Machine Shorthand II
This course is a continuation of Stenotype Machine Shorthand I. Emphasis is placed on machine theory reinforcement, vocabulary, dictionary building, and speed development using carefully graded and timed practice material. (3 sch: 2 hr lecture, 2 hr lab)
Prerequisite: Stenotype Machine Shorthand I (CRT 1113)

CRT 1233 Voice Writing I
This course introduces the student to basic voice theory, speech recognition engines, dictation techniques, and voice writing equipment. This course is designed to provide students with the knowledge needed to maintain, update, diagnose, and operate a laptop and windows operating system for the purpose of Voice Reporting. Daily assignments are given. At the completion of this course, students should be writing approximately 100 wpm with 95% accuracy. (3 sch: 2 hr lecture 2 hr lab)

CRT 1243 Voice Writing II
This course focuses on the interaction of the multiple software applications used to produce accurate, sustained, realtime voice recognition. It will re-enforce the skills mastered in CRT 1233 Voice Writing I, including basic voice theory, speech recognition engines, dictation techniques, voice writing equipment, and vocabulary development. Daily assignments are given. At the completion of this course, students should be writing at 140 wpm with 95% accuracy. (3 sch: 2 hr lecture 2 hr lab)

CRT 2113 Stenotype Machine Shorthand III
This is a continuation course of Stenotype Machine Shorthand II. Emphasis is placed on advanced vocabulary, dictionary building, and speed development of medical and technical dictation using carefully graded and timed practice material. (3 sch: 2-hr lecture, 2-hr lab)

CRT 2123 Stenotype Machine Shorthand IV
This course is a continuation of Stenotype Machine Shorthand III. Emphasis is placed on speaker identification, transcript formatting, and proofreading through computer-access transcription of actual judicial transcripts, public hearings, literary dictation, and congressional record. (3 sch: 2-hr lecture, 2-hr lab)

CRT 2133 Speed Building III
This is a continuation course for building speed in taking dictation using a stenotype machine at speeds of 160–180 wpm through live, online, or electronic media not limited to two-voice and multi-voice testimony, literary, jury charge, and current events. Salable transcription of dictated material through stenotype notes is required. (3 sch: 2-hr lecture, 2-hr lab)

CRT 2143 Speed Building IV
This is a continuation course for building speed in taking dictation using a stenotype machine at speeds of 200–240 wpm through live, online, or electronic media not limited to two-voice and multi-voice testimony, literary, jury charge, and current events. Salable transcription of dictated material through stenotype notes is required. (3 sch: 2-hr lecture, 2-hr lab)

CRT 2163 Realtime Reporting Technology
This course is an in-depth analysis of judicial reporter-related technology concepts in realtime reporting, communication access realtime translation (CART), captioning and legal videography, and the vocabulary associated therewith. Emphasis is placed on the process of realtime transcription through the use of computer-aided transcription systems and video applications for the court reporter. (3 sch: 2-hr lecture, 2-hr lab)

CRT 2173 Judicial Dictionary Development
In this course, the student will continue to build a dictionary for judicial reporting. Emphasis is placed on development of briefs and phrases, application through speed development, realtime transcription of dictated material through live, online, or electronic media not limited to two-voice and multi-voice testimony, literary, jury charge, and current events. (3 sch: 2-hr lecture, 2-hr lab)

CRT 2233 Voice Writing III
This course is a continuation of CRT 1233 Voice Writing II with emphasis on medical anatomy, physiology, and medical and technical dictation. This course also focuses on the interaction of the multiple software applications used to produce accurate, sustained, realtime voice recognition and will

re-enforce the skills mastered in Voice Writing II. At the completion of this course, students should be writing at 180 wpm with 95% accuracy. (3 sch: 2 hr lecture 2 hr lab)

CRT 2243 Voice Writing IV
This course is a continuation of CRT 2233 Voice Writing III. Emphasis is placed on speaker identification, transcript formatting and production, and proofreading through computer-access transcription of actual judicial transcripts, public hearings, literary dictation, and congressional record. In this course, students will learn about the many career choices available to realtime reporters and about the technologies and skills required for these aspects of reporting. Speakers who have worked in areas such as captioning, classroom reporting, computer-integrated courtrooms, and on-line technologies will discuss the evolving role of the reporter. (3 sch: 2 hr lecture 2 hr lab)

CRT 2513 CART I
This course provides instruction in writing the spoken word with punctuation using a realtime translation theory for communication access realtime translation (CART). (3 sch: 2-hr lecture, 2-hr lab)

CRT 2523 CART II
This course is a continuation of CART I and provides instruction in writing the spoken word with punctuation using a realtime translation theory for communication access realtime translation (CART). (3 sch: 2-hr lecture, 2-hr lab)

CRT 2563 CART Technology
This course is an overview in communication access realtime translation (CART) technology, concepts, and vocabulary. Emphasis is on basic equipment setup for maximum benefit of CART recipients and knowledge of the NCRA CART Provider's Manual. (3 sch: 2-hr lecture, 2-hr lab)

CRT 2573 CART Dictionary Development
In this course, the student will continue to build a dictionary for communication access realtime translation (CART). (3 sch: 2-hr lecture, 2-hr lab)

CRT 2713 Broadcast Captioning I
This course provides instruction in writing the spoken word with punctuation using a realtime translation theory to provide instantaneous, realtime translation for broadcast captioning. (3 sch: 2-hr lecture, 2-hr lab)

CRT 2723 Broadcast Captioning II
This course is a continuation of Captioning I, providing instruction in writing the spoken word with punctuation using a realtime translation theory to provide instantaneous, realtime translation for broadcast captioning. (3 sch: 2-hr lecture, 2-hr lab)

CRT 2763 Broadcast Captioning Technology
This course is an overview in captioning technology, concepts, and vocabulary. Emphasis is on basic equipment setup for broadcast captioning. (3 sch: 2hr lecture, 2-hr lab)

CRT 2773 Broadcast Captioning Dictionary Development
In this course, the student will continue to build a dictionary for captioning. (3 sch: 2-hr lecture, 2-hr lab)

CRT 2913 Internship for Judicial Reporters
This course is an internship in the application of attained knowledge and skills in supervised practical experience in judicial courts, deposition settings, administrative hearings, and classroom settings. Emphasis is placed on professionalism, judicial reporting applications and final transcript production. (3 sch: 27 externship hours)

CRT 2923 Internship for CART
This course provides supervised practical experience in communication accesss realtime translation (CART). (3 sch: 27 externship hours)

CRT 2933 Internship for Broadcast Captioning
This course provides supervised practical experience in broadcast captioning. (3 sch: 27 externship hours)

CST 1114 Basic Electronics
Concepts of electronics. Topics include DC and AC fundamentals, instrument and test equipment familiarization, soldering, and terminology. (4 sch: 2-hr lecture, 4-hr lab)

CST 1123 Basic Computer/IT Hardware
A survey of computer components. Topics include hardware compatibility, system architecture, memory, input devices, video displays, disk drives, modems, and printers. (3 sch: 2-hr lecture, 2-hr lab)
Prerequisites: None

CST 1333 Operating Systems
Study of operating systems. Emphasis will be placed on support personnel interaction with operating systems. (3 sch: 2-hr lecture, 2-hr lab)
Prerequisites: None

CST 1214 Networking I
Concepts of telephony, local area networks, wide area networks, data transmission, and topology methods. (4 sch: 2-hr lecture, 4-hr lab)
Prerequisites: None

CST 1613 Security Fundamentals
Fundamentals of IT security. Topics include identifying risks and participating in risk mitigation activities; providing infrastructure, application, operational, and information security; applying security controls to maintain confidentiality, integrity, and availability; identifying appropriate technologies and products; troubleshooting security events and incidents; and operating with an awarenessof applicable policies, laws, and regulations. (3 sch: 2-hr lecture, 2-hr lab)

CST 1713 Server Administration I
Fundamentals of server support. Topics include support of server hardware, installation and configuration server operating systems, and asset management. (3 sch: 2-hr lecture, 2-hr lab)

CST 1813 Server Administration II
Fundamentals of server support. Topics include support of server hardware, installation and configuration server operating systems, and asset management. (3 sch: 2-hr lecture, 2-hr lab)

CST 1913 Mobile Device Support I
Fundamentals of mobile device support. Topics include an overview of mobile computing history, modern mobile operating systems and related software, typesof devices and accessories, common networking protocols, standards-based wireless networking, cellular technology, and wireless network planning design concepts. (3 sch: 2-hr lecture, 2-hr lab)

CST 2113 IT Servicing Lab I
Fundamentals of computer servicing. Includes configuration, test equipment usage, basic disassembly and assembly methods, preliminary tests and diagnostics, schematic interpretation, and building cables. (3 sch: 6-hr lab)
Pre/Corequisites: Basic Computer Hardware (CST 1123) and Basic Electronics (CST 1114)

CST 2123 IT Servicing Lab II
Continuation of Computer Servicing Lab I (CST 2113) with an increased emphasis on system analysis and diagnosis of component and device failures in a laboratory environment. (3 sch: 6-hr lab)
Prerequisites: Computer Servicing Lab I (CST 2113)

CST 2134 PC Diagnostics and Troubleshooting
Diagnostic techniques and troubleshooting methodologies of operating systems, common hardware problems, and system malfunctions, including peripherals. (4 sch: 2-hr lecture, 4-hr lab)
Pre/Corequisite: Computer Servicing Lab I (CST 2113)

CST 2223 Networking II
This course focuses on network connectivity, architectures, topologies, protocols, and transport methods of a network. (3 sch: 2-hr lecture, 2-hr lab) Prerequisite: Networking I (CST 1214)

CST 2313 Mobile Computing Software and Hardware for IT Specialist
Mobile Computing Software and Hardware for IT introduces students to the rapid evolution of mobile computing and explores the impact this technology has in advancing systems, communications, and societies worldwide. Students will learn the primary standards and techniques for mobile computing, from design and development, to testing and implementation.
The curriculum instructs best practices and procedures for the utilization and deployment of mobile applications for leading mobile devices including the Apple iPhone and iPad, Droid, and Blackberry. (3 sch: 2-hr lecture, 2-hr lab) Prerequisites: Basic IT Hardware & Operating Systems for IT

CST 2323 IT Mobile Computing Diagnosing/Troubleshooting I for IT Specialist
IT Mobile Computing Troubleshooting introduces students to diagnostic techniques and troubleshooting methodologies of operating systems, common hardware problems, and system malfunctions including peripherals. The curriculum instructs best practices and procedures for the utilization and deployment for networking protocols to resolve security issues for mobile devices. (3 sch: 2-hr lecture, 2-hr lab)

CST-2333 IT Mobile Computing Servicing Lab I for IT Specialist
Mobile Computing Servicing Lab I for IT introduces students to the fundamentals for Mobile Computing servicing. This course includes hands-on training in mobile computing operating system configuration, test equipment usage, basic disassembly and assembly methods, preliminary tests and diagnostics, and schematic interpretation. (3 sch: 6-hr lab)
Prerequisites: Mobile Computing Software and Hardware for IT

CST-2343 Mobile Security and Privacy for IT Specialist
Mobile Security and Privacy for IT provides the fundamental understanding of wireless architecture, security principles, technologies and principles involved in creating a secure wireless computer network environment. Topics include wireless hardware, protocols, encryption, and how to prevent weaknesses in wireless technology. (3 sch: 2-hr lecture, 2-hr lab).
Prerequisites: Mobile Computing Software and Hardware for IT

CST 2413 Cloud Essentials
Fundamentals of Cloud computing. Topics include an understanding of terms and characteristics associated with Cloud technologies, an overview of history,virtualization and scalability, and foundational knowledge of the Cloud computing industry. (3 sch: 2-hr lecture, 2-hr lab).

CST 2423 Cloud Computing
Continuation of Cloud Computing I. Emphasis is placed on the installation,configuration, and management of Cloud-based systems. (3 sch: 2-hr lecture, 2-hr lab).

CST 2613 Introduction to Cyber-Crime
This course introduces and explains the various types of offenses that qualify as cyber-crime activity. Emphasis is placed on identifying cyber-crime activity and theresponse to these problems from both the private and public domains. Upon completion, students should be able to accurately describe and define cyber-crimeactivities and select an appropriate response to deal with the problem. (3 sch: 2-hr lecture, 2-hr lab).

CST 2623 Introduction to Computer Forensics
This introductory course focuses on computer forensics principles and an exposure to computer technology concepts from operating systems and file types to data transmission and PDA's. Students are introduced to the foundation of electronic evidence collection and handling; as well as the role of evidence in detecting and prosecuting computer crimes, incident response, civil cases, fraud and information security verification. Demonstrations and hands-on investigations familiarize students with a number of relevant investigative techniques. (3 sch: 2-hr lecture, 2-hr lab).

CST 2713 IoT Fundamentals
This course provides an overview of Internet of Things (IoT) technologies. Students will learn how IoT devices are utilized in commercial and residential settings to monitor events, collect data, and automate tasks. Areas of emphasis will include conducting site surveys, reading blueprint drawings, understanding infrastructure requirements, device setup, and maintenance. (3 sch: 2-hr lecture, 2-hr lab).

CST 29(1-3) Special Project
Practical application of skills and knowledge gained in computer servicing and technical-related courses. The instructor works closely with the student to ensure that the selection of a project will enhance the student's learning experience. (1–3 sch: 2- to 6-hr lab) Prerequisites: Consent of instructor

CST 292(1–6) Supervised Work Experience
Cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of semester hour per 45 industrial contact hours. (1–6 sch: 3- to 18-hr externship) Prerequisites: Consent of instructor

CTE 1001 CPAS Prep
The CPAS Prep class will consist of an extensive review of individual class blueprints provided by the RCU. This class is specifically for review of first year course material in preparation for the first year CPAS test. (CTE 1001= 1sch: 1 hr lecture)

CTE 1113 Occupational Math
This course is designed for students who want to improve their basic math skills in order to enhance the probability of admission into nursing, health education, industrial technology or other occupational programs and/or to increase the probability of success after entering an occupational program. (3 sch: lecture)

CTE 1143 Fundamentals of Construction and Manufacturing
This course includes basic safety, an introduction to construction math, an introduction to hand and power tools, an introduction to construction drawings, employability skills and communications. (Approximately 72.5 clock hours should be allotted in this course to satisfy requirements to test for NCCER Core certification. Instructors for this course must be certified as an NCCER Instructor.) (3 sch: 2 hr. lecture, 2 hr. lab)

CTE 1153 Computational Methods for Career and Technical Education
Study of computational skills required for the development of accurate design and drafting methods used in technology based professions. c

CTE 1163 Introduction to Sustainable and Renewable Energy
An introduction to alternative energy sources, such as wind, solar, bloom, wave, and hydroelectric applications. Installation techniques and power-transfer methods are also taught. (3 sch: 2-hr lecture, 2-hr lab)

CTE 1413 Financial Management
Provides the student with an understanding of personal financial concepts found in day to day living, including the study of savings, spending, giving, budgets, debt, consumer awareness, credit scores, financial responsibility, insurance, investments, and retirement planning as a way to improve the quality of life of the student. (3 sch)

CTE 1423 Organizational Behavior
Studies the relationships and behaviors of individuals, groups, and the organization, including theories of motivation, decision making, communication, trust, emotions, ethics, attitudes, motives, perceptions, conflicts, stress in the workplace, leadership, organizationa change, organizational culture, job fit, job satisfaction, pay, and work groups as a way to improve the functionality of the organization and the quality of life of its employees. 3 sch

CTE 200(1-3) CPAS Prep
This course will focus on four major areas: Reading Strategies, Understanding Key Testing Terms, Reading Diagrams and an extensive review of the CPAS course blueprint. (CTE 2001= 1sch: 1 hr lecture, CTE 2002=2sch: 2 hrs lecture, CTE 2003= 3sch: 3 hrs lecture)

CTV 1153 Fashion Fundamentals
This course provides an introduction of fashion merchandising with an overview of the fashion production and merchandising system. It will also include an application of principles, techniques, and skills with emphasis on working with problem fabrics and on fitting and construction of garments for men, women, and children and for different figure types. (4 sch: 2-hr lecture, 4-hr lab)

CTV 1123 Alterations I
Recognition of problems in garment fitting in relation to grain line, figure, and fashion and techniques to fitting and solving fitting problems through alterations by hand and on the machine. (3 sch: 2-hr lecture, 2-hr lab)

CTV 1134 Tailoring I
Application of tailoring techniques and skills in the construction of garments using various fabrics (4 sch: 2-hr lecture, 4-hr lab)

CTV 1144 Fashion Design
This course focuses on creating original garment design starting with the most basic and progressing towards the most complex. Emphasis is placed on the recognition of the history of fashion, basic silhouettes, lines, styles, and detail in design and garment construction. (4 sch: 2-hr lecture, 4-hr lab)

CTV 1213 Equipment Use and Care
Use and care of equipment in production, instructions in the use and care of all equipment basic to garment construction, safety practices, and proper storage. Emphasis is on the use of industrial sewing and computerized equipment. (3 sch: 2-hr lecture, 2-hr lab)

CTV 1234 Fabric and Accessory Design
This course is a study of fabric decoration, textiles, and accessory design. Emphasis is placed on printing and dyeing techniques and garment embellishments. (3 sch: 2-hr lecture, 4-hr lab)

CTV 1243 Professional Presentations
A study of technical presentations used in marketing and selling merchandise, apparel, textiles, home furnishings and accessories. The course studies the relationship of raw materials, construction, and finish to quality and cost of textiles. Also considered are the identification of fibers, yarns, weave, colorants (dyeing and printing), and fabrics; selection of appropriate fabrics for various uses; and wearing quality and care required for textiles. (3 sch: 2-hr lecture, 2-hr lab)

CTV 1313 Modeling and Grooming
Basic concepts of modeling through exercise, grooming, poise, walking, facial expression, makeup, and photography. (3 sch: 2-hr lecture, 2-hr lab)

CTV 1413 Home Furnishings
The course studies the relationship of raw materials, construction, and finish to quality and cost of textiles. Also considered are the identification of fibers, yarns, weave, colorants (dyeing and printing), and fabrics; selection of appropriate fabrics for various uses; and wearing quality and care required for textiles. (3 sch: 2-hr. lecture, 2-hr lab)

CTV 2114 Garment Construction
An application of principles, techniques, and skills with emphasis on working with problem fabrics (plaids, stripes, velvets, and other pile problem fabrics and design) and on fitting and construction of garments for men, women, and children, and for different figure types. (4 sch: 2-hr lecture, 4-hr lab)

CTV 2123 Alterations II
This course is a continuation of Alterations I and entails practical recognition of problems in garment fitting in relation to grain line, figure, and fashion and problem solving techniques to fitting and solving fitting problems through alterations by hand and on the machine. (3 sch: 2-hr lecture, 2-hr lab)

CTV 2134 Tailoring II
The course is a continuation of Tailoring I and includes more practical application of tailoring techniques and skills in the construction of garments using various fabrics. (4 sch: 2-hr lecture, 4-hr lab)

CTV 2434 Fashion Promotion
This course includes an exploration of motivations and influences of consumer purchase and use of apparel, accessories and other fashion design. (4 sch: 2-hr lecture, 4-hr lab)

CTV 291(1-3) Special Problems in Clothing and Textiles Services
A course designed to provide the student with practical application of skills and knowledge gained in other vocational-technical courses. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. (1-3 sch: 2-6 hr lab)

CTV 292(1-6) Supervised Work Experience in Clothing and Textiles Services
A course that is a cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 sch: 3-18 hr externship)

CUT 1114-5 Culinary Principles I
Fundamentals of food preparation and cookery emphasizing high standards for preparation of meat, poultry, seafood, vegetables, soups, stocks, sauces, and farinaceous items. (4 sch: 2-hr lecture, 4-hr lab or 3-hr lecture, 4-hr lab)

CUT 1124-5 Culinary Principles II
This course offers advanced study and application of Culinary Principles I to polish and perfect the techniques of food preparation and cookery emphasizing high standards for food preparation. (4 sch: 2-hr lecture, 4-hr lab or 3-hr lecture, 4-hr lab)

CUT 1134-5 Principles of Baking
This course focuses on fundamentals of baking science, terminology, ingredients, weights and measures, and formula conversion and storage. Students will prepare yeast goods, pies, cakes, cookies, and quick breads; and use and care for equipment. (4 sch: 2-hr. lecture, 4-hr. lab or 3-hr lecture, 4-hr lab)

CUT 1153 Introduction to Culinary Arts
This course is designed as an introduction to the culinary arts industry. The course includes discussions and industry observations to discover the opportunities, trends, problems, and organizations in the field. (3 sch: 3-hr lecture)

CUT 1163 Culinary Math
The purpose of this course is to develop basic mathematical computation for all facets of the food service industry. Math skills learned will advance students/graduates at all levels of employment from servers and cooks to chefs and managers. (3 sch: 2-hr lecture, 2-hr lab)

CUT 1513-4 Garde Manger
This course provides orientation to garnishing, preparation of charcuterue items, cold foods, and buffet presentation. It explores the various duties of the modern garde manger. (3 sch: 1-hr. lecture, 4-hr. lab or 2-hr lecture, 4-hr lab)

CUT 1613 Nutrition
This course provides information on a study of nutrients as related to personal health, foods and food preparation, recipe or menu modification for special customer needs, and merchandising techniques associated with nutritious meals. . (3 sch: 1-hr. lecture, 4-hr. lab)

CUT 2114 Culinary Principles III
A continuation of Culinary Principles I and II with an emphasis on advanced plating and service techniques. (4 sch: 2 hr lecture, 4 hr lab)

CUT 2124 Advanced Plating
This course covers the preparation and service of modern plating techniques. (4 sch: 2 hr lecture, 4 hr lab)

CUT 2223 Menu Planning and Facilities Design
This course focuses on the principles and concepts of menu planning, menu formats, and layout with regard to a wide variety of eating habits and taste of the dining public. Emphasis will be on pricing, menu design, merchandising, tools, nutritional considerations, schedules, and profitability. Effective planning and layout of kitchen and equipment will also be emphasized. (3 sch: 3-hr lecture)

CUT 2243-4 Dining Room Management
This course focuses on management of a restaurant dining room including good housekeeping technique, fine food, and efficient service. It covers French, Russian, American, and English waited table service, limited service, counter, tray, service, and catering. Emphasis will be placed on staffing, scheduling, controls and skills required to effectively supervise a dining room operation. (3 sch: 1-hr. lecture, 4-hr. lab or 2-hr lecture, 2-hr lab or 3-hr lecture, 2-hr lab)

CUT 2314 American Regional Cuisine
This exploration of the American Cuisine concept emphasizing freshness, seasonality, nutrition, indigenous ingredients, and presentation. It is a thorough study into the cuisine characteristics and traditions of the various regions of the United States of America. (4 sch: 2-hr. lecture, 4-hr. lab)

CUT 2424 International Cuisine
This course is a study of cuisines of the world with emphasis on use of authentic ingredients, methods, and terminology. (4 sch: 2-hr. lecture, 4-hr. lab)

CUT 2514 Wine and Beverage Studies
This course will examine the role that wine and other fermented beverages contribute to the commercial dining experience. Students will learn about pairing food and wine as well as how to mix beverages, (4 sch: 2-hr. lecture, 4-hr. lab)

CUT 292(1-6) Supervised Work Experience in Culinary Arts Technology
This course is a cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 sch: 3- to 18-hr. externship)

CVT 1113 Foundation of Cardiovascular Technology
This course is designed to introduce the student to the fundamental elements in cardiovascular technology, including terminology, important to the delivery of health care in a safe, efficient, and professional manner. (3 sch: 3-hr lecture)

CVT 1214 Cardiovascular Anatomy and Physiology
A study of anatomy and physiology in relation to the practice of cardiovascular technology. (4 sch: 3-hr lecture, 2-hr lab)

CVT 1312 Cardiovascular Pharmacology
This course is designed to provide the students with the pharmacology needed to function in clinical experiences. This includes classifications of medications, modes of action, indications, contraindications, and their effect on cardiac output and its determinates. (2 sch: 2-hr lecture)

CVT 1415 Cardiovascular Anatomy, Physiology, and Pharmacology
A study of anatomy and physiology in relation to the practice of cardiovascular technology. (5 sch: 4 lecture, 2 lab)

CVT 2414 Invasive Cardiology I
Introduces the students to the specific procedures performed in the cardiac catheterization laboratory and the use of the resulting data for patient diagnosis. Additional topics include aseptic techniques, sterilization, patient assessment, radiography, pharmacology, cardiac wave forms, coronary artery anatomy, equipment and tools utilized in cardiac catheterization, hemodynamic data and analysis, right and left heart caths, and complications and treatment of cardiac catheterization. (4 sch: 3-hr lecture, 2-hr lab)

CVT 2424 Invasive Cardiology II
This course is designed to tie together cardiac diseases as well as to continue teaching the students classifications and the use of equipment and techniques used in invasive cardiology. An in-depth presentation of various cardiac diseases including coronary artery disease, angina, myocardial infarction, heart failure, valve diseases, cardiomyopathies, pericardial disorders, arrhythmias, congenital anomalies, and repair procedures is used. Additionally students will learn the various calculations performed in the cath lab including cardiac outputs, vascular resistance, valve areas, and shunts. (4 sch: 3-hr lecture, 2-hr lab)

CVT 2512 Critical Care Application
This course is designed to familiarize students with characteristics of critically ill cardiopulmonary patients and specific needs of such patients in relation to their particular illness. Patient case studies will be presented for student discussion and will address the specific diagnostic and therapeutic modalities available to the cardiovascular patient for palliative and corrective results. (2 sch: 2-hr lecture)

CVT 2614 Non-Invasive Cardiology I
An introduction to noninvasive cardiology and those tests performed in this area. In addition, normal and abnormal heart rhythm and patient safety are presented along with stress tests, Holter monitoring, and an introduction in echocardiography. (4 sch: 3-hr lecture, 2-hr lab)

CVT 2624 Non-Invasive Cardiology II
This course is designed to be a continuation of Non-Invasive Cardiology I. More in-depth study is completed in the area of noninvasive cardiac testing, and a greater view of echocardiography is presented. A firm didactic foundation of echocardiography is presented with provisions available for further study of this complex technique including 2-D, M-Mode, continuous, pulse wave, and color Doppler techniques. (4 sch: 3-hr lecture, 2-hr lab)

CVT 2716 Cardiovascular Clinical I
Patient assessment and care plan formation are presented in the hospital environment. Clinical experience in all procedures performed in the cardiovascular laboratories, including use of equipment, performing tests, and patient care as it relates to the cardiovascular areas with emphasis on cardiac catheterization, ECG, stress testing, Holter monitoring, and introduction to echocardiography. (6 sch: 18 hr clinical)

CVT 2728 Cardiovascular Clinical II
This course is designed for students to gain more in-depth clinical experience in invasive cardiology including pre and post cath activities, cardiovascular techniques, hemodynamic monitoring, intra-aortic balloon pump, and cardiac output measurements. Clinical practice in the cardiac catheterization lab includes circulating, scrubbing, recoding, and manipulating the imaging equipment during both diagnosis and interventional cateterization procedures. (8 sch: 24-hr clinical)

CVT 2738 Cardiovascular Clinical III
Designed for students to gain additional clinical experience and polish their skills in the cath lab performing all duties involved in diagnostic and interventional cases. (8 sch: 24-hr clinical)

CVT 2746 Cardiovascular Clinical IV
Designed for students to gain additional clinical experience and polish their skills in the cath lab performing all duties involved in diagnostic and interventional cases. (6 sch: 0 lecture, 18 lab)

DAT 1111 Dental Orientation
The development, function, status, and organization of the dental profession; and the professional, legal, and ethical responsibilities of the dental assistant. Terminology emphasizing prefixes, suffixes, roots, abbreviations, spelling, and definitions of medical and dental terms. (1 sch: 1-hr lecture)

DAT 1214 Dental Assisting Materials
Dental safety precautions will be emphasized. Includes a comprehensive study of the physical and chemical properties of dental materials. Lab sessions include measuring, manipulating, and preparing dental materials for use in the dental operatory and dental laboratory. (4 sch: 2-hr lecture, 4-hr lab)

DAT 1313 Dental Science I
Physiology, anatomy, and morphology as related to the oral cavity. Content organized to include a study of the body systems, the anatomy of the head and neck, and the form of each of the 32 teeth. (3 sch: 3 hr. lecture)

DAT 1323 Dental Science II
Embryology, pharmacology, microbiology, and pathology as related to dentistry. Content organized to give the student basic information required for effective dental assisting. (3 sch: 3 hr. lecture)

DAT 1415 Chairside Assisting I
Comprehensive study of information relating to assisting at the dental chair. Laboratory sessions include all phases of chairside assisting from seating the patient to post-operative care in the treatment room. (5 sch: 2 hr. lecture, 6 hr. lab)

DAT 1423 Chairside Assisting II
Continuation of the study of information related to assisting at the dental chair. Emphasis on techniques utilized in performing all dental procedures at the chair. Special consideration to assisting in the dental specialties. (3 sch: 2 hr. lecture, 2 hr. lab)

DAT 1433 Chairside Assisting III
Continuation of Chairside Assisting II. (3 sch: 2 hr. lecture, 2 hr. lab)

DAT 1513 Dental Radiology I
Principles and safety precautions in dental radiology. Laboratory sessions include positioning, exposing, processing, and mounting bite-wing, occlusal, and periapical dental radiographs on a manikin. (3 sch: 2 hr. lecture, 2 hr. lab)

DAT 1522 Dental Radiology II
Continuation of Dental Radiology I. Emphasis placed on clinical competence in exposing periapical radiographs. (2 sch: 4 hr. lab)

DAT 1612 Dental Health Education
Study of the nutritional needs of the body. Emphasis on nutritional requirements for maintaining good oral hygiene. Comprehensive study of the dental assistant's responsibilities in patient education as related to good oral health. (2 sch: 2 hr. lecture)

DAT 1714 Practice Management
Comprehensive study of the dental office business procedures.
Topics covered: patient contact, patient records, insurance, financial records, telephone usage, office management, basic skills in psychology, and professional ethics. (4 sch: 3 hr. lecture, 2 hr. lab)

DAT 1815 Clinical Experience I
Supervised clinical experience in an authorized dental clinic. (5 sch: 1 hr. lecture, 12 hr. clinical)

DAT 1822 Clinical Experience II
Continuation of supervised clinical experience in an authorized dental clinic. (2 sch: 6 hr. clinical)

DAT 1932 Clinical Practicum I
Supervised clinical experience in an authorized dental clinic with assistance of dental team members. (2 sch: 0 lecture, 0 lab, 6 Clinical)

DAT 1943 Clinical Practicum II
Continuation of supervised clinical experience in an authorized dental clinic with minimal assistance from dental team members with a focus on general dentistry and specialty dentistry. (2 sch: 9-hr clinical)

DAT 1952 Clinical Practicum III
Continuation of supervised clinical experience in an authorized dental clinic with minimal assistance from dental team members with a focus on general dentistry. (2 sch: 9-hr clinical)

DBT 1113 SQL Programming
This course is the first of a two-part series which offers students an extensive introduction to data server technology, covering the concepts of both relational and object relational databases and the Structured Query Language (SQL). Students are taught to store, retrieve, and manipulate data. (3 sch: 2 hr. lecture, 2 hr. lab)

DBT 1123 Advanced SQL Programming
This course is the second of a two-part series which offers students an extensive introduction to data server technology. Students are taught advanced concepts of both relational and object relational databases and the Structured Query Language (SQL). Students are taught to create and maintain database objects and control user access. (3 sch: 2 hr. lecture, 2 hr. lab)

DBT 1214 Database Architecture and Administration
This course is designed to give students a firm foundation in basic database tasks enabling them to design, create, and maintain a database. Students will gain a conceptual understanding of database architecture and how its components work and interact with one another. Students will also learn how to create an operational database and properly manage the various structures. (4 sch: 3 hr. lecture, 2 hr. lab)

DBT 2224 Advanced Database Architecture and Administration
This course is a continuation of Database Architecture and Administration. It is designed to provide a firm foundation in basic database tasks enabling students to design, create, and maintain a database. Students will gain a conceptual understanding of database architecture and how its components work and interact with one another. Students will also learn how to create an operational database and properly manage the various structures. (4 sch: 3 hr. lecture, 2 hr. lab)

DBT 2313 Database Design Concepts
This course is a theoretical study of the database design concepts. Emphasis is placed on Database Management Systems (DBMS) functions, the relational model, and Query-by-Example (QBE) applications. (3 sch: 2 hr. lecture, 2 hr. lab)

DBT 2324 Advanced Database Design Concepts
This course will introduce programming using a database management software application. Emphasis will be place on manipulating data using advanced features and customizing the user interface. (4 sch: 2 hr. lecture, 4 hr. lab)

DBT 2614 Linux Operating System Fundamentals
In this course, students develop proficiency in using and customizing a Linux operating system for common command line processes and desktop productivity roles. (4 sch: 2 hr. lecture, 4 hr. lab)

DBT 2714 IT Project Management
In this course, students develop proficiency in using and customizing a Linux operating system for common command line processes and desktop productivity roles. (4 sch: 2 hr. lecture, 4 hr. lab)

DBT 2913 Supervised Work Experience for Database Development Technology
A course which is a cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 sch: 3-18 hr. externship)

DBT 292(1-3) Special Problem in Database Administration Technology
A course to provide students with an opportunity to utilize skills and knowledge gained in other Database Administration Technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-3 sch: 2-6 hr. lab)

DDT 100(3-6) DDT 1013, DDT 1023 Introduction to Drafting and Design Cluster, Introduction to Drafting and Design Cluster I, or Introduction to Drafting and Design Cluster II
These courses contain the baseline competencies and suggested objectives from the high school curriculum which directly relate to the community college program. The courses are designed for students entering the community college who have had no previous training or documented experience in the field. (3-6 semester hours based upon existing skills for each student, may be divided into 2 courses for a maximum total of 6 hours of institutional credit.)

DDT 1113 Fundamentals of Drafting
Fundamentals and principles of drafting to provide the basic background needed for all other drafting courses. (3 sch: 2 hr. lecture, 2 hr. lab)

DDT 1123 Computational Methods for Drafting
Study of computational skills required for the development of accurate design and drafting methods. (3 sch: 1 hr. lecture, 4 hr. lab)

DDT 1133 Machine Drafting I
Emphasizes methods, techniques, and procedures in presenting screws, bolts, rivets, springs, thread types, symbols for welding, materials, finish and heat treatment notation, working order preparation, routing, and other drafting room procedures. (3 sch: 1 hr. lecture, 4 hr. lab)

DDT 1143 Geometric Dimensioning and Tolerancing
A continuation of conventional dimensioning with emphasis on concepts as adopted by the American National Standards Institute (ANSI). A study of international dimensioning symbols used to control tolerances of form, profile, orientation, runout, and location of features on an object. (3 sch: 2 hr. lecture, 2 hr. lab)

DDT 1153 Descriptive Geometry
Theory and problems designed to develop the ability to visualize points, lines, and surfaces of space. (3 sch: 1 hr. lecture, 4 hr. lab)

DDT 1163 Engineering Graphics
This course provides an introduction to fundamentals and principles of drafting to provide the basic background needed for all other drafting courses. (3 sch: 1 hr. lecture, 4 hr. lab or 2 hr. lecture, 2 hr. lab)

DDT 1173 Mechanical Design I
Students will utilize techniques of modeling to create machine specific drawings. The course emphasizes methods, techniques, and procedures (in presenting screws, bolts, rivets, springs, thread types, symbols for welding, materials, finish and heat treatment notation, working order preparation, routing, and other industry procedures) used in mechanical design. (3 sch: 1 hr. lecture, 4 hr. lab or 2 hr. lecture, 2 hr. lab)

DDT 1213 Construction Materials
Physical properties of the materials generally used in the erection of a structure, with a brief description of their manufacture. (3 sch: 2 hr. lecture, 2 hr. lab)

DDT 1313 Principles of CAD
Basic operating system and drafting skills on CAD. (3 sch: 2 hr. lecture, 2 hr. lab)

DDT 1323 Intermediate CAD
Continuation of Principles of CAD. Subject areas include dimensioning, sectional views, and symbols. (3 sch: 2 hr. lecture, 2 hr. lab)

DDT 1413 Elementary Surveying
Basic course dealing with principles of geometry, theory, and use of instruments, mathematical calculations, and the control and reduction of errors. (3 sch: 1 hr. lecture, 4 hr. lab)

DDT 1513 Blueprint Reading I
Terms and definitions used in reading blueprints. Basic sketching, drawing, and dimensioning of objects will be covered. (Enrollment in this course is limited to vocational certificate students in other disciplines.) (3 sch: 2 hr. lecture, 2 hr. lab)

DDT 1523 Blueprint Reading II
Continuation of Blueprint Reading I with emphasis placed on reading and interpreting blueprints for different types of structures and performing basic calculations. (Enrollment in this course is limited to vocational certificate students in other disciplines.) (3 sch: 2 hr. lecture, 2 hr. lab)

DDT 1613 Architectural Design I
This course is a study and development of architectural design principles for a residential structure. (3 sch: 1 hr. lecture, 4 hr. lab)

DDT 1713 Fundamentals of Machining Processes
Basic machining equipment and safety procedures. Emphasis is placed on measurement techniques, machine technology, machine tools, and applications. (A course for drafting students with no previous machining experience.) (3 sch: 2 hr. lecture, 2 hr. lab)

DDT 1733 Product Ideation and Design I
Principles of the applications of Additive Manufacturing. Advantages of using Additive Manufacturing over traditional Subtractive Manufacturing processes. An overview of the most widely used technologies, materials and applications. Create files, select appropriate technology, build settings and parameters and print complex three-dimensional parts. This class will also include safety guidelines about the lab such as which personal protective equipment should be used, safety practices, and general lab procedure. This also includes basic tool use. (2-hour lecture, 2-hour lab)

DDT 1743 Product Ideation and Design
Introduction to product ideation and design process from development to production. Covers critical thinking, project planning, iterative processes, teamwork and hand sketching. Additionally, learn contemporary design and development processes, identify customer needs, measuring with hand tools and Coordinate Measuring (CMM) technologies, and design for manufacturing and production prototypes. (3-hour lecture)

DDT 1813 Design for Manufacturing
Instruction in various methods of manufacturing with emphasis on the drafter’s role in manufacturing. (3 sch: 2 hr. lecture, 2 hr. lab)

DDT 2153 Civil Drafting
Course dealing with basic principles of surveying and the development of topographical maps. (3 sch: 2 hr. lecture, 2 hr. lab)

DDT 2163 Machine Drafting II
A continuation of Machine Drafting I with emphasis on advanced techniques and knowledge employed in the planning of mechanical objects. Includes instruction in the use of tolerancing and dimensioning techniques. (3 sch: 2 hr. lecture, 2 hr. lab)

DDT 2213 Structural Drafting II
Study of the miscellaneous areas of structural drafting including stairs, handrails, and cage ladders. (3 sch: 1 hr. lecture, 4 hr. lab)

DDT 2233 Structural Drafting I
Structural section, terms, and conventional abbreviations and symbols used by structural fabricators and erectors are studied. Knowledge is gained in the use of the A.I.S.C. Handbook. Problems are studied that involve structural designing and drawing of beams, columns, connections, trusses, and bracing (steel, concrete, and wood). (3 sch: 1 hr. lecture, 4 hr. lab)

DDT 2243 Cost Estimating
Preparation of material and labor quantity surveys from actual working drawings and specifications. (3 sch: 2 hr. lecture, 2 hr. lab)

DDT 2253 Statics and Strength of Materials
Study of forces acting on bodies; moments of forces; stress of materials; basic machine design; beams, columns, and connections. (3 sch: 2 hr. lecture, 2 hr. lab)

DDT 2263 Quality Assurance
The application of statistics and probability theory in quality assurance programs. Various product sampling plans will be studied as well as the development of product charts for defective units. (3 sch: 2 hr. lecture, 2 hr. lab)

DDT 2273 Facilities Planning
This course deals with the techniques and procedures for developing an efficient facility layout and introduces some of the state-of-the-art tools involved, such as 3D design and computer simulation. (3 sch: 2 hr. lecture, 2 hr. lab)

DDT 2343 Advanced CAD
A continuation of Intermediate CAD. Emphasis is placed on the user coordinate system and 3D modeling. (3 sch: 1 hr. lecture, 4 hr. lab)

DDT 2353 CAD Management
Topics include technical and business aspects of CAD. Standards, customization, networking, Internet integration, and employee support will be covered. (3 sch: 2 hr. lecture, 2 hr. lab)

DDT 2363 Computer Numerical Control (CNC) Drafting
Basics of numerical control machines. (3 sch: 2 hr. lecture, 2 hr. lab)

DDT 2423 Mapping and Topography
Selected drafting techniques are applied to the problem of making maps, traverses, plot plans, plan drawings, and profile drawings using maps, field survey data, aerial photographs, and related references and materials including symbols, notations, and other applicable standardized materials. (3 sch: 2 hr. lecture, 2 hr. lab)

DDT 2463 Legal Principles of Surveying II
An advanced legal principles course with emphasis on the Rectangular
System of Surveys (GLO) and Riparian and Littoral boundaries. (3 sch: 3or 2 hr. lecture, 0 or 2 hr. lab)

DDT 2523 Pipe Drafting
Instruction in the basic knowledge needed to create process piping drawings using individual piping components. (3 sch: 2 hr. lecture, 2 hr. lab)

DDT 2533 Highway Drafting
A basic study of highway drafting. Horizontal alignment of route surveys in the plan view, vertical alignment of route surveys in the profile view, typical sections, cross sections, and area calculations and estimation of quantities. (3 sch: 2 hr. lecture, 2 hr. lab)

DDT 2543 Steel Ship Building and Design
Instruction in the basic steel ship building and the process of ship design and planning. (3 sch: 2 hr. lecture, 2 hr. lab)

DDT 2623 Architectural Design II
Emphasizes standard procedures and working drawings. Details involving architectural, mechanical, electrical, and structural drawings are covered, along with presentation of drawings and computer-aided design assignments. (3 sch: 1 hr. lecture, 4 hr. lab)

DDT 2693 Route Surveying and Design
A real world application of route surveying including construction stakeout.
Stakeout applications include: horizontal and vertical alignment of route surveys, typical sections, cross sections, cut/fill calculations, and area calculations. (3 sch: 2 hr. lecture, 2 hr. lab or 1 hr. lecture, 4 hr. lab)

DDT 2713 Fundamentals of Multimedia
A general overview of current issues in multimedia. Study of how multimedia can assist in the work environment; provides a basis for further study in multimedia design and production. (3 sch: 1 hr. lecture, 4 hr. lab) Pre/Corequisite: DDT 2623 Architectural Design II

DDT 2723 Design Collaboration
Practical application of skills and knowledge gained in other drafting courses. Explore team space and the package timeline. Create, explore, and consume packages. Compare changes between software packages. (3 sch: 1 hr. lecture, 4 hr. lab)

DDT 2733 Additive Manufacturing Processes, Polymers and Materials
This course focuses on the basic principles and methodology around types of polymers and processes used in the Additive Manufacturing (AM) process. Comparison of, and selecting the best type of manufacturing for products will be discussed. Students will learn about various type of polymers and metals, Fused Deposition Manufacturing (FDM), Polyjet, Stereolithography (SLA), and Selective Laser Sentering (SLS). Upon completion, students should be able to discuss and understand the significance of polymer and metal material properties and structure, describe the different types of polymers available for the AM process and explain the benefits of basic polymer rapid prototyping. They should be able to demonstrate how to take a “part” from idea and be able to select the best process and material for the type of product being produced. NOTE: AM students will also be required to take Product Ideation and Design #1 before or with this course. (2-hour lecture, 2-hour lab)

DDT 2743 Product Ideation and Design II
Build upon critical thinking and product development concepts introduced in Product Ideation and Design I. Develop solutions for real-world product design problems using hand sketching, 3D

modeling, additive manufacturing and other techniques. Heavy focus will be put on reverse engineering and quality inspection. Also covers engineering principles as they apply to product design, development and manufacture. (2-hour lecture, 2-hour lab)

DDT 2753 Advanced 3D Modeling
This course will provide instruction on the 3D applications. It emphasizes the development of 3D parametric models and the ability to generate 2D drawings, details and renderings from the model. (3 sch: 1hr lecture, 4 hr lab)

DDT 2813 Inventor 3D Modeling and Animation
This course provides instruction on the 3D applications of Inventor. Emphasizing the development of 3D parametric models and the ability to generate 2D drawings,
details and renderings from the 3D model. This course will also provide utilization of assembly drawings and animation of working parts. (3 sch: 1hr lecture, 4 hr lab)

DDT 2823 Revit Architecture 3D Modeling
Course Description: This course provides instruction on the 3D applications of Revit Architecture. Emphasizing the development of 3D parametric building models and the ability to generate 2D drawings, details and renderings from the 3D model. This course will also provide animation walk thrus of the 3D building. (3 sch: 1 hr lecture, 4 hr lab)

DDT 2833 Portfolio
This course provides instruction on the preparation of drawings for a portfolio presentation and a resume for portfolio presentation using both electronic and hard copies. The students will use different medias to showcase their work. Topics will include production of a resume and portfolio, setting up a website showing multiple projects and examples of their work. (3 sch: 1 hr lecture, 4 hr. lab)

DDT 291(1-3) Special Project
Practical application of skills and knowledge gained in other drafting courses. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. (1-3 sch: 2-6 hr. lab)

DDT 292(1-6) Supervised Work Experience in Drafting and Design Technology
Cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 sch: 3-18 hr. externship)

DET 100(3-6), DET 1013, DET 1023
Introduction to Diesel Equipment Repair and Service, Introduction to Diesel Equipment Repair and Service I or Introduction to Diesel Equipment Repair and Service II
These courses contain the baseline competencies and suggested objectives from the high school Diesel Equipment Repair and Services curriculum which directly related to the community college Diesel Equipment Repair and Service program. The courses are designed for students entering the community college who have had no previous training or documented experience in the field. (3-6 semester hours based upon existing skills for each student. May be divided into 2 course for a maximum total of 6 hours of institutional credit.)

DET 1114 (1133) Fundamentals of Equipment Mechanics
Review and update of safety procedures; tools and equipment usage; handling, storing, and disposing of hazardous materials; and operating principles of diesel engines. (4 sch: 4 hr. lecture)

DET 1213 Hydraulic Brake Systems
Diagnosis and repair of hydraulic brake systems, includes instruction in hydraulic and mechanical systems, power assist units, and anti-lock braking systems. (3 sch: 2 hr. lecture, 2 hr. lab)

DET 1223 Electrical/Electronic Systems I
Diagnosis, service, and repair of electrical and electronic systems on diesel engines. Includes instruction in general systems diagnosis, starting and charging system. (3 sch: 2 hr. lecture, 2 hr. lab)

DET 1263 Electrical/Electronic Systems II
Diagnosis, service, and repair of electrical and electronic systems on diesel engines. Includes instruction on lighting systems, gauges and warning devices, and related electrical systems. (3 sch: 1 hr. lecture, 4 hr. lab)

DET 1364 Diesel Systems I
Diagnosis, service, and repair of basic engine operating principles, with an emphasis on cylinder head and valve train engine block. (4 sch: 2 hr. lecture, 4 hr. lab)

DET 1374 Diesel Systems II
Diagnosis, service, and repair of lubrication systems, cooling systems, and air induction and exhaust

systems. (4 sch: 2 hr. lecture, 4 hr. lab)

DET 1513 Hydraulics I
Basic operation and maintenance of hydraulic systems associated with diesel powered equipment, includes instruction in safety, system components, operation, and repair. (3 sch: 1 hr. lecture, 4 hr. lab)

DET 1614 Preventive Maintenance and Service
Practice in the preventive maintenance of diesel powered equipment, includes instruction in general preventive maintenance of vehicles and equipment. (4 sch: 2 hr. lecture, 4 hr. lab)

DET 1713 Transportation Power Train
Diagnosis, service, maintenance, and repair of power train units on diesel equipment, includes instruction on clutch, manual transmissions, drive shafts, and drive axles. (3 sch: 2 hr. lecture, 2 hr. lab)

DET 1813 Air Conditioning and Heating Systems
Operation, maintenance, and repair of air conditioning and heating systems used in commercial equipment, includes instruction in theories and operating principles, A/C system diagnosis and repair, clutch and compressor repair, evaporator and condenser repair, and heating system repair. (3 sch: 1 hr. lecture, 4 hr. lab)

DET 2113 Welding for Diesel Equipment Technology
Basic welding and cutting techniques which includes fundamental procedures and safety, oxyacetylene welding and cutting, shielded metal-arc welding, and metal inert gas welding procedures. (3 sch: 1 hr. lecture, 4 hr. lab)

DET 2253 Steering and Suspension Systems
Operation, maintenance, and repair of heavy duty steering and suspension systems, includes instruction in steering column and steering gear, power steering unit, steering linkage, suspension, wheel alignment, and related components diagnosis and repair. (3 sch: 2 hr. lecture, 2 hr. lab)

DET 2273 Electrical/Electronic Systems III
Diagnosis, service, and repair of electrical and electronic systems on diesel engines, includes instruction in electronic fuel management systems. (3 sch: 1 hr. lecture, 4 hr. lab)

DET 2383 Diesel Systems III
Diagnosis, service, and repair of general engine operations and fuel system operations. (3 sch: 2 hr. lecture, 2 hr. lab)

DET 2513 Hydraulic/Hydrostats II
Diagnosis and repair of hydraulic brake systems, includes instruction in hydraulic and mechanical systems, power assist units, and antilock braking systems. (3 sch: 1 hr. lecture, 4 hr. lab)

DET 2523 Heavy Equipment Power Trains
Maintenance and repair of fluid power trains and hydrostat transmissions used on heavy equipment to include operation and diagnosis and repair of system components. (3 sch: 1 hr. lecture, 4 hr. lab)

DET 2623 Advanced Brake Systems (Air)
Instruction and practice in the maintenance and repair of air brake systems commonly used on commercial diesel powered equipment, includes instruction in maintenance and repair of the air supply system, mechanical system, anti-lock braking system, and traction control system. (3 sch: 2 hr. lecture, 2 hr. lab)

DET 291(1-6) Special Problem/Project in Diesel Equipment Technology
A course to provide students with an opportunity to utilize skills and knowledge gained in other Diesel Equipment Repair and Service courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-6 sch: 2-12 hr. lab)

DET 292(1-6) Supervised Work Experience in Diesel Equipment Technology
A course which is a cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 sch: 3-18 hr. externship)

DHT 1115 Fundamentals of Dental Hygiene
This course will provide the dental hygiene student with the fundamental knowledge and skills necessary for interaction with clients. The lecture portion will focus on the history, philosophy, and theories relevant to the profession of dental hygiene. Lecture highlights will include discussion of the latest health care settings, trends, and approaches to comprehensive care. The preclinical portion will provide the student with opportunities for the development of psychomotor skills and opportunities for interaction with clients, which will provide emphasis on trust, care, and responsibility as part of becoming a professional. (5 sch: 2 hr. lecture, 6 hr. lab)

DHT 1212 Dental Anatomy
A study of the morphological characteristics of the teeth and supporting structures. (2 sch: 2 hr. lecture)

DHT 1222 Head and Neck Anatomy
A detailed study of skeletal, muscular, vascular, and neural features of the face, head, and neck. (2 sch: 2 hr. lecture)

DHT 1232 Oral Histology and Embryology
This course studies the microscopic structure and development of types of cells, tissues, and organs of the human body. Also given is a survey of the elements of embryology emphasizing the area of the head and neck, as related to the development of the dental arches, salivary glands, buccal mucosa, pharynx, and tongue. (2 sch: 2 hr. lecture)

DHT 1242 Anatomy and Histology Head and Neck
This course is a detailed study of skeletal, muscular, vascular, and neural features of the face, head, and neck. It also includes studies of the microscopic and development of types of cells, tissues and organs of the head and neck. (2 sch: 2 lecture, 0 lab)

DHT 1252 Dental Anatomy & Embryology
This course is a study of the morphological characteristics of the teeth and supporting structures. Also given is a survey of the elements of embryology emphasizing the area of the head and neck, as related to the development of the dental arches, salivary glands, buccal mucosa, pharynx, and tongue. (2 sch: 2 lecture, 0 lab)

DHT 1314 Dental Radiology
This course involves a broad scope of study of radiology and its use by the dentist as a diagnostic aid. Also covered are techniques for making radiographs with safety for hygienist and patient, the processing and mounting of exposed film and their interpretation, and study of anatomical landmarks evident in periapical films. (4 sch: 3 hr. lecture, 2 hr. lab)

DHT 1415 Clinical Dental Hygiene
The student will apply the principles and techniques learned from previous didactic and preclinical experiences. (5 sch: 1 hr. lecture, 12 hr. clinical)

DHT 1512 Periodontics
An in-depth study of the supporting structures of the teeth is covered in this course. Also included is a clinical and theoretical understanding of their conditions in good health as well as their reaction to bacterial invasion in disease of varying etiology. The theory of clinical application to the management of the advanced periodontal patient to maintain a healthy and functional dental prosthesis is also studied. (2 sch: 2 hr. lecture)

DHT 1911 Dental Hygiene Seminar I
This course provides the student with the opportunity to discuss managing dental office emergencies and professional development. (1 sch: 1 hr. lecture)

DHT 1921 Dental Hygiene Seminar II
This course provides the student with the opportunity to discuss patient care and treatment plans and professional development. (1 sch: 1 hr. lecture)

DHT 1931 Dental Medical Emergencies
This course provides the student with the opportunity to discuss managing dental office emergencies. (1 sch: 1 lecture, 0 lab)

DHT 1941 Theories of Patient Care
This course provides the student with the opportunity to discuss patient care and treatment plans. (1 sch: 1 lecture, 0 lab)

DHT 2233 General/Oral Pathology
A study of the etiology and symptomatology of the pathological conditions affecting the head and neck with emphasis on the oral cavity. (3 sch: 3 hr. lecture)

DHT 2425 Clinical Dental Hygiene II
This course is a continuation of the principles and techniques involved in the practice of dental hygiene. Emphasis will be on theoretical background needed to provide advanced clinical skills. Clinical experiences will focus on treatment of clients with moderate to advanced periodontal disease. (5 sch: 1 hr. lecture, 12 hr. clinical)

DHT 2436 Clinical Dental Hygiene III
This course offers a culmination of practice and the clinical procedures and theoretical knowledge needed to provide preventive, interceptive, and definitive dental hygiene treatment. (6 sch: 2 hr. lecture, 12 hr. clinical)

DHT 2613 Dental Hygiene Materials
This course offers the study of materials used in dentistry, their physical and chemical properties, and proper manipulation as used in the operatory and laboratory. (3 sch: 2 hr. lecture, 2 hr. lab)

DHT 2712 Dental Pharmacology
This course gives a basic introduction to drug actions, their mechanisms, and the reactions of the body to these drugs. Special emphasis is given to the drugs used in the modern dental office including emergency procedures. (2 sch: 2 hr. lecture)

DHT 2813 Community Dental Health
This course provides an introduction to preventive dentistry as administered on federal, state, and local levels through official and voluntary health agencies. Supervised field experience gives an opportunity to observe and participate in some phases of community and school dental health programs. (3 sch: 2 hr. lecture, 3 hr. clinical)

DHT 2822 Community Dental Health I
This course provides an introduction to preventive dentistry as administered on federal, state, and local levels through official and voluntary health agencies scientific study of social interactions between individuals and groups. Field experience gives an opportunity to observe and participate in some phases of community and school dental health programs. (2 sch: 2 lecture, 0 lab)

DHT 2832 Community Dental Health II
This course is a continuation of Community Dental Health I and includes application of preventive dentistry. Field experiences to give an opportunity to observe and participate in some phases of community and/or school dental health programs. (2 sch: 1 lecture, 2 lab)

DHT 2922 Dental Ethics/Law
Focus on the ethical and legal aspects of providing dental health care. (2 sch: 2 hr. lecture)

DHT 2931 Dental Hygiene Seminar III
This course provides the student with the opportunity to discuss dental disciplines and professional development. (1 sch: 1 hr. lecture)

DHT 2941 Dental Hygiene Seminar IV
This course provides the student the opportunity to discuss the written registry exam, the clinical simulation exam format, and professional development. (1 sch: 1 hr. lecture)

DHT 2951 Fundamentals of Licensure
This course provides the student with the opportunity to discuss dental disciplines and professional development. (1 sch: 1 lecture, 0 lab)

DHT 2961 General and Dental Nutrition
This course provides the student with the general nutrition and nutritional biochemistry emphasizing the effect nutrition has an oral health. (1 sch: 1 lecture, 0 lab)

DMS 1114 Introduction to Ultrasound
Students will be introduced to ultrasound equipment. Cleaning and disinfectant procedures will be shown. Types of film, paper printers, video recorders, scanning tables, ultrasound probes, and recording methods will be discussed. Legal/ethical issues and patient contact within the ultrasound department, as well as scanning protocols, are included. Students will learn the sonographer's role in patient care. (4 sch: 3 hr. lecture, 2 hr. lab)

DMS 1124 Fundamentals of Sonography
This course is designed to prepare students for entry into the Diagnostic Sonography Technology program who do not have a credential in a nursing or health science profession. Students will be introduced to

basic ultrasound physics, instrumentation, terminology, patient care, and will participate in clinical observation related to sonography. (4 sch: 1 hr lecture, 9 hours clinical)

DMS 1213 Sectional Anatomy
This course provides students with ultrasound appearance of abdominal and pelvic sectional anatomy. It includes a description of gross sectional anatomy and identification of sonographic appearance of normal anatomy. (3 sch: 3 hr. lecture)

DMS 1313 Ultrasound Physics and Instrumentation I
In-depth presentation of basic principles of diagnostic medical ultrasound physics and instrumentation. Description of diagnostic ultrasound transducers and ultrasound interaction with human tissue will be presented. (3 sch: 2 hr. lecture, 2 hr. lab)

DMS 1323 Ultrasound Physics and Instrumentation II
A continuation of Ultrasound Physics and Instrumentation I (DMS 1313). This class includes an in-depth presentation of image display modes, Doppler, color, and hemodynamics of diagnostic ultrasound. The causes of artifacts and how to scan safely, conduct instrument performance measurements, and prepare for registry examinations. (3 sch: 2 hr. lecture, 2 hr. lab)

DMS 1414 Clinical Experience I
This class includes clinical instruction in the scanning lab and in clinical site institutions. Students will first receive hands-on experience in the scanning lab and then in clinical site rotations. (4 sch: 12 hr. clinical)

DMS 1426 Clinical Experience II
This course includes clinical practice and instruction in a clinical rotation site. (6 sch: 18 hr. clinical)

DMS 1436 Clinical Experience III
This course is a clinical practice and instruction in a clinical affiliate. Areas included are patient care and management, operation of equipment, and sonographic procedures. All procedures will be performed under direct supervision. (6 sch: 18 hr. clinical)

DMS 1513 Abdominal Sonography
Presentation of pathology, pathophysiology of abdominal anatomy including liver, kidneys, spleen, gallbladder, pancreas, and vascular structures associated with organs, as well as the abdominal cavities and the non-cardiac chest. Normal aging changes and laboratory values are presented. (3 sch: 3 hr. lecture)

DMS 1523 Obstetrical and Gynecological Sonography
This class discusses pathology/pathophysiology associated with female anatomy and obstetrical sonographic examinations. Sonographic appearance of the female pelvis premenopausal through postmenopausal and evaluation of pregnancy from conception to delivery will be discussed. Evaluating infertility and related laboratory values, as well as other imaging procedures, will be included. (3 sch: 3 hr. lecture)

DMS 1533 Advanced Sonography Procedures
Neurosonology, ophthalmology, adult cardiac, pediatric cardiac, and vascular technology will be discussed. Superficial structures scanning including prostate, thyroid, scrotum and breast will be included. (3 sch: 3 hr. lecture)

DMS 1613 Sonography Seminar
This course will prepare students for ARDMS/ARRT certification examinations. (3 sch: 3 hr. lecture)

DMS 1623 Ultrasound Examination Critique
This course will present case studies of normal and abnormal sonographic exams. Students will attend presentations of guest lecturers. (3 sch: 3 hr. lecture)

ECT 1113 Principles of Emergency Management
This course is to provide an overview of the characteristics, functions, and resources of an integrated system and how various emergency management services work together in a system of resources and capabilities. Emphasis will be placed on how this system is applied to all hazards for all government levels, across the four phases and functions of emergency management. (3 sch: lecture)

ECT 1123 Fire Service Operations
An orientation to the fire service, this course explores department structure and organization, operations and responsibility, and the history of the fire service. Also included are changes that impact how traditional fire department services are currently delivered. (3 sch: lecture)

ECT 1213 Law Enforcement Operations
Line activities of law enforcement organizations are discussed with emphasis on organization and management. This course provides a guide to the responsibilities assigned to patrol, traffic, investigations, and other specialized police units. (3 sch: lecture)

ECT 1223 Principles of Public Safety Communications
This course is a study of the systems used to facilitate emergency communications between the public, fiend units, and dispatch centers. Information is centered on the methods used by telecommunicators to rapidly process and respond to critical information. (3 sch: lecture)

ECT 1613 Mass Casualty Incident Management
During a disaster, few things are more taxing on a community's response resources than multiple casualty incidents. This course uses components of the Incident Command System to coordinate the efforts of triage, treatment and transport of the sick and injured. Additional focus is placed on identifying key incident factors that impact the decision-making process. (3 sch: lecture)

ECT 1623 Transportation Emergency Incident Management
Railroad operations and the potential for disaster are discussed in this course. Case studies from both passenger and freight rail incidents are reviewed with attention given to resource management and incident command. (3sch: lecture)

ECT 1813 Dynamics of Homeland Security
The primary intent of this course involves information gathering, including the analysis and assessment of local threats and response capabilities. Students will develop procedures for preparing and responding to terrorist attacks. In addition, the practices for restoring and maintaining critical government operations are discussed in this course. (3 sch: lecture)

ECT 2313 Hazardous Materials
Identification and recognition of hazardous materials are stressed in this class. Various types and classes of hazardous materials are discussed as well as various methods of transportation and storage. (3 sch: 3 hr lecture)

ECT 2323 Incident Management Systems
This course is a study of incident management systems used for handling situations from the smallest incidents to the largest. A variety of methods are discussed with emphasis placed on the National interagency Incident Management System. (3 sch: lecture)

ECT 2333 Emergency Planning
Development of emergency operation plans and the process used to update existing plans that conform to current FEMA guidelines is covered in this course. Additional focus is placed on the interaction between public safety personnel that occurs during the planning process. (3 sch: lecture)

ECT 2413 Emergency Personnel Supervision
Focusing on supervising and managing personnel involded with emergency management, this course provides students with information on developing effective supervisory techniques. Attention is given to exploring the role of the supervisor, dealing with problem situations, and issues related to leadership. (3 sch: lecture)

ECT 2423 Disaster Response and Recovery
This course discusses the role emergency managers have in responding to situations and the operations necessary to begin recovery efforts. Emphasis is placed on responsibilities assumed by local, state, and federal government agencies as well as the associated coordination requirements. (3 sch: lecture)

ECT 2433 Public Information and Awareness
This course provides as overview of the basic skills needed to perform as a public information officer (PIO) as they relate to emergency management. The course focuses on the various methods used to disseminate public information during the time surrounding an emergency. (3 sch: lecture)

ECT 2513 Financial Management
Budgeting and financial management are the primary concerns of this course. Various methods of budgeting are discussed as well as budgetary tracking methods and evaluation procedures. The application of these methods is demonstrated at different levels of personnel responsibility. (3 sch: lecture)

ECT 2613 Wildland Fire Incident Management
Wildland fires can create a unique set of problems for emergency managers that range from selecting proper strategies, managing resources, coordinating evacuations, and initiating recovery efforts. Understanding how wildland fires behave and the methods used to combat them is critical to the decision-making process. This course focuses on wildland fires from an incident management standpoint with emphasis on risk management and safety.

ECT 2623 Hazardous Weather Operation
The course provides detailed information on weather-related hazards and the necessary coordination and communication of warning information. Additional focus is given towards flooding situations and the appropriate warnings for such events. (3 sch: lecture)

ECT 2623 Hazardous Weather Operation
This course provides detailed information on weather-related hazards and the necessary coordination and communication of warning information. Additional focus is given towards flooding situations and the appropriate warnings for such events. (3 sch: lecture)

ECT 2633 Special Problems in Emergency Management
Prerequisite: Consent of program coordinator and prior or concurrent enrollment in ECT courses. This course provides selected problems aimed towards local emergency management needs. Students utilize critical thinking skills and perform the necessary research to develop effective solutions. (3 sch: lecture)

ECT 2713 Emergency Management Technical Practicum
This course allows emergency management personnel to implement knowledge and experience by functioning in the career field. The experience is designed to integrate the student's academic and technical skills into a work environment. (3 sch: lecture)

ECT 2813 Response to Incidents of Terrorism
This course addresses the special concerns and hazards encountered at incidents resulting from acts of terrorism or other criminal intent. Specific issues include responder safety, incident management, and weapon of mass destruction. Additional emphasis is placed on developing working relationships between response agencies involved with terrorism incidents. (3 sch: lecture)

ECT 2833 Principles of Transportation Security
History demonstrates that transportation play an important role in the outcome of a terrorist attack. Likewise, the various modes of commercial transportation provide multiple methods for the concealment and delivery of weapons of mass destruction. This course focuses on the methods and procedures used to safeguard our transportation system and the steps local governments can take to improve the security of transportation facilities. (3 sch: lecture)

EET 100(3-6), EET 1013, EET 1023 Introduction to Electronics Technology, Introduction to Electronics Technology I, or Introduction to Electronics Technology II
These courses contain the baseline competencies and suggested objectives from the high school Electronics curriculum which directly related to the community college Electronics-based programs. The courses are designed for students entering the community college who have had no previous training or documented experience in the field. (3-6 semester hours based upon existing skills for each student. May be divided into 2 courses for a maximum total of 6 hours of institutional credit.)

EET 1114 DC Circuits
Principles and theories associated with DC circuits. This course includes the study of electrical circuits, laws and formulae, and the use of test equipment to analyze DC circuits. (4 sch: 2-hr lecture, 4-hr lab)

EET 1123 AC Circuits
Principles and theories associated with AC circuits. Includes the study of electrical circuits, laws and formulae, and the use of test equipment to analyze AC circuits. (3 sch: 2-hr lecture, 2-hr lab)

EET 1133 Electrical Power
This course covers electrical motors and their installation and offers instruction and practice in using the different types of motors, transformers, and alternators. (3 sch: 2-hr lecture, 2-hr lab)

EET 1143 Commercial and Industrial Wiring
Instruction and practice in the installation of commercial and industrial electrical services including the types of conduit and other raceways, NEC code requirements, and three phase distribution networks. (3 sch: 2-hr lecture, 2-hr lab)

EET 1145 DC/AC Circuits
Principles and theories associated with DC and AC circuits. This course includes the study of electrical circuits, laws and formulae, and the use of test equipment to analyze DC and AC circuits. (5 sch: 2-4-hr lecture, 6-2-hr lab)

EET 1154 Equipment Maintenance
Maintenance and troubleshooting techniques, use of technical manuals and test equipment, and inspection/evaluation/repair of equipment (4 sch: 1-hr lecture, 6-hr lab)

EET 1163 Motor Maintenance and Troubleshooting
This course covers the principles and practice of electrical motor repair and includes topics on the disassembly/assembly and preventive maintenance of common electrical motors. (3 sch: 2-hr lecture, 2-hr lab)

EET 1174 Fluid Power
This basic course provides instruction in hydraulics and pneumatics. The course covers actuators, accumulators, valves, pumps, motors, coolers, compression of air, control devices, and circuit diagrams. Emphasis is placed on the development of control circuits and troubleshooting techniques. (4 sch: 3-hr lecture, 2-hr lab)

EET 1192 Fundamentals of Electronics
Fundamental skills associated with all electronics courses. Safety, breadboarding, use of calculator, test equipment familiarization, soldering, electronic symbols, and terminology. (2 sch: 1-hr lecture, 2-hr lab)

EET 1214 Digital Electronics
Number systems, logic circuits, counters, registers, memory devices, combination logic circuits, Boolean algebra, and a basic computer system. (4 sch: 3-hr lecture, 2-hr lab)

EET 1233 Computer Servicing Lab I
This course covers fundamentals of computer servicing including configuration, test equipment usage, basic disassembly and assembly methods, preliminary tests and diagnostics, schematic interpretation, and building cables. (3 sch: 0-hr lecture, 6-hr lab)

EET 1311 Orientation to Biomedical Equipment Repair
Orientation to the biomedical equipment repair field. Topics covered are the different career paths open to students, types of biomedical equipment, and the organization and operation of the hospital environment. (1 sch: 1-hr lecture)

EET 1324 Microprocessors
Microprocessor architecture, machine and assembly language, timing, interfacing, and other hardware applications associated with microprocessor systems. (4 sch: 2-hr lecture, 4-hr lab)

EET 1334 Solid State Devices and Circuits
Active devices which include PN junction diodes, bipolar transistors, bipolar transistor circuits, and unipolar devices with emphasis on low frequency application and troubleshooting. (4 sch: 2-hr lecture, 4-hr lab)

EET 1343 Motor Control Systems
This course covers installation of different motor control circuits and devices. Emphasis is placed on developing the student's ability to diagram, wire, and troubleshoot the different circuits and mechanical control devices. (3 sch: 2-hr lecture, 2-hr lab)

EET 1353 Fundamentals of Robotics
This course is designed to introduce the student to industrial robots. Topics to be covered include robotics history, industrial robot configurations, operation, and basic programming and how they relate to the electrical industry (3 sch: 2-hr lecture, 2-hr lab)

EET 1363 Microcontrollers
This course begins with a brief overview of microprocessors as a precursor to microcontrollers. Next, a basic understanding of the use, terminology, and potential of microcontrollers are discussed. Programming skills and concepts taught in this course help students develop, execute, and debug programs for a microcontroller, A hands-on approach will teach the essential skills for creating a simple sensordriven microcontroller system, and will be reinforced with interactive projects. .
(3 sch: 1-hr lecture, 4-hr lab)

EET 1413 Mathematics for Electronics
Coverage of those areas of arithmetic, algebra, geometry, and trigonometry that have applications in electronics (3 sch: 2-hr lecture, 2-hr lab)

EET 1613 Computer Fundamentals for Electronics/Electricity
Basic computer science as used in electricity/electronics areas. Computer nomenclature, logic, numbering systems, coding, operating system commands are covered. (3 sch: 2-hr lecture, 2-hr lab)

EET 1713 Drafting for Electronic/Electrical Technology
Preparation and interpretation of schematics. (3 sch: 1-hr lecture, 4-hr lab)

EET 211(3-6) Supervised Work Experience in Biomedical Equipment Repair Technology I
This cooperative program between the health care facility and education is designed to integrate the student's technical studies with health-care experience. **(NOTE: Biomedical equipment used in this course is for instructional purposes ONLY and not to be used in patient's care.)** Variable credit is awarded on the basis of 1 semester hour per 45 health-care contact hours. (1-6 sch: 3- to 18-hr externship)

EET 222(3-6) Supervised Work Experience in Biomedical Equipment Repair Technology II
Continuation of EET 211(3-6) with advanced study in the repair and maintenance of biomedical equipment. (3–6 sch: 6- to 18-hr externship)

EET 2233 Computing Servicing Lab II
This course is a continuation of Computer Servicing Lab I with increased emphasis on system analysis and diagnosis of board and component failures with emphasizes on laboratory experience with computer repair. (3 sch: 0-hr lecture, 6-hr lab)

EET 2334 Linear Integrated Circuits
Advanced semiconductor devices and linear integrated circuits. Emphasis is placed on linear integrated circuits used with operational amplifiers, active filters, voltage regulators, timers, and phase-locked loops. (4 sch: 3-hr lecture, 2-hr lab)

EET 2354 Solid State Motor Control
The course covers the principles and operation of solid state motor control as well as the design, installation, and maintenance of different solid state devices for motor control. (4 sch: 2-hr lecture, 4-hr lab)

EET 2363 Programmable Logic Controllers
This course covers use of programmable logic controllers (PLCs) in modern industrial settings as well as the operating principles of PLCs and practice in the programming, installation, and maintenance of PLCs.(3 sch: 2-hr lecture, 2-hr lab)

EET 2373 Programable Logic Controllers Multiplatform
This course covers use of programmable logic controllers (PLCs) in modern industrial settings as well as the operating principles of PLCs and practice in the accelerated programming across multiple PLC platforms, installation and maintenance of PLCs. (3 sch: 1-hr lecture, 4-hr lab)

EET 2374 Advanced Robotics
This course provides advanced instruction to microcontrollers and robotics, with a focus on the operation and execution of a robotic system. This course will be project and team based. Students will work in groups to design, program, and execute their robotic design. Students will present their designed robot, along with a PowerPoint presentation at the end of the course. (4 sch: 1-hr lecture, 4-hr lab)

EET 2383 Advanced Programmable Logic Controllers
Advanced PLC course that provides instruction in the various operations, installations, and maintenance of electric motor controls. Also, information in such areas as sequencer, program control, introduction to function blocks, sequential function chart, introduction to HMI, and logical and conversion instructions.
(3 sch: 3-hr lecture, 2-hr lab)

EET 2414 Electronic Communications
This course is designed to provide the student with concepts and skills related to analog and digital communications. Topics covered include amplitude and frequency modulation, transmission, and reception, data transmission formats and codes, and modulation-demodulation of digital communications. (4 sch: 2-hr lecture, 4-hr lab)

EET 2423 Fundamentals of Fiber Optics
Fiber optic cable in modern industry applications. (3 sch: 2-hr lecture, 2-hr lab)

EET 2433 Physics for Electronics
Coverage of those areas of physics that have applications in electronics. (3 sch: 2-hr lecture, 2-hr lab)

EET 2514 Interfacing Techniques
Data acquisition devices and systems including their interface to microprocessors and other control systems. (4 sch: 2-hr lecture, 4-hr lab)

EET 2823 Digital Television Systems
Circuits and systems used in the production, transmission, and reception of video information to include color systems and computer-video interfacing. (3 sch: 2-hr lecture, 2-hr lab)

EET 291(1-3) Special Project
Practical application of skills and knowledge gained in other technical courses. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. (1-3 sch: 2- to 6-hr lab)

EET 292(1-6) Supervised Work Experience in Electronics Technology
This cooperative program between industry and education is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of semester hour per 45 industrial contact hours. (1-6 sch: 3- to 18-hr externship)

ELT 100(3-6), ELT 1013, ELT 1023 Introduction to Electrical Technology, Introduction to Electrical Technology I, or Introduction to Electrical Technology II
These courses contain the baseline competencies and suggested objectives from the high school curriculum which directly relate to the community college program. The courses are designed for students entering the community college who have had no previous training or documented experience in the field. (3-6 semester hours based upon existing skills for each student, may be divided into 2 courses for a maximum total of 6 hours of institutional credit.) (3 sch: 1 hr lecture, 4 hr lab; 6 sch: 2 hr lecture, 8 hr lab)

ELT 1113 Residential Wiring
Advanced skills related to the wiring of single and multifamily buildings. Includes instruction and practice in service-entrance installation, National Electrical Code© requirements, and specialized circuits. (3 sch: 2-hr lecture, 2-hr lab).

ELT 1123 Commercial Wiring
Instruction and practice in the installation of commercial electrical services including the types of conduit and other raceways, National Electrical Code© requirements, and three-phase distribution networks. (3 sch: 2-hr lecture, 2-hr lab)

ELT 1133 Applications of the National Electric Code
This course is designed to place emphasis on developing the student's ability to locate, interpet, and properly apply information in the National Electrical Code© in real-world applications. (3 sch: 2-hr lecture, 2-hr lab)

ELT 1144 AC and DC Circuits for Electrical Technology
Principles and theories associated with AC and DC circuits used in the electrical trades. Includes the study of electrical circuits, laws and formulas, and the use of test equipment to analyze AC and DC circuits (4 sch: 2-hr lecture, 4-hr lab)

ELT 1153 Computational Methods for Electrical Technology
Study of computational skills required for the development of accurate design and drafting methods used in the electrical technology profession. (3 sch: 2-hr lecture, 2-hr lab)

ELT 1163 Drafting for Electrical Technology
This course provides a study of the computational skills required for the development of accurate design and drafting methods used in the electrical technology profession. (3 sch: 2-hr lecture, 2-hr lab)

ELT 1173 Fundamentals for Construction for Electrical Tech
This course includes basic safety, an introduction to construction math, an introduction to hand and power tools, an introduction to construction drawings, employability skills and communications. (Approximately 72.5 clock hours should be allotted in this course to satisfy requirements to test for NCCER Core certification. Instructors for this course must be certified as an NCCER Instructor.) (3 sch: 2 hr. lecture, 2 hr. lab)

ELT 1183 Industrial Wiring
This course includes instruction and practice in the installation of industrial electrical services including the types of conduit and other raceways, National Electrical Code© requirements, and three-phase distribution networks. (3 sch: 2-hr lecture, 2-hr lab)

ELT 1192-3 Fundamentals of Electricity
Fundamental skills associated with all electrical courses. Safety, basic tools, special tools, equipment, and introduction to simple AC and DC circuits will be included. (2 sch: 1-hr lecture, 2-hr lab; 3 sch: 2-hr lecture, 2-hr lab)

ELT 1213 Electrical Power
Electrical motors and their installation. Instruction and practice in using the different types of motors, transformers, and alternators (3 sch: 2-hr lecture, 2-hr lab)

ELT 1223 Motor Maintenance and Troubleshooting
Principles and practice of electrical motor repair. Includes topics on the disassembly/assembly and preventive maintenance of common electrical motors are discussed. (3 sch: 2-hr lecture, 2-hr lab)

ELT 1232-3 Fundamentals of Electricity, Construction, and Manufacturing
This course is designed to introduce students to the fundamental skills associated with all electrical courses. Safety, basic tools, special tools, equipment, and an introduction to simple AC and DC circuits will be included. (2 sch: 1-hr lecture 2-hr lab; 3 sch: 2-hr lecture 2-hr lab)

ELT 1243 Fundamentals of Instrumentation
This course provides students with a general knowledge of instrumentation principles as they relate to the electrical industry. This course includes instruction in the basis of hydraulics and pneumatics and the use of electrical circuits in the instrumentation process. (3 sch: 2-hr lecture, 2-hr lab)

ELT 1253 Branch Circuit and Service Entrance Calculations
This course is designed to teach students the calculations of circuit sizes for all branch circuits and service entrances in all installations. Proper use of the National Electrical Code© will be required. (3 sch: 2-hr lecture, 2-hr lab)

ELT 1263 Electrical Drawings and Schematics
This course introduces architectural, industrial, mechanical, and electrical symbols needed to read blueprints and schematic diagrams. Prints and drawings associated with electrical wiring will be studied. (3 sch: 2-hr lecture, 2-hr lab)

ELT 1273 Switching Circuits for Residential, Commercial, and Industrial Applications
Introduction to various methods by which switches and control devices are installed. Also includes installation and operation of residential/commercial automation systems. (3 sch: 2-hr lecture, 2-hr lab)

ELT 1283 Cost Estimation for Electrical Installation
This course gives students the knowledge and ability to estinate the cost of an electrical installation using specifications for various structures. (3 sch: 2-hr lecture, 2-hr lab)

ELT 1313 Automated Manufacturing Controls for Electrical Technology
This course is designed to teach the students the integrated control systems found in automated systems. Emphasis will be placed on encoders, optical devices, servo motors, stepper motors, computerized numerical control (CNC), vision and sensing systems, lasers, programmatic controllers, solid state motor controls, and other similar devices. (3 sch: 2-hr lecture, 2-hr lab) Prerequisite: Motor Controls ELT1413, PLC's ELT 2613, Solid State Motor Controls ELT 2424, or by permission of instructor

ELT 1324 Calibration and Measurement Principles Used in the Electrical Industry
This course introduces the students to various terms related to measurement principles and calibration techniques used in the electrical industry. With PLCs, the topic also includes the procedures and calibration of various instruments and PLCs used in industry. (4 sch: 3-hr lecture, 2-hr lab).

ELT 1334 Flexible Manufacturing Systems for Electrical Technology
This course is a production project that requires the student to apply technical skills acquired in previous courses. Project management is provided by the instructor with the students working as teams in each particular area of the manufacturing system. The students are required to plan the project and prepare the integrated system to manufacture a product. This includes all software, hardware, fixtures, clamping mechanisms, material handling requirements, sensors and interfacing, and external control devices. (4 sch: 2-hr lecture, 4-hr lab) Prerequisite: Motor Controller (ELT 1413), Advanced PLCs (ELT 2623), Solid State Motor Controls (ELT 2424), or by permission of instructor

ELT 1343 Fundamentals of Instrumentation
This course provides students with a general knowledge of instrumentation principles as they relate to the electrical industry. This course includes instruction in the basis of hydraulics and pneumatics and the use of electrical circuits in the instrumentation process.
(3 sch: 2-hr lecture, 2-hr lab) Prerequisite: Fundamentals of Electricity (ELT 1192-3), AC and DC Circuits (ELT 1144), or by permission of instructor

ELT 1353 Fundamentals of Robotics for Electrical Technology
This course is designed to introduce the student to industrial robots. Topics to be covered include robotics history, industrial robot configurations, operation, and basic programming and how they relate to the electrical industry. (3 sch: 2-hr lecture, 2-hr lab)

ELT 1363 Industrial Hydraulics for Electrical Technology
This course introduces the students to basic hydraulics, hydraulic actuators, accumulators, valves, pumps, motors, fluids, coolers, and filters. Emphasis is placed on development of hydraulic control circuits, electrical interfacing techniques, and troubleshooting. (3 sch: 2-hr lecture, 2-hr lab)

ELT 1373 Industrial Pneumatics for Electrical Technology
This course introduces the students to basic pneumatic principles, compression of air, work devices, control devices, and circuit diagrams. Emphasis is placed on development of pneumatic control circuits, electromechanical control of fluid power, and troubleshooting techniques. (3 sch: 2-hr lecture, 2-hr lab)

ELT 1383 Industrial Robotics for Electrical Technology
This course teaches the operating systems and advanced programming methods of industrial robots. Actual industrial-grade robots are used to train the student in the areas of operation, maintenance, troubleshooting, service procedures, and robotics applications. (3 sch: 2-hr lecture, 2-hr lab) Prerequisite: Fundamentals of Robotics (ELT 1353).

ELT 1393 Servo Control Systems for Electrical Technology
This course is designed to teach servo components; servo valves; velocity servos; positional servos; force, pressure, and torque servos; servo amplifiers; programmers; and servo analysis. Emphasis is placed on servo trim and maintenance and the applications of servo systems. (3 sch: 2-hr lecture, 2-hr lab)

ELT 1413 Motor Control Systems
This course includes the installation of different motor control circuits and devices. Emphasis is placed on developing the student's ability to diagram, wire, and troubleshoot the different circuits and mechanical control devices. (3 sch: 2-hr lecture, 2-hr lab)

ELT 1434 Solid State Devices and Circuits for Electrical Technology
This course provides instruction on electronic devices that include PN junction diodes, bipolar transistors, bipolar transistor circuits, and unipolar devices with emphasis on low-frequency application and troubleshooting. (4 sch: 2-hr lecture, 4-hr lab)

ELT 1513 Data Acquisition and Communications
This is a course in acquisition and communication of systems data in industrial automated applications. (3 sch: 2-hr lecture, 2-hr lab)

ELT 1523 Fundamentals of Fiber Optics for Electrical Technology
This course provides knowledge of fiber-optic cable in modern industry applications. It includes installation, operation, and repair of fiber optic cables. (3 sch: 2-hr lecture, 2-hr lab)

ELT 1533 Fundamentals of Data Communications
This course includes concepts of telephony, local area networks, wide area networks, data transmission, and topology methods. It covers installation and design of wired and wireless networks. (3 sch: 2-hr lecture, 2-hr lab)

ELT 1544 Network Systems for Electrical Technology
Networking fundamentals, voice networking, LANs, and Internet. Also, upgrading of computers to support LAN technology (4 sch: 2-hr lecture, 4-hr lab) Prerequisite: Fundamentals of Electricity (ELT 1192-3) and AC/DC Circuit (ELT 1144) or by permission of instructor

ELT 1553 Satellite Systems
Service, repair, and installation of residential and commercial satellite receiving systems and how they are used in the electrical industry (3 sch: 1-hr lecture, 4-hr lab) Prerequisite: Fundamentals of Electricity (ELT 1192-3) and AC/DC Circuits (ELT 1144) or by permission of instructor

ELT 1563 Low Voltage and Special Systems for Electrical Technology
This course provides information and hands-on experience in installation, operation, troubleshooting, and repair of residential- and commercial-use low voltage and communication systems, including analog and digital key systems. (4 sch: 2-hr lecture, 2-hr lab)

ELT 1614/ IMM 1314 Principles of Hydraulics and Pneumatics
This course provides instruction in basic principles of hydraulics and pneumatics and the inspection, maintenance, and repair of hydraulic and pneumatic systems (4 sch: 2 hr lecture, 4 hr lab)

ELT 2114/ IMM 2113-4 Equipment Maintenance, Troubleshooting, and Repair
Maintenance and troubleshooting techniques, use of technical manuals and test equipment, and inspection/evaluation/repair of equipment (4 sch: 2 hr lecture, 4 hr lab)

ELT 2123 Automated Manufacturing Controls for Electrical Technology
This course is designed to teach the students the integrated control systems found in automated systems. Emphasis will be placed on encoders, optical devices, servo motors, stepper motors, computerized numberical control (CNC), vision and sensing systems, lasers, programmatic controllers, solid state motor controls, and other similar devices. (3 sch: 2-hr lecture, 2-hr lab)

ELT 2133 Flexible Manufacturing Systems for Electrical Technology
This course is a production project that requires the student to apply technical skills acquired in previous courses. Project management is provided by the instructor with the students working as teams in each particular area of the manufacturing system. The students are required to plan the project and prepare the integrated system to manufacture a product. This includes all software, hardware, fixtures, clamping mechanisms, material handling requirements, sensors and interacing, and external control devices.. (3 sch: 2-hr lecture, 2-hr lab)

ELT 2153 Industrial Robotics for Electrical Technology
This course teaches the operating systems and advanced programming methods of industrial robots. Actual industrial-grade robots are used to train the student in the areas of operation, maintenance, troubleshooting, service procedures, and robotics applications. (3 sch: 2-hr lecture, 2-hr lab)

ELT 2163 Servo Control Systems for Electrical Technology
This course is designed to teach servo components, servo valves, velocity servos, positional servos, force, pressure and torque servos; servo amplifiers, programmers, and servo analysis. Emphasis is placed on servo trim and maintenance and the applications of servo systems. (3 sch: 2-hr lecture, 2-hr lab)

ELT 2213 Introduction to Sustainable and Renewable Energy
An introduction to alternative energy sources, such as wind, solar, bloom, wave, and hydroelectric applications. Installation techniques and power-transfer methods are also taught. (3 sch: 2-hr lecture, 2-hr lab) Prerequisite: Fundamentals of Electricity (ELT 1192-3), AC/DC

Circuits (ELT 1144), and Residential/Light Commercial Wiring (ELT 1113) or by permission of instructor

ELT 2424 Solid State Motor Control
Principles and operation of solid state motor control, and variable frequency drives. The design, installation, and maintenance of different solid state devices for motor control will be introduced. (4 sch: 2-hr lecture, 4-hr lab).

ELT 2613 Programmable Logic Controllers
Use of programmable logic controllers (PLCs) in modern industrial settings. The operating principles, installation and basic programming of PLCs will be covered. (3 sch: 2-hr lecture, 2-hr lab.)

ELT 2623 Advanced Programmable Logic Controllers
This is an advanced PLC course that provides instruction in the various operations and installations of advanced electrical control systems. Information in such areas as sequencer, program control, introduction to function blocks, sequential function chart, introduction to HMI, and logical and conversion instructions will be included. (3 sch: 2-hr lecture, 2-hr lab)

ELT 291(1-43), ELT 293(1-4) Special Project I, II
Practical application of skills and knowledge gained in other electrical or electrical-related technical courses. The instructor works closely with the student to ensure that the selection of a project will enhance the student's learning experience. (1–4 sch: 2–8-hr lab) Prerequisite: Consent of instructor

ELT 292(1-6), ELT 294(1-6) Supervised Work Experience I, II
A cooperative program between industry and education that is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of 1 semester credit hour (sch) per 45 industrial contact hours. (1–6 sch: 3–18-hr externship) Prerequisite: Consent of instructor and completion of at least one semester of advanced coursework in electrical/electronics related programs

EMS 1117 Emergency Medical Technician (EMT)
This course includes responsibilities of the EMT during each phase of an ambulance run, patient assessment, emergency medical conditions, appropriate emergency care, and appropriate procedures for transporting patient. (7 sch: 4 lecture, 4 lab, 3 clinical)

EMS 1122 Introduction to EMS Systems
This course introduces the student to the Emergency Medical Services (EMS) systems, roles, and responsibilities of the paramedic, well-being of the paramedic, illness and injury prevention, medical/legal issues, ethical issues, therapeutic communications, and life span development. This course was formerly taught as Fundamentals of Pre-hospital Care (EMT 1122). (2 sch: 1-hr lecture, 2-hr lab)

EMS 1133 Foundations of Paramedicine-Lecture & Lab
This course consists includes a comprehensive review of the knowledge base and skill set of the Emergency Medical Technician. History of EMS, Well-Being of the EMT, medical legal issues, communication and documentation will be expanded to the role of the paramedic. This course includes the theory related to intravenous/intraosseous access, medication administration, patient

assessment, and introductory pharmacological calculations. It also includes a laboratory experience designed to give psychomotor experience to the theoretical concepts developed in the lecture. (3 sch: 2 lecture, 2 lab)

EMS 1142 Foundations of Paramedicine-Lecture

This course consists includes a comprehensive review of the knowledge base and skill set of the Emergency Medical Technician. History of EMS, Well-Being of the EMT, medical legal issues, communication and documentation will be expanded to the role of the paramedic. This course includes the theory related to intravenous/intraosseous access, medication administration, patient assessment, and introductory pharmacological calculations. (3 sch: 2 lecture, 0 lab)

EMS 1151 Foundations of Paramedicine-Lab

A laboratory experience designed to give psychomotor experience to the theoretical concepts developed in the lecture. (1 sch: 1 lecture, 0 lab)

EMS 1163 Emergency Medical Technician I (EMT)

An introductory course in the foundational concepts of the Emergency Medical Services. Lecture will include topics in the history of EMS, well-being of the EMT, medical-legal issues, communication, documentation, A&P, Pathophysiology, life-span development, patient assessment, and vital signs. Laboratory experience will include training in patient assessment and vital signs. (3 sch: 1 lecture, 2 lab, 3 clinical)

EMS 1174 Emergency Medical Technician II (EMT)

A continuation of the content in EMS 1133 focusing on the incorporation of foundational concepts toward the recognition, stabilization, and transport of patients of all age ranges experiencing medical and traumatic emergencies. Ambulance operations and special considerations will also be discussed. (3 sch: 1 lecture, 2 lab, 3 clinical)

EMS 1213 Concepts of Airway and Respiratory Medicine-Lecture & Lab

This course integrates complex knowledge of anatomy, physiology, and pathophysiology into the assessment to develop and implement a treatment plan with the goal of assuring a patient airway, adequate mechanical ventilation, and respiration for patients of all ages. This course also includes a lab that will integrate comprehensive knowledge of anatomy, physiology, and pathophysiology into the assessment to develop and implement a treatment plan with the goal of ensuring a patent airway, adequate mechanical ventilation, and respirations for patients of all ages. (3 sch: 2 lecture, 2 lab)

EMS 1242 Concepts of Airway and Respiratory Medicine-Lecture

This course integrates complex knowledge of anatomy, physiology, and pathophysiology into the assessment to develop and implement a treatment plan with the goal of assuring a patient airway, adequate mechanical ventilation, and respiration for patients of all ages. (2 sch: 2 lecture, 0 lab)

EMS 1251 Concepts of Airway and Respiratory Medicine-Lab

This course in co-requisite with the lecture portion will integrate comprehensive knowledge of anatomy, physiology, and pathophysiology into the assessment to develop and implement a treatment plan with the goal of ensuring a patent airway, adequate mechanical ventilation, and respirations for patients of all ages. (1 sch: 3-hr clinical)

EMS 1314 Airway: Management, Respiration, and Oxygenation
This course will provide the student with the essential knowledge to attain an airway and manage the respiratory system using advanced techniques. This course was previously taught as Airway Management and Ventilation (EMT 1315) (4 sch: 1-hr lecture, 6-hr lab) Corequisite: Introduction to EMS Systems (EMS 1122) and Anatomy and Physiology II (BIO 2524)

EMS 1325 Concepts of Cardiovascular Medicine-Lecture & Lab
This course consists of the theory, anatomy, physiology, pathophysiology and treatments associated with the conditions of the cardiovascular system. This includes the theory of introductory, advanced, and multi-lead electrocardiogram interpretation. Changes in the lifespan will also be included. It is also a laboratory experience designed to give psychomotor experience to the theoretical concepts developed in the lecture. (5 sch: 3 lecture, 4 lab, 0 clinical)

EMS 1352 Concepts of Cardiovascular Medicine-Lab
A laboratory experience designed to give psychomotor experience to the theoretical concepts developed in the lecture. (2 sch: 0 lecture, 4 lab)

EMS 1343 Concepts of Cardiovascular Medicine-Lecture
This course consists of the theory, anatomy, physiology, pathophysiology and treatments associated with the conditions of the cardiovascular system. This includes the theory of introductory, advanced, and multi-lead electrocardiogram interpretation. Changes in the lifespan will also be included. (3 sch: 3 lecture, 0 lab)

EMS 1414 Patient Assessment
This course will teach comprehensive history taking and physical exam techniques. (4 sch: 1-hr lecture, 6-hr lab) Corequisite: Introduction to EMS Systems (EMS 1122) and Anatomy and Physiology II (BIO 2524)

EMS 1513 EMS Practicum I
This course will provide clinical training on the skills and knowledge obtained in the classroom. This will be a supervised activity carried out in the clinical and field setting at approved sites. This course was formerly taught as Clinical Internship I (EMT 1513). (3 sch: 9-hr clinical) Corequisites: Introduction to EMS Systems (EMS 1122), Airway: Management, Respiration, and Oxygenation (EMS 1314), and Patient Assessment (EMS 1415)

EMS 1525 Practicum II
A continuation of EMS – 1514. Using supervised rotations in a definitive care setting, the students will continue to develop assessment and treatment skills. The student will transition to field experience upon achieving competencies in the definitive care setting. (5 sch: 0 lecture, 0 lab, 9 clinical)

EMS 1614 Pharmacology
This course will teach comprehensive pharmodynamics and pharmacokinetics. This course was formerly taught as Pre-hospital Pharmacology (EMT 1613). (4 sch: 2-hr lecture, 4-hr lab) Corequisite: Introduction to EMS Systems (EMS 1122) and Anatomy and Physiology II (BIO 2524)

EMS 1713 Concepts of Neurological Medicine-Lecture & Lab
This course consists of the theory, anatomy, physiology, pathophysiology, and treatments associated with conditions of the nervous system. This includes conditions related to structure and those associated with organic and nonorganic brain disease. Changes in the lifespan will be included. It is also a laboratory experience designed to give psychomotor experience to the theoretical concepts developed in the lecture. (3 sch: 2 lecture, 2 lab)

EMS 1742 Concepts of Neurological Medicine-Lecture
This course consists of the theory, anatomy, physiology, pathophysiology, and treatments associated with conditions of the nervous system. This includes conditions related to structure and those associated with organic and nonorganic brain disease. Changes in the lifespan will be included. (2 sch: 2 lecture, 0 lab)

EMS 1751 Concepts of Neurological Medicine-Lab
This course consists lab based on the theory, anatomy, physiology, pathophysiology, and treatments associated with conditions of the nervous system. This includes conditions related to structure and those associated with organic and nonorganic brain disease. Changes in the lifespan will be included. (1 sch: 0 lecture, 1 lab)

EMS 1825 Cardiology
This class will teach a comprehensive approach to the care of patients with acute and complex cardiovascular compromise. This course was previously named Pre-hospital Cardiology (EMT 1825). (5 sch: 2-hr lecture, 6-hr lab) Prerequisites: All first semester courses

EMS 1913 Fundamentals of Advanced EMT -Lecture and Clinical
This course is required to apply for certification as an Advanced Emergency Medical Technician (AEMT). This course introduces the theory and application of concepts related to the profession of the AEMT. The primary focus of the AEMT is to provide basic and limited advanced emergency medical care and transportation for critical and emergent patients across the lifespan who access the emergency medical system. This individual possesses the basic knowledge and skills necessary to provide patient care and transportation. Topics include: extending the knowledge of the EMT to a more complex breadth and depth, intravenous access and fluid therapy, medication administration, blind insertion airway devices, as well as the advanced assessment and management of various medical illnesses and traumatic injuries. This course is based on the NHTSA National Emergency Medical Services Education Standards. Requires licensure or eligibility for licensure at the AEMT level and the EMS course sequence listed before eligibility to test NREMT AEMT exam is granted. (3 sch: 2 lecture, 0 lab, 1 clinical)

EMS 1942 Concepts of Reproductive Medicine-Lecture
This course consists of the theory, anatomy, physiology, pathophysiology, and treatments associated with conditions of the reproductive system. The course includes care of the newborn as part of the concepts in reproductive medicine. Changes in the lifespan will be included. (2 sch: 2 lecture, 0 lab)EMS 1951 Concepts of Reproductive Medicine-Lab
A laboratory experience designed to give psychomotor experience to the theoretical concepts developed in the lecture. (1 sch: 0 lecture, 2 lab)

EMS 2211 Fundamentals of Advanced EMT -Practicum Clinical II

Using supervised rotations in a definitive care setting, the students will apply the concepts developed in the didactic course to live patients in the out of hospital setting. (1 sch: 0 lecture, 0 lab, 1 clinical)

EMS 2312 Fundamentals of Advanced EMT -Lecture

This course is required to apply for certification as an Advanced Emergency Medical Technician (AEMT). This course introduces the theory and application of concepts related to the profession of the AEMT. The primary focus of the AEMT is to provide basic and limited advanced emergency medical care and transportation for critical and emergent patients across the lifespan who access the emergency medical system. This individual possesses the basic knowledge and skills necessary to provide patient care and transportation. Topics include: extending the knowledge of the EMT to a more complex breadth and depth, intravenous access and fluid therapy, medication administration, blind insertion airway devices, as well as the advanced assessment and management of various medical illnesses and traumatic injuries. This course is based on the NHTSA National Emergency Medical Services Education Standards. Requires licensure or eligibility for licensure at the AEMT level and the EMS course sequence listed before eligibility to test NREMT AEMT exam is granted. (2 sch: 2 lecture, 0 lab, 0 clinical)

EMS 2314 Medical Emergencies of the Secondary Assessment-Lecture & Lab

This course will integrate patient assessment and assessment findings with principles of epidemiology and pathophysiology across the lifespan. At the conclusion of this course, the student will be able to formulate a field impression and implement a comprehensive treatment/disposition plan for a patient with a medical complaint. (4 sch: 3 lecture, 2 lab)

EMS 2343 Medical Emergencies of the Secondary Assessment-Lecture

This course will integrate patient assessment and assessment findings with principles of epidemiology and pathophysiology across the lifespan. At the conclusion of this course, the student will be able to formulate a field impression and implement a comprehensive treatment/disposition plan for a patient with a medical complaint. (3 sch: 3 lecture, 0 lab)

EMS 2351 Medical Emergencies of the Secondary Assessment-Lab

This course will integrate patient assessment and assessment findings with principles of epidemiology and pathophysiology across the lifespan. At the conclusion of this course, the student will be able to perform a secondary assessment in order to formulate a field impression and implement a comprehensive treatment/disposition plan for a patient with a medical complaint. (1 sch: 0 lecture, 2 lab)

EMS 2618 Critical Care Paramedic I

This course provides a complex review of medical care, procedures, and practices common to critical care transport. The student will gain a comprehensive knowledge of all aspects of critical care transport including Medical Legal, Safety, Regulations, Airway, Cardiovascular, Neurological, GI/GU, Shock, and Pharmacology. (8 sch: 8 lecture, 0 lab, 0 clinical)

EMS 2622 Critical Care Paramedic Lab
The student must demonstrate competency using high fidelity simulation. Final lab competency should be demonstrated using human cadaver or high fidelity simulation. (2 sch: 0 lecture, 4 lab, 0 clinical)

EMS 2632 Critical Care Paramedic Practicum
The Critical Care Practicum course is centered on competency based performance and the completion of a minimum of 90 hours of clinical rotations. Students must successfully complete the defined competencies in order to complete the requirements of the Critical Care Practicum course. In many cases the competencies required will take more time than is allotted during the clinical rotations. In this case, students will be required to complete enough clinical time to successfully document completion of all required competencies. Competencies should be completed on human subjects. This can be accomplished on live human subjects or during a cadaver lab. High fidelity simulation plays an important role in the hands on education and should be incorporated as part of the laboratory component of the critical care course work. In some instances, high-fidelity simulation may be used to supplement competency procedures performed on human subjects. (2 sch: 0 lecture, 0 lab, 12 clinical)

EMS 2714 Trauma
This course will provide advanced instruction in the integration of pathophysiological principles and assessment findings to formulate a field impression and implement a treatment plan for a suspected trauma patient. This course was previously called Pre-hospital Trauma (EMT 2714). (4 sch: 2-hr lecture, 4-hr lab) Prerequisites: All first semester courses

EMS 2743 Concepts of Traumatic Medicine-Lecture
This course will develop the basis for the pathophysiology, identification, and treatment of traumatic emergencies including coverage of concepts related to trauma systems and shock management. These concepts will be examined in patients across the life span. (3 sch: 3 lecture, 0 lab)

EMS 2752 Concepts of Traumatic Medicine-Lab
The trauma laboratory experience is designed to give psychomotor experience to the theoretical concepts developed in the lecture. (2 sch: 0 lecture, 4 lab)

EMS 2855 Medical
This course will provide a detailed understanding of the anatomic structures, physiology, and pathophysiology encountered when providing care in medical emergencies involving pulmonary, allergy and anaphylaxis, gastroenterology, renal urology, and hematology. This course was previously called Pre-hospital Medical Care (EMT 2855). (5 sch: 2-hr lecture, 6-hr lab) Prerequisites: All first semester courses

EMS 2414 Maternal/Child Emergencies
This course will provide a detailed understanding of the anatomic structures, physiology, and pathophysiology encountered when providing care in gynecological and obstetrical emergencies as well as pediatric emergencies. The course was previously divided into Pre-hospital OB/GYN (EMT 2412) and Pre-hospital Pediatrics (EMT 2423). (4 sch: 3-hr lecture, 2-hr lab) Prerequisites: All first semester courses

EMS 2912 EMS Operations
This course teaches the leadership skills necessary to manage complex situations including patient care, management of the hazardous and crime scene, supervision, mentoring, and leading other personnel. (2 sch: 1-hr lecture, 2-hr lab) Prerequisites: All first semester courses

EMS 2934 Paramedic Capstone-Lecture & Lab
This course serves as a capstone experience course at the end of the Paramedic Program. This course will include the following topics: special needs patient populations, EMS research, principles of public health, integration of leadership, and emerging roles in EMS. It will also serve as a comprehensive review of the program. This course will provide the student with a final opportunity to incorporate their cognitive knowledge and psychomotor skills through cumulative practical skill evaluations and a comprehensive Final Examination. (4 sch: 2 lecture, 4 lab)

EMS 2942 Paramedic Capstone-Lecture
This course serves as a capstone experience course at the end of the Paramedic Program. This course will include the following topics: special needs patient populations, EMS research, principles of public health, integration of leadership, and emerging roles in EMS. (2 sch: 2 lecture, 0 lab)

EMS 2952 Medical Emergencies of the Secondary Assessment
This course will provide the student with a final opportunity to incorporate their cognitive knowledge and psychomotor skills through cumulative practical skill evaluations and a comprehensive Final Examination. (2 sch: 0 lecture, 4 lab)

EMS 1422 EMS Special patient Populations
This course will provide a comprehensive overview of providing care for the patient with special needs. This course was previously taught as Special Considerations (EMT 1423). (2 sch: 1-hr lecture, 2-hr lab) Prerequisite: All first semester courses

EMS 2565 EMS Practicum III
This course will provide advanced clinical and field experiences in the skills and knowledge obtained in the classroom with an emphasis on leadership skills. These will be supervised activities carried out in the clinical and out-of-hospital field setting at approved sites with an approved preceptor. This course was previously called EMS Field Internship II (EMT 2564). (5 sch) Prerequisite: EMS Practicum II (EMS 1553)

ENT 1113 Graphic Communication
Fundamentals and principles of drafting to provide the basic background needed for all other drafting courses. (3 sch: 2 hr. lecture, 2 hr. lab).

ENT 1123 Computational Methods for Drafting
This course is designed for the study of computational skills which are required for the development of accurate design and drafting methods. (3 sch: 3 hr. lecture).

ENT 1133 Technology Graphics (Prerequisite: GRA 1143 or ENT 1113)
Machine drafting methods and practice in pictorial and orthographic projections. Techniques and procedures in presenting screws, bolts, rivets, thread types, gears, cams and design and working drawings, concepts of descriptive geometry and computer aided drawing. (3 sch: 2 hr. lecture, 2 hr. lab).

ENT 1143 Geometric Dimensioning and Tolerancing
A continuation of conventional dimensioning with emphasis on concepts as adopted by the American National Standards Institute (ANSI). A study of international dimensioning symbols used to control tolerances of form, profile, orientation, run out, and location of features on an object. (3 sch: 2 hr. lecture, 2 hr. lab).

ENT 1153 Basic Applications of Industrial Safety
This course introduces the concepts of health and safety in engineering technology related fields. It aims to make the students safety-conscious in relation to personal safety, accident prevention, and methods of compliance. (3 sch: 2 hr. lecture, 2 hr lab).

ENT 1163 Introduction to Industrial Engineering
This course is designed to give the student an introduction to and an overview of the profession, including career planning and communication, ethics, teamwork, and selected solution methods for problems in coordination and planning. (3 sch: 2 hr. lecture, 2 hr lab). (Prequisite: Instructor approval)

ENT 1173 Fundamentals of Management
This course addresses organizational management and the dynamic role managers play in the success of businesses. (3 sch: 2 hr. lecture, 2 hr lab). (Prequisite: Instructor approval)

ENT 1183 Spreadsheet Applications
This course focuses on applications of the electronic spreadsheet as an aid to management decision making. (3 sch: 2 hr. lecture, 2 hr. lab).

ENT 1213 Materials
A course designed to familiarize the student with the physical properties of the materials generally used in the erection of structure, with a brief description of their manufacture. (3 sch: 3 hr. lecture).

ENT 1223 Industrial Power Tool Applications
This course is designed to teach students the safe and proper use of various hand and stationary power tools. This course includes instruction in the use of hand power tools, bench grinders, table saws, planer, cut-off saws, and drill presses. (3 sch: 2 hr lecture 2 hr lab).

ENT 1233 Plans and Document Interpretation
Graphic techniques used in the construction industry. This course includes computation of areas and volumes, interpretation of construction plans and specifications, and symbols and terms used in the residential, commercial, and heavy construction industry. (3 sch: 3 hr. lecture).

ENT 1243 Building Codes & Construction Documents
Introduction to building code compliance, the role of inspection in building construction, interpretation of construction plans, specifications, symbols, and terms used in the residential, commercial, and heavy construction industry. (3 sch: 2 hr. lecture, 2 hr lab).

ENT 1313 Principles of CAD
This course is designed to teach students the basic operating system and drafting skills. (3 sch: 2 hr. lecture, 2 hr. lab).

ENT 1323 Intermediate CAD
This course is designed as a continuation of Principles of CAD. Subject area will include dimensioning, file manipulation, symbols, and 3-D wireframe and solid modeling. (3 sch: 2 hr. lecture, 2 hr. lab).

ENT 1413 Elementary Surveying
Basic course regarding the principles and practices of plane surveying, including measurements for distance, direction and elevation including an introduction to the care and use of surveying instruments and equipment. (3 sch: 2 hr. lecture, 2 hr. lab).

ENT 1513 Principles of Design
This course is designed as an introduction to the field of interior design with emphasis on processes and resources of the designer. (3 sch: 3 hr. lecture).

ENT 1523 Landscape Design
This course is designed to give the student an introduction to the concepts, principles, and elements of landscape design. This course includes instruction and practice in the use of CAD and in conducting a site analysis. (3 sch: 2 hr. lecture, 2 hr. lab).

ENT 1533 Blueprint Reading
This course is designed to give the student terms and definitions used in reading blueprints. Basic sketching, drawing, and dimensioning of objects will be covered. (3 sch: 2 hr. lecture, 2 hr. lab).

ENT 159(1-3) Internship/Special Project in Design
This course is designed for the student to use the skills and knowledge gained in other design courses. It is a cooperative program between industry and education designed to integrate the student's technical studies with industry experience. (1 sch: 3 hr internship; 2 sch: 6 hr internship; 3 sch: 9 hr. internship). (Prerequisite: successful completion of the core technical courses.)

ENT 1613 Architectural Design I
This course is a study and development of architectural design principles for a residential structure. (3 sch: 2 hr. lecture, 2 hr. lab). (Prerequisite: Instructor approval)

ENT 1713 Fundamentals of Machine Processes
This course is designed to give the student basic machining equipment and safety procedures. Emphasis is placed on measurement techniques, machine technology, machine tools, and applications. (3 sch: 2 hr. lecture, 2 hr. lab). (Prerequisite: Instructor approval)

ENT 1813 Basic Electricity & Electronics
This course is designed to give the student instruction in terminology and basic principles of electricity, use of test equipment, safety practices for working around and with electricity, and basic electrical procedures. (3 sch: 2 hr. lecture, 2 hr. lab).

ENT 1823 Design for Manufacturing
Instruction in various methods of manufacturing with emphasis on the drafter's role in manufacturing. (3 sch: 2 hr. lecture, 2 hr. lab).

ENT 1833 Manufacturing Processes
This course is designed to give the student a study of modern manufacturing processes with an emphasis on flexible manufacturing and computer integrated manufacturing. (3 sch: 2 hr. lecture, 2 hr. lab).

ENT 2133 Professional Development
This course emphasizes an awareness of interpersonal skills essential for job success. (3 sch: 2 hr. lecture, 2 hr. lab)

ENT 2153 Civil Drafting
This course is designed to give the student an introduction to computer-aided design/drafting software for civil, surveying, and land development disciplines. Topics include mapping scales and symbols, civil fundamentals, location and direction of property lines, topographic mapping, and boundary and legal description plats. (3 sch: 2 hr. lecture, 2 hr. lab). (Prerequisite: Instructor approval)

ENT 2233 Structural Drafting
Structural section, terms, and conventional abbreviations and symbols used by structural fabricators and erectors are studied. Knowledge is gained in the use A.I.S.C. Handbook. Problems are studied that involve structural designing and drawing of beams, columns, connections, trusses, and bracing. (3 sch: 2 hr. lecture, 2 hr. lab).

ENT 2243 Cost Estimating
Preparation of material and labor quantity surveys from actual working drawings and specifications. (3 sch: 2 hr. lecture, 2 hr. lab).

ENT 2254 Statics & Strengths of Material/Physical Science
Study of forces acting on bodies, movement of forces, stress of materials, basic machine design; beams, columns, and connections. (4 sch: 2 hr. lecture, 4 hr. lab). (Pre- requisite: MAT 1313 or Consent of Instructor)

ENT 2263 Quality Assurance
This course emphasizes the application of statistics and probability theory in quality assurance programs. Various product sampling plans as well as the development of product charts for defective units will be studied. (3 sch: 2 hr. lecture, 2 hr lab).

ENT 2273 Facilities Planning
This course deals with the techniques and procedures for developing an efficient facility layout and introduces some of the state-of-the-art tools involved, such as 3D design and computer simulation. (3 sch: 2 hr. lecture, 2 hr. lab).

ENT 2323 Industrial Welding and Metals
This course is designed to give the student instruction in different metals and their properties using basic SMAW welding and oxy-fuel cutting and brazing. (3 sch: 2 hr lecture, 2 hr. lab).

ENT 2343 Advanced CAD
This course is designed to give the student a continuation of CAD. Emphasis is placed on the user coordinate system and 3-D modeling. (3 sch: 2 hr. lecture, 2 hr. lab). (Prerequisite: Instructor approval)

ENT 2353 B.I.M./Parametric Modeling
A course designed to give the student a continuation of CAD. Emphasis is placed on the managing Building Information Model. (3 sch: 2 hr. lecture, 2 hr. lab).

ENT 2363 Computer Numerical Control (CNC)
A course designed to introduce the students to the basics of computer numerical control machines. (3 sch: 2 hr. lecture, 2 hr. lab).

ENT 2413 History and Appreciation of Artcrafts
Growth and development of the artcrafts through the ages, instructional applications; practical designs; demonstrations and projects in leather, ceramics, wood working and other handicraft areas. (3 sch: 2 hr. lecture, 2 hr. lab).

ENT 2423 Mapping & Topography (Prerequisite: ENT 1413)
Selected drafting techniques are applied to the problem of making maps, traverses, plot plans, plan and profile drawing using maps, field survey data, aerial photographs and related references, materials including symbols, notations, and other applicable standardized materials. (3 sch: 2 hr. lecture, 2 hr. lab).

ENT 2443 Principles of Manufacturing Management
This course will include a study of manufacturing processes and materials. A problem solving approach will be used, emphasizing the context of the manufacturing business and the complexities to be addressed. (3 sch: 2 hr. lecture, 2 hr lab).

ENT 2453 Energy Systems
This course covers an overview of the past, present and future of energy systems and the technologies they employ. (3 sch: 2 hr. lecture, 2 hr lab

ENT 2463 Grading and Drainage
This course is designed to give the student computer-aided design drafting for civil engineering, surveying, and land development technicians. Industry standard civil engineering software program will be utilized in this course. Creation of grading and drainage plans, digital terrain models, underground utilities and engineering details. (3 sch: 2 hr. lecture, 2 hr lab).

ENT 2513 Visual Communications in Design (Corequisite: ENT 1113)
This course is designed as an introduction to visual communications in interior design with emphasis on orthographic and free-hand drawing and visual design terminology. (3 sch: 2 hr. lecture, 2 hr. lab).

ENT 2523 Preventative Maintenance and Service of Equipment
This course is designed to give the student instruction in basic maintenance and troubleshooting techniques; use of technical manuals and test equipment; and inspection, evaluation, and repair of equipment. (3 sch: 1 hr. lecture, 4 hr. lab).

ENT 2533 Design Materials and Installation Methods
This course is a study of architectural materials for interiors with an emphasis on selection, cost, installation, construction supervision and code/standards requirements. (3 sch: 3 hr. lecture).

ENT 2543 Visual Literacy in Design
This course is an exploration of various communication methods in interior design through a variety of projects. (3 sch: 2 hr. lecture, 2 hr. lab).

ENT 2563 Advanced Visual Literacy in Design (Prerequisite ENT 2543)
This course is an exploration of advanced graphic communication and modeling methods in interior design through a variety of projects. (3 sch: 2 hr. lecture, 2 hr. lab).

ENT 2572 Portfolio Development
This course is an introduction to various portfolio techniques, documentation methods and career planning for the interior design profession. (2 sch: 2 hr. lecture).

ENT 2623 Architectural Design II
This course emphasizes standard procedures and working drawings. Details involving architectural, mechanical, electrical, and structural drawings are covered, along with presentation of drawings and computer aided design assignments. (3 sch: 2 hr. lecture, 2 hr. lab).

ENT 2633 Programmable Logic Controllers
This course covers the use of programmable logic controllers (PLCs) in a modern industrial setting, as well as the operating principles of PLCs. Discussion and practice in the programming, installation, and maintenance of PLCs. (3 sch: 2 hr. lecture, 2 hr. lab).

ENT 2643 Architectural Rendering
This course is designed to give the student visual expression or architectural principles and structures. This course includes perspective, shade, shadow and color using pencil, pen and ink, paint, and new media. (3 sch: 2 hr. lecture, 2 hr. lab). (Prerequisite: Instructor approval)

ENT 2713 Architectural History
Analysis of achievements in the design and construction of major architectural developments from early times to present. (3 sch: 2 hr. lecture, 2 hr lab).

ENT 2723 Digital Studio
This course is designed to give the student a general overview of current issues in digital media; a study of how digital media can assist in the work environment; provides a basis for further study in graphic design and production. (3 sch: 2 hr. lecture, 2 hr lab).

ENT 291(1-3) Special Project
This course is designed to give the student practical application of skills and knowledge gained in other drafting courses. The instructor works closely with the student to ensure that the selection of a project will enhance the student's learning experience. (1 sch: 2 hr lab; 2 sch: 4 hr lab; 3 sch: 6 hr lab) (Prerequisite: Instructor approval)

ENT 2923 Fundamentals of Multimedia (Prerequisite: ENT 1613)
A general overview of current issues in multimedia. Study of how multimedia can assist in the work environment; provides a basis for further study in multimedia design and production. (3 sch: 2 hr. lecture, 2 hr. lab).

EPT 1113 Entrepreneurship Fundamentals
This course provides students with a general knowledge of familiarizing Students with small business. The course will also allow students to analyze the personal strengths and weaknesses relative to starting a business. (3 sch: 3 lecture, 0 lab)

EPT 1123 Entrepreneurial Marketing
This course introduces the Entrepreneurship and the importance role of marketing strategies in creating and organizing a new business, as well as in existing small businesses. The major

emphasis will be on ways to analyze and define the target market, evaluating competition, environmental trends, determining customer preference and developing a marketing strategy for the start-up or existing business. . (3 sch: 3 lecture, 0 lab)

EPT 1133 Entrepreneurial Finance
Determine the applied initiatives of finance that focus on the basis for capital development for start-up enterprises and privately held companies. This course will include various types and stages of private businesses and the role they play in capital formation and wealth and job creation. . (3 sch: 3 lecture, 0 lab)

EPT 1143 Digital Economy
This course introduces the student to various terms related to digital business and the importance of online commerce in a global economy. (3 sch: 3 lecture, 0 lab)

EPT 1153 Launching Your Business
Develop and analyze a business plan addressing operations, financing and marketing capable of supporting the business investments. Determine the necessary strategic principles or concepts that promote business sustainability. (3 sch: 3 lecture, 0 lab)

EPT 1163 Innovation in Product Development
The study of product/service innovation generation process. Students will identify strategic opportunities, engage in idea generation, and implement screening and evaluation methods. The outcome of this process will be a concept-ready offering set for business analysis and provides students with conditions in which to learn to communicate and solve problems. (3 sch: 3 lecture, 0 lab)

EPT 1173 Human Resource Management
The study of the objectives, organizational structure, and functions of human resource management. Emphasis is placed on selection and placement, job evaluation, training, education, safety, health, employer-employee relationships, and employee services. (3 sch: 3 lecture, 0 lab)

EPT 1183 Entrepreneurial Strategies
This course focuses on the strategies and decisions entrepreneurs face. Identify the changes in an environment of accelerated change. Students will learn to incorporate project management and innovative technologies to effectively operate as an entrepreneur. The course will give the student the ability to effectively drive success in a business venture. Training will implement the ability to craft the entrepreneurial mindset. This capstone course will encompass all of the aspects the entrepreneur's decisions and the effectiveness of strategic initiatives to start or expand a business. (3 sch: 3 lecture, 0 lab)

EPT 2113 Legal Issues in Entrepreneurship
This course will provide students understanding of the regulatory framework surrounding new business ventures at the federal, state, and local level. The students will receive information about specific issues including: intellectual property, trade secrets, patents, trademarks, copyrights and licensing. After completing this course, students will be familiarized with the regulatory process required to formalize a new business. (3 sch: 3 lecture, 0 lab)

EPT 2123 Global Entrepreneurship
Provide students with an overview and understanding of global business and entrepreneurship. This involves an analysis of world markets, their respective consumers and environments. This includes foreign exchange rates, logistics, and trade policy. (3 sch: 3 lecture, 0 lab)

EPT 291 (1-3) Special Project in Entrepreneurship
A course to provide students with an opportunity to utilize skills and knowledge gained in other Entrepreneurship courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-3 sch: 1-3 lecture, 1-6 lab)

EPT 292 (1-6) Supervised Work Experience in Entrepreneurship
A course which is a cooperative program between industry and education and is designated to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 sch: 1-6 lecture, 1-18 lab)

ETT 1013 Introduction to Entertainment Media Industry (This course was ENT changed to ETT Fall 2013)
This course introduces the entertainment media industry, careers in the field, and basic terms and vocabulary used in the industry. (3 hr. lecture)

ETT 1113 Audio Design & Production (This course no longer available beginning Fall 2017)
Students develop the skills necessary in the field of audio engineering and production for use in entertainment media. (3 sch: 2 hr lecture, 2 hr lab)

ETT 1213 Digital Imaging and Editing (This course was ENT but changed to ETT changed to ETT Fall 2013)
This course provides knowledge of the tools required to create graphic images and understand the most commonly used image editing concepts and terminology. Hands-on activities, collaborative learning, and lecture are combined to provide participants a well-rounded project-based program. (2 hr. lecture, 2 hr. lab)

ETT 1223 Illustration and Artistic Rendering (This course was ENT but changed to ETT Fall 2013)
In this course students will understand and apply the elements of visual design and demonstrate the use of illustration software. (2 hr. lecture, 2 hr. lab)

ETT 1313 Photography for Entertainment Media (This course no longer available beginning Fall 2017)
This course will introduce the student to photographic terms and techniques for use in entertainment media. (2 hr. lecture, 2 hr. lab)

ETT 2112 Audio Design and Production I (This course was ENT but changed to ETT Fall 2013)
Students will build basic skills for recording and delivering quality audio in field and location environments through an understanding of audio interfaces, mixers and microphones. Specific focus will be on audio production on a video or film set as well various multiple sound source environments. (1 hr. lecture, 2 hr. lab)

ETT 2124 Audio Design and Production II (This course no longer available beginning Fall 2017)
This course continues the study of the art and science of audio recording, including studio and field recording, digital editing, equipment operation, mixing, and the theories and techniques that support quality sound production. This course will focus on post-production sound. (2 hr. lecture, 4 hr. lab)

ETT 2513 Media Portfolio I (This course was ENT but changed to ETT Fall 2013)
This capstone class is the culmination of lessons learned in previous and present courses leading to the creation of final projects for job submissions. The student will originate a minimum of two projects and take them through the standard process of pre-production, production, editing, and final distribution. (4 hr. lab)

ETT 2523 Media Portfolio II
This class is the culmination of lessons learned in previous and present courses leading to the creation of a final project for job submissions. The student will originate an advance project taking it through the standard process of pre- production, production, editing, and final distribution. (3 sch: 6 hr. lab)

ETT 2613 Supervised Work Experience (This course no longer available beginning Fall 2017)
This course is available on campus in workforce training or a cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. (3 hr. externship)

EVT 1114 Environmental Science
Basic course covering air, water, and soil resources, ecosystems, energy, pollution, and how pollution affects the local and global environment. (4 sch: 3 hr. lecture, 2 hr. lab)

EVT 1215 Fundamentals of Hazardous Materials
Basic components of hazardous materials and wastes (HMW); regulations and regulatory agencies; determination and classification of HMW; and handling, storing, monitoring, and disposal of HMW. (5 sch: 4 hr. lecture, 2 hr. lab)

EVT 1314 Wastewater Treatment Operations
Safe and effective operation and maintenance of municipal and industrial wastewater treatment plants. Preparation for the wastewater certification exam administered by the Mississippi Department of Environmental Quality. (4 sch: 3 hr. lecture, 2 hr. lab)

EVT 1414 Fundamentals of Air Quality
Air pollution and its effects on society and the environment with specific emphasis on sources of air pollution, control systems, pollution dynamics, air quality analysis, and regulatory compliance. **This course was formerly titled Air Quality.** (4 sch: 3 hr. lecture, 2 hr. lab)

EVT 1514 Water Treatment Operations
Safe and effective operation and maintenance of drinking water systems and treatment plants. Preparation for the water certification exam administered by the Mississippi State Department of Health. (4 sch: 3 hr. lecture, 2 hr. lab)

EVT 2124 Environmental Engineering Technology
Advanced course which utilizes the "systems approach" to environmental problem solving in areas such as hydrology, water quality management, noise pollution, and ionizing radiation. In-depth coverage with emphasis on the mathematical and chemical principles involved. (4 sch: 3 hr. lecture, 2 hr. lab)

EVT 2224 Hazardous Materials Regulations
Environmental regulations in Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), and Department of Transportation (DOT), as they relate to the

storing, handling, and disposal of hazardous materials and wastes. Students will identify, interpret, and apply the regulations. (4 sch: 3 hr. lecture, 2 hr. lab)

EVT 2234 Environmental Earth Science
This course examines geological history, soils, fresh and salt waters, the atmosphere, and natural disasters. The student will examine the compositions of soils, sands, waters, and vapors. The student will then analyze the study of impacts caused by civilization and determine methods to improve and/or correct contaminations. **This course was formerly titled Environmental Geology.** (4 sch: 3 hr. lecture, 2 hr. lab)

EVT 2614 Solid Waste Management
Principles of solid waste collection and disposal including recycling and other environmental management issues. (4 sch: 3 hr. lecture, 2 hr. lab)

EVT 2714 Environmental Safety
Health and safety issues, risk assessment, control strategies, and implementation with hazardous materials. Students will develop a site-specific health and safety plan and learn to properly use personal protective equipment. (4 sch: 3 hr. lecture, 2 hr. lab)

EVT 291(1-3) Special Problem in Environmental Technology
A course to provide students with an opportunity to utilize skills and knowledge gained in other Environmental Technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-3 sch: 2-6 hr. lab)

EVT 292(1-6) Supervised Work Experience in Environmental Technology
A course which is a cooperative program between industry and education and is designed integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 sch: 3-18 hr. externship)

FFT 1113 Introduction to Fire Science
An orientation to the fire service, this course explores department structure and organization, operations and responsibilities, and the history of the fire services and changes that are currently remolding traditional fire services. (3 sch: 3-hr lecture)

FFT 1123 Introduction to Fire Prevention
This course introduces students to modern approaches of fire prevention. An overview of current fire prevention methods is provided, including codes and standards, company-based inspections, public fire education, interdiction programs, and legislation affecting fire prevention activities. (3 sch: 3-hr lecture)

FFT 1213 Firefighting Principles and Practices
A basic fire fighting tactical course, this class provides information about the major principles and practices conducted at fire and emergency scenes. Concentrating on activities of rescue, ventilation, salvage, overhaul, offensive and defensive attack methods, and firefighter safety, students explore various operations that must be conducted in a coordinated manner. (3 sch: 3-hr lecture)

FFT 1223 Fire Apparatus and Hydraulics
Engines, pumps, operating procedures, maintenance techniques, and equipment specifications are discussed while providing a working knowledge and understanding of various types of apparatus and equipment used by the fire service. (3 sch: 3-hr lecture)

FFT 1513 Building & Fire Codes
The importance of building and fire codes is stressed in this class by studying the "Southern Building Code Congress Building and Fire Codes," the most commonly used building code in the state. A review of hazards and how they relate to standard chapters is explored. Requirements for various types of construction are also discussed. (3 sch: lecture)

FFT 1613 Hazardous Materials (Meridian Community College)
Identification and recognition of hazardous materials are stressed in this class. Various types and classes of hazardous materials are discussed, as well as methods of transportation and storage. (3 sch: lecture)

FFT 1713 Fire Investigation (Meridian Community College)
This course focuses on building construction, chemistry, physics, electricity, motivation and human reaction as related to the arson fire. Basic investigation techniques, arson law and the psychology of the arsonist are covered. (3 sch: lecture)

FFT 1813 Fire Law
An analysis of public law that affects the fire service is the basics of this class. From laws related to codes and standards, administrative and management practices, to those related to the fire ground, students learn the fundamentals of fire department operations and management. (3 sch: 3-hr lecture)

FFT 1913 Planning for Fire and Emergency Services
With emphasis on the identification and evaluation of problems common to the management of public-safety resources, this course explores the planning, training, and logistical concerns needed to maintain organizational readiness and community preparedness. (3 sch: 3-hr lecture)

FFT 2313 Disaster Management
A study in the fundamental principles of preparing for and responding to local disasters. This course focuses on analyzing resources, developing and implementing response plans, and starting the recovery process. (3 sch: 3-hr lecture)

FFT 2323 Building Construction
Why do buildings burn? What are the danger areas of various types of construction? This course investigates building construction from the standpoint of the fire service. A basic overview of building codes and construction methods is used to familiarize students with building components and construction types. (3 sch: 3-hr lecture)

FFT 2333 Fire Fighter Safety
This course provides an overview of safety practices for the emergency service worker. Covering the individual and team from “in the station,” through the emergency scene, and return back to service, this course is essential for those who participate in emergency service activities. (3 sch: 3-hr lecture)

FFT 2413 Strategy and Tactics
Strategy and tactics used in a variety of situations faced by the fire service are explored. Covering different situations from small everyday occurrences to massive conflagrations, this course makes use of simulations and case histories in exploring necessary strategy and tactical endeavors. (3 sch: 3-hr lecture)

FFT 2423 Incident Management Systems
This course is a study of incident management systems used for handling situations from the smallest incidents to the largest. A variety of methods are discussed with emphasis placed on the National Incident Management Systems (3 sch: 3-hr lecture)

FFT 2433 Special Problems in Fire Protection
This course provides selected problems aimed at local fire-service needs. Students utilize critical thinking and perform the necessary research to develop effective solutions. (3 sch: 3-hr lecture)

FFT 2513 Fire Protection Systems
An exploration of various types of fixed and portable fire protection systems forms the basis for this class. Design, testing, maintenance and inspection of a variety of common fire protection systems are emphasized. (3 sch: lecture)

FFT 2523 Fire Inspection
An effective inspection technique is the goal of this course by providing students with a review of pertinent codes and standards, methods of inspection, hazard studies and legal documentation requirements. (3 sch: lecture).

FFT 2533 Public Fire Education
This course provides an overview of public education activities in regard to fire protection and prevention. Drawing from effective national model programs, this class focuses on identification of target audiences and hazards and methods for addressing individuals and groups. (3 sch: lecture)

FFT 2613 Chemistry of Hazardous Materials
Chemical behavior of materials is explored and students learn how to improve decision making, safety, operations and handling of hazardous materials incidents. Students also learn to evaluate potential and real hazards and predict behavior of hazardous materials. (3 sch: lecture)

FFT 2623 Hazardous Materials Practices
This course focuses on the strategies and safe procedures for alleviating the danger at a hazardous materials incident. Topics include integrating information about the chemical properties, storage, transportation, local conditions and resources in dealing with hazardous materials problems. (3 sch: lecture).

FFT 2633 Hazardous Materials Incident Management
Basic and advanced response procedures, techniques and methods for dealing with a variety of hazardous materials situations are explained in this course. Focusing on the hazardous materials situation's complexity, this course prepares students to manage emergency response operations. (3 sch: lecture)

FFT 2713 Law of Evidence
Evidence procedures (primarily for arson-related crimes), types of evidence, criminal court procedures and collection methods are studied in this course. Other topics include search and seizure, arrest and discretion. (3 sch: lecture)

FFT 2723 Evidence Analysis
The collection, analysis and use of physical evidence from the crime scene to evaluation and in the courtroom are covered. Crime laboratory methods, procedures and tests as they relate to arson cases are also explored in depth. (3 sch: lecture)

FFT 2733 Criminal Law
Local, state and federal laws are covered with emphasis on development, application and enforcement. Specific attention is paid to the state and federal laws related to arson, mail fraud and insurance fraud. (3 sch: lecture)

FFT 2813 Fire Department Management
This course introduces students to management. Particular attention is paid to the management process as it relates to both nonemergency and emergency aspects of the fire officer's role. (3 sch: 3-hr lecture)

FFT 2823 Fire Service Supervision
Focusing specifically on supervising and managing personnel involved with fire protection, this course provides students with information on developing effective supervisory techniques, the role of the supervisor, dealing with problem situations, and other areas relating to personnel in fire science and individual work groups. (3 sch: 3-hr lecture)

FFT 2833 Financial Management
Budgeting and financial management are the primary concerns of this course. Various methods of budgeting are discussed as well as budgetary tracking methods and evaluation procedures. An applied project requires the development of a model budget for the student's fire service organization. (3 sch: 3-hr lecture)

FFT 2913 Delivery of Fire and Emergency Services
The proper deployment of adequate resources is often the most critical aspect of an effective response. This course emphasizes methods for interpreting data and making sound tactical decisions to manage local emergency situations and other large-scale incidents. (3 sch: 3-hr lecture)

FFT 2923 Community Risk Management I
This course facilitates the analysis of local-area hazard data and threat control principles relating to personal and environmental risks. Investigation techniques, inspection methodologies, and prevention programs essential to public safety are emphasized. (3 sch: 3-hr lecture)

FFT 2933 Community Risk Management II
A continuation of the principles addressed in Community Risk Management I, this course requires the analysis of a specific hazard and the application of specialized mitigation and control measures. The use of various codes, standards, and regulations related to such activities serves as the focal point of this course. (3 sch: 3-hr lecture)

FMT 1113 Fashion Design Fundamentals
Examines factors influencing fashion color, line, and design. Includes applications of principles of design to clothing creation and selection. (3 sch: 2-hr lecture, 2-hr lab)

FMT 1133 Introduction to Fashion
An introduction to the creation, manufacturing, and merchandising of fashion including industry terminology, processes, and career opportunities. (3 sch: 2 lecture, 2 lab)

FMT 1213 Fashion Marketing
An introduction to the fashion industry including fashion terminology; nature of fashion and the creating, manufacturing, and marketing of fashion. (3 sch: 2-hr lecture, 2-hr lab)

FMT 1223 Product Knowledge
Study of the buying and selling function with emphasis on the origin and composition of products, methods of production, quality indicators, the sale of merchandise, and the care of merchandise. (3 sch: 2-hr lecture, 2-hr lab)

FMT 1233 Buying Fundamentals
Study of the functions of a buyer within the retail operation and the fundamentals of purchasing merchandise for resale when going to market. (3 sch: 2-hr lecture, 2-hr lab)

FMT 1313 Fundamentals of Textiles
Introduce and explore both natural and manufactured fibers. Examine the production, development, and care of natural and common manufactured fibers as they relate to the apparel industry. (3 sch: 2-hr lecture, 2-hr lab)

FMT 1413 Merchandising Math
Study of the mathematical calculations involved in basic business operations. (3 sch: 2 lecture, 2 lab)

FMT 2414 Visual Merchandising
Application of fundamental principles of design, perspective, and color theory to advanced projects in merchandise presentation. (4 sch: 2-hr lecture, 4-hr lab)

FMT 2513 Image and Wardrobe Consulting
Assessing and developing an appropriate client image for individuals in a variety of occupations and careers. Emphasis on solving figure problems, make up techniques, wardrobe coordination, and the use of posture and poise to improve image. Seasonal color coding is dated. Determining whether warm, neutral, or cool colors should be used or worn is the current trend. (3 sch: 1-hr lecture, 4-hr lab)

FMT 2613 Fashion Show Production
Principles and application of retail sales promotion with emphasis on in-store activities, advertising, publicity, fashion shows, and other special events. (3 sch: 1-hr lecture, 4-hr lab)

FMT 2623 Fashion Forecasting
Principles and application of predicting fashion trends based on past and present style-related information, the interpretation and analysis of the motivation behind a trend, writing trend reports, and creating mood boards to artistically illustrate fashion direction. (3 sch: 1-hr lecture, 4-hr lab)

FMT 291(1-6) Internship in Fashion Marketing Technology
Direct application of concepts, terminology, and theory of fashion marketing. Students must be employed in a work environment where they must solve problems as encountered in industry. (Credit is awarded at the rate of 1 sch per 3-hr externship.) (1-6 sch: 3- to 18-hr externship)

FMT 292(1-6) Fashion Cooperative Education
Direct application of concepts and theory of marketing management. Students will work in a marketing-related environment. (1-6 sch: 3- to18-hr externship)

FOT 1114 Forest Mensuration I
A course covering fundamentals of forest measurements. Includes instruction in locating land on a map, applying sampling techniques, and processing and summarizing field data. (4 sch: 2 hr. lecture, 4 hr. lab) (Formerly Forest Mensuration I)

FOT 1124 Forest Mensuration II
A continuation of Forest Mensuration I with emphasis on electronic and computer applications in forest measurement. (4 sch: 2 hr. lecture, 4 hr. lab) (Formerly Forest Mensuration II)

FOT 1314 Forest Protection
A course in methods and techniques for protecting forests from fire, insect, and disease damage. Includes instruction in prescribed burning procedures. (4 sch: 2 hr. lecture, 4 hr. lab)

FOT 1414 Forest Products Utilization
A survey of wood and forest products processing. Includes instruction in principles related to forest products processing and their applications. (4 sch: 2 hr. lecture, 4 hr. lab)

FOT 1714 Applied Dendrology
A study of trees including their classification and commercial uses. (4 sch: 2 hr. lecture, 4 hr. lab)

FOT 1813 Introduction to Forestry
A study of the development of the forest industry in Mississippi and the United States. An exploration of occupational careers in forestry including forest products industries. Includes common terms used in forest occupations. (Previously taught as Survey of Forestry) (3 sch: 3 hr. lecture)

FOT 2124 Forest Surveying and Spatial Applications
A course to provide land surveying skills required in the forest industry. Includes instruction in interpreting legal descriptions, deeds, maps, and spatial imagery. Includes demonstration of surveying practices and spatial imagery practices and equipment. (4 sch: 2 hr. lecture, 4 hr. lab) (Formerly Forest Surveying)

FOT 2214 Advanced GPSGIS in Forestry
A course that includes use of remote sensing imagery and geographic information systems software in forest operations. (4 sch: 2 hr. lecture, 4 hr. lab) (Formerly Applications of GIS/GPS in Forestry)

FOT 2424 Timber Harvesting
A course dealing with harvesting practices including development of timber harvesting, regulations, harvesting plans, best management practices, and timber contracts (legal terminology). Includes observations of logging operations. (4 sch: 1 hr. lecture, 6 hr. lab)

FOT 2614 Silviculture I
A course dealing with the growth and development of trees and stands. Includes instruction in principles of tree and stand growth and development, regeneration, and intermediate cuttings. (4 sch: 2 hr. lecture, 4 hr. lab)

FOT 2624 Silviculture II
A continuation of Silviculture I with emphasis on regeneration and site preparation practices. (4 sch: 2 hr. lecture; 4 hr. lab)

FOT 291(1-3) Special Problem in Forestry Technology
A course designed to provide the student with practical application of skills and knowledge gained in other Forest Technology courses. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. (1-3 sch: 2-6 hr. lab)

FOT 292(1-6) Supervised Work Experience in Forestry Technology
A course which is a cooperative program involving students, employers, and educational staff and is designed to integrate the student's technical studies with real world situations. Variable credit is awarded on the basis of one semester hour per 45 contact hours. (1-6 sch: 3-18 hr. externship)

FOT 294(1-6) Special Problem in Conservation Law
A course designed to provide the student with practical application of skills and knowledge gained in other Conservation Law courses. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. (1-6 sch: 2-6 hr. lab)

FST 1113 Mortuary Anatomy
This course focuses on the study of the human body with particular emphasis on those systems providing the foundation for embalming, pathology, public health, and restorative arts. (3 sch: 3-hr lecture)

FST 1123 Mortuary Anatomy II
This course is a continuation of Mortuary Anatomy I, including all remaining body systems. Major emphasis is on circulatory system. (3 sch: 3 hr. lecture)

FST 1214 Embalming I
This course is a basic orientation to embalming. Included are the terminology, safety procedures, and ethical protocols in preparation of human remains, physical and chemical changes in the dying process, and a study of the chemical compositions of embalming fluid. (4 sch: 3 hr. lecture, 2 hr. lab)

FST 1224 Embalming II
This course is a continuation of FST 1214 with emphasis placed on the principles and techniques of embalming. Topics covered include linear and anatomical guides, case analyses, handling special case problems, formulating chemical solutions, a complete analysis of the circulatory system, an explanation of the equipment used in the embalming process, and methods of injection and drainage. (4 sch: 3-hr lecture, 0-hr lab, 3-hr clinical).

FST 1231 Clinical Embalming I
Practically apply the theoretical principles taught in the Funeral Service Technology curriculum in the funeral establishment/commercial mortuary. (1 sch: 3-hr clinical)

FST 1241 Clinical Embalming II
Practically apply the theoretical principles taught in the embalming curriculum. (1 sch: 3-hr clinical)

FST 1313 Funeral Directing
This course is a study of the total funeral service environment, including history, duties, responsibilities, ethical obligations, and communication skills. (3 sch: 3-hr. lecture)

FST 1413 Funeral Service Ethics and Law
Comprehensive review of the ethical and legal aspects involved in funeral service. (3 sch: 3-hr. lecture)

FST 1513 Restorative Art
An in-depth study of anatomical modeling, including familiarization with instruments, materials, and techniques of rebuilding human features and application of restorative techniques in the funeral setting. (3 sch: 2 hr. lecture, 2 hr. lab)

FST 1523 Restorative Art/Color Cosmetics
An in-depth study of anatomical modeling, including familiarization with instruments, materials, and techniques of rebuilding human features and application of restorative techniques in the funeral setting. (3 sch: 2 hr. lecture, 2 hr. lab)

FST 1533 Restorative Art II
Describe color theory and application to restorative techniques in the funeral setting. (3 sch: 2 hr. lecture, 2 hr. lab)

FST 2251 Clinical Embalming III
Practically apply the theoretical principles taught in Funeral Service Technology curriculum in the funeral establishment/commercial mortuary. (1 sch: 3-hr clinical)

FST 2261 Clinical Embalming IV
Practically apply the theoretical principles taught in the Funeral Service Technology curriculum in the funeral establishment/commercial mortuary.(1 sch: 3-hr clinical)

FST 2273 Thanatochemistry
A course is a survey of the principles of general, organic, biological, and embalming chemistry as they relate to the embalming process. (3 sch: 3-hr lecture)

FST 2323 Funeral Merchandising and Management
This course is a study of merchandising and management procedures necessary to operate a successful funeral practice. (3 sch: 3-hr lecture)

FST 2423 Business Law
This course is designed to introduce the student to the bodies of law and the judicial system as applied to day-to-day operations of a funeral home. (3 sch: 3-hr lecture)

FST 2613 Microbiology/Pathology
This course is designed to present the basic principles of microbiology and prevention of the spread of microorganisms as related to the embalming procedure and protection of the public health. Also focuses on the study of pathological disease conditions and how they affect various parts of the body, with particular emphasis on those conditions that relate to or affect the embalming or restorative art process. (3 sch: 3-hr lecture)

FST 2623 Microbiology
This course is designed to present the basic principles of microbiology and prevention of the spread of microorganisms as related to the embalming procedure and protection of the public health. (3 sch: 3 hr. lecture).

FST 2633 Pathology
This course focuses on the study of pathological disease conditions and how they affect various parts of the body, with particular emphasis on those conditions that relate to or affect the embalming or restorative art process. (3 sch: 3-hr lecture)

FST 2713 Psychosocial Aspects of Grief and Death
A study of various social groups and their relationships to the funeral, death, and disposition, this course includes psychological aspects of emotions with emphasis on counseling techniques and grief resolution. (3 sch: 3-hr lecture)

FST 281(1-3) Comprehensive Review
This course offers a review of the entire curriculum, culminating with an exam designed to prepare students for the National Board or various State Board examinations. (1 sch: 1 hr. lecture).

FST 282(1-3) Current Issues in Funeral Service Technology
A course that identifies contemporary trends in Funeral Service and their impact. (1 sch: 1 hr. lecture or 2 hr. lecture or 3 hr. lecture)

FVT 1114 Editing I
This course covers the editing workflow and organizational skills in the digital environment using non-linear editing software. Topics include terminology, technologies, project workflow, basic sound and editing skills, and an understanding of output formats sound and picture editing skills. Upon completion, students should be able to demonstrate proficiency in using editing equipment, organizing project materials, local area network storage, and project collaboration. (2 hr. lecture, 4 hr. lab)

FVT 1123 History of Film
This course explores the history of cinema through the study of narrative and non-narrative works from the silent-film era to the present day. (3 hr. lecture)

FVT 1213 Grip and Electrical I
This course covers various grip and electrical and support packages used in different environments for studio and location. Topics include production support equipment, lighting instruments, hardware, stands, light modifiers, and electrical theory with emphasis on safety. Upon completion, students should be able to execute basic grip and electrical directions given by the key grip, and/or gaffer. (2 hr. lecture, 2 hr. lab)

FVT 1314 Camera and Lighting I
This course covers the basic principles of video camera and recorder operations in professional formats, crew protocol and safety, and basic lighting theory and application. Emphasis is placed on terminology, organizational skills, assistant camera responsibilities, the characteristics of light, basic lighting procedures, and proper procedures of field recording with video equipment. Upon completion, students should be able to demonstrate an understanding of the basic technical terms of camera operation, video recording, and lighting equipment. (2 hr. lecture, 4 hr. lab)

FVT 1323 Audio Editing I
Introduction to basic knowledge, theory and application of a Digital Audio Workstation. Students will study the basic project workflow of a nonlinear audio editor, editing techniques, and organizational skills. (3 sch: 1 hr. lecture, 4 hr. lab)

FVT 1333 Audio Editing II
This course is a continuation of Audio Editing I, and will cover advanced concepts and techniques of editing in a nonlinear audio workstation. (3 sch: 1 hr. lecture, 4 hr. lab)

FVT 1343 Sound Recording Fundamentals
Students will learn the basic principles of sound, audio electronics and terminology, microphone characteristics and applications, mixers and basic equipment, signal routing and processing. (3 sch: 3 hr lecture)

FVT 1413 Screenwriting Fundamentals
This course is an introduction to the building blocks upon which all film and television writing is based: visualization, dialogue, scenes, sequences, and basic dramatic structure. Students begin with writing exercises and proceed to the development of several short scripts. (2 hr. lecture, 2 hr. lab)

FVT 1513 Directing I (This course no longer available beginning Fall 2017)
Student will demonstrate the principles of organizing and directing a film or video production. Theory and practice of aesthetic and practical skills will be developed as student analyze and plan a video program for in-class presentation (3 sch: 2 hr. Lecture, 2 hr. lab)

FVT 1613 Production Skills
This course introduces the terminology, equipment, forms, and safety measures needed to fill the role of a production assistant including craft services. Extras casting, location scouting, and video assisting are also covered. (3 sch: 2 hr. Lecture, 2 hr. lab)

FVT 1713 Legal Aspects & Ethics of the Entertainment Business
In this course students learn about legal requirements and business
Practices and an examination of the complex, real-world ethical problems associated with the management of a business. (3 sch: 3 hr lecture)

FVT 1813 Entertainment Costume and Wardrobe
This program covers methods used by costume designers to create and allocate costumes for all the different facets of the entertainment industry. (3 sch: 2 hr. Lecture, 2 hr. lab)

FVT 1913 Cinematography
This course will deepen students understanding of how to master control over image production in digital and film formats. (3 sch: 1 hr. lecture, 4 hr. lab)

FVT 1923 Post Production Mixing
This course will build on the mixing skills of the student by covering advanced procedures of mixing within a digital audio workstation. (3 sch: 1 hr. lecture, 4 hr. lab)

FVT 193 (1-6) Supervised Work Experience in Film & Video
A course which is a cooperative program between industry and education and is designated to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1–6 sch: 3- to 18-hr externship)

FVT 2114 Editing II
This course covers advanced editing practices in the digital environment using non-linear editing software. Topics include terminology, technologies, project workflow, advanced sound and editing skills, and an understanding of output formats. Upon completion, students should be able to demonstrate proficiency in using editing equipment, local area network storage, and project collaboration. (2 hr. lecture, 4 hr. lab)

FVT 2124 Editing III: Independent Commercial Video Production
This course continues advanced instruction in editing techniques with emphasis on settings for commercial distribution. Students will collaborate on a practical project. (2 hr. lecture, 4 hr. lab)

FVT 2134 Video Compositing and Special Effects
This course presents particle systems, plug-ins, and special applications to achieve "Hollywood"-style effects in animation and film. (2 hr. lecture, 4 hr. lab)

FVT 2143 360 Degree Camera Operations
This course is designed to introduce the student to 360 degree cameras used in extended reality media production for various industries. This course will provide an understanding of the various tools and skill sets to effectively record 360 degree environments. (3 sch: 1 hr. lecture, 4 hr. lab)

FVT 2153 Color Grading and Correction
In this hands-on course, students learn the art of color grading from an aesthetic and technical perspective. (3 sch: 1 hr. lecture, 4 hr. lab)

FVT 2223 Documentaries and Reality Production
This course covers all aspect of documentary and reality series production. (3 sch: 1 hr. lecture, 4 hr. lab)

FVT 2314 Camera and Lighting II
This course offers advanced principles of video camera and recorder operations and introduces students to film formats and equipment as well as advanced lighting theory applications. Emphasis is placed on first assistant and operator responsibilities, terminology, lighting for effect, and color correction. Upon completion, students should be able to demonstrate an understanding of camera terms and equipment, lighting theory and applications, and assist on studio and location shoots. (2 hr. lecture, 4 hr. lab)

FVT 2323 Aerial Camera Operations
This course covers the proper set up and operation of specialized camera equipment used on aerial platforms for film and video use. Emphasis will be placed on camera operation and shot composition. (3 sch: 2 hr. lecture, 2 hr. lab)

FVT 2413 Production and Set Management
This course provides an analysis of procedures and problems in preparing a script for film or television production. Emphasis is on the role of the production manager in breaking down scripts, setting up shooting schedules, preparing budgets, and planning post-production. (2 hr. lecture, 4 hr. lab)

FVT 2513 Motion Capture and Visual Effects
This course provides a survey of motion capture and virtual production concepts and technologies. It focuses on the optical motion capture pipeline for recording, real-time retargeting and post-processing of full body human motion and props. Students are encouraged to develop their own methods and processes for experimenting with capturing and remapping motion as well as write about their work. (2 hr. lecture, 2 hr. lab)

FVT 2523 Audio Mixing Concepts and Techniques
This course will introduce the principles of session setup and mixing procedures within the virtual console of a Digital Audio Workstation, with an emphasis on audio for film and video. (3 sch: 1 hr. lecture, 4 hr. lab)

FVT 2533 Critical Audio Listening Skills
This course covers the critical and analytic listening methods to evaluate frequency, sound quality, mix structure, and to analyze common sound problems. (3 sch: 1 hr. lecture, 4 hr. lab)

FVT 2543 Spatial Audio Recording and Editing
This course is designed to cover the unique skills and equipment needed to deliver quality 360 degree recordings through various location environments. (3 sch: 1 hr. lecture, 4 hr. lab)

FVT 2553 Color Grading and Correction
In this hands-on course, students learn the art of color grading from an aesthetic and technical perspective. (3 sch: 2 hr. Lecture, 2 hr. lab)

FVT 2613 Assistant Directing
In this course students will demonstrate the principles of organizing and managing the personnel of a film or video production. Legal responsibilities, proper paperwork, associated software, and managerial skills will be covered in the class. (2 hr. lecture, 2 hr. lab)

FVT 2623 Directing for the Screen
This course will teach the basic fundamentals of screen directing, which includes script breakdown, scene blocking, communication with cast and crew, and the logistics of production. (2 hr. lecture, 2 hr. lab)

FVT 2711 (2743) Script Supervising
This course examines the role of the script supervisor in film production. Content emphasizes the importance of continuity for single camera production, script timing, reporting, lining the script, and other tools of the trade. (1 hr. lecture)

FVT 2713 Set Construction
This course provides the fundamentals needed for the construction of sets for Film & TV. The use of unique materials, construction, and finishing skills will be explored. Hands-on experience in the creation of set design, which follows film industry standards and work rules, will be provided. (2 hr. lecture, 2 hr. lab)

FVT 2723 Set Construction II
This course offers advanced skills for the construction of sets for Film & TV. Hands-on experience in advanced set construction will be provided. Cost analysis and proper budgeting skills will be covered. (2 hr. lecture, 2 hr. lab)

FVT 2733 360 Degree Media Editing
This course is designed to cover the specialized editing workflow and delivery of completed projects unique to 360 degree footage. (3 sch: 2 hr. Lecture, 2 hr. lab)

FVT 2813 Business Aspects of Film and Television Production
This course covers the fundamentals of budgeting, financial records, and the distribution and marketing of films. The course will introduce the fundamentals of budgeting, financial records, and the distribution of films. Starting with a brief historical review of the American film industry, the course will describe the major film corporations and their subsidiaries and the rise of the independent film industry. Additional topics include basic accounting issues, marketing concepts, distribution, advertising, the Internet, publicity, finding a distribution partner, negotiation tactics and strategies, and establishing a "paper trail" for financial transactions. (2 hr. lecture, 2 hr. lab)

FVT 2833 Aerial Camera Operations
This course covers the proper set up and operation of specialized camera equipment used on aerial platforms for film and video use. Emphasis will be placed on camera operation and shot composition. (3 sch: 2 hr. Lecture, 2 hr. lab)

FVT 291 (1-3) Special Projects in Film and Video
A course to provide students with an opportunity to utilize skills and knowledge gained in other Film and Video courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1–6 sch: 3- to 18-hr externship)

GCT 1113 Application and Mac Concepts
In this course, students are introduced to the Macintosh computer. The names and uses of applications, such as QuarkXPress and Microsoft Word, are introduced for basic electronic page layout, word processing and desktop publishing. The course includes an exploration of digital imaging and editing using the application Adobe Photoshop CS. Emphasis is placed on using the computer as a tool to execute numerous design projects. (3 sch: 3 hr lecture)

GCT 1123 Graphic Art Design I
This course introduces the elements of Graphic Design, such as layout, color and typography. Students learn to analyze design problems, conceptualizing appropriate solutions and developing visual and cognitive skills necessary to execute both editorial and advertising designs. (3 sch:1 hr lecture, 4 hrs lab)

GCT 1133 Application and Desktop Layout
The names and uses of application such as Adobe Illustrator CS and Adobe Photoshop CS are introduced for basic layout, illustration and design solutions. Emphasis is placed on using the computer as a tool to execute numerous design projects. (3 sch: 3 hr lecture)

GCT 1143 Advertising Print and Media Processes
A comprehensive study using the Macintosh, this course focuses on the aspects of design from concept to finished output. (3 sch: 3 hr lecture)

GCT 1223 Graphic Art Design II
This course examines the process of solving various design problems, including corporate identity, advertising and publications. Major emphasis is placed on using the computer as a tool to execute campaign projects. (3 sch: 1 hr lecture, 4 hr lab)

GCT 1233 Application and Desktop Layout II
In this course, students use applications such as QuarkXPress, Adobe Illustrator CS, Adobe Photoshop CS, and Adobe InDesign CS to execute advanced layout, illustration and design solutions. (3 sch: 1 hr lecture, 4 hr lab)

GCT 2123 Advanced Graphic Art Design I
This course is an exploration of advanced graphic design problems including packaging and advertising. A complete advertising campaign is conceptualized and executed. All project components are treated as professional portfolio units. (3 sch: 2 hr lecture, 2 hr lab)

GCT 2132 Digitized Imaging and Advanced Layout
A comprehensive course using the Macintosh, this course deals with the creation and manipulation of digital images and the application of those images to print, multimedia, video and the Internet. (Not a requirement for graduation.) (2 sch: 1 hr lecture, 2 hr lab)

GCT 2153 Real World Graphics
This class mimics the 'real world' of work. Structured much like a small design or advertising agency, all work is done in creative teams. Projects are created, executed and presented to professionals for instant feedback. (3sch: 1 hr lecture, 4 hr lab)

GCT 2163 Graphic Design Portfolio
This course focuses on the making and completing of a graphic design portfolio consisting of highly finished comps that simulate printed samples. (3 sch: 1 hr lecture, 4 hr lab)

GCT 2173 Graphic Communication Externship/Practicum
This course provides the student on-the-job training in professional graphic design sites in the community. The student has the opportunity to integrate theory and practice gleaned from the classroom with the practical experience of the professional world. (3 sch: 5 hrs per week)

GCT 2223 Advanced Graphic Art Design II
Students execute advanced graphic design projects during this course, including exploration into professions design practices. All project components are treated as professional portfolio units. (3 sch: 2 hr lecture, 2 hr lab)

GER 100(3-6); GER 1013; GER 1023 Introduction to Gerontology Technology, Introduction to Gerontology Technology I, or Introduction to Gerontology Technology II
These courses contain the baseline competencies and suggested objectives from the high school curriculum which directly relate to the community college program. The courses are designed for students entering the community college who have had no previous training or documented experience in the field. (3-6 semester hours based upon existing skills for each student, may be divided into 2 courses for a maximum total of 6 hours of institutional credit.)

GER 1113 Social Gerontology
This course is an introduction to the field of aging. It includes the scope of Social Gerontology, the demography of aging, an overview of the history of aging in America, basic aspects of

individual aging, aging in everyday life, aging and the societal relationship, and aging in the future. (3 sch: 3 hr. lecture)

GER 1223 Human Services for the Elderly
This course provides the student with in-depth knowledge of community resources for older adults. The delivery and use of community resources will be explored along with issues of confidentiality, values, and ethics. (3 sch: 3 hr. lecture)

GER 1323 Social Work with the Elderly
This course provides a basic framework for entry-level practice with older adults. The Stages of the General Method as related to older adults will be presented and applied. The course will also examine issues of professional values, ethics, and human diversity. (3 sch: 1 hr. lecture, 4 hr. lab)

GER 2131 Seminar I
Seminar I is a forum for Gerontology students to explore ideas and experiences related to the Gerontology Practicum. The course allows students to develop skills in critical thinking, problem solving, reading and locating information, and the analysis of information. Students will be encouraged to use written and oral communication skills through research and the exploration of current issues related to practice and the field of aging. (1 sch: 1 hr. lecture)

GER 2141 Seminar II
Continuation of Seminar I with emphasis on research assignments referencing AGHE publications. (1 sch: 2 hr. lab)

GER 2233 Practicum I
This practicum will permit gerontology students to apply learned concepts and to gain experience in a professional setting with actual client/worker interaction. (3 sch: 9 hr. clinical)

GER 2243 Practicum II
This is a continuation of Practicum I with emphasis on data collection, assessment, and intervention (3 sch: 9 hr. clinical)

GER 2433 Social Policy and Aging
This course offers the student an overview of aging social policy issues and the major programs impacting the older adults in America. This course includes the policy process, aging policy development, social support programs on behalf of older adults, the legislative process, and the future of aging social policy. (3 sch: 3 hr. lecture)

GER 2536 Activities Programming for the Elderly I
This course will provide the student with a practical and theoretical framework from which to develop and manage a comprehensive program of activities for older adults. This is the first half of the Modular Education Program for Activity Professionals, Part I as described by the National Certification Council for Activity Professionals. This course will provide an overview of the activity profession and an exploration of human development in the later years. (6 sch: 4 hr. lecture, 4 hr. lab)

GER 2546 Activities Programming for the Elderly II
This course will provide the student with a practical and theoretical framework from which to develop and manage a comprehensive program of activities for older adults. This is the second half of the Modular Education Program for Activity Professionals, Part I as described by the

National Certification Council for Activity Professionals. Included in this course are the standards of practice, practitioner's behavior, activity care planning for a quality of life, and methods of service delivery in the activity profession. (6 sch: 4 hr. lecture, 4 hr. lab)

GER 2643 Aging and Mental Health

This course is an overview of aging and the mental health issues related to older adults. Psychosocial theories will be explored as well as common emotional problems, common psychiatric and cognitive problems experienced by older adults. The course will explore issues related to suicide, death, dying and bereavement. The course will conclude with units exploring the mental health assessment and intervention processes for older adults. (3 sch: 3 hr. lecture)

GER 2743 Aging and Physical Health

This course provides the student with an understanding of the interactive nature of biological and psychosocial processes that occur in aging. Basic instructions of the body systems, age changes in each system, common diseases, and the social and emotional ramifications related to the aging process. Basic information on decline in functioning as well as preventive, wellness, and nutritional issues will be addressed. (3 sch: 3 hr. lecture)

GER 2843 END OF LIFE ISSUES.

This course provides the student with an understanding of the end of life process. The course explores the physical, emotional, spiritual, legal, and financial aspects of dying, as well as grief and bereavement. Three lecture hours. (3sch: 3 hr. lecture).

GIT 1253 Cartography and Computer Map Reading

An introduction to the preparation and interpretation of data in cartographic form and the use of computers for map compilation, design, and production. Includes principles of global positioning (GPS), methods of map making, and principles of digital cartography. (3 sch: 2 hrs. lecture, 2 hrs. lab)

GIT 2113 Database Construction and Maintenance

A course designed to introduce database concepts and goals of database management systems, and relational, hierarchical, and network models of data. Methods for organizing data are introduced and discussed. (3 sch: 2 hr. lecture, 2 hr. lab)

GIT 2123 Fundamentals of Geographical Information Systems (GIS)

This course includes the use of computer mapping and databases in multiple applications. Included are incorporation of imagery and data into a graphical oriented database system. Also included are the fundamentals of geographical information systems techniques, approaches, and applications. (3 sch: 2 hr. lecture, 2 hr. lab)

GIT 2133 Principles of Image Processing

This course includes fundamentals of remotely sensed data including scale, feature identification, and symbolization. Includes fundamentals of interpretation techniques of various image products, including topographic and thematic maps, aerial photographs, sensor images, and satellite images. (3 sch: 2 hr. lecture, 2 hr. lab)

GIT 2263 Advanced Geographical Information Systems

This is an integrated course that encompasses geographical data inputs, processing, analyses, and presentation. (3 sch: 1 hr. lecture, 4 hr. lab)

GIT 2273 Remote Sensing
This course includes a discussion of a variety of remote sensing data collections methods. The course deals with manual interpretation data from photographs and other imagery. (3 sch: 1 hr. lecture, 4 hr. lab)

GIT 2423 Mapping and Topography for GIS
Selected drafting techniques are applied to the problem of making maps, traverses, plot plans, plan drawings, and profile drawings using maps, field survey data, aerial photographs, and related references and materials including symbols, notations, and other applicable standardized materials. (3 sch: 2 hr. lecture, 2 hr. lab or 1 hr. lecture, 4 hr. lab)

GIT 2453 GPS Surveying
This course teaches principles of surveying utilizing artificial earth orbit satellites. It also includes GNSS/RTK, and federal standards. (3 sch: 2 hr. lecture, 2 hr. lab or 1 hr. lecture, 4 hr. lab)

GIT 2513 Advance Database Creations
This course will provide a continuation of database concepts and goals of database management systems, and relational, hierarchical, and network models of data. Advanced methods for organizing data are introduced and discussed. (3 sch: 2 hr. lecture, 2 hr. lab)

GIT 291(1-3) Special Problem in Geographical Information Systems Technology
A course to provide students with an opportunity to utilize skills and knowledge gained in other Geographical Information Systems courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-3 sch: 2-6 hr. lab)

GIT 292(1-6) Supervised Work Experience in Geographical Information Systems Technology
A course to provide students with an opportunity to utilize skills and knowledge gained in other Geographical Information Systems courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-3 sch: 2-6 hr. lab)

GTT 1614 Golf Course Equipment Operation and Maintenance
A course to provide instruction and practice in the safe and proper operation and maintenance of golf course equipment. (4 sch: 2 hr. lecture, 4 hr. lab)

GTT 2313 Golf Course Business Management
A course to provide instruction and practice regarding the management of a golf course operation. Includes instruction in estimating and bidding; personnel management and supervision; and business practices. (3 sch: 3 hr. lecture)

GTT 2813 Turfgrass Management for Golf Courses
A course to provide instruction and practice in the identification, selection, installation, and management/maintenance of turfgrass for golf courses. (3 sch: 2 hr. lecture, 2 hr. lab)

GTT 2824 Irrigation Systems: Design and Maintenance
A course designed to investigate the types of irrigation systems. Discussion will include the installation and maintenance of these systems. (4 sch: 2 hr. lecture, 4 hr. lab)

GMT 1113 Casino Business Strategy and Operations
Fundamentals of the strategic business processes of a casino organization from internal and external perspectives. This course will examine current gaming trends as well as evaluate anti-gaming campaigns and their possible cost. Topics include casino economics, environmental factors including social, political, legal and competitive forces, consumer behaviors, and development of a corporate culture, internal controls, and future of the gaming industry. (3 sch: 0 lecture)

GMT 1123 Casino Customer Service
Fundamentals of the theory, practice, and management of guest service and how it impacts the success of a casino organization with an emphasis on service strategies, staffing issues and service systems. Topics include the dynamics of guest satisfaction, service quality, value, planning and analysis, the service environment, training and motivation, establishment of a total service culture, guest co-production, communications, service failure recovery techniques, delivery systems and measurement of service results. (3 sch: 0 lecture)

GMT 1133 Casino Financial Accounting
Foundation course in the accounting processes applicable to the hotel, resort, or casino environment. Students will be introduced to the generally accepted accounting principles and legal requirements of financial reporting in the hospitality and casino industries. (3 sch: 0 lecture)

GMT 1143 Casino and Resort Marketing
An in-depth overview of the application of marketing concepts within the casino/resort industry. Focus on marketing issues unique to the gaming industry with special attention to application of market segmentation, product differentiation and positioning, and promotion. Topics include casino promotions, database marketing techniques, discounting, casino hosting, credit procedures, marketing policies and procedures, amenities, and the casino marketing plan. (3 sch: 0 lecture)

GMT 1153 Casino and Resort Management
This course will provide an overview of the history, development and operations of casinos and casino/resorts. Topics include economics of the casino, its interface with the hotel, organizations, and terminology. (3 sch: 0 lecture)

HCA 1116 Basic Health-Care Assisting
This course includes orientation to program policies; developing employability and job-seeking skills; applying legal aspects of health care; applying safety considerations; communication and observation skills; medical terminology; and basic health care procedures. (6 sch: 2 lecture, 6 lab, 3 clinical)

HCA 1124 Special Care Procedures
This course includes specialized procedures for assisting with diagnostic procedures; assisting with treatments; assisting with elimination needs of clients; assisting in meeting hydration and nutritional needs of the client; basic emergency procedures to include CPR/first aid; and basic

knowledge and skills required to care for the long-term-care resident. Safety is emphasized throughout each procedure. (4 sch: 2 lecture, 4 lab, 3 clinical)

HCA 1132 Phlebotomy
(2 sch: 0 lecture, 2 lab, 3 clinical)

HCA 1214 Body Structure and Function
This course includes study of the structure, function, common disorders, and normal aging-related changes of the integumentary, musculoskeletal, nervous, circulatory, respiratory, digestive, urinary, reproductive, endocrine, and sensory systems; stages of human groth. (4 sch: 3 lecture, 2 lab)

HCA 1312 Home Health Aide and Homemaker Services
This course includes basic knowledge and skills required to care for the homebound client and basic knowledge and skills required to provide homemaker services. (2 sch: 1 lecture, 2 lab)

HIT 1114 Health Record Systems
This course is an introduction to health record systems including an overview of health data structure, content and standards, health-care information requirements and standards, and health-care delivery systems. (4 sch: 3-hr lecture, 2-hr lab)

HIT 1213 Medical Terminology
This course is a study of medical language relating to the various body systems including diseases, procedures, clinical specialties, and abbreviations. In addition to term definitions, emphasis is placed on correct spelling and pronunciation. (3 sch: 3 hr. lecture)

HIT 1323 Health Care Law and Ethics
This course is a study of the principles of law as applied to health information systems with emphasis on health records, release of information, confidentiality, consents, and authorizations. (3 sch: 3-hr. lecture)

HIT 1413 Pathophysiology I (to be removed 1/1/2020)
This course covers structural and functional changes caused by disease in tissues and organs, clinical manifestations, and principles of treatment with emphasis on general concepts and diseases affecting the body as a whole. (3 sch: 3-hr. lecture)

HIT 2123 Alternate Care Systems
This course is a study of health record systems in alternative settings; cancer program records; medical staff organization; and regulatory, accreditation and licensure standards. (3 sch: 2-hr. lecture, 2-hr. lab)

HIT 2133 Health Statistics
This course includes sources and use of health data, definitions of statistical terms, and computation of commonly used rates and percentages used by health care facilities. (3 sch: 3-hr. lecture)

HIT 2142 Electronic Health Records
This course covers the aspects of electronic health records (EHR) in the health-care environment. In addition, it explores implementation of EHR in various health-care settings. (2 sch: 2-hr lecture)

HIT 2212 Pharmacology (to be removed 1/1/2020)
This course is designed to develop understanding of pharmacy therapy available for clinical management of patient care. (2 sch: 2-hr lecture)

HIT 2253 Pathopysiology and Pharmacology I
This course covers structural and functional changes caused by disease in tissues and organs, clinical manifestations, and principles of treatment with emphasis on general concepts and diseases affecting the body as a whole. In addition, common medications used to treat disease processes will be addressed. (3 sch: 3 hr. lecture)

HIT 2414 Introduction to Coding
This course provides a basic introduction on how to transform narrative descriptions of diseases and injuries into alphanumeric diagnostic ICD-10-CM codes and/or ICD-10-PCS. The course is designed to provide the student with knowledge of diagnostic and/or procedural coding applications and how they pertain to all aspects of medical care, research, data analysis, and financial implications. (4 sch: 3 hr lecture, 2 hr lab)

HIT 2423 Pathophysiology II (to be removed 1/1/2020)
This course is a continuation of Pathophysiology I with emphasis on conditions relating to specific body systems, manifestations, and principles of treatment. (3 sch: 3-hr. lecture)

HIT 2453 Pathopysiology and Pharmacology II
This course is a continuation of Pathophysiology and Pharmacology I with emphasis on conditions relating to specific body systems, manifestations, and principles of treatment. In addition, common medications used to treat disease processes will be addressed. (3 sch: 3 hr. lecture)

HIT 2513 Professional Practice Experience I
In this course, students rotate through health information management areas in hospitals and other health facilities for application of principles and procedural practice to attain competency. Specific content is dependent on placement in curriculum and site availability. (3 sch: 9 hr-clinical)

HIT 2523 Professional Practice Experience II
In this course, students rotate through health information management areas in hospitals and other health facilities for application of principles and procedural practice to attain competency. Specific content is dependent on placement in curriculum and site availability. (3 sch: 9 hr-clinical)

HIT 2543 Intermediate Coding
This course is a continuation of Introduction to Coding. The course will continue to focus on how to transform narrative descriptions of diseases and injuries into alphanumeric diagnostic ICD-10-CM codes and also how to build ICD-10-PCS procedure codes. The course is designed to provide the student with knowledge of diagnostic and procedural coding applications and how they pertain to all aspects of medical care, research, data analysis, and financial implications. The student will practice coding guidelines by applying the ICD-10-CM and ICD-10-PCS codes to coding cases and scenarios using the code books and encoder software. (3 sch: 2 hr lecture, 2 hr lab)

HIT 2615 Coding Systems I
This course includes principles of coding and classification systems with emphasis on ICD-9-CM including lab applications and practice. (5 sch: 3-hr lecture, 4-hr lab)

HIT 2625 Coding Systems II
This course is a continuation of the study of principles of ICD-9-CM coding; introduction to coding with the Health Care Financing Administration's Common Procedural Coding System (HCPCS) with emphasis on Current Procedural Coding (CPT); and review of current reimbursement mechanisms. (5 sch: 3-hr. lecture, 4-hr lab)

HIT 2633 Reimbursement Methodologies
This course is design to identify the uses of coded data and health information in reimbursement and payment systems appropriate to all health-care settings and managed care. (3 sch: 3-hr lecture)

HIT 2643 Advanced Coding
Students will receive instruction in CPT/HCPCS conventions, guidelines and coding principles. The student will practice coding guidelines by applying CPT/HCPCS codes to procedural coding cases and scenarios. introduction to coding with the Health Care Financing Administration's Common Procedural Coding System (HCPCS) with emphasis on Current Procedural Coding (CPT); and review of current reimbursement mechanisms. (3 sch: 2 hr lecture, 2 hr lab)

HIT 2713 Health Care Supervision
This course includes basic principles of management and supervision with emphasis on the health information setting. (3 sch: 3-hr lecture)

HIT 2812 Performance Improvement Techniques
This course covers principles of performance improvement techniques in health care facilities; trends in utilization and risk management; and the use of quality monitors in the health information department. (2 sch: 1-hr lecture, 2-hr lab)

HIT 2913 Computers in Health Care
This course is an overview of computer use in health-care facilities with an emphasis on applications for health information services, including the electronic health record. (3 sch: 2-hr lecture, 2-hr lab)

HIT 2921 Certification Fundamentals for Health Information Technology
This course is an in-depth study and review of material covered in the HIT curriculum and isdesigned to prepare students for the national registry exam. (1 sch: 1-hr lecture)

HLT 100(3-6), HLT 1013, HLT 1023 Introduction to Horticulture Cluster, Introduction to Horticulture Cluster I, or Introduction to Horticulture Cluster II
These courses contain the baseline competencies and suggested objectives from the high school Agricultural and Environmental Science and Technology curriculum which directly relate to the community college Horticulture Cluster programs. The courses are designed for students entering the community college who have had no previous training or documented experience in the field. (3-6 semester hours based upon existing skills for each student. May be divided into 2 courses for a maximum total of 6 hours of institutional credit.)

HLT 1113 Plant Materials I
A survey of common ornamental plants used in landscaping including deciduous and evergreen trees, shrubs, vines, ground covers, and annuals and perennials, this course includes instruction in basic classification and identification procedures and in identifying characteristics, maintenance, and use of the plants in a horticulture setting. This course is designed to be offered in the fall semester. (4 sch: 1-hr lecture, 4 hr. lab)

HLT 1123 Plant Materials II
A continuation of Plant Materials I with emphasis on foliage and interior and flowering plants, This course is designed to be taught in the spring semester. (3 sch: 1-hr lecture, 4 hr. lab)

HLT 1213 Applied Principles of Plant Propagation
This course develops expertise and knowledge of plant propagation methods including seeding, separation, division, grafting, and layering. This course also includes an introduction to tissue culture methods. (3 sch: 1-hr lecture, 4 hr. lab).

HLT 1222 Green Industry Seminar
A course designed to provide an overview of current Green Industry events and job opportunities in the industry and specific landscape and horticulture related topics. (2 sch: 2-hr lecture) (Previously listed as HLT 1222 Horticulture Principles.)

HLT 1313 Greenhouse and Nursery Production I
A course which develops skills and expertise in the selection, equipping, and management of a greenhouse facility. Emphasis is placed on different media, supplies, and chemicals used in greenhouses and on the scheduling and production of greenhouse crops. (3 sch: 1-hr lecture, 4-hr lab)

HLT 1323 Plant Science
A course to provide information related to the growth, nutrition, and general culture of agricultural and horticultural crops. It includes instruction on photosynthesis and transpiration, plant nutrition, pest control, and reproduction. (3 sch: 1 lecture, 4 lab)

HLT 1411, HLT 1421, HLT 1431, HLT 1441 Leadership Management
This course develops an awareness of interpersonal skills essential for job success. Topics include self-image, team building, leadership skills, time and stress management, and human resources management. (1 sch: 2-hr lab)

HLT 1513 Landscape Design I
An introduction to the concepts, principles, and elements of landscape design, This course includes instruction and practice in the use of drawing instruments and supplies and in conducting a site analysis. (3 sch: 1-hr lecture, 4-hr lab)

HLT 1614 Landscape Equipment Operation and Maintenance
This course aims to provide instruction and practice in the safe and proper operation and maintenance of landscape and turf equipment. (4 sch: 2-hr lecture, 4-hr lab)

HLT 2113 Turfgrass Management
A course to provide instruction and practice in the identification, selection, installation, and management/maintenance of turfgrass. (3 sch: 2-hr lecture, 2-hr lab)

HLT 2124 Landscape Maintenance and Weed Control
This course aims to provide instruction and practice in the maintenance of trees, shrubs, and other greenscape features. This course includes instruction in the use of herbicides and other weed control measures. (4 sch: 2-hr lecture, 4-hr lab)

HLT 2133 Entomology
This course provides instruction and practice in the identification and control of ornamental turf pests. This course includes instruction in pest identification, pesticide use and safety, and legal aspects of pest control. Entomology (HLT 2133) AND Plant Pathology (HLT 2143) may be taken in lieu of Ornamental and Turf Pest Management (HLT 2813). (3 sch: 2-hr lecture, 2hr lab)

HLT 2143 Plant Pathology
Provides instruction and practice in the identification and control of ornamental & turf diseases. This course includes instruction in pest identification, pesticide use and safety, and legal aspects of pest control. Entomology (HLT 2133) AND Plant Pathology (HLT 2143) may be taken in lieu of Ornamental and Turf Pest Management (HLT 2813). (3 sch: 2-hr lecture, 2-hr lab)

HLT 2313 Landscape Business Management
This course aims to provide instruction and practice regarding the management of a landscape operation. Includes instruction in estimating and bidding; personnel management, supervision, and development; and business practices. (3 sch: 3-hr lecture)

HLT 2323 Greenhouse and Nursery Production II
This course is a continuation of Greenhouse and Nursery Production I with emphasis on production practices associated with fertilization, pest control, environment control, and marketing. (3 sch: 1-hr lecture, 4-hr lab)

HLT 2333 Basic Soils
A course to introduce students to the general principles of soil conservation and safe use. It includes instruction in the soil formation process, properties of soils, soil texture, and soil management for optimum safe use. Note: AGR 2314 Basic Soils may be substituted for this course. (4 sch: 2 lecture, 4 lab)

HLT 2413 Floral Design
A course to develop knowledge and skills associated with retail floristry, this course includes instruction in preparing arrangements with fresh and dried materials, seasonal pieces, funeral sprays, and the use of floral wire services. (3 sch: 1-hr lecture, 4-hr lab)

HLT 2423 Advanced Floral Design
A course designed to continue to build on techniques from Floral Design, this course will include instruction on developing business skills needed in every day and specialty design skills needed in every day and specialty designs used in the floral industry.

HLT 2513 Garden Center Management
A course to develop knowledge and skills associated with management of a retail garden center. this course includes instruction in basic principles of entrepreneurship as applied to garden centers, product display and advertising, and facilities. (3 sch: 2-hr lecture, 2hr lab)

HLT 2523 Landscape Design II
This course is a continuation of Landscape Design I with emphasis on planting design and preparation and presentation of landscape plans using computer-aided landscape software. (3 sch: 1-hr lecture, 4-hr lab)

HLT 2713 Landscape Construction
This course provides instruction and practice in the installation of a landscape plan to include site preparation, installation of site amenities, bed preparation and planting, and shrub and tree planting. (3 sch: 1-hr lecture, 4-hr lab)

AQC/HLT 2724 Integrated Production Systems
This course utilizes basic horticulture practices and aquaculture facilities to provide techniques and procedures to maintain a recirculating hydroponic system. (4 sch: 1-hr lecture, 6-hr lab)

AQC/HLT 2734 Water Garden Design
This course is a study of the design and construction of water gardens.
(4 sch: 1-hr lecture, 6-hr lab.)

AQC/HLT 2744 Aquarium and Water Garden Production
This course includes basic production of the aquarium trade and water garden trade species. (4 sch: 1-hr lecture, 6-hr lab-)

HLT 2813 Ornamental and Turf Pest Management
This course provides instruction and practice in the identification and control of ornamental turf pests and diseases. This course includes instruction in pest identification, pesticide use and safety, and legal aspects of pest control. (3 sch: 2-hr lecture, 2-hr lab)

HLT 2824 Irrigation and Lighting Systems
This course is designed to investigate the types of irrigation and lighting systems. Discussion will include the installation and maintenance of these systems. (4 sch: 2-hr lecture, 4-hr lab)

HLT 291(1-3) Special Problem in Horticulture Cluster
This course is designed to provide the student with practical application of skills and knowledge gained in other vocational-technical courses. The instructor works closely with the student to ensure that the selection of a project will enhance the student's learning experience. (1-3 sch: 2- to 6-hr lab)

HLT 292(1-6) Supervised Work Experience in Horticulture Cluster
This course is a cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of 1 semester hour per 45 industrial contact hours. (1–6 sch: 3- to 18-hr externship)

HRT 1123 Introduction to the Hospitality and Tourism Industry
This course is designed as an introduction to the hospitality and tourism industry. The course includes discussions and industry observations to discover the opportunities, trends, problems, and organizations in the field. (3 sch: 3-hr lecture)

HRT 1114-5 Culinary Principles I
Fundamentals of food preparation and cookery emphasizing high standards for preparation of meat, poultry, seafood, vegetables, soups, stocks, sauces, and farinaceous items. (4 sch: 2-hr lecture, 4-hr lab or 3-hr lecture, 4-hr lab)

HRT 1213-4 Sanitation and Safety
This course . examines, and outlines, the basic principles of microbiology, sanitation, and safety procedures for a food service operation. Implementation of sanitation procedures, pest control, and risk reduction standards in a hospitality operation are covered. (3-4 sch: 3- to 4-hr lec or 2-hr lecture, 2-hr lab or 3-hr lecture, 2-hr lab)

HRT 1223-4 Restaurant and Catering Operations
This course focuses on principles of organizing and managing food and beverage facilities and catering operations. (3–4 sch: 3- to 4-hr lecture or 2-hr lecture, 2-hr lab or 2-hr lecture, 4-hr lab)

HRT 1253 Nutrition
This course covers the nutrients for normal growth and prevention of major chronic diseases, and applied to the selection of food for ingestion, the metabolic process of digestion, Assimilation, and absorption, and the applications for healthcare providers. (3 sch: 3 hr lecture)

HRT 1413 Rooms Division Management
This course offers an operational approach to rooms division management in the hospitality industry including front office management and housekeeping operations. (3 sch: 3-hr lecture or 2-hr lecture, 2-hr lab)

HRT 1511, HRT 1521, HRT 1531, HRT 1541, or 1552, 1562, or 1573, or HRT 1514 Hospitality Seminar
In this course, students will learn leadership and management skills necessary for success in hospitality and tourism management. (For HRT 1511, HRT 1521, HRT 1531, HRT 1541: 1 sch: 2-hr lab or 1 sch: 1-hr lecture; for HRT 1552 and HRT 1562: 2-hr lecture; for HRT 1573:3-hr lecture; and for HRT 1514: 4 sch: 2-hr lecture, 4-hr lab)

HRT 1813 Tourism Specialist (old name -The Professional Tour Guide)
This course covers activities associated with organizing, booking, and conducting group tours. (3 sch: 3-hr lecture or 2-hr lecture, 2-hr lab)

HRT 1823 The Travel Agency
A detailed exploration of travel agency operation, this course includes physical structure, staffing needs, client needs, legal implications, interaction with travel and lodging, and accreditation. (3 sch: 3- hr lecture or 2-hr lecture, 2-hr lab)

HRT 1833 Travel and Tourism Geography
Location, currency, port of entry, and form of governments in various countries around the world are discussed. Exercises involve itinerary planning, knowledge of time zones, and familiarity with the countries' natural, cultural, and entertainment attractions. (3 sch: 3-hr lecture or 2-hr lecture, 2-hr lab)

HRT 2233 Tourism Specialist (previous name Food and Beverage Control)
This course focuses on principles and procedures involved in an effective food and beverage control system, including standards determination, the operating budget, cost-volume-profit analysis, income and cost control, menu pricing, labor cost control, and computer applications. (3 sch: 3-hr lecture or 2-hr lecture, 2-hr lab)

HRT 2323 Hospitality Facilities Management and Design
Design and manage the physical plant of a hotel or restaurant and work effectively with the engineering and maintenance department. (3 sch: 3-hr lecture or 2-hr lecture, 2-hr lab)

HRT 2423 Hospitality Security Management & Law
This course explains issues surrounding the need for individualized security programs, examines a variety of security equipment and procedures, and discusses internal security for food service and lodging operations. This course provides awareness of the rights and responsibilities that the law grants to or imposes upon a hotelier and consequences of failure to satisfy legal obligations. (3 sch: 3-hr lecture or 2-hr lecture, 2-hr lab)

HRT 2613 Hospitality Supervision
This course focuses on supervisory skills in leadership styles, communication skills, motivational techniques, employee training techniques, and evaluation methods. (3 sch: 3-hr lecture or 2-hr lecture, 2-hr lab)

HRT 2623 Hospitality Human Resource Management
This course is designed to explore the principles of hospitality human resource management with an emphasis placed on the study of human behavior and human relations in the hospitality industry. (3 sch: 3-hr lecture or 2-hr lecture, 2-hr lab)

HRT 2713 Marketing Hospitality Services
This course covers the application of marketing methodologies and terms to the hospitality and tourism industry, the use of sales techniques for selling to targeted markets, and developing marketing plans for hospitality and tourism operations. (3 sch: 3-hr lecture or 2-hr lecture, 2-hr lab)

HRT 2843 Fundamentals of Travel and Tourism
This course offers simulations of activities related to travel and tourism including reservation tasks and services. (3 sch: 3-hr lecture or 2-hr lecture, 2-hr lab)

HRT 2853 Convention and Meeting Planning
Planning, promotion, and management of meetings, conventions, expositions, and events. (3 sch: 3-hr. lecture or 2-hr lecture, 2-hr lab)

HRT 2863 Tourism Planning and Development
This course is designed to provide the knowledge to plan and implement the marketing and management of special events and tourism events. (3 sch: 3-hr lecture or 2-hr lecture, 2-hr lab)

HRT 291(3-6) Supervised Work Experience in Hotel and Restaurant Management
This course is a cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 sch: 3- to 18-hr externship)

HRT 292(3-6) Supervised Work Experience in Travel and Tourism
This course is a cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 sch: 3- to 18-hr externship)

HRT/CUT 1114-5 Culinary Principles I
Fundamentals of food preparation and cookery emphasizing high standards for preparation of meat, poultry, seafood, vegetables, soups, stocks, sauces, and farinaceous items. (4 sch: 2-hr lecture, 4-hr lab or 3-hr lecture, 4-hr lab)

IAT 1113 Introduction to Automation and Controls I
This course is designed to introduce students to the fundamental skills associated with safety, basic tools, special tools, equipment. (3 sch: 2 lecture, 2 lab)

IAT 1123 Electrical Wiring for Automation Control Technology for Automation and Control
Basic electrical wiring for automation and controls including safety practices; installation and maintenance of raceways, conduit, and fittings; and three-phase service entrances, metering devices main panels, raceways or ducts, subpanels, feeder circuits and branch circuits according to electrical codes. (3 sch: 2 lecture, 2 lab)

IAT 1133 AC/DC Circuits for Automation and Control
Principles and theories with DC and AC circuits used in the automation trade. Includes the study of electronic circuits, laws and formulas, and the use of test equipment to analyze AC and DC circuits. (3 sch: 2 lecture, 2 lab)

IAT 1143 Fluid Power for Automation and Control
This basic course provides instruction in hydraulics and pneumatics. This course covers actuators, accumulators, valves, pumps, motors, coolers, compression of air, control devices, and circuit diagrams. Emphasis is placed on the development of control circuits and troubleshooting techniques. (3 sch: 2 lecture, 2 lab)

IAT 1153 Motor Control for Automation and Control
This course includes the installation of different motor control circuits and devices. Emphasis is placed on developing the student's ability to diagram, wire, and troubleshoot the different circuits and mechanical control devices. (3 sch: 2 lecture, 2 lab)

IAT 1163 Manufacturing Skills for Automation and Control
Manufacturing skills is the initial course designed to provide the student with the basic skills needed to be successful in a high-performance manufacturing environment. The course covers 5 major areas of knowledge that are considered critical for employment in a high-performance manufacturing company. The topics covered include: Basic Computer Literacy, Blueprint Reading, Precision Measurement, and an introduction to manufacturing improvement methods that covers Lean Manufacturing, Quick Changeover, 5S, Teamwork and Problemsolving. (3 sch: 2 lecture, 2 lab)

IAT 1173 Control Systems I for Automation and Control
This is an introductory course to provide information on various instrumentation components and processes. Topics include analyzing pressure processes, temperatures, flow, and level. (3 sch: 2 lecture, 2 lab)

IAT 2113 Programmable Logic Controller for Automation and Control
This course provides instruction in the use of programmable logic controllers (PLCs) in modern industrial settings. The operating principles, installation and basic programming of PLCs will be covered. (3 sch: 2 lecture, 2 lab)

IAT 2123 Control Systems II for Automation and Control
This course is a continuation of Control Systems I with special emphasis on application of applied skills along with new skills to develop instrument process controls. The student will be given a process to develop the appropriate instruments and needed diagrams, utilizing various controlling processes and demonstrating loop troubleshooting techniques. (3 sch: 2 lecture, 2 lab)

IAT 2133 Solid State Motor Controls for Automation and Control
This course provides knowledge of the principles and operation of solid state motor control, and variable frequency drives. The design, installation, and maintenance of different solid state devices for motor control will be introduced (3 sch: 2 lecture, 2 lab)

IAT 291 (1-3) Special Project in Automation and Control Technology
A course to provide students with an opportunity to utilize skills and knowledge gained in other Automation and Control Technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-3 sch: 1-4 lecture, 1-6 lab)

IAT 292 (1-6) Supervised Work Experience in Automation and Control Technology
A course which is a cooperative program between industry and education and is designated to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. . (1-6 sch: 1-8 lecture, 1-18 lab)

IET1114 Fundamentals of Industrial Measurement I
A study of the concepts, principles and devices for the measurement of industrial pressure and level variables. The student will learn to apply the principles of process instruments and devices as applied to control and detection of pressure and level. The student will perform industrial pressure and level measurements. (4 sch: 2-hr lecture, 4-hr lab)

IET 1214 Fundamentals of Industrial Measurement II
A study of the concepts, principles and devices for the measurement of industrial temperature and flow variables. The student will apply the principles of process instruments and devices as applied to control and detection of temperature and flow. The student will perform industrial temperature and flow measurements. (4 sch: 2-hr lecture, 4-hr lab) Pre/Corequisite: Fundamentals of Industrial Measurement I (IET 1114) or by instructor consent

IET 1314 Industrial Controls I
A review of measurement theory and includes the principles of operation, connection, maintenance, testing, calibration, troubleshooting and repairing/replacing of pneumatic and electronic analog process controllers, signal transmitters, recorders, alarms and associated test equipment along with annunciator/shutdown systems and introduce the concepts of proportional, integral, and derivative control modes, loop tuning, and documentation. (4 sch: 2-hr lecture, 4-hr lab)

IET 2113 Final Control Devices
A study of the various designs of Final Control Devices, including principles of operation, sizing, selection, servicing pneumatic and electric actuators, positioners, solenoid operated valves, self-contained regulators, louvers, dampers, metering pumps and required documentation. Introduces concepts of variable speed drives and frequency speed circuitry for various motor operated final control devices. (3 sch: 2 lecture, 2 lab)

IET 2114 Final Control Elements
A study of the various designs of control valves including principles of operation, sizing, selection, servicing pneumatic and electric actuators, positioners, solenoid operated valves, self-contained regulators, louvers, dampers, metering pumps and required documentation. Includes instruction in basic techniques and calculations for proper liquid and gas valve sizing and

introduces concepts of variable speed drives and frequency speed circuitry. (4 sch: 2-hr lecture, 4-hr lab) Pre/Corequisite: Industrial Controls I (IET 1314) or by instructor consent.

IET 2414 Industrial Controls II
A study of process controllers, implementing PID (Proportional, Integral, Derivative) feedback, cascade, ratio, feed forward and auto select/override and introduce other advanced control strategies; study techniques for loop tuning and calibrating process loop components including smart transmitters and field communicators. Loop documentation and drawings will also be used. (4 sch: 2-hr lecture, 4-hr lab Pre/Corequisite: Industrial Controls I (IET 1314) or by instructor consent

IET 2433 Installation Practices
A course focusing on the principals and techniques for interconnection of instruments and equipment in industry. (3 sch: 1 lecture, 4 lab)

IET 2453 Troubleshooting and Calibration Principles
A course focusing on the principals and techniques for troubleshooting and calibration of various instruments used in process controls. (3 sch: 1 lecture, 4 lab)

IET 2911-4 Special Project
Practical application of skills and knowledge gained in instrumentation and other technical courses. The instructor works closely with the student to ensure that the selection of a project will enhance the student's learning experience. (1–4 sch: 2- to 8-hr lab) Prerequisite: Consent of Instructor

IET 2921-6 Supervised Work Experience
This cooperative program between industry and education is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of 1 semester hour per 45 industrial contact hours. (1–6 sch: 3- to 18-hr externship) Prerequisites: Consent of instructor and completion of at least one semester of advanced course work in electrical/electronics-related programs

IDT 1113 Introduction to Interpreting
Defines interpreting terms; lists and discusses code of ethics; placement of interpreters in various settings; discusses environmental factors; and describes the assessment and certification process. (3sch: 3hrs lecture)

IDT 1123 Foundation of Deafness
This course will provide students with knowledge in types of communication problems resulting from deafness, ease in mixing with deaf persons, occupational trends for the deaf, causes and physiological aspects of deafness, and social barriers faced by deaf individuals. Deaf individuals and leaders in the community will be invited into the classroom to discuss these topics along with professionals working with the deaf in various situations. The course is also designed for students majoring in interpreting for the deaf, teachers, teachers' aides, school counselors, and so forth. This course provides a review of a normal mechanism of speech and hearing and how they are affected by hearing loss, as well as an emphasis on the history of deafness, trends in deaf education, and the deaf community and its culture. (3 sch: 3 hrs lecture)

IDT 1211 Expressive and Receptive Fingerspelling
This course will develop beginning expressive and receptive fingerspelling skills based on word and phrase recognition principles. Fingerspelling is an important part of communicating. (1sch: 1hr lecture).

IDT 1224 American Sign Language I
A developmental course, meaning that the students (whatever their competency level at the beginning of the course) are expected to grow continuously throughout the semester. The students will develop a high degree of familiarity with and a respect for the usage of the basic principles of American Sign Language (ASL) through nonverbal communication techniques, eye training, and fingerspelling. Also, students will be introduced to the basic patterns of ASL through discipline and instruction. (4 sch: 3 hrs lecture, 2 hrs lab). Prerequisite: IDT 1224

IDT 1234 American Sign Language II
An introduction to sign language idioms and English idioms. This course will introduce ways to express English idioms in signs and also the vocabulary for the sign language idioms. Continuation of building student's sign language vocabulary is a primary interest of this course. Deaf-resource people, videotapes, and other related materials will be included. (4 sch: 3 hrs lecture, 2 hrs lab). Prerequisite: IDT 1224

IDT 1253 Transliterating I
Studies skills required to transmit English into Conceptually Accurate Signed English (CASE). Three lecture hours. (3 sch: 3 hrs lecture)

IDT 2243 American Sign Language III
An advanced-level course in American Sign Language (ASL). Will expand sign vocabulary to include English and deaf idioms and proper use in both languages. Concentration will be on proficiency in both ASL and methods of simultaneous translation of hearing-impaired people who communicate in various forms of manual English. Increased emphasis will be placed on the development of native-like fluency. Instruction is through conversational techniques incorporating additional principles and vocabulary items. (3 sch: 2 hrs lecture, 2 lab hours). Prerequisite: IDT 1224 and IDT 1234

IDT 2263 Transliterating II
Further study of the skills of transmitting English into Conceptually Accurate Signed English (CASE). (3 sch: 3 hrs lecture). Prerequisite: IDT 1253

IDT 2313 Sign-to-Voice Interpreting I
Classroom work giving verbatim translations and sign-to-voice materials. There is an emphasis on the use of tapes and simulated situations. Vocabulary development, word endings, and the use of temporary signs are discussed. Students will learn to translate simultaneously from manual English to spoken English and learn to interpret from American Sign Language (ASL) to spoken English while keeping appropriate English diction. (3 sch: 3 hrs lecture). Prerequisite: IDT 2243

IDT 2323 Educational Interpreting
Studies techniques and ethics involved in educational interpreting focusing on special settings, code of conduct, physical arrangements, and resources for educational interpreters. Further study of the skills of transmitting English into Conceptually Accurate Signed English (CASE). (3 sch: 3 hrs lecture).

IDT 2333 Interpreting
Accuracy and clarity in expressive interpreting at a conversational speed. Refine and build English-to-ASL skills. Role-play and videos of actual experiences will be used. (3 sch: 3 hrs lecture). Corequisite: IDT 2243

IDT 2343 Sign-to-Voice Interpreting II
Continue classroom work giving verbatim translations and sign-to-voice materials. There is an emphasis on the use of tapes and simulated situations. Vocabulary development, word endings, and the use of temporary signs are discussed. Students will learn to translate simultaneously from manual English to spoken English and to interpret from American Sign Language (ASL) to spoken English while keeping appropriate English diction. (3 sch: 3 hrs lecture). Prerequisite: Approval of instructor

IDT 2353 Interpreting in Special Situations
This course includes lectures and observation of interpreters in various settings, including educational, legal, medical, religious, platform, deaf-blind, mental health, and so forth.
(3 sch: 3 hrs lecture). Prerequisite: Approval of instructor

IDT 2363 Artistic Interpreting
Study of the principles and techniques of artistic interpreting including literary and musical works. (3 sch: 3 hrs lecture). Prerequisite: Approval of instructor

IDT 2373 Legal Interpreting
This is a preparation course for legal interpreting. The student will learn to anticipate settings, assess linguistic systems, determine and study specialized vocabulary, identify problems and apply ethical solutions, and practice interpreting legal texts. (3 sch: 3 hrs lecture).
Prerequisite: Approval of instructor

IDT 2413 Interpreting Practicum
Application of interpreting/transliterating skills in a supervised, approved site(s). All contact hours will be verifiable, and direct observation will be administered by practicum supervising interpreter. (3 sch: 150 clock hours)
Prerequisite: Approval of instructor

IMM 1113 Industrial Maintenance Core and Safety
This course includes basic safety, introduction to construction math, introduction to hand and power tools, blueprint drawings, and employability and communications. Instructors for this course must be certified as an NCCER Instructor if administering the certification. (3 sch: 2 hr lecture, 2 hr lab)

IMM 1133 Industrial Maintenance Blueprint Reading
Blueprints, schematics, and plans used in industrial maintenance including instruction in nomenclature, different views, and symbols and notations. (3 sch: 1 hr. lecture, 4 hr. lab)

IMM 1143 Commercial Industrial Wiring
Instruction and practice in the installation of commercial and industrial electrical services including the types of conduit and other raceways, NEC code requirements, and three-phase distribution networks. (3sch: 2 hr lecture, 2 hr lab)

IMM 1153 Electrical and Instrumentation Level I
This course includes Industrial Safety, Introduction to the National Electric Code®, Electrical Theory, Alternating Current, E&I Test Equipment, and Flow, Pressure, Level, and Temperature. Instructors for this course must be certified as an NCCER Instructor if administering the certification. (3 sch: 1 hr lecture, 4 hr lab)

IMM 1163 Electrical and Instrumentation Level II
This course includes process mathematics, hand bending, tubing, clean purge, and test tubing and piping systems, instrument drawings and documents (part one), conductors and cables, and conductors terminations and splices. Instructors for this course must be certified as an NCCER Instruct if administering the certification. (3 sch: 1 hr lecture, 4 hr lab)

IMM 1173 Motor Maintenance and Troubleshooting
This course includes the principles and practice of electrical motor repair. Topics on the disassembly/assembly and preventive maintenance of common electrical motors are discussed. (3 sch: 2 hr lecture, 2 hr lab)

IMM 1194 Electrical Level I
Instruction in terminology and basic principles of electricity, use of test equipment, safety practices for working around and with electricity, and basic electrical procedures. [May be taught as a 90-contact-hour lab in open-entry–open-exit Career programs] (4 sch: 2 hr lecture, 4 hr lab)

IMM 1212 Introduction to Industrial Maintenance I (to be removed 1/1/2020)

IMM 1213 Industrial Hand Tools and Mechanical Components (to be removed 1/1/2020)
Safe and proper use of hand tools and mechanical components commonly used by industrial maintenance mechanics and technicians. Includes instruction in the selection, use, and care of common hand tools and in the identification and maintenance of mechanical components such as belts and pulleys, chains and sprockets, and bearings and seals used to transmit mechanical power. (3 sch: 1 hr. lecture, 4 hr. lab)

IMM 1214 Introducation to Industrial Maintenance
This course includes basic tools of the trade, fasteners and anchors, oxyfuel cutting, gaskets and packing, craft-related mathematics, construction drawings, pumps and drivers, introduction to valves and test equipment, material handling, mobile and support equipment, and lubrication. Instructors for this course must be certified as an NCCER Instructor if administering the certification. (4 sch: 2 hr lecture, 4 hr lab)

IMM 1224 Power Tool Applications
Safe and proper use of various hand and stationary power tools. Includes instruction in the use of hand power tools, bench grinders, threading machines, cut-off saws, and drill presses. (4 sch: 1 hr. lecture, 6 hr. lab)

IMM 1234 Precision Machining Operations
Safe and proper use of various precision tools. Includes instruction in the use of drill presses, engine lathes, and milling machines. (4 sch: 2 hr. lecture, 4 hr. lab)

IMM 1243 Mechanical and Industrial Maintenance I
This course includes advanced trade math, precision measuring tools, installing bearings, and installing couplings. Instructors for this course must be certified as an NCCER Instructor if administering the certification. (3 sch: 1 hr lecture, 4 hr lab)

IMM 1253 Mechanical and Industrial Maintenance II
This course includes advanced setting baseplates and pre-alignment, conventional alignment, installing belt and chain drives, and installing mechanical seals. Instructors for this course must be certified as an NCCER Instructor if administering the certification. (3 sch: 1 hr lecture, 4 hr lab)

IMM 1273 Industrial Maintenace Electrical and Instrumentation Level I (Part I)
This course includes basic tools of the trade, fasteners and anchors, oxyfuel cutting, gaskets and packing, and craft-related mathematics. Instructors for this course must be certified as an NCCER Instructor. (3 sch: 2 hr lecture, 2 hr lab)

IMM 1283 Industrial Maintenance Electrical and Instrumentation Level I (Part II)
This course includes construction drawings, pumps and drivers, introduction to valves and test equipment, material handling, mobile and support equipment, and lubrication. Instructors for this course must be certified as an NCCER Instructor if administering the certification. (3 sch: 2 hr lecture, 2 hr lab)

IMM 1313 Principles of Hydraulics and Pneumatics
Instruction in basic principles of hydraulics and pneumatics, and the inspection, maintenance, and repair of hydraulic and pneumatic systems. (4 sch: 1 hr. lecture, 6 hr. lab

IMM 1323 Motor Controls
This course includes the Installation of different motor control circuits and devices. Emphasis is placed on developing the student's ability to diagram, wire, and troubleshoot the different circuits and mechanical control devices. (3 sch: 2 hr lecture, 2 hr lab)

IMM 1373 Robotic Controls and Applications
This course is designed to introduce the student to industrial robots. Topics to be covered include robotics history, industrial robot configurations, operation, and basic programming and how they relate to industry. (3 sch: 2 hr lecture, 2 hr lab)

IMM 1383 Industrial Robotics
This course teaches the operating systems and advanced programming methods of industrial robots. Actual industrial-grade robots are used to train the student in the areas of operation, maintenance, troubleshooting, service procedures, and robotics applications. (3 sch: 2 hr lecture, 2 hr lab)

IMM 1414 Pump and Valve Operations
Instruction on the different types of pumps and valves used in industry and their disassembly, inspection, and repair/replacement. (5 sch: 2 hr. lecture, 6 hr. lab

IMM 1474 Fluid Power
Instruction in the basic principles of hydraulics and pneumatics and the inspection, maintenance and repair of hydraulic and pneumatic systems. (4 sch: 2 hr lecture, 4 hr lab)

IMM 1484 Industrial Control Systems
Instruction in the operation and function industrial control circuits and devices. Emphasis is placed on the student's ability to diagram, wire and troubleshoot a variety of circuits, control devices and actuators. (4 sch: 2 hr lecture, 4 hr lab)

IMM 1514 Equipment Installation and Alignment
Instruction in preinstallation checks, assembly, location and layout of equipment, preparation of foundations and anchoring procedures, rigging and hoisting, and alignment and initial setup of equipment. (4 sch: 1 hr. lecture, 6 hr. lab)

IMM 1524 Preventive Maintenance and Service of Equipment
Instruction in basic maintenance and troubleshooting techniques, use of technical manuals and test equipment, and inspection/evaluation/repair of equipment. (4 sch: 1 hr. lecture, 6 hr. lab)

IMM 1614 Principles of Piping and Hydro-Testing
Instruction on basic principles of piping and pipe fitting, basic pipe fitting procedures, and basic hydro-testing of pipe systems. (4 sch: 2 hr. lecture, 4 hr. lab)

IMM 1713 Methods of Layout
Layout and development of various sheet metal problems using the principles of parallel line and triangulation development. (3 sch: 6 hr. lab)

IMM 1723 Structural Repair
Estimating and making repairs of wood, metal, and masonry structures. (3 sch: 6 hr. lab) [May be taught as a 90 contact hour lab in open entry-open exit vocational programs.]

IMM 1734 Maintenance Welding and Metals
Instruction in different metals and their properties, and in basic SMAW welding and oxy-fuel cutting and brazing. (4 sch: 1 hr. lecture, 6 hr. lab)

IMM 1814 Industrial Electricity Level 1
Advanced skills and knowledge associated with electrical systems in an industrial setting. Content includes instruction in the National Electrical Code, electrical circuits, motors, and estimating expenses for a given project. Instructors for this course must be certified as an NCCER Instructor if administering the certification. (4 sch: 2 hr lecture, 4 hr lab)

IMM 1824 Industrial Electricity Level 2
Instruction in terminology and basic principles of electricity, use of test equipment, safety practices for working around and with electricity, and basic electrical procedures. Instructors for this course must be certified as an NCCER Instructor if administering the certification. (4 sch: 2 hr lecture, 4 hr lab)

IMM 191(1-4) Special Project in Industrial Maintenance Mechanics
Practical applications of skills and knowledge gained in other Industrial Maintenance Mechanics courses. The instructor works closely with the student to insure that selection of a special project enhances the student's learning experiences. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-3 sch: 45-135 contact hours)

IMM 192(1-6) Supervised Work Experience in Industrial Maintenance Mechanics
A course which is a cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 sch: 3-18 hr. externship)

IMM 1934 Manufacturing Basic
Manufacturing Skills is the initial course designed to provide the student with the basic skills needed to be successful in a high-performance manufacturing environment. The course covers five major areas of knowledge that are considered critical for employment in a high-performance manufacturing company. The topics covered include: Basic Computer Literacy, Safety and CPR, Blueprint Reading, Precision Measurement, and an introduction to manufacturing improvement methods that covers Lean Manufacturing, Quick Changeover, 5S, Teamwork and Problem-solving. (4 sch: 2 hr lecture, 4 hr lab)

IMM 1935 Manufacturing Skills Basic
Manufacturing Skills is the initial course designed to provide the student with the basic skills needed to be successful in a high-performance manufacturing environment. The course covers five major areas of knowledge that are considered critical for employment in a high-performance manufacturing company. The topics covered include: Basic Computer Literacy, Safety and CPR, Blueprint Reading, Precision Measurement, and an introduction to manufacturing improvement methods that covers Lean Manufacturing, Quick Changeover, 5S, Teamwork and Problem-solving. (4 sch: 2 hr lecture, 4 hr lab)

IMM 2114 Equipment Maintenance, Troubleshooting and Repair
Maintenance and troubleshooting techniques, use of technical manuals and test equipment, and inspection/evaluation/repair of equipment. (4 sch: 1 hr. lecture, 6 hr. lab)

IMM 2124 Power Tools, Machining, and Materials
This course is designed to provide fundamental skills associated with all mechanical maintenance courses. This course includes safety, powered hand and stationary tools, use of a calculator, test equipment familiarization and terminology. (4 sch: 2 hr. lecture, 4 hr. lab)

IMM 2214 Advanced Electrical Industrial Maintenance
This course is designed to provide fundamental skills associated with all mechanical maintenance courses. This course includes safety, powered hand and stationary tools, use of a calculator, test equipment familiarization and terminology. (4 sch: 2 hr. lecture, 4 hr. lab)

IMM 2224 Advanced Mechanical Industrial Maintenance
This course includes temporary grounding, layout and installation of tubing and piping systems, machine bending of conduit, hydraulic controls, pneumatic controls, and motor-operated valves. Instructors for this course must be certified as an NCCER Instructor if administering the certification. (4 sch: 2 hr. lecture, 4 hr. lab)

IMM 2424 Solid State Motor Control
This course includes principles and operation of solid state motor control. Additionally, the course includes the design, installation, and maintenance of different solid state devices for motor control. (4 sch: 2 hr. lecture, 4 hr. lab)

IMM 2433 Electronic Motion Control
This course explains applications and operating procedures of solid-state controls, reduced-voltage starters, and adjustable frequency drives as well as troubleshooting procedures. (3 sch: 1 hr. lecture, 4 hr. lab)

IMM 2443 Pipefitting
This course includes basic principles of piping and pipe fitting, and basic pipe fitting procedures for threaded pipe systems. (3 sch: 2 hr lecture, 2 hr lab)

IMM 2513 Programmable Logic Controller- Multi-Platform
This course covers use of programmable logic controllers (PLCs) in modern industrial settings as well as the operating principles of PLCs and practice in the accelerated programming across multiple PLC platforms, installation and maintenance of PLCs. (3 sch: 1 hr lecture, 4 hr lab)

IMM 2613 Programmable Logic Controllers
This course includes of programmable logic controllers (PLCs) in modern industrial settings. This course also includes the operating principles of PLCs and practice in the programming, installation, and maintenance of PLCs. (3 sch: 2 hr lecture, 2 hr lab)

IMM 2623 Advanced Programmable Logic Controllers
Advanced PLC course that provides instruction in the various operations, installations, and maintenance of electric motor controls. Also, information in such areas as sequencer, program control, introduction to function blocks, sequential function chart, introduction to HMI, and logical and conversion instructions. (3 sch: 2 hr lecture, 2 hr lab)

IMM Maintenance Reliability (to be removed 1/1/2020)

IMM 2714 CNC/Computer Assisted Manufacturing
An introduction of computer numerical control (CNC) and computer assisted manufacturing (CAM) techniques and practices. Includes the use of the Cartesian coordinate system, programming codes and command, and tooling requirements for CNC/CAM machines. (4 sch: 2 hr lecture, 4 hr lab)

IMM 2723 Maintenance Reliability
This course includes four major performance domains that are aligned to the Certified Maintenance Reliability Professional Certification. Domains include maintenance practices, preventive and predictive maintenance and analysis, and corrective maintenance. (3 sch: 2 hr lecture, 2 hr lab)

IMM 2814 Mechatronics Programming I
This course provides a hands-on learning environment to develop and practice the techniques used in programming and sequencing mechatronics systems. (4 sch: 2 hr lecture, 4 hr lab)

IMM 2824 Mechatronics Robotics
This course provides a hands-on learning environment to develop and practice the techniques used in programming and troubleshooting robotic systems. . (4 sch: 2 hr lecture, 4 hr lab)

IMM 2833 Mechatronics Process Control
A study of the instruments and instrument systems used in chemical processing including terminology, primary variables, symbols, and control loops. (3 sch: 2 hr lecture, 2 hr lab)

IMM 2844 Mechatronics Programming II
This course provides a hands-on learning environment to develop and practice the techniques used in advanced programming and network integration of mechatronic systems. (4 sch: 2 hr lecture, 4 hr lab)

IMM 2854 Mechatronics Troubleshooting and Repair
This course provides a hands-on learning environment to develop and practice the techniques used in troubleshooting complex mechatronics systems. (4 sch: 2 hr lecture, 4 hr lab)

IMM 2863 Data Acquisisition and Industrial Communications
This is a course in acquisition and communication of systems data in industrial automated applications. (3 sch: 1 hr lecture, 4 hr lab)

IMT 1114 Introduction to Animation and Simulation Design
This course identifies the foundation skills necessary in the game design industry. Content such as safety, ethical issues, video game history, career opportunities, game mechanics, and photography is offered to students. Students will get an overview of the principles of animation, (4 sch: 2 hr lecture, 4 hr lab).

IMT 1123 Vector Illustration
In this course, students will understand and apply the elements of visual design and demonstrate the use of illustration software. (3 sch: 2 hr lecture, 2 hr lab).

IMT 1214 Game Theory and Mechanics
Students will learn the theory related to game design and development, the applications associated with game design and the elements and trends in game design. Students will apply design principles and techniques in the creation of 2D and 3D characters, and understand the "rules of play." (4 sch: 3 hr lecture, 2 hr lab).

IMT 1313 Video Game Programming I
This course will explore image composition and elements of visual design games, including the use of photo editing software for manipulation and enhancement of images for use in visual design software. (3 sch: 2 hr lecture, 2 hr lab).

IMT 1414 Graphic Editing for Games
This course will explore image composition and elements of visual design through photography, including the use of photo editing software for manipulation and enhancement of images for use in visual design software. (4 sch: 3 hr lecture, 2 hr lab).

IMT 1513 Introduction to 3-D Modeling
In this course, students will learn to utilize 3D modeling software to create polygon-based models suitable for use in game design and extended reality (XR) projects. . (3 sch: 2 hr lecture, 2 hr lab).

IMT 1524 Intermediate 3-D Modeling
In this course, students will learn about materials, textures, lighting, and rendering as it relates to developing assets for use in gaming and extended reality (XR) projects. (4 sch: 1 hr lecture, 6 hr lab).

IMT 1614 Advanced 3-D Modeling
In this course, students will gain an understanding of design principles and techniques for use in planning, designing, and producing a game character with animation. (4 sch: 3 hr lecture, 2 hr lab).

IMT 2113 3D Game Engine I
In this course, students will develop a basic understanding of a game engine and analyze the purpose, importance, and structure of game engines. Students will explore the associated programming language, create user interfaces (UI), and create game levels for video games. The suggested engines are Unreal and/or Unity. (2 sch: 2 hr lecture, 2 hr lab)

IMT 2124 Advanced Animation (This course no longer available beginning Fall 2017)
Students will design, develop, and create complex character animations using design visualization software on an advanced level. (4 sch: 2 hr lecture, 4 hr lab)

IMT 2143 Business and Marketing for Game Design
In this course, students will identify the company roles, team roles, and responsibilities related to the game development process and apply time and project-management skills. Students will also explore the importance of audience knowledge and target marketing in game design technology. Students will research consumer behavior, publisher relations, and functions of marketing such as: advertising, public relations, sales, and promotions. Additionally, students will research and analyze the economics of the video game industry. (3 sch: 3 hr lecture)

IMT 2153 2D Character Animation Design
In this course, students will explore in-depth advanced techniques for creating quality 2D animation. This course is designed to teach advanced application of 2D techniques that build upon the basics learned in IMT 1114 Introduction to Animation and Simulation. Students will create their own characters, storyboards, and final animation of a short piece utilizing digital animation software. (Suggested Software: Moho Pro, Adobe Animate) (3 sch: 2 hr lecture, 2 hr lab)

IMT 2213 Marketing for Game Design
The importance of target markets and audience knowledge will be explained, as well as distribution of video games. Students will conduct research related to consumer behavior and publisher relations with the functions of marketing, such as advertising, promotions, and sales, (3 sch: 3 hr lecture).

IMT 2223 Game Engine II
In this course, students will develop a basic understanding of a game engine and analyze the purpose, importance, and structure of game engines. Students will explore the associated programming language, create user interfaces (UI), and create game levels for video games. (3 sch: 2 hr lecture, 2 hr lab)

IMT 2312 Business of Game Development
In this course students will explore the importance of audience knowledge and target marketing in game design technology, research consumer behavior and publisher relations within the functions of marketing, such as advertising, public relations, sales, and promotions, and research and analyze the economics of the video game industry. (2 sch: 1 hr lecture, 2 lab).

IMT 2413 Animation & Simulation Design Capstone
This capstone class is the culmination of lessons learned in previous and present courses leading to the creation of final projects for a professional digital portfolio. The student will originate and/or revise a minimum of two projects and create a "sizzle reel" video utilizing the standard process of pre-production planning, production, revision, and final publication. (3 sch: 1 hr lecture, 4 lab).

IMT 2513 Game Evaluation
In this course students will explore and understand video game architecture through testing, defect tracking, technical reviews, and inspections and critically evaluate game design, character development, character animation, sound design, playability, and compatibility. (3 sch: 3 hr lecture).

IMT 2613 Audio Design and Production for Animation and Simulation
This course covers the functions of audio design fundamentals, interactive audio, and the fundamentals of 3-D audio in order to blend video game audio elements. (3 sch: 2 hr lecture 2 hr lab).

IMT 2511 C++ Programming for Game Design Lab (This course no longer available beginning Fall 2017)
This lab will apply programming skills gained in C++ Programming to interactive media. (1 sch: 2 hr lab) Co-requisite: IST 2374

IMT 2521 Advanced C++ Programming for Game Design Lab (This course no longer available beginning Fall 2017)
This lab will apply programming skills gained in Advanced C++ Programming to interactive media. (1 sch: 2 hr lab) Co-requisite: IST 2384.

IMT 2713 Simulation and Artificial Intelligence (This course no longer available beginning Fall 2017)
Provides a broad background in simulation and artificial intelligence with practical applications in creative arts, visual arts, audio/video technology, creative writing, modeling, design, programming and management. Students will receive hands-on training in design, 3D modeling, and programming for the purpose of creating simulations and artificial intelligence (3 sch: 2 hr lecture, 2 hr lab).

IMT 2723 Introduction to Extended Reality (XR) Environment Production
In this course, students will develop a basic understanding of an extended reality (XR) development environment and analyze the purpose, importance, and structure of the development environment. Students will explore the associated programming language, create user interfaces (UI), and create environments for extended reality (XR) projects. Suggested development environment is Unreal Engine. (3 sch: 2 hr lecture, 2 hr lab).

IMT 2733 Integrated 3D Production Pipeline
In this course, students will work in teams to plan and produce a comprehensive project that integrates knowledge and skills from across the curriculum. Project will be student-originated; dependent upon instructor approval. (3 sch: 2 hr lecture, 2 hr lab).

IMT 2743 Integrated Extended Reality (XR) Experience
In this course, students will work in teams to plan and produce a comprehensive project that integrates knowledge and skills from across the curriculum. Project will be student-originated; dependent upon instructor approval. (3 sch: 1 hr lecture, 4 hr lab)

IMT 2753 Lighting and Shading
This course is designed to introduce students to lighting and shading algorithms used in simulation and game development, Students will utilize various tools to create light and shadows. (3 sch: 2 hr lecture, 2 hr lab).

IMT 2763 Introduction to Extended Reality (XR) Content Production
This course is designed to introduce students to extended reality (XR) using AR/VR/MR experience and creation tools, while researching the benefits and roles within the industry. (3 sch: 2 hr lecture, 2 hr lab).

IMT 2773 Simulation and game Project
This course is designed to aid students in creating a functional simulation or game with minimal aid from the instructor. Students will also instructed on the creation and presentation of a simulation and game development portfolio. (3 sch: 3 hr lecture, 0 hr lab).

IMT 2783 Audio for Simulation and Games
This course is provides and introduction to the various aspects of audio and its application in simulations and game development. Students will learn how to produce and edit audio for simulations and games. (3 sch: 2 hr lecture, 2 hr lab).

IST 1113 Fundamentals of Information Technology
This course introduces microcomputer operation, word processing, spreadsheets, database management, and online applications. It is designed for students with limited computer proficiency and is to be taken by those students in addition to the courses listed in the course sequence (3 sch: 2-hr lecture, 2-hr lab).

IST 1124 IT Foundations
This course covers the diagnosis, troubleshooting, and maintenance of computer components and interpersonal communications for information technology (IT) professionals. Topics include hardware compatibility, system architecture, memory, input devices, video displays, disk drives, modems, printers, safety and environmental issues, communication, and professional behavior (4 sch: 2-hr lecture, 4-hr lab)

IST 1134 Fundamentals of Data Communications
This course presents basic concepts of Internet protocol (IP) telephony, local area networks, wide area networks, data transmission, and topology methods (4 sch: 2-hr lecture, 4-hr lab).

IST 1143 Principles of Information Security
This course is an introduction to the various technical and administrative aspects of information security and assurance. This course provides the foundation for understanding the key issues

associated with protecting information assets, determining the levels of protection and response to security incidents, and designing a consistent, reasonable information security system with appropriate intrusion detection and reporting features (3 sch: 2-hr lecture, 2-hr lab).

IST 1154 Web and Programming Concepts
This course is an introduction to Web site development and programming logic. Students will gain hands-on experience in the development of computer programs. Upon completion of this course, students will be able to create a Web site. (4 sch: 2-hr lecture, 4-hr lab).

IST 1163 Database and SQL Concepts
This course is an introduction to the design and manipulation of relational databases. Emphasis is placed on creation, manipulation, extraction, and display of data from existing databases. QBE and SQL are explored (3 sch: 2-hr lecture, 2-hr lab).

IST 1173 Principles of Database Management
This course is designed to give students a firm foundation in basic database tasks, enabling them to design, create, and maintain a small-scale database. Students will gain a conceptual understanding of database architecture and how its components work and interact with one another. Students will also learn how to create an operational database and properly manage the various structures. (3 sch: 2-hr lecture, 2-hr lab).

IST 1183 Essentials of Information Systems Technology
This course covers the diagnosis, troubleshooting, and maintenance of computer components. Topics include hardware compatibility, system architecture, memory, input devices, video displays, disk drives, modems, and printers. (2-hour lecture, 2-hour lab)

IST 1193 Practical Applications in Information Systems Technology
This course will provide experience with operating systems. Emphasis will be placed on support personnel interaction (communication and professional behavior) with the platform to assist users in business environments. Topics on safety and environmental issues are included. (2-hour lecture, 2-hour lab)

IST 1213 Client Installation and Configuration
This course is designed to help the student install, support, and troubleshoot a current client operating system. Emphasis will be placed on common user operations as well as the network administrator's support of the client (3 sch: 2-hr lecture, 2-hr lab).

IST 1223 Network Components
This course presents local area network and wide area network connectivity. It focuses on architectures, topologies, protocols, and transport methods of a network (3 sch: 2-hr lecture, 2-hr lab). Prerequisite: Fundamentals of Data Communications (IST 1134)

IST 1234 Network Administration Using Novell
This course focuses on the management of a computer network using the Novell network operating system. Emphasis will be placed on daily administrative tasks performed by a network administrator (4 sch: 2-hr lecture, 4-hr lab)

IST 1244 Network Administration Using Microsoft Windows Server
This course focuses on the management of a computer network using the Microsoft Windows Server network operating system. Emphasis will be placed on daily administrative tasks performed by a network administrator (4 sch: 2-hr lecture, 4-hr lab).

IST 1254 Network Administration Using Linux
This course focuses on the management of a computer network using the Linux operating system. Emphasis is placed on installation, configuration, implementation, and administrative tasks of a functional server. (4 sch: 2-hr lecture, 4-hr lab).

IST 1263 Microsoft© Office© Applications
This course will introduce an operating system and word processing, spreadsheet, database management, and presentation software application. (2-hour lecture, 2-hour lab)

IST 1273 Career Development
This course provides practical exercises in both the technical and social skills necessary for employment. Interpersonal skills, the job search process, and the importance of high standards of personal and professional relationships are stressed. (2-hour lecture, 2-hour lab)

IST 1283 Programming Principles with Swift
This course is designed to help students build a solid foundation in programming using Swift. Students get practical experience with the tools and techniques they'll need to build basic iOS apps from scratch. They'll also learn problem-solving skills and develop their own ways of breaking down problems into manageable pieces. As they gain more practice as programmers, they'll get better at designing clever and efficient solutions to coding challenges. (3 sch: 2 lecture, 2 lab)

IST 1254 Network Administration Using Linux
This course focuses on the management of a computer network using the Linux operating system. Emphasis is placed on installation, configuration, implementation, and administrative tasks of a functional server (4 sch: 2-hr lecture, 4-hr lab).

IST 1314 Visual BASIC Programming Language
This introduction to the Visual BASIC programming language introduces the student to object-oriented programming and a graphical integrated development environment (4 sch: 2-hr lecture, 4-hr lab).

IST 1324 RPG Programming Language
This course is designed to introduce the student to the RPG language for the creation of business applications (4 sch: 2-hr lecture, 4-hr lab). Prerequisite: Web and Programming Concepts (IST 1154) OR Web Development Concepts (WDT 1123) and Programming Development Concepts (CPT 1143) OR permission of instructor)

IST 1334 COBOL Programming Language
This course is designed to introduce the student to the use of the COBOL language in business applications to include arithmetic operations, report editing, control break processing, and table processing techniques (4 sch: 2-hr lecture, 4-hr lab). Prerequisite: Web and Programming Concepts (IST 1154) OR Web Development Concepts (WDT 1123) and Programming Development Concepts (CPT 1143) OR permission of instructor)

IST 1344 IoT Fundamentals : Connecting Things
This course covers the development and creation of devices for a network. Topics include designing electronic circuits to writing code, the IoT provides the platform for various types of professionals to develop, build, and implement devices to be integrated into a network. It will explore devices and their connection to the IoT (Internet of Things). (4 sch:2 Lecture, 2 lab)

IST 1414 Client-side Programming
This course offers a comprehensive understanding of programming using JavaScript (4 sch: 2-hr lecture, 4-hr lab). Prerequisite: Web and Programming Concepts (IST 1154) OR Web Development Concepts (WDT 1123) and Programming Development Concepts (CPT 1143) OR permission of instructor

IST 1424 Web Design Applications
Application of various professional and personal Web design techniques. Students will work with the latest WYSIWYG editors, HTML editors, animation/multimedia products, and photo editors (4 sch: 2-hr lecture, 4-hr lab). Prerequisite: Web and Programming Concepts (IST 1154) OR Web Development Concepts (WDT 1123) and Programming Development Concepts (CPT 1143) OR permission of instructor

IST 1433 Web Development Using HTML & CSS
This course involves the application of various professional and: personal Web design techniques. Students will work with the latest WYSIWYG editors, HTML editors, animation/multimedia products, and photo editors. (3 sch: 2 lecture, 2 lab)

IST 1453 Principles of Mobile App Development
This course is designed to help students build a solid foundation in programming fundamentals using Swift as a language. Students get practical experience with the tools, techniques, and concepts needed to build a basic iOS app from scratch. They'll also learn user interface design principles, which is fundamental to programming and making great apps. (3 sch: 2 lecture, 2 lab)

IST 1483 Fundamentals of Virtualization
This course presents basic concepts of operating system virtualization, server virtualization, cloning, teams, and virtual networks (3 sch: 2 hr. lecture, 2 hr. lab) Prerequisite: IST 1124

IST 1513 SQL Programming
This course is the first of a two-part series that offers students an extensive introduction to data server technology, covering the concepts of both relational and object relational databases and the Structured Query Language (SQL). Students are taught to store, retrieve, and manipulate data (3 sch: 2-hr lecture, 2-hr lab).

IST 1523 SQL Programming II
This course is the second of a two-part series that offers students an extensive introduction to data server technology. Students are taught advanced concepts of both relational and object relational databases and the Structured Query Language (SQL). Students are taught to create and maintain database objects and control user access (3 sch: 2-hr lecture, 2-hr lab).

IST 1534 Database Architecture and Administration
This course is the first of a two-part series designed to give students a firm foundation in basic database tasks enabling them to install, create, and maintain a database. Students will gain a

conceptual understanding of database architecture and how its components work and interact with one another. Students will also learn how to create an operational database and properly manage the various structures (4 sch: 3-hr lecture, 2-hr lab). Prerequisite: SQL Programming (IST 1513) Corequisite: Advanced SQL Programming (IST 1523)

IST 1613 Computer Forensics
This course is an introduction to the various technical and administrative aspects of computer forensics and laws pertaining to cybercrime.0 This course provides the foundation for understanding the key issues associated with computer forensic investigations, understanding the boot processes and disk structure for multiple operating systems, and understanding the processes related to data acquisition during investigations (3 sch: 2-hr lecture, 2-hr lab).

IST 1624 Network Security Fundamentals
This course provides the fundamental understanding of network security principles, implementations, and the technologies and principles involved in creating a secure computer network environment. Topics include authentication, types of attacks and malicious code against Web applications, e-mail, and file and print services (4 sch: 2-hr lecture, 4-hr lab). Prerequisites: Fundamentals of Data Communication (IST 1134); Security Principles and Policies (IST 1143)

IST 1633 Wireless Security and Privacy
This course provides the fundamental understanding of wireless architecture, security principles, and the technologies and principles involved in creating a secure wireless computer network environment. Topics include wireless hardware, protocols, encryption, and how to prevent weaknesses in wireless technology (3 sch: 2-hr lecture, 2-hr lab). Prerequisite: Fundamentals of Data Communication (IST 1134); Security Principles and Policies (IST 1143)

IST 1643 Network Defense and Countermeasures
This course provides a solid foundation of network security and the understanding of the process to create a network defense and countermeasure policy obtained from intrusion detection. Topics include Network Address Translation, packet filtering, proxy servers, firewalls, and Virtual Private Networks used to design a network defense strategy (3 sch: 2-hr lecture, 2- hr lab). Prerequisites: Network Security Fundamentals (IST 1623); Fundamentals of Data Communication (IST 1134)

IST 1714 Java Programming Language
This introduction to the Java Programming Language is to include sort, loops, arrays, and applets (4 sch: 2 hr. lecture, 4 hr. lab).

IST 1724 Programming in Python
This course is designed to provide an introduction to programming concepts and data informatics using Python through lecture and a series of practical hands-on exercises. (3 sch: 2 lecture, 2 lab)

IST 1733 Data Analysis Using Excel
This course teaches the presentation and application of business functions in Excel. Emphasis will be placed on data analysis. (2-hour lecture, 2-hour lab)

IST 1744 SAS Programming I
This course is the first of two- part series designed to give students an introduction to programming in SAS. Students will learn to navigate the SAS programming and windows

environments, read various types of data into SAS data sets, and create SAS variables and subset data. Students will gain an understanding of how to create SAS variables and subset data, as well as combine SAS data. Students will also learn how to create and enhance listing and summary reports. (3-hour lecture, 2-hour lab)

IST 1754 R Programming Language
In this course, students will learn how to program in R and how to use R for effective data analysis, graphics representation, and reporting. (2-hour lecture, 4-hour lab)

IST 1764 Programming in Python II
This course is designed to provide advanced information to programming concepts and data informatics using Python through lecture and a series of practical hands-on exercises. (4 sch: 2 lecture, 4 lab)

IST 1811 IST Seminar I
The Information Systems Technology Seminars are designed to prepare students to enter the workplace. Students learn the value of teamwork, cooperation, community involvement, professionalism, and the latest developments in the computer field (1 sch; 1-hr lecture).

IST 1821 IST Seminar II
The Information Systems Technology Seminars are designed to prepare students to enter the workplace. Students learn the value of teamwork, cooperation, community involvement, professionalism, and the latest developments in the computer field (1 sch; 1-hr lecture).

IST 2111 IST Seminar III
The Information Systems Technology Seminars are designed to prepare students to enter the workplace. Students learn the value of teamwork, cooperation, community involvement, professionalism, and the latest developments in the computer field (1 sch; 1-hr lecture).

IST 2121 IST Seminar IV
The Information Systems Technology Seminars are designed to prepare students to enter the workplace. Students learn the value of teamwork, cooperation, community involvement, professionalism, and the latest developments in the computer field (1 sch; 1-hr lecture).

IST 2213 Network Security
This course provides an introduction to network and computer security. Topics such as ethics, security policies, legal issues, vulnerability testing tools, firewalls, and operating system hardening will be discussed. Students will receive a deeper understanding of network operations and protocols through traffic capture and protocol analysis (3 sch: 2-hr lecture, 2-hr lab). Prerequisites: Principles of Information Security (IST 1143) and Network Components (IST 1223)

IST 2224 Network Planning and Design
This course involves applying network concepts in planning and designing a functioning network. Emphasis is placed on recognizing the need for a network, conducting an analysis, and designing a solution (4 sch: 2-hr lecture, 4-hr lab). Prerequisites: Network Operating Systems Elective; Network Components (IST 1223)

IST 2234 Network Implementation
This course is the culmination of all concepts learned in the network curriculum. Topics include planning, installation, evaluation, and maintenance of a network solution (4 sch: 2-hr lecture, 4-hr lab). Prerequisite: Network Planning and Design (IST 2224)

IST 2244 Advanced Network Administration Using Novell
This course is a continuation of Network Administration Using Novell. Emphasis is placed on installation, configuration, and implementation of a Novell network (4 sch: 2-hr lecture, 4-hr lab). Prerequisite: Network Administration Using Novell (IST 1234)

IST 2254 Advanced Network Administration Using Microsoft Windows Server
This course is a continuation of Network Administration Using Microsoft Windows Server. Emphasis is placed on installation, configuration, and implementation of a functional server (4 sch: 2-hr lecture, 4-hr lab). Prerequisites: Network Administration Using Microsoft Windows Server (IST 1244)

IST 2264 Advanced Network Administration Using Linux
This course is a continuation of Network Administration Using Linux. This is an advanced administration course in network services for Linux users who wish to increase their skills. Students will learn how to apply security to network users and resources, manage and compile the Linux kernel, manage network clients, and troubleshoot network processes and services (4 sch: 2-hr lecture, 4-hr lab). Prerequisites: Network Administration Using Linux (IST 1254)

IST 2314 Systems Analysis and Design
This course introduces techniques used in systems analysis and design. Emphasis will be placed on the design, development, and implementation of an information system (4 sch: 2-hr lecture, 4-hr lab). Prerequisite: At least one introductory programming language course.

IST 2324 Script Programming Language
This course is an introduction to the use of integrating scripts to add functionality to Web pages (4 sch: 2-hr lecture, 4-hr lab). Prerequisite: Web and Programming Concepts (IST 1154) OR Web Development Concepts (WDT 1123) and Programming Development Concepts (CPT 1143) OR permission of instructor)

IST 2334 Advanced Visual BASIC Programming Language
This course is a continuation of the Visual BASIC programming language (4 sch: 2-hr lecture, 4-hr lab). Prerequisite: Visual BASIC Programming Language (IST 1314)

IST 2344 Database Programming and Design
This course will introduce programming using a database management software application. Emphasis will be placed on menus and file maintenance (4 sch: 2-hr lecture, 4-hr lab). Prerequisites: Visual BASIC Programming Language (IST 1314) and Concepts of Database Design (IST 1163)

IST 2354 Advanced RPG Programming Language
This course is a continuation of the RPG programming language. Emphasis is placed on advanced table processing, file maintenance, and interactive programming (4 sch: 2-hr lecture, 4-hr lab). Prerequisite: RPG Programming Language (IST 1324)

IST 2364 Advanced COBOL Programming Language
This course is a continuation in the study of COBOL. Emphasis is placed on advanced table processing, file maintenance, and interactive programming (4 sch: 2-hr lecture, 4-hr lab). Prerequisite: COBOL Programming Language (IST 1334)

IST 2374 C Programming Language
This course is designed to introduce the student to the C programming language and its basic functions (4 sch: 2-hr lecture, 4-hr lab). Prerequisite: Successful completion of any IST programming language course or permission of instructor.

IST 2384 Advanced C Programming Language
This course is a continuation of the study of the C programming language (4 sch: 2-hr lecture, 4-hr lab). Prerequisite: C Programming Language (IST 2374)

IST 2394 Enterprise Resource Planning (ERP) Concepts
To gain a basic understanding of the different parts involved with an ERP system and how these are used by businesses. (2-hour lecture, 4-hour lab)

IST 2424 XML Programming
This course provides a comprehensive understanding of the Extensible Markup Language (XML) (4 sch: 2-hr lecture, 4-hr lab). Prerequisite: Web and Programming Concepts (IST 1154) OR Web Development Concepts (WDT 1123) and Programming Development Concepts (CPT 1143) OR permission of instructor

IST 2434 Server-side Programming
An introduction to creating dynamic Web applications using Server-side technologies (4 sch: 2-hr lecture, 4-hr lab) Prerequisite: Client-Side Programming (IST 1414)

IST 2444 Server-side Programming II
Continuation of Server-side Programming I with increased emphasis on data-driven content (4 sch: 2-hr lecture, 4-hr lab) Prerequisite: Server-side Programming I (IST 2434)

IST 2454 Mobile Application Development
The emergence of a new generation of highly-capable mobile devices and platforms has opened up opportunities for application developers. However, mobile development differs from conventional desktop development in that mobile devices operate in a constrained world with smaller screens, slower network connections, as well as limited memory and processing power. (3 sch: 2 hr lecture, 2 hr lab) Prerequisite: Visual BASIC Programming (IST 1314)

IST 2464 PowerShell Programming
This course is designed to introduce the student to the PowerShell command line language and its use in monitoring and maintaining Microsoft© network. The student will become familiar with the syntax of the command. (3-hour lecture, 2-hour lab)

IST 2473 E-commerce Strategies
Provides opportunities for students to examine strategies and products available for building electronic commerce sites, examine how such sites are managed, and explore how they can complement an existing business infrastructure. Students get hands-on experience implementing the technology to engage cardholders, merchants, issues, payment gateways, and other parties in electronic transactions (3 sch: 2-hr lecture, 2-hr lab). Prerequisites: Server-side Programming I (IST 2434)

IST 2483 Web Server
Introduces students to Web, e-mail, and proxy servers and the platforms on which they reside. Students will be able to install and configure Web, e-mail, and proxy servers (3 sch: 2-hr lecture, 2-hr lab). Prerequisite: IT Foundations (IST 1124) or Operating Platforms (CPT 1333) and Systems Maintenance (CNT 2423/CPT 2383); Fundamentals of Data Communication (IST 1134)

IST 2514 Advanced Database Architecture and Administration
This course is a continuation of Database Architecture and Administration. It is designed to provide a firm foundation in basic database tasks, enabling students to design, create, and maintain a database. Students will gain a conceptual understanding of database architecture and how its components work and interact with one another. Students will also learn how to create an operational database and properly manage the various structures (4 sch: 3-hr lecture, 2-hr lab). Prerequisite: Database Architecture and Administration (IST 1534)

IST 2524 Linux Operating Systems Fundamentals
In this course, students develop proficiency in using and customizing a Linux operating system for common command line processes and desktop productivity roles (4 sch: 2- hr lecture, 4-hr lab). Prerequisite: IT Foundations (IST 1124) or Operating Platforms (CPT 1333) and Systems Maintenance (CNT 2423/CPT 2383)

IST 2534 IT Project Management
In this course, students develop proficiency in using and customizing a Linux operating system for common command line processes and desktop productivity roles (4 sch: 2- hr lecture, 4-hr lab). Prerequisite: IT Foundations (IST 1124) or Operating Platforms (CPT 1333) and Systems Maintenance (CNT 2423/CPT 2383

IST 2584 C# Programming Language
This course is designed to introduce the student to the C# programming language and its basic functions(2-hour lecture, 4-hour lab)

IST 2594 Advanced C# Programming Language
This course is a continuation of the C# Programming Language course. (2-hour lecture, 4-hour lab)

IST 2613 Windows Security
This course provides the knowledge and fundamental understanding of Windows security, how to harden current Windows operating systems, and how to defend against attacks. Topics include designing Active Directory, authentication for Windows, group security and policy, service security, remote access security, planning a public key infrastructure, securing file resources, Internet Protocol Security, and additional Windows security topics (3 sch: 2-hr lecture, 2-hr lab). Prerequisites: Network Security Fundamentals (IST 1624); Network Administration Using Microsoft Windows Server (IST 1244)

IST 2623 Linux/Unix Security
This course provides the knowledge and fundamental understating of Linux/Unix security, how to harden Linux/Unix, and how to defend against potential attacks against vulnerabilities and unused system services. Topics include how to protect password files, monitor log files, and use port scanners and network scanners, and additional Linux/Unix security topics (3 sch: 2-hr lecture, 2-hr lab). Prerequisite: Network Security Fundamentals (IST 1624); Advanced Network Administration Using Linux (IST 2264)

IST 2634 Security Testing and Implementation
This course provides an in-depth exploration of various methods for gaining unauthorized access and explores network security concepts from the point of view of hackers and their methodologies. Topics include hackers, crackers, ethical hackers, attacks, intrusion detection systems, malicious code, computer crime, and industrial espionage (4 sch: 2-hr lecture, 4-hr lab). Prerequisite: Network Defense and Countermeasures (IST 1643); Computer Forensics (IST 1613); any programming course

IST 2644 Cybersecurity Operations: Cyber ops
This course covers the skills to qualify for exciting and growing opportunities in security operation centers as an analyst or incident responder. The course focuses on how to monitor, detect and respond to cybersecurity threats. Topics include cryptography, host-based security analysis, security monitoring, computer forensics, attack methods and incident reporting and handling. (4 Sch: 2 lecture, 4 hour lab)

IST 2724 Advanced Java Programming
This course is a second of a two-part series that offers students an extensive introduction into Java Programming. Students will be taught advanced concepts of arrays, inheritance, applets, and swing components. (4 sch: 2 lecture, 4 lab)

IST 2734 Data Visualization and Marketing
This course teaches students the fundamentals of data visualization and how to communicate effectively with data. Students will learn to present, explore, and understand data using various visualization tools. (2-hour lecture, 4-hour lab)

IST 2744 SAS Programming II
This course is a continuation of SAS Programming. It is designed to provide a firm foundation in data manipulation techniques using SAS DATA. Students will gain an understanding of the procedures steps to access, transform, and summarize SAS data sets. Students will learn how to control SAS data set input and output, combine SAS data sets, and summarize, read, and write different types of data(2-hour lecture, 4-hour lab)

IST 2753 Big Data Analytics
This course teaches Big Data concepts and technologies as well as the techniques to manage them. Students will be introduced to emerging tolls and NoSQL (Not Only SQL) databases. (2-hour lecture, 2-hour lab)

IST 2764 Dev Net
DevNet introduces the methodologies and tools of modern software development applied to IT and Network Operation. It Covers a 360 view of the domain including microservices, testing, containers, and DevOps, as well as securely automating infrastructures with Application Programming Interfaces (APIs). Students gain practical knowledge with coding in Python, using GIT and common data formats (JSON, XML, and YAML), deploying applications as containers, using Continuous Integration/Continuous Deployment (CI/CD) pipelines, and automating infrastructure using code. (2-hour lecture, 4-hour lab)

IST 2814 Full-Stack Web Development
This course offers students an introduction into Full-Stack Web Development (Django or other applicable software). Students will be taught concepts related to Django and other aspects of fullstack web development components and applications. (4 sch: 2 lecture, 4 lab)

IST 2824 Extended Reality (XR) 3D Modeling
This course provides an introduction to 3D content creation using design visualization software with emphasis on the connection to the creative thought process. Students will learn an overview of the workflow relating to animation, modeling, texturing, lighting, and rendering. (4 sch: 3 lecture, 2 lab)

IST 2834 Extended Reality (XR) Development
This course is designed to introduce students to extended reality development as it relates to various industries. This course will provide students an understanding of the tools and skill sets necessary to develop extended reality experiences. (4 sch: 3 lecture, 2 lab)

IST 2844 Extended Realty (XR) Project Design
This course is designed to immerse students into the creation process for multiple types of extended reality experiences. Students will gain an understanding of the complete design process of an extended reality experience, and the team effort required to create quality immersive experiences. Students will also develop a portfolio of entry-level work.(4 sch: 3 lecture, 2 lab)

IST 2854 Extended Reality (XR) Digital Artistry
This course is designed to provide and introduction to the tools required to create and edit graphic images. (4 sch: 3 lecture, 2 lab)

IST 2864 Extended Reality (XR) Illustration and Rendering
This course is designed to provide an introduction to the tools used in visual design and illustration software. (4 sch: 3 lecture, 2 lab)

IST 2874 Extended Reality (XR) Animation
This course is designed to introduce students to extended reality animation. (4 sch: 3 lecture, 2 lab)

IST 2884 Full Stack Application
This course is a second of a two-part series that offers students an extensive introduction into web application (Spring or other applicable software). Students will be taught advanced concepts of components. (4 sch: 2 lecture, 4 lab)

IST 291(1-6) Supervised Work Experience in Information Systems Technology
This course is a cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours (1–6 sch: 3- to 18-hr externship). Prerequisites: Consent of instructor and completion of at least one semester of advanced coursework in Information Systems Technology

IST 292(1-3) Special Problem in Information Systems Technology
This course provides students with an opportunity to utilize skills and knowledge gained in other Information Systems Technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project (1–3 sch: 2- to 6-hr lab).

IST 293 (1-3) Special Problems in Information Systems Technology
This course provides students with an opportunity to utilize skills and knowledge gained in other Information Systems Technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project (1–3 sch: 2- to 6-hr lab).

IST 294 (1-3) Special Problems in Information System Technology
This course provides students with an opportunity to utilize skills and knowledge gained in other Information Systems Technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-3-hour lecture, 2-6-hour lab)

IST 2954 Capstone Coding Project
This course is designed to encourage student to think critically, solve challenging issues. Students will apply the skills gained to a coding project and/projects. (4 sch: 2 lecture, 4 lab)

LET 1113 Introduction to Law (to be removed 1/1/2020)
This course provides an overview of major principles and functions of the state and federal legal systems, introduces various legal fields for professional opportunities, presents legal vocabulary, gives an overview of different areas of law, and presents ethics. (3 sch: 3 hr. lecture)

LET 1123 Introduction to Law
This course provides an overview of major principles and functions of the state and federal legal systems, introduces various legal fields for professional opportunities, presents legal vocabulary, gives an overview of different areas of law, and presents ethics. (3 sch: 3 hr. lecture)

LET 1213 Legal Research
This course is an introduction to basic sources of law and the methods of legal research, including ethics. (3 sch: 2 hr. lecture, 2 hr. lab)

LET 1513 Family Law
This course is a study of the areas of law pertaining to domestic relations, emphasizing ethics. (3 sch: 3 hr. lecture)

LET 1523 Wills and Estates
This course is an introduction to the laws of inheritance and estates, basic concepts of estates and wills, probate procedures, and preparation of documents while emphasizing ethics. (3 sch: 3 hr. lecture)

LET 1713 Legal Writing
This course includes composition of legal communications, briefs, memoranda, and other legal documents with an emphasis on ethical considerations. (3 sch: 2 hr. lecture, 2 hr. lab)

LET 2313 Civil Litigation I
This course presents the litigation process. Emphasis is on the structure of the Mississippi Court System and on gathering information and evidence, summarizing and arranging materials, maintaining docket and file control, developing a litigation case, and interviewing clients and witnesses, using ethical standards. (3 sch: 3 hr. lecture)

LET 2323 Torts
This course provides instruction in the area of law which deals with civil wrongs and injuries as distinguished from breach of contract. It concentrates on the elements of a tort, type of tort, damages, ethics, and remedies. (3 sch: 3 hr. lecture)

LET 2333 Civil Litigation II
This course is designed to continue the study of the litigation process from discovery through appeal. Emphasis is placed on collecting and organizing discovery materials and demonstrating knowledge of the limits placed on discovery by the federal and states rules of civil procedure. The course also includes the trial and appeal phases of litigation, with emphasis on trial preparation and appellate procedure. (3 sch: 3-hr lecture)

LET 2343 Contracts (to be removed 1/1/2020)
This course provides instruction in the area of contact law, concentrating on the elements of a valid contract, various types of contracts, the Uniform Commercial Code, and ethical issues in contract law. (3 sch: 3-hr lecture)

LET 2353 Criminal Law and Procedure (to be removed 1/1/2020)
This course provides an overview of criminal law and the procedures involved in the criminal process. The course focuses on the Mississippi court system, legal terminology involved in a criminal practice, and on gathering information and evidence, using ethical standards. (3 sch: 3hr. lecture)

LET 2373 Contracts and Business Law
This course provides instruction in the area of contact law, concentrating on the elements of a valid contract, various types of contracts, the Uniform Commercial Code, and ethical issues in contract law. (3 sch: 3-hr lecture)

LET 2383 Criminal Law and Procedure
This course provides an overview of criminal law and the procedures involved in the criminal process. The course focuses on the Mississippi court system, legal terminology involved in a criminal practice, and on gathering information and evidence, using ethical standards. (3 sch: 3hr. lecture)

LET 2453 Real Property I
This course is an introduction to real property law including ownership, transfer of property, liens and encumbrances, and the various types of deeds. (3 sch: 3 hr. lecture)

LET 2463 Real Property II
This course examines legal documents related to real property as recorded in the chancery clerk's office, the tax assessor's office, and the circuit clerk's office. It includes compiling a title abstract and completing an assignment to prepare a real estate file from transaction through closing and post-closing implementing ethics. (3 sch: 3-hr lecture)

LET 2523 Bankruptcy Law
This course is an introduction to federal bankruptcy law. Emphasis is placed on federal bankruptcy statutes, chapters, and forms. (3 sch: 3 hr. lecture)

LET 2633 Paralegal Skills and Applications
This course provides practical application of daily legal office skills needed in the legal field, professional enrichment presentations, history of the profession, professional ethics through fact analysis, and an overview of law office management. (3 sch: 3 hr. lecture)

LET 2653 Law Office Management
This course provides practical application of daily legal office skills needed in the legal field, professional enrichment presentations, history of the profession, professional ethics through fact analysis, and an overview of law office management. (3 sch: 3 hr. lecture)

LET 291(1-3) Special Problem in Paralegal Technology
A course to provide students with an opportunity to utilize skills and knowledge gained in other Paralegal Technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-3 sch: 2-6 hr. lab)

LET 2923 Internship for Paralegal
Supervised practical experience in a private law office, courts, government offices, or businesses. Provides students the opportunity to apply theory presented in the classroom in a supervised work setting. (3 sch: 9 hr externship)

LGT 1113 — Fundamentals to Logistics.
This course is designed to give the student a firm foundation in the systems approach to managing activities associated with forecasting, procurement, inventory management, life cycle costing, and product support. (3 sch: 3 hr lecture)

LGT 1213 — Transportation and Distribution.
This course is designed to give an overview of transportation and distribution issues. Emphasis is placed on domestic and international transportation, third party selection, regulations, route and schedule development and planning for shipments. (3 sch: 3 hr lecture)

LGT 1233 — Materials Management.
This course provides managerial information concerning inventory information systems, managerial tools and techniques, the warehouse environment and distribution planning and control. (3 sch: 3 hr lecture)

LGT 1243 — Purchasing.
This course provides information about the purchasing function. Emphasis will be placed on vendor analysis, negotiations, systems contracts, public purchasing, competitive bidding and personnel. (3 sch: 3 hr lecture)

LGT 1313 Supply Chain Management.
This course provides information concerning the flow of products and information among producers, suppliers, and customers. Emphasis is placed on acquiring, purchasing and distribution of goods and services throughout the supply chain. (3 sch: 3 hr lecture)

LGT 1413 — Logistic Support Analysis.
This course is a study of the support function and the development of analytical tools to support managerial decisions. Topics covered are maintenance planning, provisioning and support, system safety, and life cycle cost. (3 sch: 3 hr lecture)

LGT 1513 — Production Planning & Control.
This course provides managerial information regarding material requirements, capacity planning and control techniques, master production scheduling, and techniques in cost analysis. (3 sch: 3 hr lecture)

LGT 2113 — Logistics Management.
This course is designed to help the student solve actual challenges they will encounter in the marketplace. Basic decision making tools and concepts will be used for finding cost reduction and strategic opportunities. (3 sch: 3 hr lecture)

LGT 2324 — Automatic Identification/Data Capture in Logistics.
This course is a study of the methods of recognizing objects, getting information about them and automatically entering that data or feeding it directly into computer systems without any human involvement. Automatic identification and data capture technologies include bar codes, Radio Frequency ID (RFID), Optical character recognition (OCR), magnetic stripes, smart cards and other data media. Laboratory experiences will emphasize bar coding and RFID technologies. Various automatic identification data capture applications will be used. (4 sch: 3 hr lecture, 2 hr lab)

LGT 2513 — Maintenance Management.
This course enables the student to understand the relationship between reliability and maintainability (R&M) and acquisition logistics and to evaluate the impact of R&M decisions. (3 sch: 3 hr lecture)

LGT 2533 — Configuration Management.
This course is designed to give the student a foundation of the interrelationship of configuration management to life cycle activities and logistics support. Emphasis will be placed on configuration identification, audits, controls, as well as data management. (3 sch: 3 hr lecture)

LGT 2814 — Business Logistics Capstone Project.
This course is designed to write a research paper specific to an approved logistics/supply chain management topic either selected by the student or assigned by the instructor. (4 sch:43 hr lecture)

LGT 292(1-3) — Special Project.
A course to provide students with an opportunity to utilize skills and knowledge gained in other Logistics Technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-3 sch: 1-3 hr lecture)

LVT 1012 Introduction to Live Entertainment
This course introduces concepts of the various technology systems involved with live entertainment events. Topics include components and the basic operation of these systems, technical requirements for events and venues, and a survey of industry job descriptions and employment opportunities. Upon completion, students should be able to describe the equipment required for live events, the technical requirements of touring performance events, and employment in the industry. (2 sch: 1 hr lecture, 2 hr lab)

LVT 1114 Audio Principles
This course introduces audio fundamentals in theory and practice. Topics include: principles of audio electronics and the decibel scale; electromagnetic induction; power, ground, and amplifiers; core concepts in digital audio; console and DAW signal flow, routing, and gain staging; microphone and loudspeaker principles and applications; signal processing, including compression and equalization. Class meetings consist of lectures, demonstrations, and hands-on 14 training. Upon completion, students should be able to describe and demonstrate an applied understanding of the principles of audio electronics. (4 sch: 2 hr lecture, 4 hr lab)

LVT 1123 Live Sound Production I
This course introduces the concepts and technical skills required for live event sound reinforcement. Topics include the operation and inter-connection of components of a basic sound system, including consoles, amplifiers, speakers, processors and microphones. Upon completion, students should apply the concepts of live sound reinforcement and set up and operate a small to mediumscale sound system for a live event. (3 sch: 1 hr lecture, 4 hr lab)

LVT 1133 Concert Lighting I
This course is an introduction to the technical aspects of concert lighting. Topics include basic design, color theory, types of instruments, power distribution, control and safety, proper hanging, connection, focus, and control of instruments. Upon completion, students should be able to explain basic concert lighting, color theory, and instrumentation, and to properly set up a variety of instruments. (3 sch: 2 hr lecture, 2 hr lab)

LVT 1211 Critical Listening I
This course focuses on developing critical listening skills, with particular emphasis on engineering analysis within the context of the popular music mix. Topics include: psychoacoustics of the critical listening environment; engineering techniques such as balance, panning, EQ, reverb, compression, delay and time-based effects instrument identification; and stylistic comparisons of engineering and mix techniques. In-class listening analysis concepts are reinforced through out-of-class critical listening assignments. Upon completion, students should be able to identify and describe balance, panning, EQ, reverb, compression, delay and time-based effects, instruments, and mixing styles. (1 sch: 1 hr lecture, 0 hr lab)

LVT 1223 Live Sound Production II

This course continues instruction in concepts and technical skills required for live event sound reinforcement. Topics include advanced sound system setup and operation, in-depth operation of program and monitor consoles, System E.Q., and flown speaker arrays. Upon completion, students will be able to design, set up, and operate large-scale sound systems in various venues. (3 sch: 1 hr lecture, 4 hr lab)

LVT 1233 Entertainment Law
This course introduces the legal aspects of the entertainment industry. Topics include performance rights, songwriting and personal appearance contracts, copyright law, trademarks, and the like. Upon completion, students should be able to explain the basic elements of a contract, recognizing, explaining, and evaluating elements of law that pertain to entertainment. (3 sch: 3 hr lecture, 0 hr lab)

LVT 1243 Sequencing for Music Production
The Sequencing Technology course explores the use of MIDI-based hardware and software in music production, live performance, and studio control. This course provides an opportunity to study and explore various electronic instruments and devices. Emphasis is placed on fundamental MIDI applications and implementation, features and application of sequences, sound modules, and digital keyboards. Upon completion, students should be able to demonstrate proficiency by creation of appropriate musical projects using the equipment and techniques covered. (3 sch: 1 hr lecture, 4 hr lab)

LVT 1253 Recording Engineering I
This course covers basic topics in the operation of an audio recording studio. Topics include audio theory, console, tape machine, processor operation, proper microphone placement, multi-track mixing techniques, and session procedures. Upon completion, students should be able record, mix, and edit in recording sessions. (3 sch: 2 hr lecture, 2 hr lab)

LVT 2132 Entertainment Promotion
This course examines the elements of marketing and promotion as specifically applicable to the entertainment business. Topics include the creation of publicity materials, understanding the process of developing media relations, developing a press kit, and creating a publicity campaign. Upon completion, students should be able to create a marketing and promotion campaign. (2 sch: 2 hr lecture, 0 hr lab)

LVT 2273 Basic Electricty for Live Entertainment
Introcution to electricity in the live entertainment industry. Students will learn about voltage, current, power, resistance and wattage. Power greneartion and distribution, 3 phase power, OSHA rules and regulations, National Electric Code. Student applications will be with lights, sound systems, video and scenic automation. (3 sch: 2 hr. lecture, 2 hr. lab)

LVT 2313 Equipment Maintenance
This course is designed to introduce basic concepts and techniques for maintaining and repairing sound and lighting equipment. Topics include basic maintenance, troubleshooting, soldering, wiring standards, calibration, and testing. Upon completion, students should be able to perform preventative maintenance and minor repairs on a wide variety of sound, lighting, and performance-related equipment. (3 sch: 2 hr lecture, 2 hr lab)

LVT 2321 Live Production/Entertainment Management
This course explores the principles, personnel, and skills needed to plan and execute various live events. Upon completion, students will create plans for live events that include technology implementation, systems design, documentation, and techniques used in developing preproduction strategies and post-event evaluations. (1 sch: 1 hr lecture, 0 hr lab)

LVT 2332 Live Entertainment Production Project
This course provides a capstone experience for the entertainment professional. Topics include planning, preparing, and developing a specific entertainment project, including selecting materials, setting up and monitoring budget, and overseeing a complete project. Upon completion, students should be able to create an entertainment project such as a compact disc, project portfolio, or a full concert performance. (2 sch: 1 hr lecture, 2 hr lab)

LVT 2343 Mixing Techniques
This course explores the use of audio processors and mixers to shape highquality mixes, building on the students' gear knowledge and listening skills. Upon completion, students will demonstrate principles of blend, contrast, space, and dynamics to build listener interest. (3 sch: 1 hr lecture, 4 hr lab)

LVT 2353 Live Broadcast Production
This course focuses on the technical fundamentals of audio, video, and communications systems needed for the production of live broadcast events. Areas of study include intercom-communications systems, radio frequency (RF) systems and coordination, broadcast systems

signal flow, and record/playback systems. Additionally, microphone and camera types and proper operation and techniques will be examined. Upon completion, students will establish appropriate technical connections and produce a live broadcast event that includes audio, video, and communication elements. (3 sch: 1 hr lecture, 4 hr lab)

LVT 2363 Acoustics
This course covers the principles and basic concepts of acoustics in sound recording and reinforcement. Topics include various acoustical properties, waveforms, resonances, frequencies, and responses and real-life applications in recording studios and live performance facilities. Upon completion, students should be able to describe basic acoustical properties and concepts and apply them in sound productions in studios and live performance facilities. (3 sch: 2 hr lecture, 2 hr lab)

LVT 2373 Concert Lighting II
This course is a continuation of Concert Lighting I and introduces more advanced concert lighting operations. Topics include advanced lighting concepts, lighting plot reading, followspot theory and operation, computerized control consoles, and large-scale mobile lighting systems. Upon completion, students should be able to construct complex lighting rigs from plots, operate followspots and program/operate computerized control consoles. (3 sch: 2 hr lecture, 2 hr lab)

LVT 2383 Automated Lighting
This course is a continuation of Concert Lighting II and introduces the student to moving-light and large-scale concert lighting operations. Topics include an overview of moving-light instruments, their operation, and their programming, offering hands-on training on large-scale lighting rigs. Upon completion, students should be able to identify different moving-light instruments, operate and program moving-lights, construct and operate largescale lighting rigs, and build a lighting sequence to accompany a music sequence. (3 sch: 2 hr lecture, 2 hr lab)

LVT 2393 Multimedia Production
This course introduces students to the rapidly growing field of audio and visual technologies for the live-production field. This course is dedicated to building confidence in the area of multimedia-conference meetings and corporate-presentation skills. The course familiarizes students with basic audio, lighting, and video technology used by today's audiovisual (A/V) event technician. Areas of study include breakout-room setups, video display systems, intercom communications, video-switching procedures, lighting for video, camera operation. Upon completion, students will apply these skills in lab while setting up a simulated corporate multimedia event. (3 sch: 1 hr lecture, 4 hr lab)

MAR 1113 Fundamentals of Maritime Engine I
Instruction on the principles of theory and operation and skills related to the repair and maintenance of the basic maritime engine. (3 sch: 1 hr. lecture, 4 hr. lab)

MAR 1215 2 & 4 Cycle Outboard Repair & Maintenance
Maintenance and repair of the basic engine block of a two-and four-stroke maritime engine. Includes instruction in engine disassembly inspection, maintenance/repair and reassembly. (5 sch: 2 hr. lecture, 6 hr. lab)

MAR 1262 Marine Gearcase, Outdrives & Transmission Systems
Disassembly, maintenance, repair and reassembly/installation of the major types of transmissions and the operation and maintenance of outdrive units including components, functions, outdrive

steering, shifting systems, alignment and repair commonly associated with maritime engines. (2 sch: 1 hr. lecture, 2 hr. lab)

MAR 1316 Advanced 2 & 4 Cycle Outboard Repair & Maintenance
Advanced maintenance and repair of the engine block of two-and four-stroke maritime engines. Includes instruction in engine disassembly, inspection, maintenance/repair and reassembly. (6 sch: 1 hr. lecture, 10 hr. lab)

MAR 1422 Marine Corrosion & Prevention
Instruction in the repair of boats including instruction in the repair of hull and structure damage. (2 sch: 1 hr. lecture, 2 hr. lab)

MAR 1612 Applied Marine Electricity
Electrical systems associated with maritime engines including the charging circuit, starting circuit and ignition circuit. Theory of operation and maintenance/repair are discussed. (2 sch: 1 hr. lecture, 2 hr. lab)

MAR 1712 Paint, Fiberglass and Coatings
Instruction in the use of coatings in the construction and repair of maritime surfaces to include instruction in the repair of deck, hull and structure damage. (2 sch: 1 hr. lecture, 2 hr. lab)

MDT 1214 Media Writing
Principles of broadcast writing to include scripts for television and radio news, commercials, and programs. (4 sch: 3 hr. lecture, 2 hr. lab)

MDT 1244 Principles of Mass Communications
Introduction to the field of radio/television broadcasting and the history of mass media. Emphasis is placed on the role of communication systems in our society. Job characteristics and opportunities are also emphasized. (4 sch: 4 hr. lecture)

MDT 1314 Fundamentals of Television Production
Introduction to the operation of a television studio. (4 sch: 3 hr. lecture, 2 hr. lab)

MDT 1413 Audio Production I
Operations of audio taping as well as actual production. A discussion of the different types of equipment used in audio production will also be emphasized. (3 sch: 2 hr. lecture, 2 hr. lab)

MDT 1423 Audio Production II
Continuation of Principles of Audio Production with further study in the development of and the use of equipment in audio production with emphasis placed on actual projects. (3 sch: 2 hr. lecture, 2 hr. lab)

MDT 1513 Social Media Production
The course explores production standards in emerging forms of digital media. Students will work individually and in teams to produce new media content. Areas of interest will include social media as well as mobile media. (3 sch: 2 hr. lecture, 2 hr. lab)

MDT 1813 Broadcast Assistantship I
To smoothly integrate students into the field of broadcasting and media production. This course also gives the student a greater understanding of the overall production and planning of live and taped broadcasting and media production. 90 hours lab to be arranged. (3 sch: 2-6 hr. lab)

MDT 1823 Broadcast Assistantship II
To give the students a greater understanding of the overall production and planning of live and recording broadcasting. This course is meant to enhance the student's broadcast/media production education. This course is a continuation of MDT 1813. 90 hours lab to be arranged. (3 sch: 2-6 hr. lab)

MDT 2113 Broadcast Announcing
Introduction to the basic principles of broadcasting announcing. (3 sch: 2 hr. lecture, 2 hr. lab)

MDT 2213 Station Administration
Study of radio, television, and cable stations which includes: organization, operations, regulations, and the duties/responsibilities of station personnel. (3 sch: 3 hr. lecture)

MDT 2314 Multimedia Production
This course is designed to introduce the operations of multimedia production and studio operations. (4 sch: 3 hr. lecture, 2 hr. lab)

MDT 2324 Advanced Television Production
Operations of original television productions. Directions, productions, layouts, and organization will be stressed. (4 sch: 2 hr. lecture, 4 hr. lab)

MDT 2414 Basic Editing
Student's basic projects are emphasized and include basic principles, procedures, and techniques of audio and video editing. (4 sch: 2 hr. lecture, 4 hr. lab)

MDT 2424 Advanced Editing
Student's continuation of Basic Editing with emphasis placed on the development and use of the broadcasting industry editing standards. Student's projects are emphasized and include advanced principles, procedures, and techniques of audio and video editing. (4 sch: 2 hr. lecture, 4 hr. lab)

MDT 2513 Basic Photography
Use of photography as a communication medium. Principles of picture taking and darkroom techniques are emphasized. (3 sch: 2 hr. lecture, 2 hr. lab)

MDT 2614 Backpack Journalism
This course is designed to introduce multi-media story telling techniques in line with journalistic industry standards. (4 sch: 2 hr. lecture, 4 hr. lab)

MDT 2624 Sports Journalism
This class covers the history and essential skills used in the field of sports journalism. (4 sch: 2 hr. lecture, 4 hr. lab)

MDT 2813 Broadcast Assistantship III
To provide the student with practical application of skills and knowledge gained in other media production courses. 90 hours lab to be arranged. (3 sch: 2-6 hr. lab)

MDT 291(1-3) Special Project in Media Technology
A course designed to provide the student with practical application of skills and knowledge gained in the courses. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. (1-3 sch: 2-6 hr. lab)

MET 1113 Medical Terminology
This course is a study of medical language relating to the various body systems including diseases, physical conditions, procedures, clinical specialties, and abbreviations. Emphasis is placed on correct spelling and pronunciation and the use of computer assisted software. (3 sch: 2-hr lecture, 2-hr lab)

MET 1214 Medical Business Practices
This course presents the administrative medical assistant procedures with office management written and oral communications. Emphasis is placed on clerical functions, billing, collecting, bookkeeping, and creating and maintaining medical records. The goal is to provide the student with practice situations through demonstration and simulated office settings utilizing electronic health-care record software. (4 sch: 3 hr. lecture, 2 hr. lab)

MET 1313 Clinical Procedures I
The purpose of this course is to introduce the student to basic clinical skills Occupational Safety and Health Administration (OSHA) Standards, infection control, vital signs, patient preparation, and assisting with examinations, emphasizing the importance of being proficient in all of these areas. This course also provides students with opportunities to practice and demonstrate proficiency in simulated settings and check-offs. (3 sch: 2-hr lecture, 2-hr lab)

MET 1323 Clinical Procedures II
This course is a continuation of Clinical Procedures I and will further the student's knowledge of the more complex activities encountered in the physician's office. The clinical duties include maintaining surgical asepsis, instructing patients in preparation for radiologic and sonographic studies, performing ECGs, preparing and administering medications as directed by the physician, and providing mobility assistance. (3 sch: 2-hr lecture, 2-hr lab)

MET 1413 Medical Law and Ethics
This course covers medical law, ethics, and bioethics; the legal relationship of the physician and patient; legal responsibilities of the healthcare team including the patient; and the importance of professional liability. (3 sch: 3-hr lecture)

MET 1513 Pharmacology for Medical Assistants
The course reflects basic theory and clinical information related to drugs including classifications, source, dosages and measurements, regulatory requirements, and basic principles of drug administration. At all times, safety is emphasized for the health professional administering the medication and the patients receiving the medication. Accuracy is stressed. (3 sch: 3-hr lecture)

MET 1911 Medical Assisting Technology Seminar I
This course is designed for students to participate in activities of various professional organizations such as the Medical Assisting Technology Student Organization, HOSA and other student activities. Leadership skills, an understanding of group dynamics, educational enrichment, stimulation of enthusiasm and interest, community service and rapport among health

education professionals are outcomes of this course. One hour per week with additional activities to meet organizational goals. (1 sch: 1-hr lecture)

MET 1921 Medical Assisting Technology Seminar II
This course is designed for students to participate in activities of various professional organizations such as the Medical Assisting Technology Student Organization, HOSA and other student activities. Leadership skills, an understanding of group dynamics, educational enrichment, stimulation of enthusiasm and interest, community service and rapport among health education professionals are outcomes of this course. One hour per week with additional activities to meet organizational goals. (1 sch: 1-hr lecture)

MET 1931 Medical Assisting Technology Seminar III
This course is designed for students to participate in activities of various professional organizations such as the Medical Assisting Technology Student Organization, HOSA and other student activities. Leadership skills, an understanding of group dynamics, educational enrichment, stimulation of enthusiasm and interest, community service and rapport among health education professionals are outcomes of this course. One hour per week with additional activities to meet organizational goals. (1 sch: 1-hr lecture)

MET 2224 Computer Concepts for Medical Assistants
This course will introduce students to the capabilities of a medical practice management software program typical of those currently used in doctors' offices. After completion of this course, students will have knowledge about working with patient accounts, insurance claim forms, and handling reports dealing with management of the medical practice. (4 sch: 2-hr lecture, 4-hr lab)

MET 2234 Medical Insurance
The purpose of this course is to acquaint the student with different types of insurance plans including commercial plans, government plans, disability, worker's compensation, and managed care plans. Practical approach to insurance billing, basic medical and insurance abbreviations, terminology, and ICD-9-CM and CPT coding will be presented. (4 sch: 3-hr lecture, 2-hr lab)

MET 2334 Medical Laboratory for Medical Assistants
This course covers techniques of the clinical laboratory including competent use of the microscope and understanding the theory and knowledge of the common laboratory tests performed in the physician's office. Students will develop proficiency in laboratory and quality assurance procedures including collection, preparation and processing of specimens, urinalysis, hematology, and accurate reporting of test results. (4 sch: 3-hr lecture, 2-hr.lab)

MET 2613 Clinical Review
This summary course is designed to review the skills, knowledge, and abilities acquired during the didacticum. This course will serve to assist the student in preparing for the certification exam, with a review of critical clinical skills and professional development issues. (3 sch: 3 hr. lecture)

MET 2716 Practicum
This course includes supervised experience in medical offices to provide the student with a comprehensive application of administrative and clinical skills. This course is designed to give the student an opportunity to discuss, evaluate, and share learning experiences and to strengthen learning situations brought up in the practicum setting. (6 sch: 1-hr lecture, 15-hr clinical)

MFT 1112 Introduction to Automation and Controls
Introduction to manufacturing/industrial technology with emphasis on safe work practices, manufacturing dynamics, use of test equipment, and fundamentals of automation and control technology. (2 sch: 1 hr. lecture, 2 hr. lab)

MFT 1123 Electrical Wiring for Automation and Control Technology
Basic electrical wiring for automation and controls including safety practices; installation and maintenance of raceways, conduit, and fittings; and three-phase service entrances, metering devices, main panels, raceways or ducts, subpanels, feeder circuits, and branch circuits according to electrical codes. (3 sch: 2 hr. lecture, 2 hr. lab)

MFT 2013 Automated Motion Control
This course is designed to develop advanced skills in the set up of servo motion controller systems, troubleshooting and maintenance of servo motion control systems, and programming of servo motion control. (3 sch: 2 hr. lecture, 2 hr. lab)

MFT 2113 Materials Requirement Planning (MRP)
This is a course that will develop student skills and mechanics in MRP II. Areas include resource management for productive manufacturing, development, and executing an MRP II plan, order point inventory, and closed loop systems. (3 sch: 2 hr. lecture, 2 hr. lab)

MFT 2313 Statistical Process Control
This course provides a detailed study of the methods of implementing and using a computer-based statistical process control system and the associated gauging and automated data collection devices. (3 sch: 2 hr. lecture, 2 hr. lab)

MFT 2413 Computer Integrated Manufacturing
This course is a study of how computers, robots, CAD/CAM, vision systems, and other automated systems can be used in computer integrated manufacturing (CIM). (3 sch: 2 hr. lecture, 2 hr. lab)

MFT 2513 Data Acquisition and Communications
This is a course in acquisition and communication of systems data in automated applications. (3 sch: 2 hr. lecture, 2 hr. lab)

MFT 2614 Flexible Manufacturing Systems
This course is a production project which requires the student to apply technical skills acquired in previous courses. Project management is provided by the instructor with the students working as teams in each particular area of the manufacturing system. The students are required to plan the project and prepare the integrated system to manufacture a product. This includes all software, hardware, fixtures, clamping mechanisms, material handling requirements, sensors and interfacing, and external control devices. (4 sch: 2 hr. lecture, 4 hr. lab)

MFT 291(1-3) Special Problem in Automation and Control Technology
A course to provide students with an opportunity to utilize skills and knowledge gained in other Automation and Control Technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-3 sch: 2-6 hr. lab)

MFT 292(1-6) Supervised Work Experience in Automation & Control Technology
A course which is a cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 sch: 3-18 hr. externship)

MIT 1301 INTRODUCTION TO MILITARY SCIENCE
This course provides training in general knowledge of military organization and culture, understanding o group combat skills, achievement of minimal physical conditioning standards and application of basic safety and group living skills. Course includes lecture, demonstrations and performance exercises. (3 sch: 3 hr lecture).

MIT 1313 RECORDS AND INFORMATION MANAGEMENT
This course provides training in proper collection, storage, processing and reporting of data in a military or civilian environment. This includes oral and written reports and the production and administration of staff journals, files, records and reports. (3 sch: 3 hr lecture)

MIT 1323 PERSONNEL SUPERVISION
This course provides training in planning, directing and controlling personnel functions in military or civilian environments. Introduces students to personnel challenges and competencies that are critical for effective leadership and learn how personal development of life skills such as time management, physical fitness and stress management relate to leadership. (3 sch: 3 hr lecture)

MIT 1333 LEADERSHIP AND TEAM MANAGEMENT
This course includes application of management and supervision principles. Lessons include problem solving, critical thinking, leadership theory, group interaction, goal setting and effective communication within a military environment. (3 sch: 3 hr lecture)

MLT 1111 Fundamentals of Medical Laboratory Technology/Phlebotomy
The course includes an overview of the field of Medical Laboratory Technology, as well as familiarization with laboratory safety, microscopes, glassware, and equipment. It also includes laboratory organization, medical ethics, and employment opportunities. Basic laboratory specimen collection techniques are introduced. (1 sch: 2 hr. lab)

MLT 1212 Urinalysis/Body Fluids
This course is an introduction to urinalysis and laboratory analysis of miscellaneous body fluids. It includes the basic principles of routine and special urine tests, and specimen examination through laboratory work. Theory and test profiles are also presented for miscellaneous body fluids with correlation to diseased states. (2 sch: 1 hr. lecture, 2 hr. lab)

MLT 1313 Hematology I
This course is a study of the function of blood, morphology, and maturation of normal cells, blood cell counts, differentials of white cells, and blood collection and handling.(3 sch: 2 hr. lecture, 2 hr. lab)

MLT 1324 Hematology II
This course includes the study of abnormal cell morphology and diseases involving blood cells, test procedures used in laboratory diagnosis of hematological disease, normal and abnormal hemostasis, and diagnostic procedures for evaluation of bleeding abnormalities and anticoagulant therapy. (4 sch: 2 hr. lecture, 4 hr. lab)

MLT 1413 Immunology/Serology
This course covers the science of immunology and serology through the study of theories and processes related to natural body defenses. Included are basic antigen-antibody reactions, complement action, cellular response, humoral immune response, and the basic serological procedures used to aid in the detection of certain diseases. Throughout this course, special emphasis is placed on correlating laboratory results with the patient's probable condition. (3 sch: 2 hr. lecture, 2 hr. lab)

MLT 1515 Clinical Chemistry
This course is the study of human biochemistry as an aid in the diagnosis of disease processes. It includes chemistry procedures performed on body fluids for aiding in diagnosis of disease processes. (5 sch: 3 hr. lecture, 4 hr. lab)

MLT 1523 Principles of Organic and Biochemistry
A study of the basic mathematical formulas and organic chemistry (3 sch: 2 hr. lecture, 2 hr. lab)

MLT 2424 Immunohematology
This course includes collection, processing, storage, and utilization of blood components. It also includes the study of immunological principles and procedures for blood typing, cross matching, antibody detection, identification, and investigation of hemolytic disease of the newborn. (4 sch: 2 hr. lecture, 4 hr. lab)

MLT 2512 Parasitology
This course covers the morphology, physiology, life cycles, and epidemiology of parasites with emphasis on human pathogenic parasites. Identification of the parasites from human material is also included. (2 sch: 1 hr. lecture, 2 hr. lab)

MLT 2522 Pathogenic Microbiology I
Basic skills, principles, and techniques for the staining, culturing, isolation, and identification of microorganisms of medical importance are emphasized in this course. Included are techniques used in determining the sensitivity of pathogenic bacteria to different antibiotic and other drugs. (2 sch: 1 hr. lecture, 2 hr. lab)

MLT 2614 Pathogenic Microbiology II
Basic skills, principles, and techniques for the staining, culturing, isolation, and identification of microorganisms of medical importance are emphasized in this course. Included are techniques used in determining the sensitivity of pathogenic bacteria to different antibiotic and other drugs. (4 sch: 2 hr. lecture, 4 hr. lab)

MLT 2711 Medical Laboratory Technology Seminar
This course represents a synthesis of previous didactic, laboratory, and clinical experiences. It is designed to facilitate activities incorporated in student and professional organizations and to allow students to select and present a case study. (1 sch: 2 hr. lab)

MLT 2723 Certification Fundamentals for Medical Laboratory Technology
This course is an in-depth study and review of material covered in the MLT curriculum. It is designed to prepare the student for the national registry/certifying exams. (3 sch: 3 hr. lecture)

MLT 2812 Clinical Instrumentation
A review of various types of instruments found in the clinical laboratory is emphasized in this course. Included are operation, calibration, quality control, and troubleshooting. (2 sch: 2 hr. lecture)

MLT 2916, MLT 2926, MLT 2936 Clinical Practice I, II, III
This course includes clinical practice and didactic instruction in a clinical affiliate. Areas covered are hematology, clinical chemistry, immunohematology, urinalysis, microbiology, coagulation, and serology. (6 sch: 18 hr. clinical for each Clinical Practice)

MLT 2944, MLT 2954, MLT 2964 MLT 2974 Clinical Practicum I, II, III, IV
This course includes clinical practice and didactic instruction in a clinical affiliate and/or comparable simulated environment. Areas covered are hematology, clinical chemistry, immunohematology, urinalysis, microbiology, coagulation, and serology. (4 sch: 12 hr. clinical for each Clinical Practice)

MMT 1113 Principles of Marketing
Study of principles and problems of marketing goods and services and methods of distribution from producer to consumer. Types, functions, and practices of wholesalers and retailers and efficient techniques in the development and expansion of markets. (3 sch: 3-hr lecture)

MMT 1123 Marketing Applications
A project based course is a continuation of MMT 1113. (3 sch: 3-hr lecture)

MMT 1313 Selling
Basic principles and techniques of professional sales and their practical application. Topics include basic elements of consumer behavior, developing selling strategies, closing and servicing a sale, and developing consumer relations. (3 sch: 3-hr lecture)

MMT 1323 Advertising
The role of advertising as a promotional tool. Topics included are product and consumer analysis, media selection, and creation of advertising. (3 sch: 3-hr lecture)

MMT 1413 Merchandising Math
Study of the mathematical calculations involved in the merchandising process. Fundamental principles and operations in buying, pricing, and inventory control. (3 sch: 3-hr lecture)

MMT 171(1-3), MMT 172(1-3 , MMT 173(1-3), MMT 174(1-3), MMT 175(1-3) Marketing Marketing Seminar I, II, III, IV, V
Develops leadership skills and human relations skills necessary for success in the field of marketing management. Special programs and activities will address topics directly related to marketing careers and career development. Emphasis will be placed on developing civic, social, and business responsibilities. (1-3 sch: 2-6-hr lab)

MMT 2113 Internet Concepts
Provides an inclusive review and understanding of the Internet focusing on creating web pages through various software packages and exploration of ecommerce concepts. (3 sch: 3 lecture, 0 lab)

MMT 2133 Software Essentials for E-Business
Introductory course for business computer graphics. Students will learn how to create and enhance digital images for business purposes. (3 sch: 3 lecture, 0 lab)

MMT 2213 Principles of Management
Study of the basic principles and functions of organizationsl management with special emphasis on planning, organizing, directing, staffing, and controlling. (3 sch: 3-hr lecture)

MMT 2233 Human Resource Management
Objectives, organization, and functions of human resource management. Emphasis is placed on selection and placement, job evaluation, training, education, safety, health, employer-employee relationships, and employee services. (3 sch: 3-hr lecture)

MMT 2243 Marketing Case Studies
The study of effective marketing management decision making through case study analysis. (3 sch: 3-hr lecture)

MMT 2313 E-Commerce Marketing
This course introduces the fundamental opportunities and challenges associated with e-commerce activities. Topics include designing the user interface, Web security, electronic payment systems, promotion, and legal issues involved in creating a functioning on-line business. (3 sch: 3-hr lecture)

MMT 2323 Internet Marketing
This course introduces the online application of marketing communications. Topics include basic website design, search engine optimization, digital promotions, email and social media marketing, and opportunities and challenges associated with e-commerce activities. (3 sch: 3 lecture, 0 lab)

MMT 2333 Multimedia Presentations for Marketing
Design and deliver multimedia marketing presentations through the use of appropriate multimedia software and tools. Topics include marketing design concepts and related marketing communication strategies. (3 sch: 2-hr lecture, 2-hr lab)

MMT 2343 Marketing Web Page Design
Use creative marketing strategies, concepts, and techniques to design web sites that will reach designated target markets. (3 sch: 2-hr lecture, 2-hr lab)

MMT 2353 Digital Media Applications
Design and deliver multimedia marketing presentations through the use of appropriate multimedia software and tools. Topics include marketing design concepts and related marketing communication strategies. (3 sch: 3 lecture, 0 lab)

MMT 2423 Retail Management
Study of retailing processes including functions performed, principles governing effective operation, and managerial problems resulting from current economic and social trends. (3 sch: 3-hr lecture)

MMT 2513 Entrepreneurship
Overview of activities that are involved in planning, establishing, and managing a small business enterprise. Topics to be covered include planning, location, analysis, financing, and development of a business plan. (3 sch: 3-hr lecture)

MMT 2523 Event Marketing
Design a plan for special events, trade and consumer shows, exhibitions, and conventions. (3 sch: 2-hr lecture, 2-hr lab)

MMT 2613 International Marketing
Provide students with an overview and understanding of international marketing. This involves an analysis of world markets, their respective consumers and environments, and the marketing management required to meet the demands of constantly changing foreign markets. (3 sch: 3-hr lecture)

MMT 291(1-6) Internship in Marketing Management
Direct application of concepts and theory of business and marketing management technology. Students will work in a marketing related environment. (1-6 sch: 3- to 18-hr externship)

MMT 292(1-6) Marketing Cooperative Education
Direct application of concepts and theory of marketing management. Students will work in a marketing-related environment. (1-6 sch: 3- to18-hr externship). Prerequisite: Permission of the instructor.

MNT 1114 Manufacturing Skills Basic
Manufacturing Skills is the initial course designed to provide the student with the basic skills needed to be successful in a high-performance manufacturing environment. The course covers 5 major areas of knowledge that are considered critical for employment in a high-performance manufacturing company. The topics covered include: Basic Computer Literacy, Safety and CPR, Blueprint Reading, Precision Measurement, and an introduction to manufacturing improvement methods that covers Lean Manufacturing, Quick Changeover, 5S, Teamwork and Problem-solving. (4 sch: 2 lecture, 4 lab)

MNT 1123 Industrial Electricity
Principles and theories associated with AC and DC circuits used in the electrical trades. Includes the study of electrical circuits, laws and formulas, and the use of test equipment to analyze AC and DC circuits. (3 sch: 1 lecture, 4 lab)

MNT 1134 Industrial Control Systems
Instruction in the operation and function industrial control circuits and devices. Emphasis is placed on the student's ability to diagram, wire and troubleshoot a variety of circuits, control devices and actuators. (4 sch: 2 lecture, 4 lab)

MNT 1142 Mechanical Power Transmission I
This course includes instruction and lab exercises related to motor mounting and alignment, key fasteners, and power transmission systems. (2 sch: 0 lecture, 4 lab)

MNT 1153 Basic Industrial Robotics
This course provides a hands-on learning environment to develop and practice basic robotics safety, robotics systems, robotic operations and robotic programming. (3 sch: 2 lecture, 2 lab)

MNT 1213 Programmable Logic Controllers
This course covers use of programmable logic controllers (PLCs) in modern industrial settings as well as the operating principles of PLCs and practice in the accelerated programming, installation and maintenance of PLCs. (3 sch: 1 lecture, 4 lab)

MNT 1224 Fluid Power
Instruction in the basic principles of hydraulics and pneumatics and the inspection, maintenance and repair of hydraulic and pneumatic systems. (4 sch: 2 lecture, 4 lab)

MNT 1233 Electronic Motion Control
This course explains applications and operating procedures of solid state controls, reduced-voltage starters, and adjustable frequency drives as well as troubleshooting procedures. (3 sch: 1 lecture, 4 lab)

MNT 1242 Mechanical Power Transmission II
This course includes instruction and lab exercises related to V belt drives, chain drives, gear drives, and multiple shaft systems. (2 sch: 0 lecture, 4 lab)

MNT 2114 Mechatronics Programming I
This course provides a hands-on learning environment to develop and practice the techniques used in programming and sequencing mechatronics systems. (4 sch: 2 lecture, 4 lab)

MNT 2123 Fundamentals of Instrumentation
This course provides students with a general knowledge of instrumentation principles as they relate to the electrical industry. This course includes instruction in the basis of hydraulics and pneumatics and the use of electrical circuits in the instrumentation process. (3 sch: 2 lecture, 2 lab)

MNT 2133 Mechatronics Troubleshooting and Repair
This course provides a hands-on learning environment to develop and practice the techniques used in troubleshooting complex mechatronics systems. (3 sch: 1 lecture, 4 lab)

MNT 2214 Mechatronics Process Control
A study of the instruments and instrument systems used in chemical processing including terminology, primary variables, symbols, and control loops. (4 sch: 2 lecture, 4 lab)

MNT 2224 Mechatronics Programming II
This course provides a hands-on learning environment to develop and practice the techniques used in advanced programming and network integration of mechatronic systems. (4 sch: 2 lecture, 4 lab)

MNT 2234 Mechatronics Special Project
This course provides practical application of skills and knowledge gained in their Mechatronics Technician program of study. The instructor works closely with the student to ensure the selection of a project will enhance the student's learning experience. (4 sch: 0 lecture, 8 lab)

MNT 2314 Maintenance Welding and Metals
This course includes different metals and their properties and in basic SMAW welding and oxy-fuel cutting and brazing. Components of this course are adopted from the NCCER Welding Level 1 Certification. Instructors for this course must be certified as an NCCER Instructor if administering the certification. (4 sch: 1 lecture, 6 lab)

MNT 2324 Power Tools, Machining, and Materials
This course is designed to provide fundamental skills associated with all mechanical maintenance courses. This course includes safety, powered hand and stationary tools, use of a calculator, test equipment familiarization and terminology. (4 sch: 2 lecture, 4 lab)

MNT 2333 Computer Aided Design I
This course is designed to develop basic operating system and drafting skills on CAD. (3 sch: 2 lecture, 2 lab)

MNT 2344 CNC/ Computer Assisted Manufacturing
An introduction of computer numerical control (CNC) and computer assisted manufacturing (CAM) techniques and practices. Includes the use of the Cartesian coordinate system, programming codes and command, and tooling requirements for CNC/CAM machines. (4 sch: 2 lecture, 4 lab)

MNT 2354 Preventative Maintenance
This course includes four major performance domains that are aligned to the Certified Maintenance Reliability Professional Certification. Domains include maintenance practices, preventive and predictive maintenance and analysis, and corrective maintenance. (4 sch: 2 lecture, 4 lab)

MNT 2364 Industry 4.0 with Data Acquisition
This is a course to introduce and explain Industry 4.0 with data acquisition. (4 sch: 2 lecture, 4 lab)

MNT 2373 Servo Control Systems
This course is designed to teach servo components; velocity servos; positional servos; force, pressure, and torque servos; servo amplifiers; programmers; and servo analysis. Emphasis placed on servo trim and maintenance and the applications of servo systems. (3 sch: 2 lecture, 2 lab)

MNT 2384 Mechatronics Robotics
This course provides a hands-on learning environment to develop and practice the techniques used in programming and troubleshooting robotic systems. (4 sch: 2 lecture, 4 lab)

MPT 1112 Introduction to Maritime Pipefitting
Provides the trainee with an overview of pipefitting, pipefitter responsibilities, and career opportunities. This course also covers basic principles of safety. (2 sch: 2 lecture).

MPT 1121 Principles of Pipefitting Math
This course explains how to use ratios and proportions, solve basic algebra, area, volume, and circumference problems, and solve for right triangles using the Pythagorean Theorem. Instructors for this course must be certified as an NCCER Instructor. (1 sch: 1 lecture).

MPT 1133 Pipefitting Tools and Equipment
This course covers general hand tool safety and procedures for identifying, selecting, inspecting, using, and caring for pipe vises and stands, pipe wrenches, levels, pipe fabrication tools, and pipe bending tools. This course identifies the hazards and explains general safety procedures that must be followed when using power tools, and explains specific guidelines for using electric and pneumatic power tools. This course explains the applications, proper use, and safety considerations for using engine-driven generators, welding machines, air compressors, pumps,

forklift trucks, and hydraulic cranes. Instructors for this course must be certified as an NCCER Instructor. (3sch: 2 lecture 2 lab).

MPT 1142 Pipefitting Systems and Drawings
This course introduces chemical, compressed air, fuel oil, steam, and water systems and explains how to identify them by color-code. It also explains thermal expansion of pipes and pipe insulation. This course introduces the trainee to plot plans, structural drawings, elevation drawings, as-built drawings, equipment arrangement drawings, P&IDs, isometric drawings, spool sheets, and detail sheets. Instructors for this course must be certified as an NCCER Instructor. (2sch: 1 lecture 2 lab).

MPT 1212 Oxyfuel Cutting and Brazing
This course explains the safety requirements for oxyfuel cutting. It identifies oxyfuel cutting equipment and setup requirements. It explains how to light, adjust, and shut down oxyfuel equipment. Trainees will perform cutting techniques that include straight line, piercing, bevels, and washing. Instructors for this course must be certified as an NCCER Instructor. (2sch: 1 lecture 2 lab).

MPT 1152 Rigging Equipment and Practices
This course describes the use and inspection of the basic equipment and hardware used in rigging, including slings, wire ropes, chains, and attaching hardware. It also explains sling angles and describes the use of tuggers, jacks, hoists, and come-alongs. This course describes basic rigging and crane hazards and related safety procedures, provides an overview of personnel lift lifting and lift planning, and introduces load charts and load balancing. It includes instructions for rigging and lifting pipe. Instructors for this course must be certified as an NCCER Instructor. (2sch: 1 lecture 2 lab).

MPT 1162 Advanced Piping Math
This course discusses the use of equivalent and conversion tables and explains how to use right angle trigonometry to calculate takeouts. Instructors for this course must be certified as an NCCER Instructor. (2 sch: 2 lecture).

MPT 1172 Ladders and Scaffolding
This module covers hazards and general safety procedures governing the use of the stepladders, straight and extension ladders, fixed scaffolds and rolling scaffolds. (2 sch: 1 lecture, 2 lab)

MPT 1222 Butt Weld Pipe Fabrication
This module describes the materials used in butt weld piping systems. It explains how to determine pipe lengths between butt weld fittings, prepare the pipe and fittings for fit-up, and fabricate butt weld fittings. It also describes how to select and install backing rings, fabricate channel iron welding jigs, and use and care for welding clamps. Instructors for this course must be certified as an NCCER Instructor. (2sch: 1 lecture 2 lab).

MPT 1232 Socket Weld Pipe Fabrication
This module describes the materials used in socket weld piping systems. It explains how to determine pipe lengths between socket weld fittings, prepare the pipe and fittings for fit-up, and fabricate socket weld fittings. Instructors for this course must be certified as an NCCER Instructor. (2sch: 1 lecture 2 lab).

MPT 1241 Threaded Pipe Fabrication
This course describes the materials used in threaded piping systems. It explains how to determine pipe lengths between threaded pipe fittings, prepare the pipe and fittings for fit-up, and assemble the piping system. Instructors for this course must be certified as an NCCER Instructor. (1sch: 1 lecture).

MPT 1311 Fiberglass and Plastic Pipe
This module introduces students to piping using fiberglass and plastic as the primary piping material. Instructors for this course must be certified as an NCCER Instructor. (1sch: 1 lecture).

MPT 1322 Identifying Valves, Flanges, and Gaskets
This module identifies and provides installation methods for different types of valves. It also covers valve storage and handling. Instructors for this course must be certified as an NCCER Instructor. (2sch: 1 lecture 2 lab).

MPT 2173 Advanced Pipe Drawing (Intermediate and Advanced)
This module covers P&IDs, plan views, section views, isometric drawings, and spool drawings. It teaches the trainee to work through a set of drawings and extract the information from one drawing that is necessary to interpret other drawings. It explains how to use plan views to draw isometrics and use isometrics to put together spools. The drawings supplied fit together to design a main steam line for a power plant. Instructors for this course must be certified as an NCCER Instructor. (3sch: 3 lecture).

MPT 1342 Routing Trimming and Testing Piping Systems
This module explains how to secure the work area and determine field run specifications, load weights for erection equipment, and support needs. It also covers how to erect vessel trim. Instructors for this course must be certified as an NCCER Instructor. (2sch: 1 lecture 2 lab).

MPT 1333 Pipe Installation with Hangers and Supports
This module explains how to identify, select, and install pipe hangers and supports, including spring can supports. Instructors for this course must be certified as an NCCER Instructor. (3sch: 1 lecture 4 lab).

MPT 2181 In-Line Specialties, Standards, and Specifications
This module explains how to read and interpret pipefitting standards, codes, and specifications. It describes how to identify pipe and components according to specifications. Instructors for this course must be certified as an NCCER Instructor. (1sch: 1 lecture).

MPT 2253 Advanced Pipe Fabrication
This module presents various piping offsets: three-line, 45-degree, equal spread offsets around a vessel, and three-line, 45-degree, unequal offsets. It also covers how to fabricate tank coils; three, four, and fivepiece mitered turns; 45-degree laterals using both references; and contour markers, dummy legs out of both pipe and structural steel, and mitering procedures. Instructors for this course must be certified as an NCCER Instructor. (3sch: 1 lecture 4 lab).

MPT 2511 Stress Relieving and Alignment
This module explains thermal expansion methods of stress-relieving, including preheating, interpass heating, and postheating. It also shows how to perform stress-relief and dry washing weld procedures to align pipe flanges to equipment nozzles. Instructors for this course must be certified as an NCCER Instructor. (1sch: 1 lecture).

MPT 2521 Steam Traps
This module identifies types of steam traps, including mechanical, thermostatic, and thermodynamic. It explains how to install steam traps and troubleshoot steam trap systems. Instructors for this course must be certified as an NCCER Instructor. (1sch: 1 lecture).

MPT 2532 Special Piping
This module explains how to assemble flared and compression joints using copper tubing, how to solder and braze joints using copper tubing, and how to bend pipe to a specified radius. It also explains how to install glass-lined pipe, hydraulic fitted compression joints, and grooved pipe couplings. Instructors for this course must be certified as an NCCER Instructor. (2sch: 1 lecture 2 lab).

MPT 2541 Maintaining Valves
This module explains how to remove threaded and flanged valves, how to replace valve stem O-ring and bonnet gaskets, and how to repack a valve stuffing box. It also discusses the purpose of valve packing. Instructors for this course must be certified as an NCCER Instructor. (1sch: 1 lecture).

MPT 2613 Fundamentals of Leadership
This module covers the basic skills required for supervising personnel, including diversity, project organization, problem solving, and safety. Instructors for this course must be certified as an NCCER Instructor. (3sch: 3 lecture).

MQT 1114 Fundamentals of Meat Merchandising
This course coversthe basic fundamentals of meat merchandising including career opportunities,safety requirements,sanitation, equipment and its maintenance, and government regulations. (4 sch:0 hr lecture, 8 hr. lab)

MQT 1214 Identification of Wholesale and Retail Cuts
This course consists of the identification of wholesale and retail cuts of meat. The course also includes preparation and serving of meat products. Background information is provided on dressing, chilling, storage, and sanitation, inspection, grading, curing, and smoking proceduresfor different types of meat products.(4 sch:0 hr lecture, 8 hr. lab)

MQT 1224 Preparation of Wholesale and Retail Cuts
This course is the study of breaking carcassesinto wholesale boxed cuts of beef, pork, and lamb; preparing basic retail cuts from wholesale boxed cuts; boning procedures; and packaging. (4 sch:0 hr lecture, 8 hr. lab)

MQT 1234 Merchandising of Poultry, Fish, Seafood, and Smoked Meats
This course includes cutting and merchandising poultry and fish products; merchandising of smoked meat counter; refrigeration; and display techniques of poultry, fish, seafood, and smoked meats. (4 sch:0 hr lecture, 8 hr. lab)

MQT 1314 Display Pricing and Marketing Techniques
This course includes advanced merchandising techniquesincluding wholesale purchasing, wholesale and retail meat pricing, and gross profit control yield data. (4 sch:0 hr lecture, 8 hr. lab)

MQT 1324 Display Pricing and Marketing TechniquesII
This course includes advanced merchandising proceduresincluding conducting cutting tests and forecasting gross profits. (4 sch:0 hr lecture, 8 hr. lab)

MQT 1414 Advanced Meat Merchandising I
This course is a study of portion control, nutritional values of red meat and poultry, steps and cycles associated with marketing red meat and poultry, and factorsthat affect meat prices. (4 sch:0 hr lecture, 8 hr. lab)

MQT 1424 Advanced Meat Merchandising II
This course is a special study of meat merchandising as it affectsthe many different phases of the meat industry. The course includessalesmanship and customer relations. (4 sch:0 hr lecture, 8 hr. lab)

MQT 1514 Catering, Food Preparation, and Value Added Products
This course includes basic information about the catering industry including types of catering services, how to start a business, selling catering services, food safety, and arranging specific catering events. The course also includes basic information about the trend toward marketing value-added products. (4 sch:0 hr lecture, 8 hr. lab)

MQT 1522 Food Safety
This course includes basic information related to food safety. (2 sch:2 hr lecture, 0 hr. lab)

MST 1114-6 Power Machinery I
This course provides instruction of general shop safety as well as the operation of power machinery which includes instruction and practice in the safe operation of lathes, power saws, drill presses, and vertical mills. (4-6 sch: 2 hr. lecture, 4-8 hr. lab)

MST 112(4-6) Power Machinery II
A continuation of Power Machinery I with emphasis on advanced applications of lathes, mills, and precision grinders. (4-6 sch: 2-3 hr lecture, 4-6 hr. lab)

MST 121(1-3) Drill Press and Band Saw Operations
This course provides instruction of general shop safety as well as the operation of power machinery that includes instruction and practice in the safe operation of band saws and drill presses. (1-3 sch: 1-2 hr lecture, 0 or 2 hr lab)

MST 122(1-3) Lathe Turning Knowledge
This course provides instruction of general shop safety as well as the operation of the lathe. The course will implement the performance of lathe operations resulting in the manufacture of various parts. (1-3 sch: 1-2 hr lecture, 0 or 2 hr lab)

MST 123(1-3) Milling Machines Knowledge
This course provides instruction of general shop safety as well as the operation of vertical milling machines. The course will implement the performance of milling operations resulting in the manufacture of various parts. (1-3 sch: 1-2 hr lecture, 0 or 2 hr lab)

MST 124(2-3) Precision Lathe Operations
This course is a continuation of lathe tuning knowledge and provides instruction of general shop safety as well as additional instruction in lathe operations. (2-3 sch: 1-2 hr lecture, 2 hr lab)

MST 125(1-2) Surface Grinding Operations
This course provides instruction in general shop safety as well as emphasis on advanced applications of precision grinders. (1–2 sch: 1-hr lecture; 1-hr lecture, 2-hr lab)

MST 126(2-3) Milling Machine Operations
This course provides instruction in general shop safety as well as emphasis on advanced applications of milling machine operations. (2-3 sch: 1-2 hr lecture; 2-hr lab)

MST 1313 Machine Tool Mathematics
An applied mathematics course designed for machinists which includes instruction and practice in algebraic and trigonometric operations. (3 sch: 2 hr. lecture, 2 hr. lab)

MST 141(2-3) Blueprint Reading
Plans and specifications interpretation designed for machinists. Includes instruction and practice in reading plans and applying specifications. (3 sch: 2 hr. lecture, 2 hr. lab)

MST 1423 Advanced Blueprint Reading
A continuation of Blueprint Reading with emphasis on advanced features of plans and specifications. Includes instruction on the identification of various projections, views, and assembly components. (3 sch: 2 hr. lecture, 2 hr. lab)

MST 1613 Precision Layout
Precision layout for machining operations which includes instruction and practice in the use of layout instruments. (3 sch: 2 hr. lecture, 2 hr. lab)

MST 162(3-5) Fundamentals of Geometric Dimensioning and Tolerancing
This course is designed to provide the students with a solid foundation in the fundamentals of geometric dimensioning and tolerancing. It includes emphasis on measurement theory, common terms and definitions, profile tolerances, orientation tolerances, locational tolerances, runout tolerances and form tolerances as they relate to Machine Tool Technology. (3-5sch: 3 hrs. lecture, 2 or 4 hrs. lab)

MST 213(4-6) Power Machinery III
A continuation of Power Machinery II with emphasis on safety, and advanced applications of the engine lathe, milling, and grinding machine. (4-6 sch: 2-3 hr. lecture, 4 or 6 hr. lab)

MST 214(4-6) Power Machinery IV
A continuation of Power Machinery III with emphasis on highly advanced safe operations on the radial arm drill, milling machine, engine lathe, and precision grinder. (4-6 sch: 2-3 hr. lecture, 4 or 6 hr. lab)

MST 2313 Machine Tool Additive Manufacturing
A synchronized approach considering functional design, analysis and manufacturing that support seamless integration of geometry with performance. The course will address additive manufacturing principles, variety and their concept; scope of additive manufacturing with application area; industrial applications. (3 Sch: 2 lac, 2 lab)

MST 2223 Inventory Control
This course is designed to introduce the concepts of managing an inventory, including elements of shipping and receiving. (3 sch: 3 lecture, 0 lab)

MST 2413 Machine Tool CMM Inspection
This class identifies the major types and components of the coordinate measuring machine and descries the coordinate system. (3 Sch: 2 lac, 2 lab)

MST 2423 Machine Tool Industrial Automation
This course teaches the operating systems and advanced programming methods of industrial robots and mechatronics systems. Actual industrial grade robots are used to train the student in the areas or operation, maintenance, and robotics applications in addition to hands on learning to develop and practice the techniques used in programming and sequencing mechatronics systems. (3 Sch: 2 lac, 2 lab)

MST 251(2-3) Advanced Lathe Operations
This course provides instruction on safety and advanced applications of the engine lathe. (2-3 sch: 1-2 hr lecture, 2 hr lab)

MST 252(1-3) Advanced Milling Operations
This course provides instruction on safety and advanced applications of the vertical milling machine. (1-3 sch: 1-2 hr lecture, 2 hr lab)

MST 253(2-3) Precision Grinding Operations
This course provides instruction on safety and grinding operations and applications to include tool post grinding, cylindrical grinding, and center-less grinding. (2-3 sch: 2 hr lecture, 2 hr lab)

MST 254(1-2) Gear Types and Manufacturing
This course provides instruction on safety and vertical or horizontal milling operations, formulas, and procedures required to manufacture various types of gears and their applications. (1-2 sch: 1 hr lecture, 2 hr lab)

MST 255(1-4) Advanced Machinging Tech
This course provides instruction on safety and operation and applications of new machining technologies that apply to precision manufacturing in global markets. Laser technology, EDM wire and Die sink, and plasma and water jets are now commonly used in machining and forming shapes in utilizing exotic space age materials. (1–4sch: 1-4 hr lecture, 2-6-hr lab)

MST 271(4-6) Computer Numerical Control Operations I
An introduction of computer numerical control (CNC) and computer assisted manufacturing (CAM) techniques and practices. Includes the use of the Cartesian coordinate system, programming codes and command, and tooling requirements for CNC/CAM machines. (4-6 sch: 2-3 hr. lecture, 4 or 6 hr. lab)

MST 272(4-6) Computer Numerical Control Operations II
A continuation of Computer Numerical Control Operations I. Includes instruction in writing and editing CNC programs, machine setup and operation, and use of CAM equipment to program and operate CNC machines (CNC lathes, CNC mills, CNC machine centers, and wire EDM). (4-6 sch: 2-3 hr. lecture, 4-6 hr. lab)

MST 273(3-5) Introduction to CAD/CAM
This course is designed to provide the students with the fundamental knowledge and skills of Computer Aided Design Manufacturing using various CAD/CAM software packages as they relate to Machine Tool Technology. (3-5 sch: 3 hr. lecture, 2-4 hrs. lab

MST 2753 Computer Numerical Control Operations Ill
A continuation of computer numerical control (CNC) operations Il and computer .. assisted manufacturing (CAM) techniques and practices. Includes the use of CNC Machining Centers with 4th and 5th axis capabilities and the use of dynamic work offsets. (3 sch: 2 lecture, 2 lab)

MST 2763 Computer Numerical Control Operations IV
A continuation of computer numerical control (CNC) operations Ill and computer assisted manufacturing (CAM) techniques and practices. Inc!udes the use of CNC Turning Centers with live tooling and Swiss CNC. . (3 sch: 2 lecture, 2 lab)

MST 281(1-3) Metallurgy
Concepts of metallurgy including instruction and practice in safety, metal identification, heat treatment, and hardness testing. (1-3 sch: 1 hr. lecture, 2-4 hr. lab)

MST 291(1-4) Special Problem in Machine Tool Technology
A course to provide students with an opportunity to utilize skills and knowledge gained in other Machine Tool Technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-4 sch: 2-8 hr. lab)

MST 292(1-6) Supervised Work Experience in Machine Tool Technology
This course is a cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of 1 semester hour per 45 industrial contact hours. (1-6 sch variable: 3-18 hr. externship).

MTA 100 (1-6) Supervised Work Experience
The supervised work experience will be performed in an on-the-job training setting related to the apprentice's major field of study. This course is designed for the on the job application of various industrial and educational skills with the integration of the apprentice's technical studies and industrial experience. (1-6 sch: 1-4 lecture, 2-10 lab)

MTA 1113 Occupational Math
This course provides an introduction to fundamentals of general math, basic algebraic operations, plane geometry, and application of trigonometric functions. It also includes instruction in the principles of measurement and practice with the steel ruler. (3 sch: 2 lecture, 2 lab)

MTA 1122 Carpenter Shop I
This course will provide the student with the basic carpenter skill sets using basic hand and power tools with practical applications applied in the field and the carpenter shop, within a marine environment. (2 sch: 0 lecture, 4 lab)

MTA 1133 Carpenter Shop II
This course will provide the student with intermediate carpenter skill sets with practical applications applied in the field while working to erect scaffolding and shoring/blocking, with a marine environment. In addition, the course explains Occupational Safety and Health Administration (OSHA) safety regulations and tagging procedures. (3 sch: 2 lecture, 2 lab)

MTA 1143 Blueprint Reading for Carpenter

This course is a comprehensive guide to interpreting drawings commonly found in the shipbuilding industry. The students will develop an understanding of the different types, sizes, and parts of various drawings related to their trade. Abbreviations and symbols related to the shipbuilding industry along with a brief introduction of laying out, cutting, shaping and fitting keel blocks; correct placements of vertical and incline ladders; hatch guard and lifeline placement and installation on marine type drawings that will be provided. General shipbuilding terminology, orientation, deck levels, compartments, and shipboard equipment will be introduced. Successful completion of this course will give the student a general knowledge of the drawings used in the shipbuilding industry and enhance the student's productivity. (3 sch: 2 lecture, 2 lab)

MTA 1153 Introduction to Shipbuilding and Blueprint Reading

This course emphasizes the essentials required to successfully interpret blueprints and the techniques, views, layouts, dimensioning and symbols used on blueprints for the maritime industry. Additional focus is on terminology, planning, and processes of ship construction, and the evolution of ship design. (3 sch: 2 lecture, 2 lab)

MTA 1163 Advanced Pipe Welding

The Advanced Pipe welding course will provide an introduction to general safety considerations that apply to welding .and metal cutting, welding symbols, reading welding detail drawings, welding quality, base metal preparation, physical characteristics and mechanical properties of metals and preheating and post weld heat treatment of metals. It will continue with plasma arc cutting, shielded metal arc welding (SWAW) stainless steel groove welds, and principles of safe oxyfuel cutting, It finishes with gas metal arc welding and flux-cored arc welding (FCAW) equipment and filler metals, FCAW- pipe, and air carbon arc cutting (CAC-A) and gouging. Lab exercises will be comprehensive and will be concentrated in the latter half of the course. (3 sch: 2 lecture, 2 lab)

MTA 1174 Introduction to Paint

This course provides the fundamentals of paint and coatings processes and procedures as they relate to shipbuilding. It reviews industry standards, safety, quality and processes including basic abrasive blasting, spray painting, brush painting and rolling, machine cleaning, masking, and de-masking. (4 sch: 3 lecture, 2 lab)

MTA 1183 Introduction to Joiner and Sheet Metal

This course provides the basic skills needed in order to perform as an entry level Joiner Apprentice. The course begins with the use of basic tools, interpreting tape measures, power tools, ship navigation and introduction to blueprints. (3 sch: 2 lecture, 2 lab)

MTA 1194 Rigger Shop I

Rigger Shop I introduces rigging communications, basic principles of cranes, crane safety, basic rigging, rigging equipment and rigging practices. (4 sch: 3 lecture, 2 lab)

MTA 1214 Rigger Shop II

Rigger Shop II introduces intermediate rigging, wire rope, boom assembly and disassembly, and basic principles of cranes. (4 sch: 3 lecture, 2 lab)

MTA 1223 Blueprint Reading for Shipfitter
This course is an introduction to the fundamentals of blueprints, reading, interpreting, and understanding blueprints. The students will develop an understanding of the different types, sizes, and parts of various drawings as they relate to the shipfitting craft. (3 sch: 2 lecture, 2 lab)

MTA 1233 Flux Cored Arc Welding
This course is designed to give the student experience using the FCAW process. (3 sch: 2 lecture, 2 lab)

MTA 1244 Introduction to Shipfitting
This course is designed to provide students an introduction to shipfitting, which includes classroom training, welding certification, and hands-on application. This course covers safety equipment, protective clothing, and procedures applicable to the cutting and welding of metals. Also covered will be proper procedures to clean and prepare base metals, joint design and welding tasks. Oxy fuel is covered in the process of burning and washing. Shielded metal arc welding (SMAW) and flux cored arc welding (FCAW) techniques along with applicable codes will also be covered. Filler metals and weld testing is also included. (4 sch: 3 lecture, 2 lab)

MTA 1254 Journeyman Essentials for Shipfitters
The first half of this course provides instruction in flame cutting methods including layout and cutting bevels, chamfers, and circles; as well as methods used to cut or split common structural components such as beams and bars. Also covered is plasma arc cutting methods and safe practice of equipment and work area preparation. The second half of this course focuses on accuracy control and provides instruction in basic level surveying, reference control lines, and recording and interpreting data on check sheets. In addition, instruction on using the Constructional and Erection Guide book and the Dimensional Control Construction Guidance (DCCG) is provided. (4 sch: 3 lecture, 2 lab)

MTA 1263 Journeyman Essentials for Welders
This course will familiarize the Apprentice with information and knowledge about weld cost, definitions, and terms, welding joint design, filler metal selection, welding symbols, visual inspections, and weld defects. In addition, this course will provide the student with the understanding of work orders and physical progression. This course provides welding Apprentices with classroom and workshop training for behaviors and methods to enhance their capabilities to become first class welders. (3 sch: 2 lecture, 2 lab)

MTA 1283 Layout II
An intermediate class for the hands-on fundamentals of layout, cutting, forming, and fabrication of sheet metal. (3 sch: 2 lecture, 2 lab)

MTA 1293 Layout III
This course is designed as an advanced class for the hands-on application of layout, cutting, forming and fabrication of sheet metal, (3 sch: 2 lecture, 2 lab)

MTA 1314 Power Machinery
This course provides instruction in general machine shop procedures and shop safety. Students are introduced to turning, milling, and drilling operations, as well as job planning. (4 sch: 3 lecture, 2 lab)

MTA 1323 Precision Layout
An introduction to the concepts and practice of precision layout for machining operations. Includes instruction and practice in the use of layout instruments. (3 sch: 2 lecture, 2 lab)

MTA 1333 Safety for Welders
This course is designed to provide a development of knowledge and skills to reinforce attitudes and behaviors required for safe and environmentally sound work habits. Emphasis is placed on Safety Health and Environment al issues in the performance of all job tasks and regulatory compliance issues. (3 sch: 2 lecture, 2 lab)

MTA 1344 Shielded Metal Arc Welding (SMAW)
This course is designed to teach students introductory welding techniques using the SMAW process. (4 sch: 3 lecture, 2 lab)

MTA 1354 Weld Theory and Techniques
This course provides an introduction to welding and welding techniques. Topics include safety, welding and cutting processes, shop math, welding metallurgy, and weldability of metals, reading technical drawings, fabrication, certification, testing and inspection of welds, welding joint design, costs, and welding symbols. (4 sch: 3 lecture, 2 lab)

MTA 1373 Blueprint Reading for Insulation
This course is a comprehensive guide to interpreting drawings commonly found in the defense industry. The students will develop an understanding of the different types, sizes, and parts of various drawings. Piping, HVAC, Hull Insulation and symbols will be presented. This course will provide Insulation Apprentices with basic information needed to install marine insulation on naval contracts and introduce computer and blueprint navigation using marine insulation blueprint. (3 sch: 2 lecture, 2 lab)

MTA 1384 Blueprint Reading for Joiner
This course is an introduction to the fundamentals of blueprints, reading, interpreting, and understanding blueprints. The students will develop an understanding of the different types, sizes, and parts of various drawings as they relate to the joiner craft. (4 sch: 3 lecture, 2 lab)

MTA 1393 Blueprint Reading for Machinist
This course is a comprehensive guide to interpreting drawings commonly found in the shipbuilding industry. The students will develop an understanding of the different types, sizes, and parts of various drawings related to their trade. Abbreviations and symbols related to the shipbuilding industry along with a brief introduction of Geometric Dimensioning and Tolerance (GD&T) and its proper application in a drawing will be provided. General shipbuilding terminology, orientation, deck levels, compartments, and shipboard equipment will be introduced. Successful completion of this course will give the student a general knowledge of the drawings used in the shipbuilding industry and enhance the student's productivity. (3 sch: 2 lecture, 2 lab)

MTA 1413 Blueprint Reading for Pipe
Blueprint Reading for Pipe will review basic blueprint reading and provide an introduction to principles of reading a blueprint, modification of the threeview principle, views on a drawing, differences in contract drawings, phase II drawing documentation, ripout control process, steel pipe, pipefitting, flange basics, valves, mechanical equipment, flow diagrams and

instrumentation, codes and specifications, equipment layout, piping arrangement drawings, sections and elevations, piping systems, and piping isometrics. (3 sch: 2 lecture, 2 lab)

MTA 1423 Fundamentals of Logistics
This course is designed to give the student a firm foundation in the systems approach to managing activities associated with forecasting, procurement, inventory management, life cycle costing, and product support. (3 sch: 2 lecture, 2 lab)

MTA 1433 Transportation and Distribution
This course is designed to give an overview of transportation and distribution issues. Emphasis is placed on domestic and international transportation, third-party selection, regulations, route and schedule development, and planning for shipments. (3 sch: 2 lecture, 2 lab)

MTA 1443 Material Management
This course provides managerial information concerning inventory information systems, managerial tools and techniques, the warehouse environment, and distribution planning and control. (3 sch: 2 lecture, 2 lab)

MTA 1453 Purchasing
This course provides information about the purchasing function. Emphasis is placed on vendor analysis, negations, system contracts, public and marine purchasing, competitive bidding, and personnel (3 sch: 2 lecture, 2 lab)

MTA 1463 Supply Chain Management
This course provides information concerning the flow of products and information among producers, suppliers, and customers. Emphasis is placed on acquiring, purchasing, and distribution of goods and services throughout the supply chain. (3 sch: 2 lecture, 2 lab)

MTA 1473 Logistics Management
This course is designed to help the student solve actual challenges they will encounter in the marketplace. Basic decision-making tools and concepts will be used for finding cost reduction and strategic opportunities. (3 sch: 2 lecture, 2 lab)

MTA 1483 Principles of Maritime Marketing
Study of principles and problems of marketing in the maritime industry and a review of maritime methods of distribution from producer to consumer. Topics include types, functions, and practices of maritime business and efficient techniques in the development and expansion of markets. (3 sch: 2 lecture, 2 lab)

MTA 1493 Maritime Employee Management
The study of the objectives, organizational structure, and functions of maritime employee management. Emphasis is placed on job evaluation, training, education, safety, health, supervisor-employee relationships, and available maritime employee services. (3 sch: 2 lecture, 2 lab)

MTA 1613 Shipbuilder Exploration
Shipbuilder Exploration is a multi-craft class that introduces students to the shipbuilding industry. Each craft will teach basic safety responsibilities, career opportunities and expectations involved in obtaining an employment. Students will have the opportunity to earn NCCER

credentials for each module and performance task that is successfully completed. (3 sch: 2 lecture, 2 lab)

MTA 1623 Metal Lagging
This course is designed to provide the Apprentice with the fundamentals of layout, cutting, forming, and fabrication of sheet metal. (3 sch: 2 lecture, 2 lab)

MTA 1633 Project Management
This course is designed to provide the Apprentice with the foundation skills needed to understand roles and responsibilities of construction, supervision and managing projects. (3 sch: 2 lecture, 2 lab)

MTA 1643 Production Planning and Control
This course provides managerial information regarding material requirements, capacity planning and control techniques, master production scheduling, and techniques in cost analysis. (3 sch: 2 lecture, 2 lab)

MTA 1654 Inspection Fundamentals
Inspection Fundamentals provides an introduction to coating specific structures, inspection of coating operations, government regulations affecting the coating industry, programmed painting, quality control for protective coatings projects, and coating failures. It allows for apprentices to develop knowledge and skill to reinforce attitudes and behaviors for preparing surfaces and applying coatings to specific structures, standard industry inspection methods used in coatings operations, government regulations that impact the coatings industry, aspects of designed programmed painting systems to provide for structural protection, quality control methods for good coating performance and those coating failures that may occur when quality control is lacking. (4 sch: 3 lecture, 2 lab)

MTA 1663 Surface Preparation
Instructional methods include lecture, assessment exercises, and possible mock-up style exercises (field-trip/labs/hands-on) for performance checks. Surface Preparation provides an overview of steel surface preparation, hand and power tool cleaning, nonmetallic abrasives, metallic abrasives, abrasive air blast cleaning, centrifugal blast cleaning, wet abrasive blast and pressurized water cleaning (Water jetting), the effects of soluble salts on protective coatings, other methods of surface preparation, solvent and precleaning, dehumidification during coating operations. It also discusses surface preparation of nonferrous and other surfaces. (3 sch: 2 lecture, 2 lab)

MTA 1673 Spray Painting
Spray Painting provides an introduction of the use of coating systems for the protection of steel surfaces, how coating concrete surfaces differs from coating steel, describes powder coating materials, application methods, substrates, and curing techniques. It continues with how metalizing is used to protect steel from corrosion and describes sealing and top coating to provide optimum corrosion protection. It covers all coating application methods and advantage and limitations of each. It covers the types of equipment typically used for successful maintenance painting and finishes off with the different types of industrial and light industrial/commercial paint shops, their methods of operations, and t (3 sch: 2 lecture, 2 lab)

MTA 1684 Introduction to Insulation
This course provides the fundamentals of layout, cutting, forming, and fabrication of insulation used on various types of piping systems, ventilation systems, and the hull of the marine vessel. (4 sch: 3 lecture, 2 lab)

MTA 1693 Blueprint Reading for Sheet Metal
This course is an introduction to the fundamentals of blueprints, reading, interpreting, and understanding blueprints. The students will develop an understanding of the different types, sizes, and parts of various drawings as they relate to the sheet metal craft. (3 sch: 2 lecture, 2 lab)

MTA 1743 Fundamentals of Drafting for Maritime
Fundamentals and principles of drafting to provide the basic background needed for all other drafting courses. (3 sch: 2 lecture, 2 lab)

MTA 2274 Marine Pipefitting
Instructional methods include lecture, assessment exercises, and possible lab(s) for performance checks. Marine Pipefitting will provide an introduction to pipe & related materials, types of pipe & pipe fittings, pipe fabrication angle calculations, fundamentals of fabrication, advanced pipe fabrication, in-line specialties, and special piping. (4 sch: 3 lecture, 2 lab)
MTA 2643 Naval Architecture and Ship Structures for Maritime
This course provides in-depth insight into the overall shipbuilding process. (3 sch: 2 lecture, 2 lab)

MTA 2664 Marine Systems Integration for Maritime
The course will place an emphasis on the integration of hull and machinery systems into a complete vessel package. The design and analysis of general guidance, hull structure, propulsion, electrical, command and surveillance, auxiliary systems, outfitting and furnishing and armament are investigated. Included is the study of equipment installation, plating, bulkheads, propulsion systems, power generation, and combat systems HVAC, and weapons management. (4 sch: 2 lecture, 4 lab)

OGP 1113 Safety Health and the Environment
This course covers the development of knowledge and skills required to reinforce attitudes and behaviors required for safe and environmentally work habits in the oil and gas industry. Health, safety and environmental issues are stressed along with regulatory compliance issues. (3 sch: 3 lecture, 0 lab)

OGP 1123 Oil and Gas Best Practices
This course introduces the Entry Level Petroleum Trainee (ELPT) to Oil and Gas exploration and production processes. It contains instruction that provides the student a fundamental orientation to the petroleum production industry, safety, drilling, ecology, professionalism, teamwork, vocabulary, and mathematics as used by the industry. 3 sch: 1 lecture, 4 lab)

OGP 1133 Introduction to Oil and Gas Production
This course introduces students to process operations within the oil and gas industry. Topics include history of the industry, duties and responsibilities of the process technician, basic process and utility systems, and physical and mental requirements of personnel. (3 sch: 3 lecture, 0 lab)

OGP 1143 Oil and Gas Best Practices
This course teaches the Entry Level Petroleum Trainee daily activities necessary to work in the oil and gas drilling industry. This course contains instructions in safety, orientation to work practices, and introduction to well control. 3 sch: 1 lecture, 4 lab)

OGP 1152 Rigging and Lifting Systems and Techniques
This course informs the Entry Level Petroleum Trainee (ELPT) of rigging and lifting systems and techniques. The student will take part in safe rigging and lifting practices involved in the Oil and Gas Industry. 3 sch: 1 lecture, 4 lab)

OGP 1163 Practical Experience for Entry Level Petroleum Trainee
This course provides an opportunity for the Entry Level Petroleum Trainee (ELPT) to practice Oil and Gas industry skills learned in OGP 1123, OGP 1143, and OGP 1152. 3 sch: 1 lecture, 4 lab)

OGP 1174 Advanced Safety for Oil and Gas Industry
This course provides instruction in advanced safety for the entry level petroleum trainee. This course contains instruction on safety and orientation for the workplace. 4 sch: 3 lecture, 2 lab)

OGP 1183 Entry Level Offshore Traning and Compliance
This course is designed to prepare students to installataion, operation, maintenance of satfety of offshare oil and gas drilling operations. Includes traning on an off shore platform, basic firefighting, helicopter underwater rescues. (3 sch: 2 lecture, 2 lab)

OGP 1213 Oil and Gas Operations I
This course is an overview of the different phases of the oil and gas industry from exploration to distribution with a specific emphasis on the production segment. (3 sch: 2 lecture, 2 lab)

OGP 1313 Oil and Gas Equipment I
This course is a study of the equipment instrumental in the production of oil and gas in both offshore and onshore facilities. Auxiliary equipment will also be presented. (3 sch: 2 lecture, 2 lab)

OGP 1324 Oil and Gas Equipment II
This course is a continuation of Oil and Gas equipment I, including compressors, turbines, tanks, pressurized vessels and other specialized equipment such as lHIT and dehydration units. Maintenance, troubleshooting, and record keeping is also covered. (4 sch: 3 lecture, 2 lab)

OGP 1413 Pneumatic Instrumentation
This is an introductory course focusing on the concepts of automatic control and instruments used to sense, measure, transmit and control the production process with emphasis on pneumatics. Terminology, control loops and instrumentation drawings are a basic part of this course. (3 sch: 2 lecture, 2 lab)

OGP 1614 Oil and Gas Systems
A detailed breakdown of each system that makes up an entire offshore and onshore oil and Gas process facility and the relationship and impact to the systems. Emphasis is placed on the cascade effect, along with fluid dynamics, and oil and gas measurement. Also, the relationships and similarities between different industries. The concept of a process is a process no matter the industry. (4 sch: 3 lecture, 2 lab)

OGP 2113 Production Safety Systems
This course is a study of the installation, operation, undesirable events, inspection, testing and maintenance of the safety devices and production equipment used on offshore platforms. Topics include flow, pressure, temperature and level sensors, gas and fire detection devices, surface and subsurface safety valves. Special emphasis will be on developing an understanding of Title 30 CFR parts 250 O &H and API Rp14-C as they relate to process safety. (3 sch: 2 lecture, 2 lab)

OGP 2214 Oil and Gas Production II
This course is a continuation of OGP 1114 oil and gas Production II. It is also designed as a lead in to OGP 1614 Oil and Gas systems. (4 sch: 3 lecture, 2 lab)

OGP 2223 Production Troubleshooting
This is a course designed to apply knowledge of process variables, indicators and controllers, troubleshooting tools, and troubleshooting steps to solve problems in a simple process system. (3 sch: 2 lecture, 2 lab)

OGP 2313 Electronic Instrumentation
This course places emphasis on control schemes, switches, annunciators, signal conversion and transmission, digital control systems, programmable logic control systems, and distributed control systems. (3 sch: 2 lecture, 2 lab)

OGP 2323 Internship for Entry Level Petroleum Trainee
This course provides an opportunity for the seaman, roustabout, rigger, deck hand to enhance industry skills learned in the first semester of the ELPT program. The student experience is two-seven day hitches of supervised living and working on a retired submersible drilling rig. . (3 sch: 1 lecture, 4 lab)

OGP 2333 Special Project in Oil and Gas Drilling
This course is designed to provide the student with practical application of skills and knowledge gained in other vocational-technical courses. The instructor works closely with the student to ensure that the selection of a project will enhance the student's learning experience. (3 sch: 1 lecture, 4 lab)

OGP 2413 Well Control
This course informs the Entry Level Petroleum Trainee (ELPT) of Offshore Compliance. The student will learn how to maintain offshore compliance in the Oil and Gas Industry. (3 sch: 1 lecture, 4 lab)

OGP 2343 Supervised Work Experience in Oil and Gas Drilling
This course is a cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. (3 sch: 1 lecture, 4 lab)

OGP 2513 Oil and Gas Flow Diagrams
Course topics include identification and application of electrical, piping, instrumentation mechanical and process drawings used in job planning. Identification of lines, symbols, lean symbols; interpretation of view, dimensions, and tolerances. Includes PFD, P&ID, Safe Charts, PE &I, electrical and electrical oneline drawings. Study instruments symbols, terminology, controllers, regulators, control loops and other instrument drawings. (3 sch: 3 lecture, 0 lab)

OGP 2913 Special Project in Oil and Gas Production I
This course is designed to provide the student with practical application of skills and knowledge gained in other vocational –technical courses. The instructor works closely with the student to ensure that the selection of a project will enhance the student's learning experience. (3 sch: 3 lecture, 0 lab)

OGP 2933 Special Project in Oil and Gas Production II
A course which is a cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. (3 sch: 2 lecture, 2 lab)

OGP 294(1-6) Supervised Work Experience for Oil and Gas Operations
This cooperative program between industry and education is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of 1 semester hour per 45 industrial contact. (1-6 sch: 3-18 lab)

OPT 1113 Ophthalmic Optics I
This course is a study of basic principles of light. Topics covered include anatomy and physiology of the eye, visual conditions of the human eye, and appropriate lens to correct these conditions. (3 sch: 3 hr. lecture)

OPT 1123 Ophthalmic Optics II
This course is a continuation of Ophthalmic Optics I. Topics include the theory of optical instruments, positive and negative cylinders, prisms, vertex distance, and frame selection. (3 sch: 3 hr. lecture)

OPT 1214 Optics Laboratory Techniques I
This course will introduce the student to all basic equipment necessary to process the lens through the surface operation. Emphasis will be placed on basic safety and on how to prepare, operate, and maintain equipment. (4 sch: 8-hr lab)

OPT 1224 Optics Laboratory Techniques II
This course is a continuation of Optics Laboratory Techniques I. Emphasis will be placed on lens inspection, cutting and edging, heat treatment, lens insertion, inspection, and tinting. (4 sch: 8-hr lab)

OPT 1313 Laboratory Management and Inventory Control
This course will serve as an introduction to supplies and materials used in the ophthalmic laboratories and an introduction to mathematical optical calculations. Laboratory safety procedures will be discussed. Laboratory inventory and management skills will be demonstrated using computer software. (3 sch: 3-hr lecture)

OPT 1323 Business Management for Opticians
This course is a continuation of Laboratory Management and Inventory Control I. Emphasis of this course will be on small business management concepts as related to an optical business. (3 sch: 3-hr lecture)

OPT 1333 Introduction to Ophthalmic Assistance
This course is an introduction to ophthalmic terminology and skills. Emphasis on this course will also include basic anatomy and function of the human eye. (3 sch: 3 lecture, 0 lab)

OPT 1413 Ophthalmic Dispensing I
This course is a foundation course that will serve as a lecture introduction to ophthalmic dispensing and related areas. Topics include frame parts, selection, lens positioning and insertion, frame fitting, and progressive lenses. (3 sch: 3-hr lecture)

OPT 2423 Ophthalmic Dispensing II
This course is an introduction to prescription analysis and interpretation. Various types of Rx's will be discussed as to what types of lens and frames should be considered for the final product. Emphasis will be placed on the effect of the Rx as related to the patient's needs and wants. Tints, thickness factor, cosmetic considerations, and the overall of the final product will be discussed. Business communication skills will also be introduced. (3 sch: 3-hr lecture)

OPT 2433 Ophthalmic Dispensing III
This course is a continuation of Ophthalmic Dispensing II. Emphasis will be placed on the more advanced and unusual prescription related to ophthalmic dispensing and on sales techniques. Topics to improve the ophthalmic dispenser's relationship with fellow opticians, optometrists, ophthalmologists, wholesalers, manufacturers, and employees will be discussed. (3 sch: 3-hr lecture)

OPT 2513 Optical Theory and Instrumentation
This course is an in-depth look into the basic theoretical principles of optical theory, as related to lenses, fitting problems, and instrumentation. Such topics as reflection, refraction, magnification, and object-location will be discussed. (3 sch: 3-hr lecture)

OPT 2613 Dispensing Clinic I
This course is an on-campus clinical experience operated by the Ophthalmic Dispensing students. Practical clinical procedures will be practiced and proficiency demonstrated. (3 sch: 6-hr lab)

OPT 2623 Dispensing Clinic II
This course is a continuation of Dispensing Clinic I. Continuous evaluations will be done to study the clinic operation in terms of its efficiency and effectiveness of operations. Additional adjustments and delivery will be done. Emphasis will be placed on developed cases of special Rx's and pediatric dispensing. Advanced projects, such as multifocal lens fitting, will be completed. (3 sch: 6-hr lab)

OPT 2916 Internship
This course will be conducted off-campus at a clinical location. The student will be under the direct supervision of the manager or clinical director. Evaluations will be completed by the instructors and off-campus clinical participants. (6 sch: 18-hr clinical)

OTA 1113 Foundations of Occupational Therapy
This intake course is an introduction to the field of occupational therapy including history, role orientation, professional organizational structure, legal and ethical implications, legislation, practice arenas, and the process of service delivery. (3 sch: 3 hr. lecture)

OTA 1121 Medical Terminology
This intake course is a study of medical language relating to body systems including diseases, physical conditions, abbreviations, and symbols as applied to occupational therapy. Professional language for occupational therapy will be included. (1 sch: 1 hr. lecture)

OTA 1132 Therapeutic Anatomy
This intake course will focus upon the structures of the human body and their respective functions. Emphasis will be placed upon muscular, skeletal, and nervous systems. (2 sch: 2-hr lecture)

OTA 1213 Pathology of Psychiatric Conditions
This intake course provides a basic knowledge of psychiatric disorders encountered in occupation therapy practice. Emphasis is on etiology, prognosis, and management of various psychiatric conditions. The role and function of the OTA in the treatment process is also emphasized. (3 sch: 3 hr. lecture)

OTA 1223 Pathology of Physical Disability Conditions
This intake course provides a basic knowledge of selected diseases and conditions encountered in occupational therapy practice. Emphasis is on etiology, prognosis, and management of various pathological physical conditions. The role and function of the OTA in the treatment process is also emphasized. (3 sch: 3 hr. lecture)

OTA 1233 Pathology of Developmental Conditions
This intake course provides a basic knowledge of selected diseases and conditions encountered in occupational therapy practice. Emphasis is on etiology, prognosis, and management of various pathological developmental conditions. The student will compare and contrast normal and abnormal developmental patterns. The role and function of the occupational therapy assistant (OTA) in the treatment process is also emphasized. (3 sch: 3 hr. lecture)

OTA 1242 Pathology of Orthopedic Conditions
This intake course provides a basic knowledge of selected orthopedic conditions encountered in occupational therapy practice. Emphasis is placed upon mechanisms of pathology and basic treatment approaches. The role and function of the occupational therapy assistant (OTA) in the treatment process is also emphasized. (2 sch: 2 hr. lecture)

OTA 1315 Kinesiology
This intake course studies individual muscles and muscle functions, biomechanical principles of joint motion, gait patterns, normal movement patterns, and goniometry. (5 sch: 4 hr. lecture, 2 hr. lab)

OTA 1413 Therapeutic Media
This manipulation course provides knowledge and use of tools, equipment, and basic techniques of therapeutic media. Emphasis is given to analyzation and instruction of activities frequently used as occupational therapy media in multiple community and clinical settings. (3 sch: 2 hr. lecture, 2 hr. lab).

OTA 1423 Occupational Therapy Skills I
This manipulative course provides fundamental knowledge of practice skills used with patients/clients across the life span and with various diagnoses. Observation and documentation techniques will be introduced. (3 sch: 2 hr. lecture, 2 hr. lab)

OTA 1433 Occupational Therapy Skills II
This manipulative course provides intermediate practice skills used with patients/clients across the lifespan and with various diagnoses. (3 sch: 2 hr. lecture, 2 hr. lab)

OTA 1513 Group Process
This manipulative course introduces theory and research findings explaining group dynamics. The course teaches the student how to facilitate group effectiveness and the skills to apply that knowledge in practical situations. Methods and skills necessary to plan, write, lead, and evaluate an occupational therapy group will be taught. The course focuses on the importance of group activity intervention primarily with the psychiatric population. (3 sch: 2 hr. lecture, 2 hr. lab)

OTA 1913 Fieldwork IA
This course is designed to provide the student with an opportunity to observe and participate in clinical fieldwork. The student will also begin to develop professional work habits. Students are expected to function as participant observers in the assigned clinical setting. (3 sch: 1 hr. lecture, 6 hr. clinical)

OTA 2443 Occupational Therapy Skills III
This manipulative course provides advanced practice skills used with patients/clients across the lifespan and with various diagnoses. (3 sch: 2 hr. lecture, 2 hr. lab)

OTA 2714 Concepts in Occupational Therapy
This manipulative course studies occupational therapy treatment techniques for a variety of diagnoses while incorporating theoretical concepts. (4 sch: 3 hr. lecture, 2 hr. lab)

OTA 2812 Healthcare Systems
This intake course is designed to examine the context of service delivery for occupational therapy. Various models of health care, education, community, and social systems will be examined. (2 sch: 2 hr. lecture)

OTA 2935 Fieldwork IB
This application course is designed to provide the student with an opportunity to apply their knowledge in clinical fieldwork. The student will also begin to develop professional work habits. Students are expected to function as participant observers in the clinical setting. (5 sch: 1 hr. lecture, 12 hr. clinical)

OTA 2946 Fieldwork IIA
This application course synthesizes previous didactic instruction and clinical experiences obtained in Fieldwork I. In Level IIA, the student may encounter a variety of populations in a traditional or non-traditional based setting. Student will assume increasing responsibilities under supervision as appropriate for the setting. (6 sch: 18 hr. clinical)

OTA 2956 Fieldwork IIB
This application course synthesizes previous didactic instruction and experiences obtained in Fieldwork IIA. In Fieldwork IIB, the student may also encounter a variety of populations in a traditional or non-traditional setting. The student will be placed in a setting different from Fieldwork IIA. Student will assume increasing responsibilities under supervision as appropriate for the setting. (6 sch: 18 hr. clinical)

OTA 2961 Occupational Therapy Transitions I
This course provides information and guidance to the student for their transitional process of becoming an Occupational Therapy Practitioner. This course will encompass a variety of professional skills and concepts. In addition, vital life skills will be discussed. (1 sch: 1 hour lecture)

OTA 2971 Occupational Therapy Transitions II
This course provides final preparation to the student for the transitional process of becoming an Occupational Therapy Practitioner. (1 sch: 1 hour lecture)

PCT 1113 Fundamentals of Plumbing
This course includes basic safety, an introduction to construction math, and introduction to hand and power tools, an introduction to construction drawings, and rigging. (3 sch: 2 hr lecture, 2 hr lab)

PCT 1333 Blueprint Reading for Plumbing
An in-depth understanding of blueprint reading related to plumbing profession (3 sch: 1 hr lecture, 4 hr lab)

PCT 1411 Low Pressure Boilers
Introduction to safe operation of pressure boilers for heating, steam production, and water heating (1 sch: 2 hr lab)

PCT 1213 Tacking, Brazing, and Burning
Striking an arc; tacking metal together; setting up an oxyacetylene torch and burning, brazing, and soldering; and cutting straight and bevel angles on pipe. Safety procedures will be covered and emphasized. (3 sch: 1 hr lecture, 4 hr lab)

PCT 1323 Sketching
Sketching, measuring, and recording required information to supplement oral descriptions and organize ideas to include individual piping components (3 sch: 1 hr lecture, 4 hr lab)

PCT 1812 Rigging and Signaling
Basic use of hand signals, rigging, and equipment. (2 sch: 1 hr lecture, 2 hr lab)

PCT 1443 Piping Level/Transit
Applications of the leveling instruments, shooting elevations, and grading pipes. (3 sch: 1 hr lecture, 4 hr lab)

PCT 1513 Drainage and Sewer Systems
Information and practical aspects of drainage and disposal systems and the International Plumbing Code. Included are the installation of the drainage system in a residential unit covering health aspects and the disposal of poisonous gases arising from the discharge of traps. Instruction is provided on elements of disposal systems, including sewer, septic tanks, tank size calculations, maintenance causes, and removal of sewer obstructions. (3 sch: 1-hr lecture, 4-hr lab)

PCT 1612 Heating Devices
Information on local codes for installing and repairing water heaters, force air units, and floor furnaces. (2 sch: 1 hr lecture, 2 hr lab)

PCT 1622 Gas Piping
Information on standard gas codes. The safe installation of gas appliances and gas lines, according to codes, will be included. (2 sch: 1 hr lecture, 2 hr lab)

PCT 1712 Domestic Systems
Information on the installation of a hot water system according to the unit fixture system. Also information on sizing and installation of a potable cold water system. (2 sch: 4 hr lab)

PCT 1722 Plumbing Fixtures Lab
Information on the installation of the rough-in and finish fixtures used in the plumbing construction according to International Plumbing Code. (2 sch: 4 hr lab)

PCT 1732 Backflow Cross Connection
Information on the different types of backflow devices, and the installation and testing of the devices (2 sch: 1 hr lecture, 2 hr lab)

PCT 1743 Advanced Plumbing Lab
Additional study in the area of advanced plumbing in the commercial area (3 sch: 1 hr lecture, 4 hr lab)

PCT 191(1-3) Special Project in Plumbing
Practical application of skills and knowledge gained in other technical courses. The instructor works closely with the student to ensure that the selection of a project will enhance the student's learning experience. (1–3 sch: 2–6 hr lab)

PCT 192(1-6) Supervised Work Experience in Plumbing
This course is a cooperative program between industry and education and is designed to integrate the student's studies with industrial experience. Variable credit is awarded on the basis of semester hour per 45 industrial contact hours. (1–6 sch: 3–18 hr externship)

PCT 291(1-3) Special Project in Plumbing Technology
Practical application of skills and knowledge gained in other technical courses. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. (1-3 sch: 2- to 6-hr lab)

PCT 292(1-6) Supervised Work Experience in Plumbing Technology
A cooperative program between industry and education and is designed to integrate the student's studies with industrial experience. Variable credit is awarded on the basis of semester hour per 45 industrial contact hours. (1-6 sch: 3- to 18-hr externship)

PHM 1111 Pharmacy Technician Fundamentals
Introduces the student to the pharmacy technician career field and provides an overview of pharmacy practice and the opportunities open to certified pharmacy technicians. (1 sch: 1-hr lecture)

PHM 1123 Pharmacy Law
Federal and state laws pertaining to the practice of pharmacy. (3 sch: 3-hr lecture)

PHM 1212 Computer Applications in Pharmacy
A comprehensive understanding of pharmacy computer systems in addition to hands-on operation. (2 sch: 4-hr lab)

PHM 1313 Pharmacy Math and Dosage Calculations
Proper use of the metric, apothecary, and avoirdupois systems. Conversion between the systems., application of formulas, calculations of fractional dosages, and methods of calculating dosages from all drug forms. Review of calculations dealing with ratio and proportion, percentages, ratio strength, reducing and enlarging formulas, and dilution and concentration problems. (3 sch: 3-hr lecture)

PHM 1413 Pharmacy Anatomy and Physiology
Study of body structure essential to safe and effective pharmaceutical care. (3 sch: 3-hr lecture)

PHM 1424 Pharmacology I
A study of human disease processes and rational pharmacotherapeutics relating to fluids and nutrients in the following body systems: nervous, endocrine, skeletal, muscular, gastrointestinal, reproductive, and immune. Indications, contraindications, mechanism of action, side effects, dosages, and methods of administration including how these principles can be utilized in pharmacy practice. (4 sch: 4-hr lecture)

PHM 1512 Pharmaceutical Compounding
Concepts of design, preparation, use, and evaluation of solid and semisolid dosage forms. Specific topics include powders, tablets, capsules, coated dosage forms, suspensions, emulsions, magmas, gels, lotions, ointments, creams, pastes, suppositories, transdermal systems, sustained release products, and novel drug delivery systems. Exercises in computer application, prescription, and physician order interpretation, and the introduction of extemporaneous compounding are performed in the laboratory. (2 sch: 1-hr lecture, 2-hr lab) Prerequisite: Pharmacy Math and Dosage Calculations (PHM 1314)

PHM 1525 Pharmacy Practice
Medication distribution systems utilized in retail and hospital pharmacy, including processing of individual prescriptions, floor stock distribution, unit dose systems, and IV admixture. Topics discussed include hazardous waste handling, infection control, principles of quality assurance, and equipment use and maintenance. Exercises in packaging, unit dose functions, aseptic compounding, parental admixture, and use of computer database systems will be performed in the laboratory. (5 sch: 3-hr lecture, 4-hr lab)

PHM 2434 Pharmacology II
A study of human disease processes and rational pharmacotherapeutics relating to the cardiovascular, respiratory, renal, hematologic, and dermatologic systems as well as eyes, ears, nose, and throat. Indications, contraindications, mechanism of action, side effects, dosages, and methods of administration including how these principles can be utilized in pharmacy practice. (4 sch: 4-hr lecture)

PHM 2534 Nonprescription Medications and Devices
Reviews the categories of the over-the-counter medications, explains the types and procedures of home monitoring equipment, and provides guidelines for patient counseling. Explains durable and surgical or nondurable medical products. Highlights concepts of vitamins, herbs, and nutritional supplements and the nontraditional treatment options. (4 sch: 4-hr lecture)

PHM 2543 Drug Information Research
The concepts of obtaining pertinent patient information and data collection, including patient medical records, patient interviews, drug-use reviews, literature resources, and problem solving. (3 sch: 2-hr lecture, 2-hr lab)

PHM 2614 Practicum I
This course allows students to apply pharmacist technician concepts in community and hospital pharmacy, home health, and extended care settings. The student will be placed in a community or institutional setting as the setting is available. Emphasis is placed on functions associated with medication distribution systems. (4 sch: 12-hr of clinical)

PHM 2624 Practicum II
This course is a progression of internship rotations in community hospitals, medical centers, or pharmaceutical manufacturers. The student will be placed in the setting not used in Practicum I. Emphasis is placed on intravenous admixture preparations, total parenteral nutrition, chemotherapy preparations, and the use of controlled and investigational drugs in an institution.. (4 sch: 12-hr clinical)

PHM 2634 Practicum III
Advanced progression of internship rotations in community hospitals, medical centers, or pharmaceutical manufacturers. Emphasis is placed on intravenous admixture preparations, total parenteral nutrition, chemotherapy preparations, and the use of controlled and investigational drugs in an institution. (4 sch: 12-hr clinical) Prerequisite: First three semesters of pharmacy technology courses.

PHM 2714 Pharmacy Management
Discussion of pharmacy functions relating to policies and procedures, pharmaceutical purchasing, inventory control, drug recall and return, and maintaining transaction records. The class will explore several retail functions, such as payments, billing, oral and written communications, computer data collection, and pharmaceutical merchandising. (4 sch: 3-hr lecture, 2-hr lab) Prerequisite: First four semesters of pharmacy technology courses

PHM 2813 Pharmacy Transition
Further develops decision-making skills and promotes an interest in continued professional development. Employment opportunities and responsibilities, as well as preparation for the Pharmacy Technician Certification Exam, are emphasized. (3 sch: 3-hr lecture) Prerequisite: First four semesters of pharmacy technology courses

PHT 1113 Introduction to Health Care and Public Health
This course will provide students with an overview of the population health approach to community and public health. Course topics include history, terminology, philosophy, and ethical principles of community and public health. This course includes a review of public health policy, health care systems, and the roles of health professionals. (3 sch: 3 hr. lecture)

PHT 1123 Health Care Delivery
This course will provide a review of the U.S. health care delivery system including topics such as the changing role of health care providers, hospitals, other facilities and governmental agencies and the relationships mong such entitites. (3 sch: 3 hr. lecture)

PHT 1223 Health Insurance
This course will provide an overview of public and private health insurance products, services and delivery methods. Emphasis will be placed on health insurance/financing principles, access to care and terminology. (3 sch: 3 hr. lecture)

PHT 1213 Prevention & Community Health
This course provides opportunity for study in personal and community health problems as well as steps that can be taken by individuals and groups to reduce risk of health problems for individuals, families, and communities. It also provides an in-depth review of the nature of community health services and resources. The course will emphasize the need for multidimensional approaches that Community/Public Health Professionals can use to help individuals overcome barriers. (3 sch: 3 hr. lecture)

PHT 2113 Introduction to Epidemiology
This course will cover applications of epidemiologic methods and procedures to the study of the distribution and determinants of health and diseases, morbidity, injuries, disability, and mortality in populations. A study of the causes, incidence and distribution of common diseases, including the humanistic and economic implications of these diseases. (3 sch: 3 hr. lecture)

PHT 2123 Health Information Access & Analysis
This course will provide a brief overview of healthcare law, introduction to health information systems as well as system integrations, and provides knowledge of health record content and reporting requirements. Topics will include HIPAA, record content, electronic health record, data sets, and reporting requirements. (3 sch: 3 hr. lecture)

PHT 2133 Practicum I
This course is designed for Public Health majors as a pre-professional field experience to broaden the student's public health perspectives and provide experience in applying the theory and content learned in their public health coursework. It is expected that the field experience will afford students the opportunity to interact and collaborate with public health professionals and participate in actions that constitute public health. Integral to closing the loop on the learning process is the opportunity for students to reflect on the field experience. Students will collaborate on the different infrastructures and approaches they observed at each field location. Consent of the Public Health Technology Program Director is required. (3 sch: 9 hr. clinical)

PHT 2213 Healthcare Advocacy
This course provides an overview of the assessment, development, implementation, and evaluation of public health programming. Students will learn and demonstrate skills in community assessment and organization techniques including: stakeholder identification, coalition-building, advocacy, and the identification of funding sources. (3 sch: 3 hr. lecture)

PHT 2223 Public Health Education Communication
This course will provide students with a practical approach to understanding and applying principles of health education communication to a range of public health issues and diverse populations. Students will employ these concepts and skills for analyzing and evaluating current public health education communication campaigns. Students will create a health education communication campaign in both written and oral forma. (3 sch: 3 hr. lecture)

PHT 2233 Practicum II
This course is designed for Public Health majors as a pre-professional field experience to broaden the student's public health perspectives and provide experience in applying the theory and content learned in their public health coursework. It is expected that the field experience will afford students the opportunity to interact and collaborate with public health professionals and participate in actions that constitute public health. Integral to closing the loop on the learning process is the opportunity for students to reflect on the field experience. Students will collaborate on the different infrastructures and approaches they observed at each field location. Consent of the Public Health Technology Program Director is required. (3 sch: 9 hr. clinical)

PHT 2243 Prevention & Community Health
This course is an overview of the interactive nature of biological and cognitive processes that occur in aging. Basic instruction related to public health include age related changes in core

human systems, common diseases, and the ramifications related to the aging process. (3 sch: 3 hr. lecture)

PLT 1112 Trends in Manufacturing
During this course, students will cover topics including trends in industrial organizational structure, plastics machining, welding, stamping, and casting. Special emphasis will be given to recent developments such as robots, numerical control, industrial computer applications, and CAD/CAM as applied to the plastics industry (2 sch: 1 hr. lecture, 2 hr. lab)

PLT 1213 Introduction to Plastics Materials and Processing
This course is designed to introduce the student to the world of plastics. Topics include the history of plastics; basic polymer chemistry; identification of plastics, thermoset, and thermoplastics uses, applications, and manufacturing processes; and health and safety considerations of plastics. (3 sch: 2 hr. lecture, 2 hr. lab)

PLT 1223 Polymer Material Properties
Topics included are atomic structure, periodic table, elements, electrons and shell structure, bonds and bonding, hydrocarbons, polymers, copolymers, molecular structure, polymerization, thermoset resins, thermoplastic resins, additives, and polymer physical properties. (3 sch: 2 hr. lecture, 2 hr. lab)

PLT 1313 Injection Molding I
This course provides lecture and hands-on experiences in the injection molding process. Areas covered are safety, machine identification, setup procedures, operation, troubleshooting, and machine adjustment. Students are introduced to computer monitoring of the molding process as a quality control method to increase productivity. (3 sch: 2 hr. lecture, 2 hr. lab)

PLT 1333 Process Control for Injection Molding
Topics include variables affecting the injection molding process, controlling the structure of molded parts, measures for control of the molding process, operation of automatic process control systems, and problem solving using automatic process control systems. (3 sch: 2 hr. lecture, 2 hr. lab)

PLT 2213 Plastics Tooling Construction Principles
Covers construction methods necessary to build tooling for injection molding and blow molding. Includes an introduction to extrusion dies and thermoforming tools. (3 sch: 2 hr. lecture, 2 hr. lab)

PLT 2324 Injection Molding II
This course is an extension of Injection Molding I (PLT 1313). Subjects include insert molding and accessory equipment associated with injection molding such as drying and pneumatic conveying. (4 sch: 2 hr. lecture, 4 hr. lab)

PLT 2413 Plastics Extrusion
This course describes the operating principles of an extruder with emphasis on profile, tubing, and sheet and film extrusion. Also covered are the setup, operation, troubleshooting, and safety aspects of extruder systems. (3 sch: 2 hr. lecture, 2 hr. lab)

PLT 2514 Troubleshooting Plastic Processes
This course is designed to train plastics technicians in process diagnosis and corrective action. Minor repair procedures of plastics processing equipment is included. (4 sch: 2 hr. lecture, 4 hr. lab)

PLT 2614 Plastics Quality Control
This course provides the skills necessary to read and interpret blueprints for inspection purposes of plastic parts. Geometric dimensioning and tolerancing and hands-on setup using modern inspection tools and gages are emphasized. Use of statistical analysis for process control will be introduced. (4 sch: 2 hr. lecture, 4 hr. lab)

PLT 2713 Blow Molding/Thermoforming
This course is designed to introduce blow molding and thermoforming processes. Areas covered include safety, troubleshooting, setup procedures, machine operations, machine adjustments, and tooling. During the lab portion of the course, students learn to set up and operate the blow molding and thermoforming equipment to produce defect-free parts. (3 sch: 2 hr. lecture, 2 hr. lab)

PLT 291(1-3) Special Problem in Plastics Technology
A course designed to provide the student with practical application of skills and knowledge gained in other Polymer Technology courses. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. (1-3 sch: 2-6 hr. lab)

PLT 292(1-6) Supervised Work Experience in Plastics Technology
This course is a cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of 1 semester hour per 45 contact hours. (1-6 sch variable: 3-18 hr. externship)

PMT 1114 Orientation and Safety Procedures
An orientation to the history of accessories marketing, job opportunities, and the physical structure of the industry. Safety procedures including OSHA and EPA regulations, proper use of hand and power tools, shop hazards, and legal responsibilities are discussed and implemented throughout this course. (4 sch: 2-hr lecture 4 lab)

PMT 1126 Operational Procedures
Everyday operations in the auto parts business, including proper business procedures, customer service, and sales procedures. (6 sch: 3-hr lecture, 6-hr lab)

PMT 1215 Automotive Systems I
Function and identification of the power train, including engine, transmission, drive line, and axles. (5 sch: 2-hr lecture, 6-hr lab)

PMT 1225 Automotive Systems II
Function and identification of automotive systems, including brake systems, cooling systems, electrical systems, heating and air conditioning systems, and suspension systems (5 sch: 2-hr lecture, 6-hr lab)

PMT 1312 Catalog Information Systems
Hard copy, microfiche, and computerized catalogs. Also included are the writing of invoices, interpreting price sheets, and calculating discounts. (2 sch: 4-hr lab)

PMT 1414 Internal Operations
This course includes daily operations of a parts store including shipping and receiving, stocking and storing merchandise, counter operations, and physical inventory. This course also covers general parts store layout to include merchandise displays and parts bin layout. (4 sch: 1-hr lecture, 6-hr lab)

PMT 1424 Inside Sales
Sales skills using hard copy and computerized cataloging and pricing. (4 sch: 1-hr lecture, 6-hr lab)

PMT 192(1-6) Supervised Work Experience in Automotive Vehicles and Accessories Marketing Operations
A course that is a cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1–6 sch: 3- to 18-hr externship)

PMT 2113 Customer Service
An orientation to providing quality customer service. Students will learn how to relate positively to customers. (3 sch: 2-hr lecture, 2-hr lab)

PMT 2123 Store Management and Leadership
An orientation in providing students the knowledge and skills pertaining to managing the store operations and leading people. (3 sch: 2-hr lecture, 2-hr lab)

PMT 2133 Inventory Management
An application level course where students apply inventory management skills learned throughout the career certificate courses. (3 sch: 2-hr lecture, 2-hr lab)

PMT 292(1-6) Supervised Work Experience in Automotive Vehicles and Accessories Marketing Operations
A course that is a cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1–6 sch: 3- to 18-hr externship)

PPT 1124 Pulping and Bleaching
This course provides an introduction to major pulping and bleaching processes and chemistry used. This is a lecture–laboratory class covering the basic types of laboratory techniques used in the pulp and paper industry. The main emphasis is the practical aspects of techniques, procedures, and use of equipment, calibration of equipment, and the interpretation of data. (4 sch: 3-hr lecture, 2-hr lab)
Prerequisite: Process Chemistry (PPT 1214), Introduction to Process Technology (PPT 1133), or Conditional Approval from Administration

PPT 1133 Introduction to Process Technology
An introduction to process operations within the process industry. Topics include technician duties, responsibilities, and expectations; plant organizations; the plant process and utility system; and the physical and mental requirements of the process technician. (3 sch: 3-hr lecture)

PPT 1214 Process Chemistry
An introduction to general and organic chemistry as applied to the process industry. Includes instruction on matter, energy, atoms, chemical reactions, and chemical bonding (4 sch: 3-hr lecture, 2-hr lab)

PPT 1413 Quality Concepts
A course to provide an introduction to the field of quality in the process industry. Students are introduced to industry-related process concepts including operating consistency, continuous improvement, plant economics, team skills, and statistical process control (SPS). (3 sch: 3-hr lecture)

PPT 1424 Process Equipment
This course includes Instruction in the use of common process equipment including piping, valves, rotating equipment such as pumps, compressors, drivers, and fixed equipment such as exchangers, tanks, drums, and vessels. (4 sch: 4-hr lecture)

PPT 1434 Process Systems
This course involves the study of the interrelation of process equipment and process systems including related scientific principles. (4 sch: 3-hr lecture, 2-hr lab)

PPT 1444 Process Technology III (Operations)
A course that combines equipment systems into operational units with an emphasis on instruction for start-up, normal operation, abnormal/emergency operations, and shutdown of an entire process (4 sch: 3-hr lecture, 2-hr lab)

PPT 1513 Safety, Health, and Environment
Development of knowledge and skills to reinforce attitudes and behaviors required for safe and environmentally sound work habits. Emphasis is placed on safety, health, and environmental issues in the performance of all job tasks and regulatory compliance issues. (3 sch: 3-hr lecture)

PPT 1613 Technical Communication
This course includes an application of written, oral, and other forms of communication to the process technology industry. It includes instruction and practice in written communications (reports and presentations, procedures, resumes, documentation, training materials, etc.) and oral communications (presentations, directions/instructions, feedback, etc.). (3 sch: 3-hr lecture)

PPT 1713 Process Instrumentation I
A study of the instruments and instrument systems used in chemical processing industry including terminology, primary variables, symbols, and control loops (3 sch: 2-hr lecture, 2-hr lab)

PPT 2113 Oil and Gas Production I
An overview of the petroleum industry including exploration and geology, well drilling, wellhead operations, and product distribution. Emphasis is placed on oil and gas production. (3 sch: 3-hr lecture)

PPT 2123 Oil and Gas Production II
A continuation of Oil and Gas Production I with emphasis on oil and natural gas production and processing (3 sch: 3-hr lecture)

PPT 2154 Machine Operations for Pulp and Paper Operations
This course concentrates on the functions and capability of all critical equipment in the paper mill including stock preparation, approach flow, fourdrinier, press section, drier section, calendaring, winding, and finishing operations. Primary process flows, consistency control, stock blending, stock refining, wet end chemistry, stock cleaning, approach flow systems, and the cause and effect relationships each of these has with the various papermaking parameters are

discussed. Components of the machine fourdrinier and the concepts of formation, retention, drainage, and pressing are also explored. (4 sch: 3-hr lecture, 2-hr lab)
Prerequisite: Process Chemistry (PPT 1214) and Introduction to Process Technology (PPT 1133)

PPT 2234 Power Plant and Chemical Recovery for Pulp and Paper Operations
The purpose of this course is to present fundamental principles of boiler operation for both power boilers and chemical recovery boilers. Emphasis is on the basic requirements for steam production and chemical recovery. Topics explored include the basic design of water tube and fire tube boilers, the concept of heat transfer, the concepts of natural and forced circulation, air and fuel supply systems, condensate and feedwater systems, the concept of chemical recovery, evaporation and deposition, and plugging problems. (4 sch: 3-hr lecture, 2-hr lab)

PPT 2313 Quality Concepts
A course to provide an introduction to the field of quality in the process industry. Students are introduced to industry-related process concepts including operating consistency, continuous improvement, plant economics, team skills, and statistical process control (SPC). (3 sch: 3-hr lecture)

PPT 2323 Process Troubleshooting I
A course to apply knowledge of process variables, indicators and controllers, troubleshooting tools, and troubleshooting steps to solve problems in a simple process system (3 sch: 2 hr lecture, 2 lab)

PPT 2333 Process Troubleshooting II
A course to apply knowledge of process variables, indicators and controllers, troubleshooting tools, and troubleshooting steps to solve problems in a simple process system. (3 sch: 1-hr lecture, 3-hr la)

PPT 2443 Process Operations
This course is a course that combines equipment systems into operational units with an emphasis on instruction for start-up, normal operation, abnormal/emergency operations, and shutdown of an entire process. (3 sch: 3-hr lecture)

PPT 2723 Process Instrumentation II
This course is a clinical practice and instruction in a clinical affiliate. Areas included are patient care and management, radiation protection, operation of equipment, and radiologic procedures. (3 sch: 2-hr lecture, 2-hr lab)

PPT 2733 Emerging Energy Technologies
The purpose of this course is the introduce students to the latest technologies and possibilities in the world of energy. This is a fast paced, ever-changing industry and it will be helpful to them to know of the opportunities available to them in alternative energy as well as, the technologies that are keeping fossil fuels as viable choices. (3 sch: 3-hr lecture)

PPT 291(1-5) Special Projects in Process Operations Technology
A course designed to provide the student with practical application of skills and knowledge gained in other vocational–technical courses. The instructor works closely with the student to ensure that the selection of a project will enhance the student's learning experience. (1–5 sch: 2- to 10-hr lab)

PPT 292(1–6) Supervised Work Experience in Process Operations Technology
A course that is a cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1–6 sch: 3- to 18-hr externship)

PTA 100(3-6), PTA 1013, PTA 1023 Introduction to Physical Therapist Assistant Technology, Introduction to Physical Therapist Assistant Technology I, or Introduction to Physical Therapist Assistant Technology II
These courses contain the baseline competencies and suggested objectives from the high school Allied Health curriculum which directly relate to the community college Physical Therapist Assistant program. The courses are designed for students entering the community college who have had no previous training or documented experience in the field. (3-6 semester hours based upon existing skills for each student. May be divided into 2 courses for a maximum total of 6 hours of institutional credit.)

PTA 1111 Health Care Experience I
This course is designed to provide the student with observation of physical therapy activities. The student has the opportunity to gain knowledge of the health care delivery system and physical therapy's place within that system. (1 sch: 3 hr. clinical)

PTA 1123 Fundamental Concepts of Physical Therapy
This course is an introduction to the field of physical therapy including role orientation, professional organizational structure, legal and ethical implications, and legislation. Historical patterns in the development of the profession will be explored and medical terminology introduced. (3 sch: 3 hr. lecture)

PTA 1132 PTA Practicum I
This course is designed to provide the student with observational time with participation in selected physical therapy activities. (2 sch: 6 hr. clinical)

PTA 1143 PTA Practicum II
This course is designed to provide the student with extended observation time with participation in selected physical therapy and/or related activities. (3 sch: 9 hr. clinical)

PTA 1151 Health Care Experience II
This course is designed to provide the student with extended observational time with limited participation in physical therapy activities. The student has the opportunity to gain additional knowledge of the health care delivery system and physical therapy's place within that system. (1 sch: 3 hr. clinical)

PTA 1213 Fundamental Skills for Physical Therapist Assistants
This course provides knowledge of topics utilized in the practice of physical therapy. Topics covered will include positioning, draping, transfers, body mechanics, gait training, and standard precautions. Vital signs, first aid, and emergency techniques will also be covered. (3 sch: 2 hr. lecture, 2 hr. lab)

PTA 1224 Therapeutic Modalities
This course is an introduction to the theory and practical application of hydrotherapy, thermotherapy, cryotherapy, light therapy, and mechanotherapy. Emphasis will be placed on the technique of application, indications, and contraindications of modalities. (4 sch: 3 hr. lecture, 2 hr. lab)

PTA 1314 Kinesiology
This course studies individual muscles and muscle functions, biomechanical principles of joint motion, gait analysis, goniometry, and postural assessment. (4 sch: 3 hr. lecture, 2 hr. lab)

PTA 1324 Therapeutic Exercise and Rehabilitation I
This course provides an overview of the biochemical and neurophysiological basis and application of various therapeutic exercises. The basics of therapeutic exercise are correlated with specific conditions. This course focuses on rehabilitation techniques in the treatment of a variety of selected conditions. Specialized exercise procedures are emphasized. (4 sch: 3 hr. lecture, 2 hr. lab)

PTA 1911 Seminar I
This course presents the opportunity for group assembly on a regular basis to work toward achievement of course objectives. Leadership skills, an understanding of group dynamics, community service, interaction with other health education students, and the practice of reading and interpreting professional literature are emphasized. A desire to continue development of knowledge and skills is stressed.

PTA 1921 Seminar II
This course provides the opportunity for group assembly on a regular basis to work to achieve course objectives. Demonstration of leadership skills, an understanding of group dynamics, community service, interaction with other health education students, and the practice of reading and interpreting professional literature are further developed. A desire to continue development of knowledge and skills is emphasized.

PTA 2234 Electrotherapy
This course emphasizes theory and practical application of electrotherapy and other therapeutic procedures. Indications and contraindications of modalities are also discussed. (4 sch: 3 hr. lecture, 2 hr. lab)

PTA 2334 Therapeutic Exercise and Rehabilitation II
This course presents theory, principles, and techniques of therapeutic exercise and rehabilitation for primarily neurological conditions. Methods of functional, motor, and sensory assessment and intervention techniques are included. Principles of prosthetics and orthotics, functional training, and other techniques are covered. (4 sch: 3 hr. lecture, 2 hr. lab)

PTA 2413 Clinical Education I
This course provides supervised clinical experiences in demonstrating the attributes and applying the skills for which students have been deemed competent for the clinical setting. (3 sch: 9 hr. clinical)

PTA 2424 Clinical Education II
This is the first of three culminating clinical education experiences (identified in A Normative Model of PTA Education as the first full time clinical experience) which provide supervised

clinical experiences in demonstrating the attributes and applying the skills which prepare students for entry into the physical therapy profession. (4 sch: 12 hr. clinical)

PTA 2434 Clinical Education III
This is the second of three culminating clinical education experiences which provide supervised clinical experiences in demonstrating the attributes and applying the skills which prepare students for entry into the Physical Therapy profession. (4 sch: 12 hr. clinical)

PTA 2444 Clinical Education IV
This is the third of three culminating clinical education experiences (identified in A Normative Model of PTA Education as the last full time clinical experience) which provide supervised clinical experiences in demonstrating the attributes and applying the skills which prepare students for entry into the Physical Therapy profession. (4 sch: 12 hr. clinical)

PTA 2513 Medical Conditions and Related Pathology
This course provides a basic knowledge of selected diseases and conditions encountered in physical therapy practice. Emphasis is on etiology, pathology, and clinical picture of diseases studied. Various physical therapy procedures in each disability are discussed. (3 sch: 3 hr. lecture)

PTA 2523 Physical Therapy Seminar
This course represents a synthesis of previous didactic, laboratory, and clinical experiences. Students are directed to explore a topic or area of interest in physical therapy practice. Recognition of the importance of employability skills after graduation is included. (3 sch: 3 hr. lecture)

PTA 2911 Seminar III
This course further develops the principles and characteristics presented in PTA 1911 and PTA 1921.

RCT 1011 Seminar I

RCT 1021 Seminar II

RCT 111(1-3) Respiratory Care Practicum
This course is designed to provide the student with extended observational time with limited participation in respiratory care modalities. The student gains knowledge of health care providers and of the respiratory care practitioner's role. This is an elective course for the first year students. (1-3 sch: 3-9 hr. clinical)

RCT 1213 Respiratory Care Science
This course is designed to introduce the student respiratory care therapist to fundamental elements important to the delivery of health care in a safe, efficient, and professional manner. (3 sch: 3-hr lecture)

RCT 1223 Patient Assessment and Planning
This course is a fundamental approach to subjective and objective evaluation, assessment, and care plan formation for the individual needs of the patient. It is an introduction to cardiopulmonary diseases including etiology, pathophysiology, complications, occurrences, clinical manifestations, treatment, and prevention. (3 sch: 2-hr lecture, 2-hr lab)

RCT 1313 Cardiopulmonary Anatomy and Physiology
This course is a study of cardiopulmonary physiology in relation to the practice of respiratory care. (3sch: 3-hr lecture)

RCT 1322 Pulmonary Function Testing (PFT)
This course is an introduction to pulmonary function technique and testing equipment. (2 sch: 1-hr lecture, 2-hr lab)

RCT 1416 Respiratory Care Technology I
This course is a study of respiratory treatments and equipment design and operation related to non-critical care procedures. (6 sch: 2 hr. lecture, 8 hr. lab)

RCT 1424 Respiratory Care Technology II
It is a study of the management of respiratory failure, including mechanical ventilation, pulmonary rehabilitation, and home care. (4 sch: 3-hr lecture, 2-hr lab)

RCT 1516 Clinical Practice I
Patient assessment, performance of respiratory care procedures, and care plan formation are practiced in the hospital environment. A procedural guide is utilized to evaluate student competencies and performance of respiratory care procedures (6 sch: 18-hr clinical)

RCT 1524 Clinical Practice II
In this course, students rotate through various respiratory care subspecialty areas for evaluation of competency and performance of respiratory care procedures (4 sch: 12-hr clinical)

RCT 1613 Respiratory Care Pharmacology
This course is designed to introduce the student to the pharmacology related to cardiopulmonary disorders. (3 sch: 3-hr lecture) Can be taught as :RCT 1611 and RCT 2622

RCT 2031 Seminar III

RCT 2333 Cardiopulmonary Pathology
This course is a study of cardiopulmonary pathophysiology. It includes etiology, clinical manifestations, diagnostics and treatment of various cardiopulmonary diseases incorporating clinical practice guidelines and therapist driven protocols. Case studies and/or clinical simulations will be utilized to enforce learning and evaluate progress. (3 sch: 3-hr lecture)

RCT 2434 Respiratory Care Practitioner III
This course is an advanced study of respiratory care in the critical care setting. Topics include non-conventional modes of mechanical ventilation, hemodynamics, special procedures, and advanced cardiac life support. (4 sch: 3-hr lecture, 2-hr lab)

RCT 2533 Clinical Practice III
In this course, students rotate through various clinical areas for evaluation of competency and performance of respiratory care procedures. (3 sch: 9-hr clinical)

RCT 2545 Clinical Practice IV
This course is a continuation of Clinical Practice III. In this course, students rotate through respiratory care areas. A procedural guide is utilized to evaluate student competency and performance (5 sch: 15-hr clinical).

RCT 2613 Neonatal/Pediatrics Management
This course is a study of fetal development and the transition to extrauterine environment. It Includes the most common cardiopulmonary disorders, neonatal and pediatric disease processes, and the modes of treatment. (3 sch: 3-hr lecture)

RCT 2713 Respiratory Care Seminar
This course is designed to integrate the essential elements of respiratory care practice through the use of care plans, case studies, and clinical simulations in a laboratory environment. Students develop an analytical approach to problem solving. Critical thinking is emphasized. (3 sch: 2-hr lecture, 2-hr lab)

RET 2213 Principles of Economic and Community Development
This course focuses on the fundamental concepts, tools and practices needed to be successful in today's complex economic environment. (3 sch: 3-hr lecture)

RET 2313 Leadership Roles of Economic Development
This course examines the role of community leaders and stakeholders who participate in the process of economic development at local, state, and federal levels. (3 sch: 3-hr lecture)

RET 2413 Land Use Planning in Economic Development
The course provides the student with instruction in concepts and practices associated with real estate, planning and law in economic development. (3 sch: 3-hr lecture)

RET 2513 Business Retention and Expansion
This course covers the concepts and practices associated with and business retention and expansion, as well as identifying and development of workforce needs. (3 sch: 3-hr lecture)

RET 2613 Credit Analysis
Topics include developing industrial sites, land use planning, financing tools such as tax increment financing and payments in-lieu of taxes (PILOTs), and incentives and resources to support real estate development. (3 sch: 3-hr lecture)

RET 2713 Principles of Real Estate
This course is designed to provide the student with an understanding of the basic principles and business fundamentals of real estate. The student will gain a working knowledge of real estate terminology and concepts in preparation for passing the licensing exam and/or for use in personal business. (3 sch: 3-hr lecture)

RET 2723 Real Estate Law
This course is designed to give students a general background in the laws of real property and real estate brokerage. (3 sch: 3-hr lecture)

RET 2783 Residential Mortgage Lending
This course provides an up-to-date survey of the rapidly changing field of residential mortgage lending. (3 sch: 3-hr lecture)

RET 2733 Real Estate Sales
A study of the methods and techniques employed by real estate salespersons and brokers in the sale and promotion of real estate. (3 sch: 3-hr lecture)

RET 2743 Real Estate Appraisal
A study of the methods, procedures, and evaluation techniques of appraising commercial and residential real property under various conditions. (3 sch: 3-hr lecture)

RGT 1111 Radiologic Seminar I
This course is designed for students to participate in activities of various professional organizations such as the Radiologic Technology Student Organization, HOSA and other student activities. Leadership skills, an understanding of group dynamics, educational enrichment, stimulation of enthusiasm and interest, community service and rapport among health education professionals are outcomes of this course. One hour per week with additional activities to meet organizational goals. (1 sch: 1 lecture, 0 lab)

RGT 1114 Clinical Education I
This course includes clinical practice and instruction in a clinical affiliate. Areas included are patient care and management, radiation protection, operation of equipment, and radiologic procedures. (4 sch: 12-hr clinical)

RGT 1121 Radiologic Seminar II
This course is designed for students to participate in activities of various professional organizations such as the Radiologic Technology Student Organization, HOSA and other student activities. Leadership skills, an understanding of group dynamics, educational enrichment, stimulation of enthusiasm and interest, community service and rapport among health education professionals are outcomes of this course. One hour per week with additional activities to meet organizational goals. (1 sch: 1 lecture, 0 lab)

RGT 1124 Clinical Education II
This course involves clinical practice and instruction in a clinical affiliate. Areas included are patient care and management, radiation protection, operation of equipment, and radiologic procedures. (4 sch: 12-hr clinical)

RGT 113(5-9) Clinical Education III
This course is a clinical practice and instruction in a clinical affiliate. Areas included are patient care and management, radiation protection, operation of equipment, and radiologic procedures. (5-9 sch: 15-27-hr clinical)

RGT 1213 Fundamentals of Radiography
This course is an introduction to Radiologic Technology including professional, departmental, and historical aspects. Included are terminology, medical ethics, and fundamental legal responsibilities. (3 sch: 3-hr lecture)

RGT 1223 Patient Care and Radiography
This course will provide the student with the basic concepts of patient care, including consideration for the physical and psychological needs of the patient and family. Routine and emergency patient care procedures will be described, as well as infection control procedures utilizing standard precautions. The role of the radiographer in patient education will be identified. (3 sch: 2-hr lecture, 2-hr lab)

RGT 1312 Principles of Radiation Protection
This course is designed to present an overview of the principles of radiation protection including the responsibilities of the radiographer for patients, personnel, and the public. Radiation health and safety requirements of federal and state regulatory agencies, accreditation agencies, and health-care organizations are incorporated. (2 sch: 2-hr lecture)
RGT 1323 Principles of Exposure and Image Production
This course is a study of the principles involving manipulation of factors controlling and influencing exposure and radiographic quality. Included are the prime factors of radiographic exposure, beam limiting devices, filtration, production and control of scatter and secondary radiation, exposure systems, technical conversions, and problem solving. (3 sch: 2 lecture, 2 lab)

RGT 1333 Digital Image Acquisition and Display
Content imparts an understanding of the components, principles and operation of digital imaging systems found in diagnostic radiology. Factors that impact image acquisition, display, archiving and retrieval are discussed. Principles of digital system quality assurance and maintenance are presented. (3 sch: 2 lecture, 2 lab)

RGT 1413 Imaging Principles
This course is a study of the principles involving manipulation of factors controlling and influencing exposure and radiographic quality. Included are the prime factors of radiographic exposure, beam limiting devices, filtration, production and control of scatter and secondary radiation, exposure systems, technical conversions, and problem solving. This course presents an introduction to film processing including darkroom design and equipment. Included are chemistry of developing solutions, procedures of general maintenance, quality control, and silver recovery methods. (3 sch: 2-hr lecture, 2-hr lab)

RGT 1423 Digital Imaging
This course is designed to impart an understanding of the components, principles, and operation of digital imaging systems found in diagnostic radiology. Included are factors that impact image acquisition, display, archiving, and retrieval. In addition, principles of digital system quality assurance and maintenance are introducted along with guidelines for selecting exposure factors and evaluation images within a digital system to assist students to bridge between film-based and digital imaging systems. (3 sch: 2-hr lecture, 2-hr lab)

RGT 1513 Radiographic Procedures I
This course includes terminology, principles, and procedures involved in routine radiographic positioning for demonstration of the chest, abdomen, upper extremities and digestive system. Included is a review of radiographic anatomy on each procedure. (3 sch: 2-hr lecture, 2-hr lab)

RGT 1523 Radiographic Procedures II
This course includes principles and procedures involved in the radiographic positioning of the spinal column, urinary system, pelvic girdle, lower extremities, bony thorax, and mobile and trauma radiography procedures. Included is a review of radiographic anatomy on each procedure. (3 sch: 2-hr lecture, 2-hr lab)

RGT 1613 Physics of Imaging Equipment
This course is designed to establish a knowledge base in radiographic, fluoroscopic, mobile, and tomographic equipment requirements and design. The content will also provide a basic

knowledge of quality control. Computer applications in the radiologic sciences related to image capture, display, storage, and distribution are presented. (3 sch: 3-hr lecture)

RGT 1911 Radiologic Seminar I

This course is designed for students to participate in activities of various professional organizations such as the Radiologic Technology Student Organization, HOSA and other student activities. Leadership skills, an understanding of group dynamics, educational enrichment, stimulation of enthusiasm and interest, community service and rapport among health education professionals are outcomes of this course. One hour per week withadditional activities to meet organizational goals. (1 sch: 1-hr lecture)

RGT 1921 Radiologic Seminar II

This course is designed for students to participate in activities of various professional organizations such as the Radiologic Technology Student Organization, HOSA and other student activities. Leadership skills, an understanding of group dynamics, educational enrichment, stimulation of enthusiasm and interest, community service and rapport among health education professionals are outcomes of this course. One hour per week with additional activities to meet organizational goals. (1 sch: 1-hr lecture)

RGT 2111 Radiologic Seminar III

This course is designed for students to participate in activities of various professional organizations such as the Radiologic Technology Student Organization, HOSA and other student activities. Leadership skills, an understanding of group dynamics, educational enrichment, stimulation of enthusiasm and interest, community service and rapport among health education professionals are outcomes of this course. One hour per week with additional activities to meet organizational goals. (1 sch: 1 lecture, 0 lab)

RGT 2121 Radiologic Seminar IV

This course is designed for students to participate in activities of various professional organizations such as the Radiologic Technology Student Organization, HOSA and other student activities. Leadership skills, an understanding of group dynamics, educational enrichment, stimulation of enthusiasm and interest, community service and rapport among health education professionals are outcomes of this course. One hour per week with additional activities to meet organizational goals. (1 sch: 1 lecture, 0 lab)

RGT 2113 Mammography

This course is designed to provide the professional community with a cognitive online base of entry-level education in the practice of Mammography. (3 sch: 3 hr. lecture)

RGT 2123 Sectional Anatomy

This course is designed to study human sectional anatomy including location, structure, and function, as well as relationships among structures. Radiographs, Computed Tomography (CT) images, and Magnetic Resonance Imaging (MRI), Ultrasound and PET images may be used to demonstrate the characteristic appearance of anatomic structures. (3 sch: 3 hr. lecture)

RGT 2132 Ethical and Legal Responsibilities

Legal terminology, concepts, and principles will be presented in this course. Topics include misconduct, malpractice, legal and professional standards, and the ASRT scope of practice. The importance of proper documentation and informed consent is emphasized. This course will

prepare students to better understand their patients, the patient's families, and professional peers through comparison of diverse populations based on their value systems, cultural and ethnic influences, communication styles, socioeconomic influences, health risks, and life stages. (2 sch: 2-hr lecture)

RGT 2133 Computed Tomography
This course is designed to explore the technical principles of Computed Tomography (CT). A review of patient care, contrast media and adverse reactions, common CT procedures and protocols, image characteristics, and image quality control methods are taught. (3 sch: 3 hr. lecture)

RGT 2134 Computed Tomography Clinical
This course is designed to offer the radiographer or student radiographer instruction and clinical experience in Computed Tomography (CT). The student will provide patient care, provide radiation protection and safety, perform imaging procedures, and perform image post-processing and evaluation. Students should be knowledgeable in sectional anatomy. Additional competencies beyond this course are required for students seeking ARRT certification. (4 sch: 12 hr. clinical)

RGT 2143 Magnetic Resonance Imaging
This course provides a basic foundation of Magnetic Resonance Imaging (MRI). The physical and technical principles, imaging sequences, image artifacts, clinical applications, system components, and safety issues will be discussed. Images of sectional anatomy related to MRI will also be explored. (3 sch: 3 hr. lecture)

RGT 2144 Magnetic Resonance Imaging Clinical
This course is designed to offer the radiographer or student radiographer instruction and clinical experience in Magnetic Resonance Imaging (MRI). The student will provide patient care, protection, and MRI safety; and perform imaging procedures, data acquisition, image post-processing, and evaluation. Students should be knowledgeable in sectional anatomy. Additional competencies beyond this course are required for students seeking ARRT certification. (4 sch: 12 hr. clinical)
Course Prerequisite Number: RGT 2143
Course Prerequisite Name: Magnetic Resonance Imaging

RGT 2147 Clinical Education IV
This course is a clinical practice and instruction in a clinical affiliate. Areas included are patient care and management, radiation protection, operation of equipment, and radiologic procedures. (7 sch: 21-hr clinical)

RGT 2157 Clinical Education V
This course is a clinical practice and instruction in a clinical affiliate. Areas included are patient care and management, radiation protection, operation of equipment, and radiologic procedures. (7 sch: 21-hr clinical)

RGT 2532 Radiographic Procedures III
This course includes principles and procedures involved in radiographic positioning of the entire cranium and facial bones. Included is a review of radiographic anatomy on each procedure. (2 sch: 1-hr lecture 1-hr lab)

RGT 2542 Radiograph Procedures IV
This course is a study of special radiographic procedures which utilizes sterile techniques and specialized equipment. It also includes basic concepts of pharmacology. In addition, it also includes principles and procedures involved in radiographic positioning of the reproductive system. (2 sch: 2-h. lecture)

RGT 2811 Radiologic Seminar III
This course is designed for students to participate in activities of various professional organizations such as the Radiologic Technology Student Organization, HOSA and other student activities. Leadership skills, an understanding of group dynamics, educational enrichment, stimulation of enthusiasm and interest, community service and rapport among health education professionals are outcomes of this course. One hour per week with additional activities to meet organizational goals. (1 sch: 1-hr lecture)

RGT 2821 Radiologic Seminar IV
This course is designed for students to participate in activities of various professional organizations such as the Radiologic Technology Student Organization, HOSA and other student activities. Leadership skills, an understanding of group dynamics, educational enrichment, stimulation of enthusiasm and interest, community service and rapport among health education professionals are outcomes of this course. One hour per week with additional activities to meet organizational goals. (1 sch: 1-hr lecture)

RGT 2911 Radiation Biology
This course is a study of the biological effects of radiation upon living matter. It includes genetic and somatic effects. (1 sch: 1-hr lecture)

RGT 2922 Radiographic Pathology
This course is designed to introduce theories of disease causation and the pathophysiologic disorders that compromise healthy systems. Etiology, pathophysiologic responses, clinical manifestations, radiographic appearance, and management of alterations in body systems will be presented. (2 sch: 2-hr lecture)

RGT 2933 Certification Fundamentals
This course is designed to correlate scientific components of radiography to entry-level knowledge required by the profession. (3 sch: 3-hr lecture)

RGT 2943 Fundamentals of Computerized Tomography
This course is designed to provide the student with an introduction to the fundamental principles of Computerized Tomography to include historical aspects of CT, common imaging procedures and protocols, physical and technical principles of image production, characteristics and quality, basic introduction to sectional anatomy, physics and instrumentation, and a review of patient care and contrast usage pertaining to CT. (3 sch: 3 hr lecture)

RGT 2953 Fundamentals of Magnetic Resonance Imaging
This course is designed to provide the student with an introduction to the fundamental principles of Magnetic Resonance Imaging to include historical aspects, common imaging procedures and protocols, a review of patient care and MRI safety, introduction to sectional anatomy, physical and technical principles of image production and quality, imaging sequences, artifacts, clinical applications and system components. (3 sch: 3 hr lecture)

ROT 1113 Fundamentals of Robotics
This course is designed to introduce the student to industrial robots. Topics to be covered include robotics history, industrial robot configurations, operation, and basic programming. (3 sch: 2 hr. lecture, 2 hr. lab)

ROT 1213 Industrial Hydraulics
This course introduces the students to basic hydraulics, hydraulic actuators, accumulators, valves, pumps, motors, fluids, coolers, and filters. Emphasis is placed on development of hydraulic control circuits and troubleshooting. (3 sch: 2 hr. lecture, 2 hr. lab)

ROT 1223 Industrial Pneumatics
This course introduces the students to basic pneumatic principles, compression of air, work devices, control devices, and circuit diagrams. Emphasis is placed on development of pneumatic control circuits, electro-mechanical control of fluid power, and troubleshooting techniques. (3 sch: 2 hr. lecture, 2 hr. lab)

ROT 1313 Industrial Robotics
This course teaches the operating systems and advanced programming methods of industrial robots. Actual industrial grade robots are used to train the student in the areas of operation, maintenance, troubleshooting, service procedures, and robotics applications. (3 sch: 2 hr. lecture, 2 hr. lab)

ROT 2413 Automated Manufacturing Controls
This course is designed to teach the students the integrated control systems found in automated systems. Emphasis will be placed on encoders, optical devices, servo motors, stepper motors, computerized numerical control (CNC), vision and sensing systems, lasers, programmatic controllers, motor speed controls, and other similar devices. (3 sch: 2 hr. lecture, 2 hr. lab)

ROT 2423 Servo Control Systems
This course is designed to teach servo components, servo valves, velocity servos, positional servos, force, pressure, and torque servos, servo amplifiers, programmers, and servo analysis. Emphasis is placed on servo trim and maintenance and the applications of servo systems. (3 sch: 2 hr. lecture, 2 hr. lab)

ROT 2613 Mechanical Systems
This course introduces the students to mechanical components and drive systems commonly used in the industry. Emphasis is placed on installation, maintenance, and troubleshooting of these components and systems. (3 sch: 2 hr. lecture, 2 hr. lab)

RST 1312 Freshman Orientation
This course is designed to help students adjust to college life. Course content includes personal, academic, and financial information to assist the student in succeeding in college. The course is designed to teach effective study habits, reading methods, use of the library, not taking, report writing, financial responsibility education and gives the student guidance in collegiate life. (2 sch: lecture)

SBA 1113 Solid State Motor Controls Systems
Principles and operation of solid state motor control as well as the design, installation, and maintenance of different solid state devices for motor control. (3 sch: 2 lecture, 2 lab)

SBA 1123 Fluid Power
This course provides instruction in hydraulics and pneumatics. This course covers actuators, accumulators, valves, pumps, motors, coolers, compression of air, control devices, and circuit diagram. Emphasis is placed on the development of control circuits and troubleshooting techniques. (3 sch: 2 lecture, 2 lab)

SBA 1133 Power Distribution
This course provides information on single and three phase circuits. This includes connecting and calculating values. (3 sch: 2 lecture, 2 lab)

SBA 1144 Manufacturing Skills Basic
Manufacturing Skills Basic is the initial course designed to provide the student with the basic skills needed to be successful in a high-performance manufacturing environment. The course covers 5 major areas of knowledge that are considered critical for employment in a high-performance manufacturing company. The topics covered include: Basic Computer Literacy, Blueprint Reading, Precision Measurement, and an introduction to manufacturing improvement methods that covers Lean Manufacturing, Quick Changeover, 5S, Teamwork and Problem-solving. (4 sch: 3 lecture, 2 lab)

SBA 1163 Motor Controls Systems
This course covers installation of different motor control circuits and devices. Emphasis is placed on developing the student's ability to diagram, wire, and troubleshoot the different circuits and mechanical control devices. (3 sch: 2 lecture, 2 lab)

SBA 1173 Programmable Logic Controllers
Principles and operation of Programmable Logic Controllers (PLCs) in modern industrial settings as well as the operating principles of PLCs and practice in the programming, installation, and maintenance of PLCs. (3 sch: 2 lecture, 2 lab)

SBA 1213 Capstone for Systems Based Automation
This course allows practical application of all skills and knowledge. The instructor works closely with student to ensure that the selection of the project will enhance the student's learning experience. (3 sch: 2 lecture, 2 lab)

SBA 1223 Robotics & Automation
This course includes a history of automation as well as identifying components of a robot. Includes programming and troubleshooting of the robot system. (3 sch: 2 lecture, 2 lab)

SBA 1283 Industrial Instrumentation
A study of the concepts, principles and devices for the measurement of industrial pressure, level, temperature and flow variables. The student will learn to apply the principles of process instruments and devices as applied to control and detection of variables. The student will perform industrial pressure, level, temperature and flow measurements. (3 sch: 2 lecture, 2 lab)

SBA 1313 AC/DC Circuit
Principles and theories with AC/DC and AC circuits used in the automation trade. Includes the study of electronic circuits. Laws and formulas, and the use of test equipment to analyze AC and DC circuits. (3 sch: 2 lecture, 2 lab)

SBA 1413 Systems Based Digital and Solid State Devices
Numbering systems, logic gates as used in the automation industry. Also includes diodes, transistors and thyristors.(3 sch: 2 lecture, 2 lab)

SBA 1513 Wiring for Systems Based Automation
This course provides instruction and practice in the installation of industrial electrical services. This course includes types of conduit and other raceways, National Electrical Code, and three phase power distribution networks. (3 sch: 2 lecture, 2 lab)

SBA 2113 Advanced Programmable Logic Controllers/Data Acquisition
This is an advanced PLC course that provides instruction in the various operations and installations of advanced electrical control systems utilizing programmable logic controllers. This will include areas such as sequencer control, introduction to Human Machine Interfaces, along with Data Acquisition and networking.

SBA 213(1-4) Special Project in System Based Automation
This course allows practical application of all skills and knowledge. The instructor works closely with student to ensure that the selection of the project will enhance the student's learning experience. (1-4 sch: 1-3 lecture, 1-4 lab)

SBA 2123 Advanced Instrumentation and Process Controls
A study of process controllers, implementing PID (Proportional, Integral, Derivative) feedback, cascade, ratio, feed forward and auto select/override and introduce other advanced control strategies; study techniques for loop tuning and calibrating process loop components including smart transmitters using field communicators. Use of Loop documentation and drawings. (3 sch: 2 lecture, 2 lab)

SBE 1113 Electronic Fundamentals I
Principles and theories associated with DC circuits. This course includes the study of electrical circuits, laws and formulae, and the use of test equipment to analyze DC circuits. (3 sch: 2 lecture, 2 lab)

SBE 1123 Electronic Fundamentals II
Principles and theories associated with AC circuits, Transformers and Semiconductor circuits. This course includes the study of electrical circuits, laws and formulae, and the use of test equipment to analyze Electronic circuits. (3 sch: 2 lecture, 2 lab)

SBE 1213 Digital Electronics
Introduction to Number systems, logic circuits, Counters, Registers, Memory devices, Combinational and Sequential Logic circuits, Boolean algebra as used in industry for Control Systems. (3 sch: 2 lecture, 2 lab)

SBE 1223 Test and Measurement Fundamentals
Principles and theories associated with utilizing Test Equipment to measure DC/AC circuit parameters and electronic components. This course includes the study of electrical circuits, laws and formulae, and the use of test equipment to analyze DC/AC circuits. (3 sch: 2 lecture, 2 lab)

SBE 2353 Solid State Motor Control
Principles and operation of solid state motor control as well as the design, installation, and maintenance of different solid state devices for motor control. (3 sch: 1 lecture, 4 lab)

SBE 2363 Programmable Logic Controllers
Principles and operation of Programmable Logic Controllers (PLCs) in modern industrial settings as well as the operating principles of PLCs and practice in the programming, installation, and maintenance of PLCs. (3 sch: 2 lecture, 2 lab)

SET 1114 Small Engine Mechanics I
Introduces students to the basic principles of engine mechanics. Includes instruction on lubrication, fuel, and ignition systems (4 sch: 0-hr lecture, 8-hr lab)

SET 1124 Small Engine Mechanics II
A continuation of Small Engine Mechanics I with emphasis on cooling systems, engine governance, multi-cylinder engines, and diesel fuel systems (4 sch: 0-hr lecture, 8-hr lab)

SET 1134 Power Sports Mechanics I
This course is designed to increase a student's knowledge covered in prior courses with an emphasis on systems unique to the repair of power ports equipment repair. These areas of study will include, but not limited to lubrication, ignition, exhaust, emissions, and cooling systems. (3 Sch. 2 Lecture, 2 Lab)

SET 1212 Measurements
A course to develop skills and knowledge related to measurement tools, measurement tool usage, and fasteners of small engine and equipment components (2 sch: 1-hr lecture, 2-hr lab)

SET 1313 Four-Cycle Engines
A course to develop skills and knowledge related to four-cycle small engine and equipment repair and maintenance. Includes instruction in assembly, lubrication, and fuel systems (3 sch: 2-hr lecture, 2-hr lab)

SET 1322 Two-Cycle Engines
A course to develop skills and knowledge related to two-cycle small engine and equipment repair and maintenance. Includes instruction in assembly, lubrication, and fuel systems (2 sch: 1-hr lecture, 2-hr lab)

SET 1323 Power Sports Transmission System
This course takes the student into a level of understanding of how the engine power is transmitted to the driving wheel or wheels of motorcycles, and ATV's. These systems are primary drives, clutches, manual, automatic transmissions, and final drive systems. (3Sch. 2 lecture, 2 lab)

SET 1333 Power Sports Engine and Fuel Systems
This is an advanced course in the diagnosis and repair of engine and fuel systems unique to the power sports industry. (3 Sch. 2 Lecture, 2 Lab)

SET 1413 Small Engine Shop Management
Provides students with skills and knowledge related to management and operation of a small engine repair shop. Includes instruction in shop safety and OSHA regulations, shop tools and equipment, shop design, overall shop maintenance, and inventory control (3 sch: 2-hr lecture, 2-hr lab)

SET 1512 Frame Inspection and Maintenance
A course to develop skills and knowledge related to small equipment frame (chassis) repair and maintenance. Includes instruction in oxyfuel cutting and arc welding as well as painting and other frame (chassis) maintenance (2 sch: 1-hr lecture, 2-hr lab)

SET 1713 Power Sports Break and Suspension
This course will give the student the skills needed to properly diagnose and repair breaks and suspension systems used in the power sports industry. (3 Sch. 2 Lecture, 2 Lab)

SET 2134 Small Engine Mechanics III
A continuation of Small Engine Mechanics II with emphasis on steering and suspension systems (4 sch: 0-hr lecture, 8-hr lab) None

SET 2144 Small Engine Mechanics IV
A continuation of Small Engine Mechanics III with emphasis on troubleshooting and performing maintenance on a variety of systems (4 sch: 0-hr lecture, 8-hr lab)

SET 2155 Small Engine and Equipment Analysis and Repairs I
A course to provide skills and knowledge related to the operation, troubleshooting, and repair of systems related to equipment. Includes instruction on a variety of equipment and troubleshooting techniques related to equipment (5 sch: 0-hr lecture, 10-hr lab) Pre/Corequisite: Consent of the instructor

SET 2165 Small Engine and Equipment Analysis and Repairs II
A course to provide advanced skills and knowledge related to the operation, troubleshooting, and repair of systems related to equipment. Includes instruction on a variety of equipment and advanced troubleshooting techniques related to equipment. (5 sch: 0-hr lecture, 10-hr lab) Prerequisite: Consent of instructor and completion of at least one semester of advanced coursework in Program Name

SET 2353 Engine Troubleshooting
A course to develop skills and knowledge associated with the basics of equipment diagnostics and trouble shooting. Instruction is provided on tools and equipment used in diagnosis, fasteners, fluids, and measurement devices. (3 sch: 2-hr lecture, 2-hr lab)

SET 2523 Maintenance and Repair of Cutting Mechanisms
A course to develop skills and knowledge related to the maintenance and repair of cutting mechanisms used in landscape and turf operations including mowers, trimmers, edgers, and saws. Includes instruction in drive systems, blade sharpening and height adjustment, reel grinding and adjustment, and chain saw chain sharpening and adjustment (3 sch: 2-hr lecture, 2-hr lab)

SET 2533 Hydraulics
A course to develop skills and knowledge related hydraulics as it relates to small equipment chassis repair and maintenance. Includes instruction on hydraulics will be components, diagnosis, and repair of the hydraulic system (3 sch: 2-hr lecture, 2-hr lab)

SET 2543 Transmissions and Transaxles
A course to develop skills and knowledge related to small equipment transmissions and transaxles. Includes instruction for transmission and transaxle service, diagnosis, and repair (3 sch: 2-hr lecture, 2-hr lab)

SET 2613 Small Engine Electrical Systems
A course to develop skills and knowledge related to the operating principles of direct current circuits. Includes instruction on basic electrical principles, safety procedures, batteries, conductors, and switches (3 sch: 2-hr lecture, 2-hr lab)

SET 2811-3 Special Problem in Small Engine and Equipment Repair Technology
A course designed to provide the student with practical application of skills and knowledge gained in other Small Engine and Equipment Repair Technology courses through the use of a special problem. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. (1-3 sch: 2-6-hr lab) Pre/Corequisite: Consent of the instructor

SET 2911-6 Supervised Work Experience in Small Engine and Equipment Repair Technology
A course that is a cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 sch: 3-18-hr externship) Prerequisite: Consent of instructor and completion of at least one semester of advanced coursework in Program Name

SET 2313 Small Engine and Equipment Project I
A course designed for establishment of skills and knowledge for introductory projects related to small engine and equipment (3 sch: 6-hr lab)Prerequisite: Consent of instructor and completion of at least one semester of advanced coursework in Program Name

SET 2323 Small Engine and Equipment Project II
A course designed for establishment of skills and knowledge for basic projects related to small engine and equipment (3 sch: 6-hr lab) Prerequisite: Consent of instructor and completion of at least one semester of advanced coursework in Program Name

SET 2333 Small Engine and Equipment Project III
A course designed for establishment of skills and knowledge for intermediate projects related to small engine and equipment (3 sch: 6-hr lab)Prerequisite: Consent of instructor and completion of at least one semester of advanced coursework in Program Name

SET 2343 Small Engine and Equipment Project IV
A course designed for establishment of skills and knowledge for advanced projects related to small engine and equipment. (3 sch: 6-hr lab) Prerequisite: Consent of instructor and completion of at least one semester of advanced coursework in Program Name

SMT 1112 Orientation and Shop Safety
An overview of the occupations in the sheet metal industry and personal and shop safety practices of the sheet metal industry. (2 sch: 1-hr lecture, 2-hr lab)

SMT 1212 Measurement
Selection and use of measuring tools and basic mathematics pertaining to the sheet metal industry. (2 sch: 1-hr lecture, 2-hr lab)

SMT 1315 Methods of Layout I
Layout and development of various sheet metal problems using the principles of parallel line and triangulation development. (5 sch: 2-hr lecture, 6-hr lab)

SMT 1326 Methods of Layout II
A continuation of Methods of Layout I to include radial line layout and architectural/roofing sheet metal and specialty sheet metal. (6 sch: 3-hr lecture, 6-hr lab)

SMT 1414 Hand Processes I
Selection and use of hand tools in the sheet metal trade. (4 sch: 2-hr lecture, 4-hr lab)

SMT 1424 Hand Processes II
A continuation of Hand Processes I that includes the selection and correct and safe use of the specialty hand and power tools of the sheet metal trade. (4 sch: 2-hr lecture, 4-hr lab)

SMT 1613 Sheet Metal Welding
Selection and use of welding machines such as manual metal arc, gas metal arc welding (GMAW), oxyacetylene, shielded metal arc (SMAW), and plasma arc cutting (PAC) as used in the sheet metal trade. (3 sch: 1-hr lecture, 4-hr lab)

SMT 2213 Plans and Specifications I
Terms and definitions used in reading blueprints and specifications. Basic sketching, drawing, and dimensioning of objects will be covered. Also, specifications of blueprints and building codes will be covered. (3 sch: 2-hr lecture, 2-hr lab)

SMT 2223 Plans and Specifications II
Continuation of Plans and Specifications I with emphasis placed on reading and interpreting blueprints and performing calculations. (3 sch: 2-hr lecture, 2-hr lab)

SMT 2324 Methods of Layout III
A continuation of Methods of Layout II with the use of CNC cutting methods for various layout of sheet metal projects. (4 sch: 1-hr lecture, 6-hr lab)

SMT 2514 Machine Processes I
Selection and the safe use of hand-and-foot operated machines of the sheet metal trade. (4 sch: 2-hr lecture, 4-hr lab)

SMT 2524 Machine Process II
A continuation of Machine Processes I that includes the use of power-operated machines of the sheet metal trade. (4 sch: 2-hr lecture, 4-hr lab)

SMT 2614 Advance Sheet Metal Welding
Advanced sheet metal welding using various welding machines, processes, and techniques. (4 sch: 2-hr lecture, 4-hr lab)

SMT 291(1-3) Special Project in Sheet Metal
Provides the student with practical application of skills and knowledge gained in other technical courses. The instructor works closely with the student to ensure that the selection of a project will enhance the student's learning experience. (1-3 sch: 2- to 6-hr lab)

SMT 292(1-3) Supervised Work Experience in Sheet Metal
A course which is a cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-3 sch: 3- to 9-hr externship)

SSP 1002 Smart Start Pathway

Students entering the Smart Start Pathway under the Workforce Innovation and Opportunity Act will be placed in this course. Students will enroll in the MS Works system and learn three components within the pathway: Career Awareness, Necessary Skills, and Basic Skills. They will develop the foundational skills needed for their careers, learn and practice good work habits and effective communication that is necessary in successful employment. Students will learn how to become prepared to learn new skills for future careers within their region's workforce sector, identifying the career components that are necessary for middle-skill employment. Students will complete the WorkKeys® assessments in Workplace Documents, Applied Math, and Graphic Literacy which allows students to quantify the foundational skills needed to perform job tasks successfully and enables students to demonstrate they have these skills. Students will earn a National Career Readiness Certificate, a credential issued by ACT that documents work readiness. (2 sch: 2 hr. lecture)

SUT 100(3-6), SUT 1013, SUT 1023 Introduction to Surgical Technology, Introduction to Surgical Technology I, or Introduction to Surgical Technology II

These courses contain the baseline competencies and suggested objectives from the high school curriculum which directly relate to the community college program. The courses are designed for students entering the community college who have had no previous training or documented experience in the field. (3-6 semester hours based upon existing skills for each student. May be divided into 2 courses for a maximum total of 6 hours of institutional credit.)

SUT 1111 CST Prep I

First semester review and preparation for the certified surgical technology (CST) exam. This course also will provide instruction related to employment and employee responsibility to promote an effective transition from the role of the student to the role of the employee. (1 sch: 1 hr. lecture)

SUT 1113 Fundamentals of Surgical Technology

This is a basic introductory course including hospital and surgical suite organization and environment, history, legal responsibilities, terminology, interpersonal relationships, pharmacology, and anesthesia. (3 sch: 3 hr. lecture)

SUT 1121 CST Prep II

Second semester review and preparation for the certified surgical technology (CST) exam. This course also will provide instruction related to employment and employee responsibility to promote an effective transition from the role of the student to the role of the employee. (1 sch: 1 hr. lecture)

SUT 1131 CST Prep III

Third semester review and preparation for the certified surgical technology (CST) exam. This course also will provide instruction related to employment and employee responsibility to promote an effective transition from the role of the student to the role of the employee. (1 sch: 1 hr. lecture)

SUT 1216 Principles of Surgical Technique

This course is a comprehensive study of aseptic technique, safe patient care, and surgical techniques. (6 sch: 2 hr. lecture, 8 hr. lab)

Corequisites: All first semester courses or other courses determined by the local college and/or program director.

SUT 1223 Medical Terminology for Surgical Technologists
A study of medical terminology as it relates to the practice of surgical technology. (3 sch: 3 hr. lecture)

SUT 1314 Surgical Anatomy
Emphasis is placed on the structure and function of the human body as related to surgery. Application of the principles of surgical anatomy to participation in clinical experience. (4 sch: 4 hr. lecture)

SUT 1413 Surgical Microbiology
This is an introduction to pathogenic microorganisms related to surgery and their effect on wound healing and infection. It includes principles of sterilization and disinfection. (3 sch: 3 hr. lecture)

SUT 1518 Basic and Related Surgical Procedures
This course includes instruction in regional anatomy, pathology, instrumentation, and surgical techniques in general surgery, gynecology, obstetrics, and urology. It requires clinical experience in area hospital surgical suites and related departments. (8 sch: 4 hr. lecture, 12 hr. clinical)
Prerequisites: CPR-Health Care Provider and all first semester courses or other courses determined by the local college and/or program director.

SUT 1528 Specialized Surgical Procedures
This course includes instruction in regional anatomy, pathology, instrumentation, and techniques in surgical specialty areas of ear, nose, and throat; eye; oral and maxillofacial surgery; pediatrics; and plastics. This course requires clinical experience in area hospital surgical suite and related departments. (8 sch: 4 hr. lecture, 12 hr. clinical)
Prerequisites: CPR-health care provider and all first semester courses or other courses determined by the local college and/or program director.

SUT 1538 Advanced Surgical Procedures
This course includes instruction in regional anatomy, pathology, instrumentation, and techniques in surgical specialty areas of orthopedics, neurosurgery, thoracic, peripheral vascular, cardiovascular surgery, and employability skills. This course requires clinical experience in area hospital surgical suites and related departments and a comprehensive final examination. (8 sch: 4 hr. lecture, 12 hr. clinical)
Prerequisites: CPR-health care provider and all second semester courses.

SUT 1614 Basic and Related Surgical Procedures
This course includes instruction in regional anatomy, pathology, instrumentation, surgical techniques, and safe patient care in general surgery, gynecology, obstetrics, and genitourinary. This course prepares students for clinical experience. (4 sch: 4 hr. lecture)

SUT 1624 Specialized Surgical Procedures (Lecture)
This course includes instruction in regional anatomy, pathology, instrumentation, techniques, and safe patient care in surgical specialty areas of ear, nose, and throat; eye; oral and maxillofacial

surgery; orthopedics; and plastics. This course prepares students for clinical experience in area hospital surgical suite and related departments. (4 sch: 4 hr. lecture)

SUT 1714, SUT 1724, SUT 1735 Clinical Practice I, II, III
This course includes clinical practice and didactic instruction in a clinical affiliate. Surgical specialty areas covered include general gynecology, obstetrics, genitourinary, ear, nose, and throat; eye; oral and maxillofacial surgery; orthopedics; plastics; neurosurgery; thoracic; peripheral vascular and cardiovascular surgery. (4-5 sch: 12-15 Clinical

SUT 1703 Certification and Role Transition
An in-depth study of the role of the surgical technologist and review for the certification examination. The course examines liability and legal issues of practice, adapting critical thinking skills to a variety of practice settings, effective team and professional behaviors, continuing education, and ethical issues. Practice on computer simulations is required. (3 sch: 3 hr. lecture)

TCT 1114 Fundamentals of Telecommunications
History of voice/data communication, fundamental concepts of analog and digital communications, and basic telephone service. (4 sch: 3-hr lecture, 2-hr lab)

TCT 2214 Telephone Systems
Information and hands-on experience in installation, operation, troubleshooting, and repair of commercial use telephone systems including analog and digital key systems. (4 sch: 3-hr lecture, 2-hr lab)

TCT 2224 PBX Systems
This course is a continuation of the PBX section of Telephone Systems (TCT 2214). Further emphasis will be placed on the installation, programming, and troubleshooting of PBX systems. Maintenance, cleaning, and paperwork will be covered. (4 sch: 2-hr. lecture, 4-hr lab)

TCT 2244 Fundamentals of Telephony
Understand telephone companies and the telephone network, regular telephone service, how calls are established end –to end, network equipment, the outside plant, loops , remotes, Cos and telephony jargon and buzzwords. (4 sch: 3-hr. lecture, 2-hr lab)

TCT 2314 Digital Communications I
Theories and applications of digital communications and analog pulse modulation. (4 sch: 2-hr lecture, 4-hr lab)

TCT 2324 Digital Communications II
Theories and applications of digital modulation methods and digital pulse modulation methods. (4 sch: 2-hr lecture, 4-hr lab)

TCT 2354 Fundamentals of Wireless Technology
Theories and applications of digital communications and analog pulse modulation. (4 sch: 2-hr lecture, 4-hr lab)

TCT 2364 Wireless Telecommunications Technology
Theories and applications of digital modulation methods and digital pulse modulation methods (4 sch: 2-hr lecture, 4-hr lab)

TCT 2414 Microwave and Satellite Systems
Theories and applications of microwave and satellite communications. (4 sch: 3-hr lecture, 2-hr lab)

TCT 2424 Network Systems
Networking fundamentals, voice networking, LANs, and Internet. Also covered is upgrading of computers to support LAN technology. (4 sch: 2-hr lecture, 4-hr lab)

TCT 2433 Physics for Electronics
Coverage of those areas of physics that have applications in electronics (3 sch: 2-hr lecture, 2-hr lab)

TCT 291(1-4) Special Project
Practical application of skills and knowledge gained in other telecommunications or telecommunications-related technical courses. The instructor works closely with the student to ensure that the selection of a project will enhance the student's learning experience. (1-4 sch: 2- to 8-hr lab)

TCT 292(1-6) Supervised Work Experience
This cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of 1 semester hour per 45 industrial contact hours. (1-6 sch: 3- to 18-hr externship)

TDT 1113 Safety and Fundamentals of Die Fabrication
Fundamentals of tool and die fabrication procedures including an orientation to metallurgy and instruction of die fabrication. (3 sch: 1-hr lecture, 4-hr lab)

TDT 1123 Die Repair
Repair and maintenance of industrial dies, including practice using industrial dies. (3 sch: 1-hr lecture, 4-hr lab)

TDT 1133 Die Design I
Basic design of industrial dies that includes instruction and practice in calculations and processes of die design. (3 sch: 2-hr lecture, 2-hr lab)

TDT 1144 Die Fabrication I
Die fabricating procedures which includes instruction and safe practice in fabrication, heat treatment, and finishing dies. (4 sch: 1-hr lecture, 6-hr lab)

TDT 2153 Die Design II
Continuation of Die Design I which includes instruction and practice in designing different types of dies used in industry. (3 sch: 1-hr lecture, 4-hr lab)

TDT 2164 Die Fabrication II
Continuation of Die Fabrication I with emphasis on safe fabrication of complex types of dies. (4 sch: 1-hr lecture, 6-hr lab)

TDT 2174 Die Fabrication III
Specialized skills associated with the design and fabrication of work holding devices including jigs, fixtures, and other tools. (4 sch: 2-hr lecture, 4-hr lab)

TDT 2183 Jigs, Fixtures and Tools
Specialized skills associated with the design and fabrication of work holding devices including jigs, fixtures, and other tools. (3 sch: 1-hr lecture, 4-hr lab)

TDT 2233 Computer Numerical Control Operations III
Continuation of Computerized Numerical Operations II with special emphasis on die fabrication. The course includes instruction and safe practices in the use of the wire electrical discharge machine (WEDM). (3 sch: 1-hr lecture, 4-hr lab)

TDT 291(1-3) Special Problem in Tool and Die Technology
A course to provide students with an opportunity to utilize skills and knowledge gained in other Tool and Die Technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-3 sch: 2-6 hr. lab)

TDT 292(1-6) Supervised Work Experience in Tool and Die Technology
A course which is a cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of 1 semester hour per 45 industrial contact hours. (1-6 sch: 3-18 hr. externship)

TMA 1063 Applied Math for Health Professionals
This course provides instruction in basic mathematical concepts, including the ability to interpret statistical data, gather and report statistical data. Emphasis will be placed on the medical metric system, drug calculations, dosing standards, medication administration records, distinguish household and apothecary terms and other healthcare-related functions requiring mathematical competency. (3 sch: 3 hr lecture)

ULT 1112 Interpersonal Skills for Line Workers
This course is designed to cover the basic communication skills for interaction with others. (2 sch: 2-hr lecture)

ULT 1118 Electrical Lineman I
This course covers basic electricity, OSHA standards, CPR instruction and basic computer technology. (8 sch: 4-hr lecture, 8-hr lab)

ULT 1122 Line Worker Safety
This course is designed to provide fundamental safety rules and procedures needed in performing basic line worker skills. (2 sch: 2-hr lecture)

ULT 1128 Electrical Lineman II
This course covers transformers, electric codes, pole climbing, and RUS specifications. (8 sch: 4-hr lecture, 8-hr lab)

ULT 1133 Safety for Line Workers
This course is design to provide fundamental safety rules and procedures needed in performing basic line worker skills. (3 sch: 2-hr lecture, 2-hr lab)

ULT 1144 AC and DC Circuits for Utility Line Worker Technology
Principles and theories associated with AC and DC circuits used in the electrical trades. Includes the study of electrical circuits, laws and formulas, and the use of test equipment to analyze AC and DC circuits (4 sch: 3-hr lecture, 2-hr lab)

Pre/Corequisite: Fundamentals of Electricity for Line Workers (ULT 1192) or Fundamentals of Electricity (ELT 1192) or by consent of instructor

ULT 1152 AC and DC Circuits for Line Workers

Principles and theories associated with AC and DC circuits used in the line worker trade. Includes the study of electrical circuits, laws and formulas, and the use of test equipment to analyze AC and DC circuits (2 sch: 1-hr lecture, 2-hr lab)
Pre/Corequisite: Fundamentals of Electricity for Line Workers (ULT 1192) or Fundamentals of Electricity (ELT 1192) or equivalent course or Consent of the instructor

ULT 1192 Fundamentals of Electricity for Line Workers

Fundamental skills associated with all electrical courses. Safety, basic tools, special tools, equipment, and introduction to AC and DC circuits (2 sch: 1-hr lecture, 2-hr lab)

ULT1213Electric Power

Electrical motors and their installation. Instruction and practice in using the different types of motors, protection devices, switches, transformers, and alternators found in utility transmission (3 sch: 2-hr lecture, 2-hr lab) Pre/Corequisite: Fundamentals of Electricity for Line Workers (ULT 1192) or Fundamentals of Electricity (ELT 1192) or by consent of instructor

ULT 1223 Transformer Operation and Banking

This course is designed to cover basic single phase operations and Delta and "Wye" Transformer Banks including hookups for 120/208—240/480/--120/240—277/480. (3 sch: 2-hr lecture, 2-hr lab) Pre/Corequisite: Fundamentals of Electricity for Line Workers (ULT 1192) or Fundamentals of Electricity (ELT 1192) AND AC and DC for Utility Line Worker Technology (ULT 1144) or AC and DC Circuits (ELT 1144), AND Electric Power (ULT 1213) OR By consent of the instructor

ULT 1232 Electrical Power and Transformer Banking for Line Workers

This course is designed to cover basic single phase operations and Delta and "Wye" Transformer Banks including hookups for 120/208—240/480/--120/240—277/480.
(2 sch: 1-hr lecture, 2-hr lab) Pre/Corequisite: Fundamentals of Electricity for Line Workers (ULT 1192) or Fundamentals of Electricity (ELT 1192) or by consent of instructor

ULT1313 Line Worker Truck Driving

This course is designed to provide a line worker with fundamental skills needed to obtain a Class A CDL (Commercial Drivers License) with air brake endorsement. (3 sch: 2-hr lecture, 2-hr lab. Pre/Corequisite: Consent of the instructor

ULT 1324 Truck Driving for Line Workers

This course is designed to provide a line worker with fundamental skills needed to obtain a Class A CDL (Commercial Drivers License) with air brake endorsement. (4 sch:1-hr lecture, 6-hr lab) Pre/Corequisite: Consent of the instructor

ULT 1333 Basic Utility Equipment Operation

This course is designed to prepare students in the basic operation of line worker equipment. (3 sch: 2-hr lecture, 2-hr lab)

ULT 1413 Pole Climbing
This course is designed to provide a line worker with fundamental skills needed to perform basic pole climbing. (3 sch: 1-hr lecture, 4-hr lab) Pre/Corequisite: Consent of the instructor

ULT 1514 Overhead, Underground, and Substation Construction
This course is designed to provide further fundamental training in the field of electric line work dealing with the overhead/underground line construction and substation construction. (4 sch: 2-hr lecture, 4-hr lab) Pre/Corequisite: Pole Climbing (ULT 1413) or by consent of the instructor

ULT 1523 National Electric Safety Code (Safety Code)
The course is designed to introduce the students to the basic fundamentals and safety requirements as set forth in the National Electric Safety Code for the power line industry. (3 sch: 2-hr lecture, 2-hr lab)

ULT 1612 Computer Fundamentals for Line Workers
This course is designed to introduce students to basic computer skills. (2 sch: 1-hr lecture, 2-hr lab)

ULT 1623 Lineworker Computer Fundamentals
This course is designed to introduce students to basic computer skills. (3 sch: 2-hr lecture, 2-hr lab)

ULT 2133 Overhead Construction
This course is designed to provide further fundamental training in the field of electric line work dealing with the overhead line construction. (3 sch: 1-hr lecture, 4-hr lab) Pre/Corequisite: Pole Climbing (ULT 1413) or by consent of the instructor

ULT 2143 Underground Construction
This course is designed to provide further fundamental training in the field of electric line work dealing with the overhead to the underground line construction. (3 sch: 1-hr lecture, 4-hr lab) Pre/Corequisite: Pole Climbing (ULT 1413) or by consent of the instructor

ULT 2233 System Design and Operation
This course includes operation basics for protection of the electrical system overhead, underground, and substation. (3 sch: 1-hr lecture, 4-hr lab) Pre/Corequisite: Pole Climbing (ULT 1413) AND Overhead Construction (ULT 2133) AND Underground Construction (ULT 2143) or by consent of the instructor

ULT 2244 Working in Elevated Work Sites
This course is designed to provide a line worker with fundamental skills needed to perform basic pole climbing. (4 sch: 1-hr lecture, 6-hr lab) Pre/Corequisite: Pole Climbing (ULT 1413) AND Overhead Construction (ULT 2133) AND Underground Construction (ULT 2143) or by consent of the instructor

ULT 2333 Advanced Utility Equipment Operation
This course provides an in-depth understanding of the operation of line worker equipment. (3 sch: 2-hr lecture, 2-hr lab) Pre/Corequisite: Basic Utility Equipment Operation (ULT 1333) or by consent of the instructor

ULT 2911-3 Special Project I
Practical application of skills and knowledge gained in other electrical or electrical-related technical courses. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. (1-3 sch: 2-6-hr lab) Prerequisites: Completion of one semester of course work in Utility Lineworker Technology OR Consent of instructor

ULT 2921-3 Special Project II
Practical application of skills and knowledge gained in other electrical or electrical-related technical courses. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. (1-3 sch: 2-6-hr lab) Prerequisites: Completion of one semester of course work in Utility Lineworker Technology OR Consent of instructor

ULT 2931-3 Special Project III
Practical application of skills and knowledge gained in other electrical or electrical-related technical courses. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. (1-3 sch: 2-6-hr lab) Prerequisites: Completion of one semester of course work in Utility Lineworker Technology OR Consent of instructor

ULT 2941-3 Supervised Work Experience I
A cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of semester hour per 45 industrial contact hours. (1-6 sch: 3-9-hr externship). Prerequisites: Consent of instructor and completion of at least one semester of advanced coursework in Utility Lineworker Technology

ULT 2951-3 Supervised Work Experience II
A cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of semester hour per 45 industrial contact hours. (1-6 sch: 3-9-hr externship). Prerequisites: Consent of instructor and completion of at least one semester of advanced coursework in Utility Lineworker Technology

ULT 4013 Line worker Registered Apprenticeship 1
A registered apprenticeship program between industry and education and is designed to integrate the student's technical studies with industrial experience. (3 sch: 3 hr lecture)

ULT 4023 Line worker Registered Apprenticeship 2
A registered apprenticeship program between industry and education and is designed to integrate the student's technical studies with industrial experience. (3 sch: 3 hr lecture)

ULT 4033 Line worker Registered Apprenticeship 3
A registered apprenticeship program between industry and education and is designed to integrate the student's technical studies with industrial experience. (3 sch: 3 hr lecture)

ULT 4043 Line worker Registered Apprenticeship 4
A registered apprenticeship program between industry and education and is designed to integrate the student's technical studies with industrial experience. (3 sch: 3 hr lecture)

ULT 4053 Line worker Registered Apprenticeship 5

A registered apprenticeship program between industry and education and is designed to integrate the student's technical studies with industrial experience. (3 sch: 3 hr lecture)

ULT 4063 Line worker Registered Apprenticeship 6

A registered apprenticeship program between industry and education and is designed to integrate the student's technical studies with industrial experience. (3 sch: 3 hr lecture)

ULT 4073 Line worker Registered Apprenticeship 7

A registered apprenticeship program between industry and education and is designed to integrate the student's technical studies with industrial experience. (3 sch: 3 hr lecture)

ULT 4083 Line worker Registered Apprenticeship 8

A registered apprenticeship program between industry and education and is designed to integrate the student's technical studies with industrial experience. (3 sch: 3 hr lecture)

ULT 4093 Line worker Capstone

A registered apprenticeship program between industry and education and is designed to integrate the student's technical studies with industrial experience. (3 sch: 3 hr lecture)

VAT 1111 Veterinary Math Calculations

Veterinary Math Calculations provides a consistent approach to computations involved in drug and solution problems. (1 sch: 1 hr. lecture)

VAT 1122 Office Procedures/ Veterinary Terminology

This course covers topics such as the veterinary technicians' roles in practice management; accounting basics, personnel management, leadership skills, stress management, customer relations, and practice ethics. The course will also include a study of the veterinary medical terms relating to Anatomy and Physiology, diseases, medical procedures, and clinical practice. (2 sch: 2 lecture, 0 lab)

VAT 1213 Animal Restraint and Medication

Animal Restraint and Medication is the study and practice of restraining small animals, utilizing both chemical and physical means of safe and humane restraint. Included in the course are basic terminology, usage, administration, and general knowledge of common drugs and vaccines. (3 sch: 2 hr. lecture, 3 hr. clinical)

VAT 1313 Animal Anatomy and Physiology

Animal Anatomy and Physiology introduces the student to basic anatomy and physiology as related to the needs of a Veterinary Technician. Special emphasis is given to the structure of a selected cadaver, location of specific structures, and functions of these structures. (3 sch: 2 hr. lecture, 2 hr. lab)

VAT 1414 Surgical and Hospital Techniques I

Surgical and Hospital Techniques I is the study and practical application of sterile techniques, preparation of the surgical site, operating room conduct, assisting the surgeon, preanesthetics, anesthesiology, and anesthetic emergencies. (4 sch: 3 hr. lecture, 3 hr. clinical)

VAT 1424 Surgical and Hospital Techniques II

Surgical and Hospital Techniques II is the study and practical application of basic clinical and hospital techniques required of the veterinary technician. Subjects include pharmacology, animal

nutrition, radiology, patient management and client instructions, and office procedures. (4 sch: 3 hr. lecture, 3 hr. clinical)

VAT1433 Vet Lab I

The course includes the practical application of restraining animals, utilizing both chemical and physical mean. Included in the course are medical terminology and the administration and general knowledge of common drugs and vaccines. It also includes the practical application of sterile techniques, preparation of the surgical site, operating room conduct, assisting the surgeon, pre-anesthetic, anesthesiology, and anesthetic emergencies. Other topics in this course include the practical applications of large animal, exotic, and laboratory animals. (3 sch: 1 lecture, 4 lab)

VAT 1443 Vet Lab II

The course includes the practical application of restraining animals, utilizing both chemical and physical mean. Included in the course are medical terminology and the administration and general knowledge of common drugs and vaccines. It also includes the practical application of sterile techniques, preparation of the surgical site, operating room conduct, assisting the surgeon, pre-anesthetic, anesthesiology, and anesthetic emergencies. In this clinical course, other topics include the practical application of large animal, exotic, and laboratory animals. (3 sch: 1 lecture, 4 lab)

VAT 1512 Animal Parasites and Diseases

Animal Parasites and Diseases includes the study of etiology, symptoms, pathology, transmission, duration, prognosis, prevention, and general knowledge of common parasites and diseases of farm animals and pets. (2 sch: 2 hr. lecture)

VAT 1613 Clinical Pathology

Clinical Pathology is the study and practical application of veterinary diagnostic aids. The course includes hematology, blood chemistries, serology, urinalysis, fecal analysis, and organ function test. (3 sch: 2 hr. lecture, 3 hr. clinical)

VAT 2113 Animal Health Care

General health care of small animals including nutrition, emergency care, first aid, animal hygiene, disease detection, and small animal sanitation(3 sch: 3 lecture, 0 lab)

VAT 2122 Board Examination Review

Comprehensive review to assist the student in preparation for state and national certifying examinations for the veterinary technicians. The course will review basic science, clinical practices, diagnostics, and ethical concerns. (2 sch: 0 lecture, 0 lab)

VAT 2133 Vet Lab III

The course includes the practical application of restraining animals, utilizing both chemical and physical mean. Included in the course are medical terminology and the administration and general knowledge of common drugs and vaccines. It also includes the practical application of sterile techniques, preparation of the surgical site, operating room conduct, assisting the surgeon, pre-anesthetic, anesthesiology, and anesthetic emergencies. In this clinical course, other topics include the practical application of large animal, exotic, and laboratory animals. (3 sch: 1 lecture, 4 lab)

VAT 2143 Vet Lab IV
The course includes the practical application of restraining animals, utilizing both chemical and physical mean. Included in the course are medical terminology and the administration and general knowledge of common drugs and vaccines. It also includes the practical application of sterile techniques, preparation of the surgical site, operating room conduct, assisting the surgeon, pre-anesthetic, anesthesiology, and anesthetic emergencies. In this clinical course, other topics include the practical application of large animal, exotic, and laboratory animals. (3 sch: 1 lecture, 4 lab)

VAT 2151 Clinical Elective
The student will participate in an additional rotation of the student's choice.

VAT 2152 Animal Parasites and Diseases
Animal Parasites and Diseases will include the study of etiology, symptoms, pathology, transmission, duration, prognosis, prevention, and general knowledge of common parasites and diseases of farm animals and pets. (2 sch: 2 lecture, 0 lab)

VAT 2161 Business Procedures
The educational goals of this course relate primarily to understanding and practicing proper hospital procedures and improving communication skills in actual hospital situations. Emphasis will be placed on developing professionalism and efficiency.

VAT 2171 Laboratory Animal Care
The Veterinary Technician student will be instructed in the care and handling of laboratory animals. Maintenance of health laboratory animals to include proper nutrition, husbandry, and handling will be emphasized.

VAT 2172 Exotic /Lab Animal Procedures
The student will be instructed in the care and handling of laboratory animals and wild, exotic, and zoo animals. Maintenance of health laboratory animals to include proper nutrition, husbandry, and handling will be emphasized. (2 sch: 1 lecture, 2 lab)

VAT 2173 LARAC
The Veterinary Technician student will rotate through the Laboratory Animal Unit of the College of Veterinary Medicine. Maintenance of health laboratory animals to include proper nutrition, husbandry, and handling will be emphasized.

VAT 2181 Necropsy
The student will rotate through the Necropsy Service of the Diagnostic Laboratory under the direct supervision of a faculty pathologist.

VAT 2184 Preceptorship
The Animal Health Technician student is required to complete a four week preceptorship with an approved Mississippi veterinarian practice or laboratory animal facility. This internship provides hands-on experience in a small animal, mixed animal, large animal, or laboratory animal facility. (4 sch: 12 hr. clinical)

VAT 2183 Internship
A veterinary technician student will be required to complete a one 6-week internship with an approved veterinary practice and /or a laboratory animal facility. The internship provides hands-

on experience in a small animal, mixed animal, large animal, or laboratory animal facility. (3 sch: 3 lecture, 0 lab)

VAT 2191 Pharmacy
The student will be instructed in basic knowledge of various aspects of pharmacy. This will include the area pharmacokinetics, proper handling of Controlled Substances, and dosage calculation.

VAT 2192 Veterinary Pharmacology
The student will be instructed in basic knowledge of various aspects of pharmacology. This will include the area pharmacokinetics, proper handling of controlled substances, dosage calculation, and fluid therapy. (2 sch: 2 lecture, 0 lab)

VAT 2213 Community Practice
This rotation will require active participation in the management of small animal cases, aspects of the practice environment, and the delivery of health maintenance programs associated with a small animal clinical service.

VAT 2223 Internal Medicine ICU
The student will rotate through the Small Animal Unit of the Animal Health Center under the direct supervision of internal medicine faculty. The student will participate in the receiving, analysis, and management of patients referred for medical or surgical care. The student will also be instructed in the area of Intensive Care Unit.

VAT 2233 Equine Services
The student will rotate through Equine Units of the Large Animal Clinic under the direct supervision of large animal clinical faculty. The student will participate in the receiving, analysis, and management of equine patients referred for medical or surgical care.

VAT 2243 Food Animal
The student will rotate through the Field Services Unit of the Animal Health Center under the direct supervision of large animal clinical faculty. The student will participate in problem analysis, case management, and development of health maintenance programs for populations of animals.

VAT 2253 Small Animal Surgery
The student will rotate through the Small Animal Surgery Unit of the Animal Health Center under the direct supervision of surgical faculty and will participate in all aspects of patient preparation, patient management, operating room setup, and surgical equipment and supply preparation.

VAT 2263 Anesthesia
The student will rotate through the Anesthesia Services of the Animal Health Center under the direct supervision of faculty in anesthesia. Responsibilities include preoperative evaluation of patients, selection of appropriate anesthetic protocols, induction of anesthesia, maintenance of anesthesia, monitoring of anesthesia, anesthetic recovery of patients, and post-operative management.

VAT 2272 Principles of Imaging
Radiology includes general concept of radiology, exposure, positioning, developing techniques, and solving common problems of radiology. Safety is emphasized throughout the course. The course also includes exposure to ultrasound diagnostic. (2 sch: 1 lecture, 2 lab)

VAT 2273 Radiology
The student will rotate through the Radiology Services of the Animal Health Center under the direct supervision of faculty radiologists. Responsibilities include positioning animals for radiographs. The student is also responsible for participation in ultrasound diagnostic and radiotherapy procedures.

VAT 2283 Clinical Pathology
The student will rotate through the Diagnostic Laboratory of the Animal Health Center under the direct supervision of the Diagnostic Services faculty. Responsibilities include collection of laboratory samples, conducting laboratory analysis in clinical pathology, parasitology, and bacteriology.

WCT 1113 Maintenance Mechanics
This course includes the functions and demonstrates the maintenance of levers, inclined planes, cams, mechanical linkages, pulleys, belts, sprockets, gears, and drives. (3 sch: 2-hr lecture, 2-hr lab)

WCT 1123 Rotary Drilling Safety
This course explores the safety requirements of rotary drilling including rig, shop, welding, and related equipment safety. (3 sch: 2-hr lecture, 2-hr lab)

WCT 1136 Rotary Rig and Related Equipment
This course is a study of all facets of rotary rigs and related equipment. (6 sch: 2-hr lecture, 6-hr lab)

WCT 1146 Operation of Rotary Rig and Related Equipment
This course includes the operation of the rotary rig and related equipment. (6 sch: 2-hr lecture, 6-hr lab)

WCT 1314 Drilling Fluids
This course includes the functions and properties of drilling fluids. Included are the different types of mud and methods of controlling densities and viscosities of muds. (4 sch: 2-hr lecture, 4-hr lab)

WCT 1513 Geological Formations
This is a basic course in investigating the occurrence of ground water. Included are basic geology and hydrology and formations related to ground water. (3 sch: 2-hr lecture, 2-hr lab)

WCT 1613 Metal Fabrication for Well Drilling
This course includes welding safety, gas and electric welding, and basic machine shop operation as related to well construction operations. (3 sch: 2-hr lecture, 2-hr lab)

WCT 2223 Pump Theory and Installation
This course includes the selection of pumps for specific applications, installation of pumps, servicing of pumps, and maintenance of pump components. (3 sch: 2-hr lecture, 2-hr lab)

WCT 2233 Well Testing and Completion
This course is a detailed study of different well completion methods and their applications. (3 sch: 1-hr lecture, 4-hr lab)

WCT 2333 Down-hole Problems
This is a course that addresses problems of maintaining a straight hole when drilling. Included are fishing for lost tools, lost circulation zones, and other down-hole problems. (3 sch: 2-hr lecture, 2-hr lab)

WCT 2423 Water Well Construction
This course is a detailed study of the drilling, development, and production of water supply wells. Included are the legal responsibilities of a drilling contractor and investigation of the sanitary aspects of a well. (3 sch: 2-hr lecture, 2-hr lab)

WCT 2433 Environment and Geotechnical Drilling
This is a detailed course covering all aspects of environmental drilling. Included are hazardous materials recognition, identification, and safe handling. A study of the various methods of soil sampling used in geological and environmental investigations. (3 sch: 2-hr lecture, 2-hr lab)

WCT 291(1-3) Special Problem in Well Construction Technology
A course to provide students with an opportunity to utilize skills and knowledge gained in other Well Construction Technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-3 sch: 2-6 hr. lab)

WCT 292(1-6) Supervised Work Experience in Well Construction Technology
A course that is a cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 sch: 3-18 hr externship

WDT 1123 Web Development Concepts
This course is an introduction to the Internet and its uses in the world of business. It includes basic and advanced features of creating Web pages. Upon completion of this course, students will be able to create a personalized home page (3 sch: 2 hr. lecture, 2 hr. lab).

WLT 1115 Shielded Metal Arc Welding I
This course is designed to teach students introductory welding techniques using the SMAW process. (5 sch: 1-hr lecture 8-hr lab)

WLT 1124 Gas Metal Arc Welding (GMAW)
This course is designed to give the student experience in various welding applications with the GMAW process using various modes of transfer. (4 sch: 1-hr lecture, 6-hr lab)

WLT 1135 Gas Tungsten Arc Welding (GTAW)
This course is designed to give the student experience in various welding applications using the GTAW process. (5 sch: 1-hr lecture, 8-hr lab)

WLT 1143 Flux Cored Arc Welding (FCAW)
This course is designed to give the student experience using FCAW process. (3 sch: 1-hr lecture, 4-hr lab)

WLT 1155 Pipe Welding
This course is designed to give the student experience in pipe welding procedures. (5 sch: 1-hr lecture, 8-hr lab)

WLT 1162 Gas Metal Arc Aluminum Welding
This course is designed to give the student experience in Gas Metal Aluminum Welding. (2 sch: 1-hr lecture, 2-hr lab)

WLT 1173 Introduction to Welding and Safety
This course is designed to give students an introduction to the welding profession and experience in safety procedures related to welding. (3 sch: 2 hr lecture 2 hr lab)

WLT 1225 Shielded Metal Arc Welding II
This course is designed to teach students advanced welding techniques using the SMAW process. (5 sch: 1-hr lecture, 8-hr lab)

WLT 1232 Blueprint Reading, Welding Symbols, and Metallurgy
This course is designed to give the student experience in blueprint reading, welding symbols, and metallurgy. (2 sch: 1-hr lecture, 2-hr lab)

WLT 1252 Advanced Pipe Welding
This course is designed to give the student advanced pipe welding techniques using shielded metal arc and gas tungsten arc welding processes. (2 sch: 1-hr lecture, 2-hr lab)

WLT 1313 Cutting Processes
This course is designed to give the student experience in oxyfuel cutting principles and practices, air carbon cutting and gouging, and plasma arc cutting. (3 sch: 1-hr lecture, 4-hr lab)

WLT 1426 Basic Fabrication for Pipefitting
This course is designed for the use of pipefitting tools and equipment, different ways of cutting and fitting pipes, methods of calculating pipe fittings, and various types of fit-ups for different types of pipe. (6 sch: 2-hr lecture, 8-hr lab)

WLT 191(1-6) Special Problem in Welding and Cutting Technology
A course to provide students with an opportunity to utilize skills and knowledge gained in other Welding and Cutting Technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-6 sch: 2-12-hr lab)

WLT 192(1-6) Supervised Work Experience in Welding and Cutting Technology
A course that is a cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 sch: 3-18 hr externship)

WLT 1931 Welding Seminar I
Instruction is designed to facilitate activities incorporated in the Skills USA (VICA) and professional organizations related to each student's career goal. This course will allow regular assembly of students to accomplish goals and objectives set by the Skills USA club, related organizations, and committees of these organizations. Leadership skills, understanding and participation in group projects, rapport with peers, community service and educational enrichment are encouraged. (1 sch: 2-hr lab)

WLT 1941 Welding Seminar II
Instruction is designed to facilitate activities incorporated in the Skills USA (VICA) and professional organizations related to each student's career goal. This course will allow regular assembly of students to accomplish goals and objectives set by the Skills USA club, related organizations, and committees of these organizations. Leadership skills, understanding and participation in group projects, rapport with peers, community service and educational enrichment are encouraged. (1 sch: 2-hr lab)

WLT 2514 Fundamentals of Robotic Welding
This course is designed to introduce the student to industrial robots. Topics to be covered include robotics history, industrial robot configurations, operation, and basic programming. (4 sch: 2-hr lecture, 4-hr lab)

WLT 2524 Advanced Robotic Welding
This course teaches the operating systems and advanced programming methods of industrial robots. Actual industrial grade robots are used to train the student in the areas of operation, maintenance, troubleshooting, service procedures, and robotics applications. (4 sch: 2-hr lecture, 4-hr lab)

WLT 2812 Welding Metallurgy
This course is designed to give the student experience in the concept of metallurgy and how metals react to internal and external strains and temperature changes. (2 sch: 2-hr lecture)

WLT 2913 Welding Code
This course is designed to give the student experience in the various welding codes and the experience in interpretation of these codes. (3 sch: 3 hr lecture)

WLT 2924 Heavy Equipment Welding and Fabrication
In this course, students will learn proper safety and fundamentals of oxyfuel cutting and shielded metal arc welding gas metal arc welding, flux cored arc welding, and air carbon arc cutting as it relates to the heavy equipment repair field. Students will learn advanced concepts of industrial fabrication in the maintenance of heavy duty equipment, develop a strong understanding of metals and their applications, and have the ability to bend, heat, and apply welding techniques that will support heavy duty equipment for long term use. (4 sch: 2 lecture, 4 lab)

WLT 2936 Structural Fabrication
A course of instruction to include the use of rulers/scales, layout and hand tools, welding joint designs, shearing and sawing materials, grinders and belt sanders and assembly projects by various welding processes. The plasma, flame tracer will be introduced. Complete a fabrication project, beginning by interpreting a set of print; developing a plan; and working to cut, prepare, fit and weld raw materials together. The fabrication project will resemble a real-world scenario related to the shipbuilding, construction, structural steel fabrication, aeronautical or related industries on a smaller scale. This welding course focuses on skills required to fabricate a project from an engineering drawing to the finished product. Emphasis is placed on interpreting engineering drawings, proper use of tools and equipment, math, proper fitting techniques and shop safety. (6 sch: 2 lecture, 8 lab)

SECTION III: CAREER COURSES WITHIN THE STATEWIDE CURRICULA

The content of the courses in this section reflects approximately 75 percent of the time allocated to each course. The remaining 25 percent of each course should be developed at the local district level and may reflect:

- Additional competencies and objectives within the course related to topics not found in the State curriculum framework, including activities related to specific needs of industries in the community college district.

- Activities which develop a higher level of mastery on the existing competencies and suggested objectives.
- Activities and instruction related to new technologies and concepts that were not prevalent at the time the current framework was developed/revised.
- Activities which implement components of the Mississippi Tech Prep initiative, including integration of academic and vocational-technical skills and coursework, school-to-work transition activities, and articulation of secondary and postsecondary vocational-technical programs.
- Individualized learning activities, including worksite learning activities, to better prepare individuals in the courses for their chosen occupational area.

Statewide Curricula may be accessed at:

http://www.sbcjc.cc.ms.us/OCI/currdownload.aspx

AAV 1112 Orientation and Safety Procedures (This course no longer available beginning Fall 2017)
An orientation to the history of accessories marketing, job opportunities, and the physical structure of the industry. Safety procedures including OSHA and EPA regulations, proper use of hand and power tools, shop hazards, and legal responsibilities are discussed and implemented throughout this course. (2 sch: 2-hr lecture)

AAV 1126 Operational Procedures (This course no longer available beginning Fall 2017)
Everyday operations in the auto parts business, including proper business procedures, customer service, and sales procedures. (6 sch: 3-hr lecture, 6-hr lab)

AAV 1214 Automotive Systems I (This course no longer available beginning Fall 2017)

Function and identification of the power train, including engine, transmission, drive line, and axles. (4 sch: 1-hr lecture, 6-hr lab)

AAV 1224 Automotive Systems II (This course no longer available beginning Fall 2017)
Function and identification of automotive systems, including brake systems, cooling systems, electrical systems, heating and air conditioning systems, and suspension systems (4 sch: 1-hr lecture, 6-hr lab)

AAV 1254 Communications and Digital Sales Methods (This course no longer available beginning Fall 2017)
This course is designed to teach the student the proper etiquette when using the telephone and other digital selling opportunities and provide the needed skills for selling and working with customers over the telephone and other digital sales methods. (4 sch: 2-hr lecture, 4-hr lab)

AAV 1316 Catalog Information Systems (This course no longer available beginning Fall 2017)
Hard copy, microfiche, and computerized catalogs. Also included are the writing of invoices, interpreting price sheets, and calculating discounts. (6 sch: 3-hr lecture, 6-hr lab)

AAV 1322 Merchandising (This course no longer available beginning Fall 2017)
General parts store layout to include merchandise displays and parts bin layout. (2 sch: 1-hr lecture, 2-hr lab)

AAV 1335 Inventory Control (This course no longer available beginning Fall 2017)
This course includes actual performance of the requirements and responsibilities of controlling the parts movement under both lab and real life conditions. (5 sch: 2-hr lecture, 6-hr lab)

AAV 1344 Counter Sales (This course no longer available beginning Fall 2017)
This course includes actual performance of the requirements and responsibilities of selling parts over the counter under both lab and real life conditions. (4 sch: 1 ½ -hr lecture, 7-hr lab)

AAV 1414 Internal Operations (This course no longer available beginning Fall 2017)
Daily operations of a parts store including shipping and receiving, stocking and storing merchandise, counter operations, and physical inventory. (4 sch: 1-hr lecture, 6-hr lab)

AAV 1424 Internal Sales (This course no longer available beginning Fall 2017)

Sales skills using hard copy and computerized cataloging and pricing. (4 sch: 1-hr lecture, 6-hr lab)

AAV 192(1-6) Supervised Work Experience in Automotive Vehicles and Accessories Marketing Operations (This course no longer available beginning Fall 2017)
A course that is a cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1–6 sch: 3- to 18-hr externship)

AUT 100(3-6) Introduction to Automotive Machinist Technology
This course contains the baseline competencies and suggested objectives from the high school curriculum that directly relate to the community college program. (3 sch: 3-hr. lecture; 4 sch: 3-hr lecture; 5 sch: 5-hr lecture; 6 sch: 6-hr lecture)

AUT 1013 Introduction to Automotive Machinist Technology I
These courses contain the baseline competencies and suggested objectives from the high school curriculum that directly relate to the community college program. The courses are designed for students entering the community college who have had no previous training or documented experience in the field. (3 sch: 3-hr. lecture)

AUT 1023 Introduction to Automotive Machinist Technology II
These courses contain the baseline competencies and suggested objectives from the high school curriculum that directly relate to the community college program. The courses are designed for students entering the community college who have had no previous training or documented experience in the field. (3 sch: 3-hr. lecture)

AUT 1116 Fundamentals for the Automotive Machinist
This course includes the study and practice of personal hand tools and shop safety; study and practice of measuring; types of calipers, micrometers, and gauges; types and uses of hand tools, mechanical tools, power tools, and coolants; and identification of materials and metals. (6 sch: 2-hr. lecture, 8-hr. lab)

AUT 1216 Cylinder Head Service
This course includes the rebuilding of cylinder heads. Included are valve, guide, and seat reconditioning as well as the resurfacing and assembly of heads. Crack detection and repair are also included in the course. (6 sch: 2-hr. lecture, 8-hr. lab)

AUT 1224 High Performance Heads
This course covers the advanced techniques and practices of cylinder head porting. The goal of this course is to have the learners achieve a high level of understanding and skills in the flow of air through the cylinder head.(4 Sch. 3-hr. Lecture, 2 hr. Lab)

AUT 1316 Cylinder Block Service
This course includes the study of cylinder reconditioning, crankshaft renewal, and rod reconditioning. (6 sch: 2-hr. lecture, 8-hr. lab)

AUT 1416 Engine Assembly
This course includes preparation of the block and components for assembly. The individual installation of all internal components is included in the course. (6 sch: 2-hr. lecture, 8-hr. lab)

AUT 1513 Parts and Labor
This course includes training in the use of computerized parts pricing and inventory, labor price guides, the purchasing and recovery of core materials. (3 sch: 1-hr. lecture, 4-hr. lab)

AUT 1613 Crankshaft Balancing and Advanced Crankshaft Grinding
This course includes the balancing of bottom-end rotating and reciprocating parts. Crankshaft indexing, straightening, and stroking are also included. (3 sch: 1-hr. lecture, 4-hr. lab)

AUT 1713 Brake Rotor and Drum Machining
This course includes machining of the brake drum and rotor. (3 sch: 1-hr. lecture, 4-hr. lab)

AUT 191(1-3) Special Problem in Automotive Machinist
This course is designed to provide students with an opportunity to utilize skills and knowledge gained in other courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-3 sch: 2- to 6-hr. lab)

AUT 192(1-6) Supervised Work Experience in Automotive Machinist
This course, which is a cooperative program between industry and education, is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of 1 semester hour per 45 industrial contact hours. (1-6 sch: 3- to 18-hr. externship)

BAV 1118 Basic Practices in Barbering
Basic practices including orientation, safety, and practical experiences in handling tools and hair cutting. Practices are done independently with supervision. (8 sch: 2 hr. lecture, 18 hr. lab)

BAV 1218 Fundamental Practices in Barbering I
Fundamental practices in styling, shampooing, blow drying, perm rolling, and perm processing. Practices are done independently with supervision. (8 sch: 3 hr. lecture, 15 hr. lab)

BAV 1318 Fundamental Practices in Barbering II
Sanitation, sterilization, prevention and control of contamination and decontamination in the workplace, hygiene and good grooming, hair analysis, and the application of a chemical hair relaxer and style. Practices are done independently with supervision. (8 sch: 2 hr. lecture, 18 hr. lab)

BAV 1418 Intermediate Practices in Barbering I
Theory of colors, classifications of hair color, color preparation and applications, and treatment of damaged hair. Practices are done independently with supervision. (8 sch: 3 hr. lecture, 15 hr. lab)

BAV 1518 Intermediate Practices in Barbering II
Additional study of the structure and function of the skin, common skin disorders, and scalp and hair disorders. Practices are included in providing facial massages, rendering plain facials, and barbering services previously introduced. (8 sch: 6 hr. lecture, 6 hr. lab)

BAV 1618 Advanced Practices in Barbering
Mustache and beard trimming. Also includes business management and business law applicable to barber/styling shop management. (8 sch: 6 hr. lecture, 6 hr. lab)

BAV 2217 Barbering Instructor Training I
Successful completion of this course will enable the student to apply the training and instruction he or she received at the community/junior college program with the company of his or her choice. The student will perform/observe independently with minimal supervision from a company trainer. (7 sch: 2 hr lecture, 15 hr. clinical lab) **Prerequisites:** Completion of BAV 1118-1618, consent of instructor, and a current and valid barber license.

BAV 2227 Barbering Instructor Training II
Successful completion of this course will enable the student to apply the training and instruction he or she received at the community/junior college program with the company of his or her choice. The student will perform/observe independently with minimal supervision from a company trainer. (7 sch: 2 hr. lecture, 15 hr. clinical lab). Prerequisites: Completion of BAV 2217, consent of instructor, and a current and valid barber license

BAV 2237 Barber Instructor Training III
Successful completion of this course will enable the student to apply the training and instruction he or she received at the community/junior college program with the company of his or her choice. The student will perform/observe independently with minimal supervision from a company trainer. (7 sch: 2 hr. lecture, 15 hr. clinical lab) Prerequisites: Completion of BAV 2217 and BAV 2227, consent of instructor, and a current and valid barber license

BAV 2247 Barber Instructor Training IV
Successful completion of this course will enable the student to apply the training and instruction he or she received at the community/junior college program with the company of his or her choice. The student will perform/observe independently with minimal supervision from a company trainer. (7 sch: 2 hr. lecture, 15 hr. clinical lab) Prerequisites: Completion of BAV 2217, BAV 2227, and BAV 2237, consent of instructor, and a current and valid barber license.

BBV 1115 Brick and Block Laying (New prefix BBT)
This course is designed to give the student experience in laying brick and block. (5 sch: 1 hr. lecture, 8 hr. lab)

BBV 1215 Masonry Construction (New prefix BBT)
This course is designed to give the student experience in various types of walls, finishing, and masonry construction techniques. (5 sch: 1 hr. lecture, 8 hr. lab)

BBV 1225 Masonry Math, Estimating, and Blueprint Reading (New prefix BBT)
This course is designed to give the student experience in calculations, estimating, and blueprint reading. (5 sch: 1 hr. lecture, 8 hr. lab)

BBV 1313 Tools, Equipment, and Safety (New prefix BBT)
This course is designed to give the student experience in the use and care of tools and equipment along with the safety procedures used in the masonry trade. (3 sch: 2 hr. lecture, 2 hr. lab)

BBV 1425 Advanced Block Laying (New prefix BBT)
This course is designed to give the student experience in laying block columns, piers, and various walls. (5 sch: 1 hr. lecture, 8 hr. lab)

BBV 1525 Advanced Bricklaying (New prefix BBT)
This course is designed to give the student advanced experience in brick columns, piers, and various walls. (5 sch: 1 hr. lecture, 8 hr. lab)

BBV 1623 Chimney and Fireplace Construction (New prefix BBT)
The student will gain advanced experiences in layout and construction of chimneys, fireplaces, and refractory masonry. (3 sch: 1 hr. lecture, 4 hr. lab)

BBV 1723 Arch Construction (New prefix BBT)
Students will gain advanced experiences in layout and construction of arches. (3 sch: 1 hr. lecture, 4 hr. lab)

BBV 1823 Steps, Patios, and Brick Floors (New prefix BBT)
Students will gain advanced experiences in layout and construction of steps, patios, and brick floors. (3 sch: 1-hr lecture, 4-hr lab)

BBV 191(1-3) Special Problem in Brick, Block and Stone Masonry (New prefix BBT)
A course to provide students with an opportunity to utilize skills and knowledge gained in other Brick, Block, and Stone Masonry courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-3 sch: 2-6 hr. lab)

BBV 292(1-6) Supervised Work Experience in Brick, Block and Stone Masonry(New prefix BBT)
A course which is a cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 sch: 3-18 hr. externship)

CAV 1116 Foundations (New prefix CCT; CAV unavailable beginning Fall 2017)
This course includes site selection, site preparation, site layout, building forms, and construction of foundations. (6 sch: 2 hr. lecture, 8 hr. lab)

CAV 1123 Forming Applications (New prefix CCT; CAV unavailable beginning Fall 2017)
This course includes forming applications for foundations, flatwork, reinforcing concrete, patented forms, and tilt-up wall systems. (3 sch: 2 hr. lecture, 2 hr. lab)

CAV 1133 Blueprint Reading (New prefix CCT; CAV unavailable beginning Fall 2017)
This course includes the elements of residential plans and how to prepare a bill of materials from a set of plans. (3 sch: 2 hr. lecture, 2 hr. lab)

CAV 1143 Fundamentals of Construction (New prefix CCT; CAV unavailable beginning Fall 2017)
This course includes basic safety, an introduction to construction math, an introduction to hand and power tools, an introduction to construction drawings, and rigging. (3 sch: 2 hr. lecture, 2 hr. lab)

CAV 1236 Floor and Wall Framing (New prefix CCT; CAV unavailable beginning Fall 2017)
This course is designed to give the student experience in floor and wall framing. (6 sch: 2 hr. lecture, 8 hr. lab)

CAV 1245 Ceiling and Roof Framing (New prefix CCT; CAV unavailable beginning Fall 2017)
This course will apply the techniques of cutting and assembly of framing materials based on predetermined specifications. (5 sch: 1 hr. lecture, 8 hr. lab)

CAV 1316 Interior Finishing and Cabinet Making (New prefix CCT; CAV unavailable beginning Fall 2017)
This course includes thermal and sound protection, types of interior ceilings, wall coverings, floor coverings, trim work, and cabinet construction. (6 sch: 2 hr. lecture, 8 hr. lab)

CAV 1413 Roofing (New prefix CCT; CAV unavailable beginning Fall 2017)
This course covers types of roofs, types of roofing materials, and their application. Also covered are basic roofing techniques, including material selection, roof styles, cost estimation, and installation procedures. (3 sch: 1 hr. lecture, 4 hr. lab)

CAV 1513 Exterior Finishing (New prefix CCT; CAV unavailable beginning Fall 2017)
This course includes the installation and finishing of wall coverings, cornices, and exterior trim. (3 sch: 1 hr. lecture, 4 hr. lab)

CAV 2113 Priniciples of Multi-family and Light Commercial Construction (New prefix CCT; CAV unavailable beginning Fall 2017)
This course examines the fundamentals of multi-family and light commercial construction. (3 sch: 2 hr. lecture, 2 hr. lab)

CAV 2133 Advanced Cabinet Making (New prefix CCT; CAV unavailable beginning Fall 2017)
This course includes principles of building and installation of cabinets, drawers, and shelves. (3 sch: 2 hr. lecture, 2 hr. lab)

CAV 2313 Advanced Interior Finishing (New prefix CCT; CAV unavailable beginning Fall 2017)

This course includes procedures for advanced ceiling and wall interior finishing and for stair calculation and construction. (3 sch: 2 hr. lecture, 2 hr. lab)

CAV 291(1-3) Special Problem in Residential Carpentry Technology (New prefix CCT; CAV unavailable beginning Fall 2017)
A course to provide students with an opportunity to utilize skills and knowledge gained in other Residential Carpentry Technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-3 sch: 2-6 hr. lab)

CAV 292(1-6) Supervised Work Experience in Residential Carpentry Technology (New prefix CCT; CAV unavailable beginning Fall 2017)
A course which is a cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-6 sch: 3-18 hr. externship)

CAV 2933 NCCER Core Curriculum (New prefix CCT; CAV unavailable beginning Fall 2017)
This course follows the "Contren Learning Series." It includes the following: Basic Safety, Introduction to Construction Math, Introduction to Power Tools Introduction to Blueprints, and Rigging. This curriculum is endorsed by the national Center for Construction Education and Research (NCCER). (3 SCH = 6-hr. lab)

CEV 1212 Safety I
Personal safety, fire safety, and rules for safety of each machine to include pre-start, operational, and post-operation, and traffic. (2 sch: 1 hr. lecture, 2 hr. lab)

CEV 1222 Safety II
Pedestrian safety, safety communications, and safety procedures in working near utilities. (2 sch: 1 hr. lecture, 2 hr. lab)

CEV 1313 Service and Preventive Maintenance I
Characteristics of oils and greases, fuel handling procedures, and performing minor mechanical maintenance. Practice includes servicing a fuel filter system and changing engine oil. (3 sch: 2 hr. lecture, 42hr. lab)

CEV 1323 Service and Preventive Maintenance II
Lubrication procedures; servicing air filters; servicing cooling systems; servicing hydraulic systems; and installation, removal, and storage of batteries. (3 sch: 1 hr. lecture, 4 hr. lab)

CEV 1416 Equipment Operation I
Operation of the backhoe, scraper, and grader. Includes operating the controls and basic skills done with each machine and performance of assignments by verbal and written instructions. (6 sch: 1 hr. lecture, 10 hr. lab)

CEV 1426 Equipment Operation II
Operation of the dozer, loader, and excavator. Includes the controls and basic skills performed with each machine and completing assignments by verbal and written instructions. (6 sch: 1 hr. lecture, 10 hr. lab)

CEV 1514 Grade Work I
Setting and checking of grade stakes which are used on job sites. Instruction and practice of transferring elevations are also included. (4 sch: 1 hr. lecture, 6 hr. lab)

CEV 1524 Grade Work II
Additional instruction and practice regarding the setting and checking grades. Also instruction and practice on the compaction of various materials. (4 sch: 1 hr. lecture, 6 hr. lab)

COV 1123 Cosmetology Orientation
This course will cover the history, career opportunity, life skills, professional image, Mississippi Cosmetology laws, rules and regulations and communicating for success in the cosmetology industry. Included are classroom theory and Clinical practice as governed by Mississippi cosmetology laws, rules, and regulations involved in cosmetology practices and safety precautions associated with each. (3 sch: 2 hr. lecture, 3 hr. clinical lab)

COV 1244 Cosmetology Sciences I
This course consists of the study of bacteriology, sterilization, and sanitation. Included are classroom theory and lab practice as governed by Mississippi cosmetology laws, rules, and regulations involved in cosmetology practices and safety precautions associated with each. (4 sch: 3 hr. lecture, 3 hr. clinical lab)

COV 1255 Cosmetology Sciences II
This course consists of the study of anatomy and physiology. Included are classroom theory and lab practice as governed by Mississippi cosmetology laws, rules, and regulations involved in cosmetology practices and safety precautions associated with each. (5 sch: 3 hr. lecture, 6 hr. clinical lab)

COV 1264 Cosmetology Sciences III
This course consists of the application and demonstration of chemistry and electricity. Included are classroom theory and lab practice as governed by Mississippi cosmetology laws, rules, and regulations involved in cosmetology practices and safety precautions associated with each. (2 sch: 2 hr. lecture, 6 hr. clinical lab)

COV 1426 Hair Care I
This course consists of the study of properties of the hair and scalp; principles of hair design; shampooing, rinsing, and conditioning; haircutting; hairstyling; braiding and braid extensions; wigs and hair enhancements; chemical texture services; and hair coloring. Included are classroom theory and lab practice as governed by Mississippi cosmetology laws, rules, and regulations involved in cosmetology practices and safety precautions associated with each. (6 sch: 2 hr. lecture, 12 hr. clinical lab)

COV 1435 Hair Care II
This course consists of the advanced study of properties of the hair and scalp; principles of hair design; shampooing, rinsing, and conditioning; haircutting; hairstyling; braiding and braid extensions; wigs and hair enhancements; chemical texture services; and hair coloring. Included are classroom theory and lab practice as governed by Mississippi cosmetology laws, rules, and regulations involved in cosmetology practices and safety precautions associated with each. (6 sch: 2 hr. lecture, 9 hr. lab)

COV 1443 Hair Care III
This course consists of the practical applications of the study of properties of the hair and scalp; principles of hair design; shampooing, rinsing, and conditioning; haircutting; hairstyling; braiding and braid extensions; hair enhancements; chemical texture services; and hair coloring. Included are classroom theory and lab practice as governed by Mississippi cosmetology laws, rules, and regulations involved in cosmetology practices and safety precautions associated with each. (3 sch: 9 hr. clinical lab)

COV 1522 Nail Care I
This course consists of basic nail care services including nail structure and growth, manicuring and pedicuring, and advanced nail techniques. Included are classroom theory and lab practice as governed by Mississippi cosmetology laws, rules, and regulations involved in cosmetology practices and safety precautions associated with each. (2 sch: 1 lec, 3hr. clinical lab)

COV 1532 Nail Care II
This course consists of basic nail care services including nail structure and growth, manicuring and pedicuring, and advanced nail techniques. Included are classroom theory and lab practice as governed by Mississippi cosmetology laws, rules, and regulations involved in cosmetology practices and safety precautions associated with each. (2 sch: 1 lec, 3hr. clinical lab)

COV 1542 Nail Care III
This course consists of basic nail care services including nail structure and growth, manicuring and pedicuring, and advanced nail techniques. Included are classroom theory and lab practice as governed by Mississippi cosmetology laws, rules, and regulations involved in cosmetology practices and safety precautions associated with each. (2 sch: 6 hr. clinical lab)

COV 1622 Skin Care I
This course consists of the introduction to basic skin care services including anatomy of skin, disorders of skin, hair removal, facials, and facial makeup. Included are classroom theory and lab practice as governed by Mississippi cosmetology laws, rules, and regulations involved in cosmetology practices and safety precautions associated with each. (2 sch: 1 lec, 3hr. clinical lab)

COV 1632 Skin Care II
This course consists of basic skin care services including anatomy of skin, disorders of skin, hair removal, facials, and facial makeup. Included are classroom theory and lab practice as governed by Mississippi cosmetology laws, rules, and regulations involved in cosmetology practices and safety precautions associated with each. (2 sch: 1 hr. lecture, 3 hr. clinical lab)

COV 1642 Skin Care III
This course consists of advanced skin care services including anatomy of skin, disorders of skin, hair removal, facials, and facial makeup. Included are classroom theory and lab practice as

governed by Mississippi cosmetology laws, rules, and regulations involved in cosmetology practices and safety precautions associated with each. (2 sch: 6 hr. clinical lab)

COV 1722 Salon Business I
This course will cover preparing to operate a successful salon. Included are classroom theory and lab practice as governed by Mississippi cosmetology laws, rules, and regulations involved in cosmetology practices and safety precautions associated with each. (2 sch: 1 lec, 3hr. clinical lab)

COV 1732 Salon Business II
This course will cover operating a successful salon and seeking employment. Included are classroom theory and lab practice as governed by Mississippi cosmetology laws, rules, and regulations involved in cosmetology practices and safety precautions associated with each. (2 sch: 1 hr. lecture, 3 hr. clinical lab)

COV 2815 Cosmetology Teacher Training I
Instruction will be given in developing appropriate communication skills, effective use of visual aids, identification of various teaching styles, and practical application of cosmetology instruction. (5 sch: 2 hr. lecture, 9 hr. clinical lab)

COV 2825 Cosmetology Teacher Training II
Instruction will be given in development of instructional methods, development of visual aids, development of effective evaluation, and practical application of cosmetology instruction. (5 sch: 2 hr. lecture, 2 hr lab, 9 hr. clinical lab)

COV 2835 Cosmetology Teacher Training III
Instruction will be given in development of appropriate lesson plans and practical application of cosmetology instruction. (5 sch: 2 hr. lecture, 9 hr. clinical lab)

COV 2845 Cosmetology Teacher Training IV
Instruction will be given in classroom management techniques; cosmetology laws, rules, and regulations; and practical application of cosmetology instruction. (5 sch: 2 hr. lecture, 9 hr. lab)

COV 2855 Cosmetology Teacher Training V
Instruction will be given in classroom management techniques; cosmetology laws, rules, and regulations; and practical application of cosmetology instruction. (5 sch: 2 hr. lecture, 9 hr. clinical lab)

COV 2866 Cosmetology Teacher Training VI
Instruction will be given in classroom management techniques; cosmetology laws, rules, and regulations; and practical application of cosmetology instruction(6 sch: 2 hr. lecture, 12 hr. clinical lab)

COV 2877 Cosmetology Teacher Training VII

COV 2887 Cosmetology Teacher Training VIII

COV 295 (1-6) Brush Up Hours in Cosmetology
This course is designed to provide students with brush up hours necessary to qualify students to take the state licensure examination. . The instructor and student work closely together to select topics and establish criteria for completion of the project. 1-6 sch: 3-18 hr. clinical lab)

COV 2917 Cosmetology Internship I
Under the supervision of a company trainer, this course will enable the student to apply the training he or she received at the Community/Junior College program the student attended with the company of his or her choice. The successful completion of this course will enable the student to perform/observe independently with minimum supervision with the company of his or her choice. c

COV 2927 Cosmetology Internship II
Under the supervision of a company trainer, this course will enable the student to apply the training he or she received at the Community/Junior College program the student attended with the company of his or her choice. The successful completion of this course will enable the student to perform/observe independently with minimum supervision with the company of his or her choice. (7 sch: 21 hr. clinical lab)

COV 2937 Cosmetology Internship III
Under the supervision of a company trainer, this course will enable the student to apply the training he or she received at the Community/Junior College program the student attended with the company of his or her choice. The successful completion of this course will enable the student to perform/observe independently with minimum supervision with the company of his or her choice. (7 sch: 21 hr. clinical lab)

COV 2947 Cosmetology Internship IV
Under the supervision of a company trainer, this course will enable the student to apply the training he or she received at the Community/Junior College program the student attended with the company of his or her choice. The successful completion of this course will enable the student to perform/observe independently with minimum supervision with the company of his or her choice. (7 sch: 21 hr. clinical lab)

COV 295 (1-6) Brush Up Hours in Cosmetology

DTV 111(4-6) Commercial Truck Driving I
Fundamental instruction on safety, rules and regulations, driving practices, air brakes, hazardous materials, and emergencies. Includes instruction and practice in performing vehicle inspections, coupling and uncoupling, maneuvering, backing, and driving a tractor-trailer truck under varying road and climate conditions. (4 sch: 1 lecture, 6 - 10 hr. lab)

DTV 112(4-6) Commercial Truck Driving II
Continuation of Commercial Truck Driving I with additional instruction on safety, rules and regulations, driving practices, air brakes, hazardous materials, and emergencies. Includes instruction and practice in performing vehicle inspections, coupling and uncoupling,

maneuvering, backing, and driving a tractor-trailer truck under varying road and climate conditions. (4 sch: 1 lecture, 6 - 10 hr. lab)

DTV 1137 Commercial Truck Driving Internship
Under the supervision of a company trainer, this course will enable the student to apply the training he/she received at Meridian Community College with the trucking company of his/her choice. The student will earn a salary during this internship (OJT). The successful completion of this course will enable the student to drive solo with the company of his/her choice. Prerequisites: DTV 1116, 1126. (7 sch; 200 lab)

DTV 1212 Commercial Truck Driving Refresher Course
Provides individuals that hold a current Class A, CDL a review of skills and knowledge which relate to fundamental instruction on safety, rules and regulations, driving practices, air brakes, hazardous materials, and emergencies. Includes instruction and practice in performing vehicle inspections, coupling and uncoupling, maneuvering, backing and driving a tractor-trailer truck under varying road and climate conditions. (2 sch: 1 lecture, 2 lab)

DTV 1312 Hazardous Materials
This course is designed to meet the theory instruction training requirements for drivers pursuing their hazmat endorsement. (2 sch: 1 lecture, 2 lab)

DTV 1322 Professional Truck Driving
This course is designed to cover life on the road topics as it pertains to professional truck driving. (2 sch: 1 lecture, 2 lab)

EMT 100(3-6), EMT 1013, EMT 1023 Introduction to Emergency Medical Technology-Basic, Introduction to Emergency Technology Basic I, or Introduction to Emergency Medical Technology Basic II
These courses contain the baseline competencies and suggested objectives from the high school curriculum which directly relate to the community college program. The courses are designed for students entering the community college who have had no previous training or documented experience in the field. (3-6 semester hours based upon existing skills for each student. The course may be divided into 2 courses for a maximum total of 6 hours of institutional credit.)

EMT 1118 EMT Basic
This course includes responsibilities of the EMT during each phase of an ambulance run, patient assessment, emergency medical conditions, appropriate emergency care, and appropriate procedures for transporting patient. (8 sch: 5-hr lecture, 4-hr lab, 3-hr clinical)(135 clock hr – lecture and lab; 48 clock hr – clinical and field)

END 1113 Introduction to Electrodiagnostics
This is a lecture-demonstration course with laboratory exercises designed to focus on recording information utilizing electrodiagnostic technologies. It introduces students to the various procedures they will be required to perform in a clinical setting. (3 sch: 2 hrs. lecture, 2 hrs. lab)

END 1123 Instrumentation and Electronics
This course provides a detailed study of EEG and EP equipment along with electrical concepts. Electrical safety, filters, polarity convention and digital concepts are covered. (3 sch: 3 hrs. lecture)

END 2113 Evoked Potentials
Evoked Potential instrumentation includes signal averaging, statistics, amplifiers, filters and stimulators. Includes instruction in sonata sensory and brain stem auditory responses. Lab included in practical application. (3 sch: 2 hrs. lecture, 2 hrs. lab)

END 2123 Homeostatic Physiology
This is a course which places emphasis on the systems and their importance in maintaining homeostasis in the human body. (3 sch: 3 hrs. lecture)

END 2216 END Clinic I
This is the first in a series of clinical rotations that will give the student exposure and practice in a variety of basic electroneurodiagnostic tests. Students will learn to take patient information and maintain laboratory records. 6 semester hrs. (6 sch: 24 hrs clinical per week for 8 weeks.)

END 2226 END Clinic II
This is a continuation of skill building in Clinic I. Students will develop proficiency in clinical recording techniques involving a variety of procedures with a broad patient population. 24 hours clinical per week for 8 weeks.

END 2232 END Clinic
(12 sem. hrs.) Advanced clinical skill development in EEG, evoked potentials, epilepsy monitoring, and operating room. Physician record review and correlative seminars are a part of this rotation. 12 semester hours. 30 hours of clinic for 15 weeks.

EPT 1113 Introduction to Entrepreneurship
Evaluation of business skills and commitment necessary to successfully operate an entrepreneurial venture and review the challenges and rewards of entrepreneurship. Also, a review of entrepreneurial businesses in the United States and the impact they have had on our national and global economy. (3 sch: 3-hr. lecture)

EPT 2113 Entrepreneurship Feasibility Study
Assessment of the viability of a new venture business idea will be conducted in order to determine if the concept is feasible for business start up and long term growth based on strengths and skills, personal, professional and financial goals. Identification and analysis will be conducted through basic research to determine the present climate for their business idea by completing an industry, target market and competitive analysis. A final assessment will be conducted to determine the financial needs for startup as well as their own skills, strengths and talents to launch a successful business idea. (3 sch: 2 hr. lecture, 2 hr. lab)

EPT 2313 Marketing for the Entrepreneur
Insights essential for marketing entrepreneurial ventures utilizing innovative and financially responsible marketing strategies will be reviewed. Traditional and non-traditional entrepreneurial marketing strategies will be covered with students preparing marketing strategies with associated tactics to launch and sustain an entrepreneurial venture. (3 sch: 3 hr. lecture)

EPT 1313 Entrepreneurship Legal Issues
Legal issues related to business entities including sole proprietorship, general partnerships, limited partnerships, and corporations will be covered. A review will be conducted of contract law, articles of incorporations and the filing process, employment law (including FEPA, ADA, FMLA), personnel policies and procedures, the hiring process, job descriptions, disciplinary actions, and business insurance. (3 sch: 3 lecture hr.)

EPT 1213 Entrepreneurship Financial Topics
This is a comprehensive course covering financial situations for business. Financial topics will include employee benefits, retirement planning, budgeting, creation of financial statements, and learning how to work with an accounting professional. Other topics will include income tax, sales and use tax, payroll tax, and unemployment tax. (3 sch, 1 hr. lecture, 2 hrs. lab)

EPT 2213 Entrepreneurship Business Plan
An evaluation of a business concept and write a sound business plan will be conducted. Students will assess the strengths and weaknesses of a business concept; collect, analyze and organize market research data into a marketing plan; and prepare the financial projections for their business concept. Students will be able to identify and evaluate various resources available for funding small businesses. (3 sch: 1 hr. lecture, 4 hrs. lab) Prerequisite: Intro to Entrepreneurship and Entrepreneurship Feasibility Analysis

FPV 1113 Fundamentals of Operational Procedures in Food Service
Operational procedures for food service personnel with emphasis on using math skills for standard weights and measures, portion control, converting recipes, production formulas, and utilizing manual and computerized applications. (3 sch: 2 hr. lecture, 2 hr. lab)

FPV 1123 Management Procedures and Recordkeeping
A continuation of Fundamentals of Operational Procedures in Food Service. Essentials in food service recordkeeping and managerial math. (3 sch: 2 hr. lecture, 2 hr. lab)

FPV 1213 Food Service Sanitation
Instruction in the area of sanitation to aid in the prevention of food poisoning and foodborne diseases including the Hazard Analysis Critical Control Point (HACCP) system. (3 sch: 2 hr. lecture, 2 hr. lab)

FPV 1315 Culinary Arts I
Study of principles, techniques, and practices of food preparation and their effects on food products with emphasis on the performance of culinary techniques, use of equipment, and quality controls in preparing and serving meals. (5 sch: 2 hr. lecture, 6 hr. lab)

FPV 1326 Culinary Arts II
A continuation of the study of principles, techniques, and practices of food preparation and their effects on food products with emphasis on the performance of culinary techniques, use of equipment, and quality controls in preparing and serving meals. (6 sch: 2 hr. lecture, 8 hr. lab)

FPV 1413 Front of the House
Management of the front of the house in order to fulfill the needs of the guest and the establishment. Emphasis is placed on the types and styles of dining service merchandising, customer service, and employee training techniques. (3 sch: 2 hr. lecture, 2 hr. lab)

FPV 2223 Purchasing and Storage
An introduction to selection and procurement of food and non-food materials in hospitality and related industries. (3 sch: 2 hr. lecture, 2 hr. lab)

FPV 2336 Bakery Production and Management
Skills needed for baking and bakery merchandising. Emphasis is placed on preparation, advertising, marketing, garnishing, costing, and plating baked products. (6 sch: 2 hr. lecture, 8 hr. lab)

FPV 2515 Catering Management
An overview of the background of catering and banquet management. Offers options in catering styles, pricing, menu design, operational controls, computerized management programs, and marketing. (5 sch: 2 hr. lecture, 6 hr. lab)

FPV 2613 Menu Planning and Cost Control
A study of the principles of menu management and cost control with emphasis on foodservice operation and marketing design, nutritional adequacy, trends, cost analysis, and profit as they relate to menu design. (3 sch: 2 hr. lecture, 2 hr. lab)

FPV 2713 Nutrition
A study of nutrients as related to personal health, foods and food preparation, recipe or menu modification for special customer needs, and merchandising techniques associated with nutritious meals. (3 sch: 1 hr. lecture, 4 hr. lab)

FPV 2813 Food Service Management
Management duties such as recruiting, interviewing, hiring, scheduling, job evaluations, employee orientation and training, payrolls, and rating employee performance. This course will explore the process by which the manager can enable his or her employees to function efficiently and effectively. These processes will include incentive and benefit programs, discipline, and termination. (3 sch: 2 hr. lecture, 2 hr. lab)

FPV 291(1-3) Supervised Work Experience in Food Production and Management Technology I
A course that is a cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-3 sch: 3-9 hr. externship)

FPV 292(1-3) Supervised Work Experience in Food Production and Management Technology II
This course is a continuation of Supervised Work Experience in Food Production and Management Technology I. It is a cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-3 sch: 3-9 hr. externship)

GPV 1212 Overview of Graphics and Print Communications
This course is an overview of the graphic arts. Students will study the major historical events and copyright restrictions. An overview of the general safety practices, measurements, and printing processes is included. (2 sch: 1 hr. lecture, 2 hr. lab)

GPV 1314 Pasteup and Layout
This course includes production techniques for preparing copy for reproduction. (4 sch: 2 hr. lecture, 4 hr. lab)

GPV 1414 Graphic Design I
This course is an introduction to graphic design. Students will compare conventional typesetting with desktop publishing systems. This course includes the editing and layout of jobs, basic computer terminology, installation and use of software, proofreading and markup for correction, and the study of type sizes, styles, leading, and line length. (4 sch: 2 hr. lecture, 4 hr. lab)

GPV 1424 Graphic Design II
This course is advanced graphic design. Basic skills learned in Graphic Design I will be used to create more complex layouts with closer tolerances and broader use of colors. (4 sch: 2 hr. lecture, 4 hr. lab)

GPV 1712 Press Operations I
This course is an introduction to printing operations with emphasis on safety practices, fundamental setup and operational procedures.
(2 sch: 1-hr lecture, 2-hr lab)

GPV 1723 Press Operations II
This course is a continuation of Press Operations I with emphasis on 2-color printing operations, maintenance and troubleshooting, and new trends and technologies in printing. (3 sch: 2 hr. lecture, 2 hr. lab)

GPV 1733 Press Operations III
This course is a continuation of GPV 1712 and GPV 1723 with emphasis on multi-color printing. (3 sch: 6 hr. lab)

GPV 1744 Digital Printing I
This course will introduce the student to the digital printing process. Emphasis will be placed on the characteristics and special capabilities of digital printing equipment as well as its limitations.

GPV 1752 Digital Printing II
A study of the xerographic process and its impact on the design and use of modern digital printing equipment. (2 sch: 1 hr. lecture, 2 hr. lab)

GPV 1814 Binding and Finishing Operations
This course includes instruction and practice in binding and finishing techniques including folding, padding, drilling, and stitching. (4 sch: 2 hr. lecture, 4 hr. lab)

GPV 191(1-3) Special Project in Graphics and Print Communications
This course provides students with practical application of skills and knowledge related to a specific instructor-approved topic. Instructor and student work closely together in planning and conducting the project. (1-3 sch: 2-6 hr. lab)

GPV 192(1-3) Supervised Work Experience in Graphics and Print Communications
A supervised on-site work experience in which the student works under the supervision of industry and community college personnel. Competencies and objectives for this course are determined by a mutual agreement between the student, employer, and teacher. (1 3 sch: 3-9 hr. internship)

HCA 1115 Basic Health Care Assisting
This course includes orientation to program policies, developing employability and job-seeking skills, applying legal aspects of health care, applying safety considerations, communication and observation skills, medical terminology, and basic health care procedures. (5 sch: 2 hr. lecture, 4 hr. lab, 3 hr. clinical)

HCA 1125 Special Care Procedures
This course includes specialized procedures for admitting, transferring, and discharging clients; assisting with diagnostic procedures; assisting with treatments; assisting with elimination needs of clients; assisting in meeting hydration and nutritional needs of the client; basic emergency procedures to include CPR/first aid; and basic knowledge and skills required to care for the long-term care resident. Safety is emphasized throughout each procedure. (5 sch: 2 hr. lecture, 2 hr. lab, 6 hr. clinical)

HCA 1214 Body Structure and Function
This course includes study of the structure, function, common disorders, and normal aging-related changes of the integumentary, musculoskeletal, nervous, circulatory, respiratory, digestive, urinary, reproductive, endocrine, and sensory systems; stages of human growth and development; and nutritional needs through the life cycle. (4 sch: 3 hr. lecture, 2 hr. lab)

HCA 1312 Home Health Aide and Homemaker Services
This course includes basic knowledge and skills required to care for the homebound client; and basic knowledge and skills required to provide homemaker services. (2 sch: 1-hr. lecture, 2-hr. lab)

HPR 2213 CPR 1st Aid
A score of 16 on the reading portion of the Enhanced ACT or REA 0123 with a grade of "C" or better. Instruction and practice in methods prescribed in the American Red Cross or American Heart Association standard and advanced course. (3 sch: 3 hrs. lecture.)

HPR 1213 PERSONAL AND COMMUNITY HEALTH.
An application of principles and practices of healthful living to the individual and community, major health problems and the mutual responsibilities of home, school and health agencies. Three lecture hours. (3 sch: 3-hr lecture)

HPR 2213 CPR 1st Aid
A score of 16 on the reading portion of the Enhanced ACT or REA 0123 with a grade of "C" or better. Instruction and practice in methods prescribed in the American Red Cross or American Heart Association standard and advanced course. (3 sch: 3 hrs. lecture.)

HUS 1113 Introduction to Human Services.
This course is designed to enable students to gain knowledge of the history of Human Services; understand the present Human Services concepts; identify varying roles of the HUS worker and understand contemporary strategies in the helping professions; develop skills in problem assessment and in determining appropriate responses to client needs; understand ethics and the law as they relate to the helping professions. (3 sch: 3 hr lecture)

HUS 1123 Interpersonal Communication.
The course covers self-concept, listening skills, verbal and nonverbal communication, skills to help resolve interpersonal conflict, and skills in self-understanding and acceptance. (3 sch: 3 hr lecture)

HUS 1133 Social Problems.
A study of the nature, scope, and effects of the social problems of today and the suggested remedies for dealing with them. Course includes such problems as unemployment, urbanization, crime, juvenile delinquency, alcoholism, drug addiction, and disaster; family problems include the aged, mentally ill, and retarded. Field trips to more fully acquaint students with social problems. (3 sch: 3 hr lecture)

HUS 1143 Envisioning a Better Society.
This course is designed to assist the student in recognizing the reality of interconnection and the need for a holistic approach in meeting personal and societal needs. Students are required to complete 60 hours of field work in an appropriate agency. (3 shc: 1 hr lecture, 4 hr lab)

HUS 2113 Developing Interviewing Skills.
This class is designed to enable the student to effectively use interviewing skills, (i.e., open-ended questions, clarification, reflection, silence, interpretation, summarization, body language, etc.) with normal and disturbed persons; demonstrate appropriate interpersonal skills for one-to-one helping relationships (genuineness, accurate empathy, non-possessive warmth, establishing rapport, constructive confrontation); and demonstrate skill in keeping clinical records and in keeping simple statistics. (3 sch: 3 hr lecture)

HUS 2123 Affecting Social Change.
This seminar is designed to assist students to become more effective as members of groups which interact with community change processes; analyze the ways groups operate; learn to organize successful meetings; learn to use tension creatively; learn how to utilize action planning and evaluation; develop group leadership skills; develop skill in making referrals to and counseling with other community agencies; and stay abreast of current social issues which affect the community. Students are required to complete 60 hours of field work in an appropriate agency. (3 shc: 1 hr lecture, 4 hr lab)

HUS 2133 Exploring Social Issues.
This class is designed to expose students to conflicting views on major controversial social issues; to assist them in analyzing and understanding both sides of an issue; and to enable them to reach their own conclusions in an atmosphere free of stereotypes and reactionary responses. (3 sch: 3 hr lecture)

INT 1113 Fundamentals of Instrumentation
This course provides students with a general knowledge of instrumentation principles. This course includes instruction in the basis of hydraulics and pneumatics and the use of electrical circuits in the instrumentation process. (3 sch: 2 hr. lecture, 2 hr. lab)

INT 1214 Fluid Power
This basic course provides instruction in hydraulics and pneumatics. The course covers actuators, accumulators, valves, pumps, motors, coolers, compression of air, control devices, and circuit diagrams. Emphasis is placed on the development of control circuits and troubleshooting techniques. (4 sch: 3 hr. lecture, 2 hr. lab)

INT 2114 Control Systems I
This is an introductory course to provide information on various instrumentation components and processes. Topics include analyzing pressure processes, temperatures, flow, and level. (4 sch: 3 hr. lecture, 2 hr. lab)

INT 2124 Control Systems II
This course is a continuation of Control Systems I with special emphasis on application of applied skills along with new skills to develop instrument process controls. The student will be given a process to develop the appropriate instruments and needed diagrams, utilizing various controlling processes and demonstrating loop troubleshooting techniques. (4 sch: 3 hr. lecture, 2 hr. lab.)

INT 2214 Calibration and Measurement Principles
This course introduces the student to various terms related to measurement principles and calibration techniques. The topics also include the procedures and calibration of various instruments used in the industry. (4 sch: 3 hr. lecture, 2 hr. lab)

IRM 1112 Introduction to Irrigation
The course introduces irrigation practices and technologies. Includes instruction in the history of irrigation, regions of water management, and the basic components of agricultural, large turf, golf, commercial, and residential irrigation systems. (2 sch: 2-hr lecture)

IRM 1123 Residential Irrigation Design
The course is designed to teach students the proper techniques for designing irrigation systems to achieve an effective and efficient irrigation system (3 sch: 2-hr lecture, 2-hr lab)

IRM 1144 Irrigation Systems Installation I
An introductory course on the installation of irrigation systems. Includes instruction in basic components, site inspections, blueprint interpretation, methods and procedures for installation, and lighting system installation. (4 sch: 2-hr lecture, 4-hr lab) (HLT 2824 may be taken in lieu of this course.)

IRM 1223 Irrigation Troubleshooting and Repair
A course designed to introduce students to basic fundamental and step processes to troubleshoot existing irrigation systems. (3 sch: 1-hr lecture, 4-hr lab)

IRM 1243 Irrigation Systems Installation II
A continuation of IRM 1144 with emphasis on irrigation auditing and contracting procedures such as system installation, site inspection, uniform efficiency measures, and calculation of base watering schedules for a specific site. (3 sch: 2-hr lecture, 2-hr lab)

IRM 2233 Irrigation Pumps, Controls, and Relays
A study of the basic function, operation, and maintenance of water pumps for irrigation systems. Includes instruction in determining pump size and providing backflow protection. (3 sch: 2-hr lecture, 2-hr lab)

IRM 2123 Green Industry Cost Estimating
A course designed to introduce budgeting and estimating fundamentals used in the landscape and irrigation industries. (3 sch: 2-hr lecture, 2-hr lab) (Also taught as HLT 2123, Green Industry Cost Estimating)

IRM 2312 Irrigation Auditing
A course to prepare students to take the Irrigation Association's Certified Landscape Auditor examination. Includes instruction on site inspection, system inspection, and tune-up of irrigation systems, data collection, base water scheduling, and irrigation management practices. Students will perform an audit following approved practices. (2 sch: 1-hr lecture, 2-hr lab)

IRM 291(1-3) Special Problem in Irrigation Management Technology
A course to provide students with an opportunity to utilize skills and knowledge gained in other Irrigation Management Technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1–3 sch: 2- to 6-hr lab)

IRM 292(1-6) Supervised Work Experience in Irrigation Management Technology
A course that is a cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1–6 sch: 3- to 18-hr externship)

MAV 100(3-6), MAV 1013, MAV 1023 Introduction to Marine Engine Mechanics, Introduction to Marine Engine Mechanics I or Introduction to Marine Engine Mechanics II
These courses contain the baseline competencies and suggested objectives from the high school Outboard Marine Engine Mechanics curriculum which directly relate to the community college Marine Engine Mechanics (Gasoline) program. The courses are designed for students entering the community college who have had no previous training or documented experience in the field. (3-6 semester hours based upon existing skills for each student. May be divided into 2 courses for a maximum total of 6 hours of institutional credit.)

MAV 1115 Fundamentals of Outboard Marine Engine Repair
Theory, operation, and skills related to the repair and maintenance of the basic outboard marine engine. (5 sch: 2 hr. lecture, 6 hr. lab)

MAV 1126 Advanced Outboard Marine Engine Repair
This course is a continuation of Fundamentals of Outboard Marine Engine Repair to include the inspection, repair, and rebuilding of 2-stroke outboard engines. (6 sch: 2 hr. lecture, 8 hr. lab)

MAV 1216 Inboard Gasoline Engines
This course includes the maintenance and repair of the basic engine block of a four-stroke cycle inboard marine engine to include engine disassembly, inspection, maintenance/repair, and reassembly. (6 sch: 2 hr. lecture, 8 hr. lab)

MAV 1222 Marine Fuel Systems
This course includes the functions, maintenance, and service of fuel tanks, pumps, carburetors, intake manifolds, flame arresters, filters, and fuel injection systems of marine engines. (2 sch: 1 hr. lecture, 2 hr. lab)

MAV 1232 Marine Engine Lubrication Systems
This course covers lubrication systems used on 2- and 4-stroke marine engines to include the types of lubrication systems, lubricants, service, and maintenance of the systems. (2 sch: 1 hr. lecture, 2 hr. lab)

MAV 1242 Marine Engine Cooling Systems
This course covers maintenance of cooling systems for marine engines including open-style and closed-style systems. (2 sch: 1 hr. lecture, 2 hr. lab)

MAV 1253 Inboard Transmission
This course covers disassembly, maintenance, repair, and reassembly/installation of the three major types of transmissions commonly associated with inboard marine engines. (3 sch: 1 hr. lecture, 4 hr. lab)

MAV 1264 Outdrives
This course includes the operation and maintenance of outdrive units associated with inboard marine engines including components, functions, outdrive steering, shifting systems, alignment, and repair. (4 sch: 1 hr. lecture, 6 hr. lab)

MAV 1312 Marine Accessories
This course includes the installation and repair of accessories commonly found on a pleasure craft including bilge pumps, ventilation systems, horns, instruments, lights, and other accessories. (2 sch: 1 hr. lecture, 2 hr. lab)

MAV 1424 Boat Maintenance and Repair
This course covers the repair of boats including instruction in the minor repair of hull and structure damage. (4 sch: 1 hr. lecture, 6 hr. lab)

MAV 1511 Trailers
This course covers rigging and maintenance of trailers used to transport a pleasure craft including rigging, wheel bearings, lighting, and positioning boats. (1 sch: 2 hr. lab)

MAV 1612 Electrical Systems
This course covers electrical systems associated with marine engines to include theory of operation and maintenance/repair. (2 sch: 1 hr. lecture, 2 hr lab)

MAV 1718 Tune-up and Troubleshooting
This course covers tune-up and diagnosis of problems associated with a variety of marine engines including operation of test equipment, system diagnosis, and tune-up procedures. (8 sch: 16 hr. lab)

MAV 191(1-3) Special Project in Marine Engine Mechanics (Gasoline)
This course is a practical application of skills and knowledge related a specific instructor-approved topic. Teacher and student work closely together in planning and conducting the project. (1-3 sch: 2-6 hr. lab)

MAV 192(1-6) Supervised Work Experience in Marine Engine Mechanics (Gasoline)
This course is a cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hour. (1-6 sch: 3-18 hr. internship)

MEC 1113 Mechanical Maintenance I
This course provides an orientation to the Millwright trade, introduces hand tools, fastner and anchors to include basic layout, gaskets and o'rings and orientation to Oxy Fuel cutting. (3 sch=1 hr lec., 4 hr lab)

MEC 1116 Mechanical Maintenance II
This course provides instruction on Trade Math, Field sketching, Blue Print Reading Millwright specialty and power tools, rigging, setting baseplates, lubrication and Intro to bearings. (6 sch= 2 hr. lec, 8 hr lab)

MEC 1123 Mechanical Maintenance III
This course provides instruction on Advanced Trade Math, Precision measuring tools and Installing pack, seals and mechanical seals. (3 sch=1 hr lec., 4 hr lab)

MEC 1133 Mechanical Maintenance IV
This course provides instruction on bearing, couplings, shims, jigs, equipment alignment, belt drives, chain drives, fans and blowers. (3 sch= 1 hr lec., 4 hr lab)

MEC 1115 Mechanical Maintenance V
This course provides instruction on troubleshooting and repair of conveyors, pumps, compressors, hydraulics, pneumatic and gearboxes. (5 sch= 1 hr. lec., 8 hr lab)

MEC 1227 Mechanical Maintenance VI
This course provides instruction on maintaining, repairing application of reverse alignment, laser alignment, advanced blueprint reading, optical alignment, turbines, electric motors, vibration analusis. (7 sch=2 hr lec, 10 hr lab)

MGT 1111 CPR and First Aid
This course develops the knowledge and skills necessary to provide emergency care for the injured or ill until appropriate professionals take over. (1 sch: 1 lecture)

MGT 1214 Introduction to Massage Therapy
This course teaches the student theories and principles of therapeutic massage and includes the effects, benefits, indications and contraindications, history of massage therapy, Mississippi laws and regulations pertaining to massage therapist, educational and licensing requirements, professional ethics, equipment and products, client evaluations, draping techniques, massage environment, massage therapy in a health-care system, sanitary and safety practices, therapist body mechanics, conditioning, strengthening, flexibility, human relationship skills, and basic business and marketing skills. (4 sch: 4 lecture)

MGT 1224 Massage Therapy I
This course examines basic skills in massage therapy for various modalities. Each modality will move into the next progressive phase enhancing the student's knowledge. (4 sch: 4 lecture)

MGT 1233 Massage Therapy I Lab
This course develops basic skills in massage therapy for various modalities in a laboratory setting. Each modality will move into the next progressive phase enhancing the student's knowledge. (3 sch: 6 lab)

MGT 1244 Massage Therapy II
Students will develop basic skills in massage therapy. Each modality will move into the next progressive phase enhancing the student's knowledge. (4 sch: 4 lecture)

MGT 1253 Massage Therapy II Lab
Students will develop basic skills in massage therapy in a laboratory setting. Each modality will move into the next progressive phase enhancing the student's knowledge. (3 sch: 6 lab)

MGT 1263 Massage Therapy Clinical Lab II
This course applies the principles and theories of Introduction to Massage Therapy and Massage Therapy I and builds on the principles and theories taught in Massage Therapy II and is a continuation of Massage Therapy Clinical Lab I. (3 sch: 6 lab)

MGT 1272 Specialized Modalities I
Students will be introduced to several different traditions of massage and bodywork. (2 sch: 2 lecture)

MGT 1281 Massage Therapy Clinical Lab I
This course applies the principles and theories of Introduction to Massage Therapy and Massage Therapy. (1 sch: 2 lab)

MGT 1333 Kinesiology
This course studies the mechanical aspects of human motion. (3 sch: 3 lecture)

MGT 1343 Pathology and Medical Terminology
This course is designed to teach the student functional assessment of therapeutic massage in relation to pathology. The student learns pathology of multiple systems and determines its impact on the delivery of massage therapy services in his or her own practice. Discussion of the massage therapy scope of practice and its relationship to other allied health professions is included. Understanding methods of communication with other professionals and clients, exploring holistic self-care practices, and developing a systematic evaluation and documentation scheme are also covered. (3 sch: 3 lecture)

MGT 1612 Board Preparation
A basic course to provide students with skills review for board certification. *If student is already a Licensed Massage Therapist, another academic course may be taken. (2 sch: 2 lecture)

MGT 2223 Massage Therapy III
This course will provide students with additional knowledge and information in the area of techniques. (3 sch: 3 lecture)

MGT 2233 Massage Therapy IV
This course will provide students with additional knowledge and information in the area of techniques. (3 sch: 3 lecture)

MGT 2273 Specialized Modalities II
This course will provide students more in-depth knowledge of additional traditions of massage and bodywork. (3 sch: 3 lecture)

MGT 2514 Massage Therapy A&P I
A combined lecture and laboratory course that covers the anatomical and physiological study of the human body as an integrated whole. The course includes detailed studies of: biological principles; tissues; and the integumentary, skeletal, muscular and nervous systems. Labs associated with this course contain experiments and exercises that reinforce the principles introduced in lecture classes. (4 sch= 3 hr. lec., 2 hr lab)

MGT 2524 Massage Therapy A&P II
A combined lecture and laboratory course that includes detailed studies of the anatomy and physiology of human special senses, endocrine, cardiovascular, lymphatic and immune, respiratory, digestive, and urinary systems, as well as reproduction and development. Labs associated with this course contain experiments and exercises that reinforce the principles introduced in lecture classes. (4 sch= 3 hr. lec., 2 hr lab)

MGT 291 (1-3) Special Project in Massage Therapy
A course designed to provide the student with practical application of skills and knowledge gained in the courses. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. (3 sch, 2-6 Lab)

MTV 1114 Fundamentals of Meat Merchandising
This course covers the basic fundamentals of meat merchandising including career opportunities, safety requirements, sanitation, equipment and its maintenance, and government regulations. (4 sch: 8 hr. lab)

MTV 1214 Identification of Wholesale and Retail Cuts
This course consists of the identification of wholesale and retail cuts of meat. The course also includes preparation and serving of meat products. Background information is provided on dressing, chilling, storage, sanitation, inspection, grading, curing, and smoking procedures for different types of meat products. (4 sch: 8 hr. lab)

MTV 1224 Preparation of Wholesale and Retail Cuts
This course is the study of breaking carcasses into wholesale boxed cuts of beef, pork, and lamb; preparing basic retail cuts from wholesale boxed cuts; boning procedures; and packaging. (4 sch: 8 hr. lab)

MTV 1234 Merchandising of Poultry, Fish, Seafood, and Smoked Meats
This course includes cutting and merchandising poultry and fish products; merchandising of smoked meat counter; refrigeration; and display techniques of poultry, fish, seafood, and smoked meats. (4 sch: 8 hr. lab)

MTV 1314 Display Pricing and Marketing Techniques I
This course includes advanced merchandising techniques including wholesale purchasing, wholesale and retail meat pricing and gross profit control yield data. (4 sch: 8 hr. lab)

MTV 1324 Display Pricing and Marketing Techniques II
This course includes advanced merchandising procedures including conducting cutting tests and forecasting gross profits. (4 sch: 8 hr lab)

MTV 1414 Advanced Meat Merchandising I
This course is a study of portion control, nutritional values of red meat and poultry, steps and cycles associated with marketing red meat and poultry, and factors that affect meat prices. (4 sch: 8 hr. lab)

MTV 1424 Advanced Meat Merchandising II
This course is a special study of meat merchandising as it affects the many different phases of the meat industry. The course includes salesmanship and customer relations. (4 sch: 8 hr. lab)

MTV 1514 Catering, Food Preparation, and Value Added Products
This course includes basic information about the catering industry including types of catering services, how to start a business, selling catering services, food safety, and arranging specific catering events. The course also includes basic information about the trend toward marketing value-added products. (4 sch: 8 hr. lab)

MTV 1522 Food Safety
This course includes basic information related to food safety. (2sch: 2 hrs lecture)

PNV 1116 Practical Nursing Foundations
This course is designed to explain the structure and function of the body systems and their interrelationship to one another in the provision of safe, effective nursing care. In addition, this course will provide the student with the theory and skills of practical nursing through campus lab demonstration, supervised practice, and clinical experiences needed to care for the individual in wellness and illness across the lifespan. (16 sch: 9 hr. lecture, 10 hr. lab, 6 hr. clinical) (Total instructional hours for the combined course: 135 hr. lecture, 150 hr. lab, 90 hr. clinical)

PNV 1213 Body Structure and Function
This course is a study of body structure and function essential to safe and effective nursing care. Each system of the body is covered with applications to nursing. (3 sch: 3 hr. lecture)

PNV 1216 Intermediate Practical Nursing (FS)
This course is designed to provide the student with the basic theory, campus lab demonstrations, supervised practice, and clinical experiences needed to provide safe, effective care to the adult client experiencing acute, chronic, or life-threatening physical health conditions in all body systems. The course will include the expanded role of IV therapy as outlined by the Mississippi Board of Nursing Practice Law, Rules, and Regulations, nutritional considerations, and the advanced theory of pharmacology. (16 sch: 11 hr. lecture, 2 hr. lab, 12 hr. clinical) (Total instructional hours for the combined course: 165 hr. lecture, 30 hr. lab, 180 hr. clinical)

PNV 1312 Intermediate Practical Nursing (SS)
This course will provide the student with the (1) Basic knowledge and skills to provide safe, effective care for clients and families during the antepartum, intrapartum, postpartum, and infancy through adolescent periods. (2) Basic knowledge and skills to provide safe, effective care for clients and families experiencing mental health alterations. (3) Expanded role of IV therapy as outlined by the Mississippi Board of Nursing Practice Law, Rules, and Regulations and the advanced theory of pharmacology. (12 sch: 10.33 hr. lecture, 2 hr. lab, 2 hr. clinical) (Total Instructional hours for the combined course: 155 hr. lecture, 30 hr. lab, 30 hr. clinical)

PNV 1412 Advanced Practical Nursing (FS)
This course will provide the student with the: (1) Basic knowledge and skills to provide safe, effective care for clients and families during the antepartum, intrapartum, postpartum, and infancy through adolescent periods. (2) Basic knowledge and skills to provide safe, effective care for clients and families experiencing mental health alterations. (3) Knowledge to prepare for the role transition from student to practical nurse. (12 sch: 10.33 hr. lecture, 5 hr. clinical) (Total instructional hours for the combined course: 155 hr. lecture, 75 clinical)

PNV 1426 Fundamentals of Nursing Theory
This course provides the student with the basic knowledge and skills necessary to care for the individual in wellness and illness and is applicable across the life span. (6 sch: 6 hr. lecture)

PNV 1437 Fundamentals of Nursing Lab/Clinical
This course provides demonstration and supervised practice of the fundamental skills related to practical nursing. (7 sch: 10 hr. lab, 6 hr. clinical) Corequisites: This course requires concurrent registration in PNV 1426. A passing grade in PNV 1426 and PNV 1437 is required in order to

progress in the Practical Nursing program. If a passing grade is not maintained, both courses must be repeated concurrently upon readmission.

PNV 1443 Nursing Fundamentals and Clinical
This course provides the student with the basic knowledge and skills necessary to care for the individual in wellness and illness and is applicable across the life span, as well as demonstration and supervised practice of the fundamental skills related to practical nursing. (13 sch: 6 hr. lecture, 10 hr. lab, 6 hr. clinical) (Total instructional hours for the course: 90 hr. lecture, 150 hr. lab, 90 hr. clinical).

PNV 1516 Advanced Practical Nursing (SS)
This course is designed to provide the student with the basic theory and clinical experiences needed to provide safe, effective care to the adult client experiencing acute, chronic, or life-threatening physical health conditions in all body systems and the knowledge to prepare for the role transition from student to practical nurse. (16 sch: 11 hr. lecture, 15 hr. clinical) (Total instructional hours for the course: 165 hr. lecture, 225 clinical)

PNV 1524 IV Therapy and Pharmacology
This course provides the student with principles of IV therapy and pharmacology. Principles covered in the course include the administration of medication, administration of IV fluids, and administration of IV medications included in the scope of practice for the practical nurse. The expanded role of IV therapy included in this course is in accordance with the Mississippi Nursing Practice Law and Administrative Code. (4 sch: 3 hr. lecture, 2 hr. lab) Prerequisites: All first-semester Practical Nursing courses

PNV 1614 Medical/Surgical Nursing Theory
This course provides the student with the basic nursing theory and skills to provide safe and effective care for the adult client experiencing acute, chronic, or life-threatening physical health conditions in selected body systems. Pharmacological and nutritional therapy considerations for various disorders are included. The systems not covered in this course are taught in Alterations in Adult Health Theory (PNV 1634). (4 sch: 4 hr. lecture) Prerequisites: All first-semester courses Corequisite: Concurrent registration in PNV 1622 is required. A passing grade in PNV 1614 and PNV 1622 is required in order to progress in the practical nursing program. If a passing grade is not maintained, both courses must be repeated concurrently upon readmission.

PNV 1622 Medical/Surgical Nursing Clinical
This course includes clinical experiences for application of nursing theory and skills for safe, effective care of the adult client experiencing acute, chronic, or life-threatening physical health conditions in all body systems. (2 sch: 6 hr. clinical) Prerequisites: All first-semester courses Corequisite: Concurrent registration in PNV 1622 is required. A passing grade in PNV 1614 and PNV 1622 is required in order to progress in the practical nursing program. If a passing grade is not maintained, both courses must be repeated concurrently upon readmission.

PNV 1634 Alterations in Adult Health Theory
This course provides the student with the basic nursing theory and skills to provide safe and effective care for the adult client experiencing acute, chronic, or life-threatening physical health conditions in selected body systems. Pharmacological and nutritional therapy considerations for various disorders are included. The systems not covered in this course are taught in Medical/Surgical Nursing Theory (PNV 1614). (4 sch: 4 hr. lecture) Prerequisites: All first-

semester courses. Corequisite: Concurrent registration in PNV 1642 is required. A passing grade in PNV 1634 and PNV 1642 is required in order to progress in the practical nursing program. If a passing grade is not maintained, both courses must be repeated concurrently upon readmission.

PNV 1642 Alterations in Adult Health Clinical

This course provides the student with the basic nursing theory and skills to provide safe and effective care for the adult client experiencing acute, chronic, or life-threatening physical health conditions in selected body systems. Pharmacological and nutritional therapy considerations for various disorders are included. The systems not covered in this course are taught in Medical/Surgical Nursing Theory (PNV 1614). (4 sch: 4 hr. lecture) Prerequisites: All first-semester courses. Corequisite: Concurrent registration in PNV 1642 is required. A passing grade in PNV 1634 and PNV 1642 is required in order to progress in the practical nursing program. If a passing grade is not maintained, both courses must be repeated concurrently upon readmission.

PNV 1666 Medical/Surgical Nursing Concepts and Clinical

This course provides the student with the basic nursing theory and skills to provide safe and effective care for the adult client experiencing acute, chronic, or life-threatening physical health conditions in selected body systems. Pharmacological and nutritional therapy considerations for various disorders are included. The systems not covered in this course are taught in Alterations in Adult Health Concepts and Clinical (PNV 1676). This course also includes clinical experiences for application of nursing theory and skills for safe, effective care of the adult client experiencing acute, chronic, or life-threatening physical health conditions in all body systems. (6 sch**:** 4 hr. lecture, 6 hr. clinical) (Total instructional hours for the course: 60 hr. lecture, 90 hr. clinical)

PNV 1676 Alterations in Adult Health Concepts and Clinical

This course provides the student with the basic nursing theory and skills to provide safe and effective care for the adult client experiencing acute, chronic, or life-threatening physical health conditions in selected body systems. Pharmacological and nutritional therapy considerations for various disorders are included. The systems not covered in this course are taught in Medical/Surgical Nursing Concepts and Clinical (PNV 1666). This course also includes clinical experiences for application of nursing theory and skills for safe, effective care of the adult client experiencing acute, chronic, or life-threatening physical health conditions in all body systems. (6 sch: 4 hr. lecture, 6 hr. clinical) (Total instructional hours for the course: 60 hr. lecture, 90 hr. clinical)

PNV 1682 Adult Health nursing Concepts and Clinical

This course is designed to provide the student with the basic theory and clinical experiences needed to provide safe, effective care to the adult client experiencing acute, chronic, or life-threatening physical health conditions in all body systems and the knowledge to prepare for the role transition from student to practical nurse. (12 sch**:** 8 hr. lecture, 4 hr. clinical) (Total instructional hours for the course: 120 hr. lecture, 180 hr. clinical).

PNV 1714 Maternal-Child Nursing

This course provides the student with basic knowledge and skills to promote and/or provide safe and effective care for clients and families during antepartum, intrapartum, and postpartum periods as well as infancy through adolescence. (4 sch: 3.7 hr. lecture, 1 hr. clinical) Prerequisites: All first-semester PNV courses.

PNV 1728 Specialty Areas in Nursing
This course provides the student with basic knowledge and skills to promote and/or provide safe and effective care for clients and families during antepartum, intrapartum, and postpartum periods as well as infancy through adolescence. It also provides the basic knowledge and skills to assist in the promotion of the emotional, mental, and social well-being of the client and family experiencing a mental health alteration. (8 sch: 7.33 hr. lecture, 2 hr. clinical)(Total instructional hours for the course: 110 hr. lecture, 30 clinical)

PNV 1814 Mental Health Nursing
This course provides the student with basic knowledge and skills to assist in the promotion of the emotional, mental, and social well-being of the client and family experiencing a mental health alteration. (4 sch: 3.7 hr. lecture, 1 hr. clinical). Prerequisites: First-semester PNV courses

PNV 1914 Nursing Transition
This course prepares the student for role transition and the National Council Licensure Examination (NCLEX-PN). (4 sch: 3 hr. lecture, 3 hr. clinical) Prerequisites: All first- and second-semester PNV courses.

PPV/PCT 1113 Fundamentals of Plumbing/Pipefitting
Job safety and health, including first aid. Also, occupational hazards and the scope of the OSHA law. Includes pipefitting and plumbing fittings, valves, hangers, and general trade fitting identification. Included are screwed, welded, flanged, soldered, brazed, glued, compression, and flared fittings. Identification and use of pipefitting and plumbing tools used in today's piping industry. (3 sch: 1-hr lecture, 4-hr lab)

PPV/PCT 1213 Tacking, Brazing and Burning
Striking an arc, tacking metal together, setting up an oxyacetylene torch and burning, brazing and soldering, and cutting straight and bevel angles on flat steel and pipe. Safety procedures will be covered and emphasized. (3 sch: 1-hr lecture, 4-hr lab)

PPV 1313 Blueprint Reading for Piping Trades
An in-depth understanding of blueprint reading related to pipefitting. (3 sch: 1-hr lecture, 4-hr lab)

PPV/PCT 1323 Sketching
Sketching, measuring, and recording required information to supplement oral descriptions and organize ideas to include individual piping components. (3 sch: 1-hr lecture, 4-hr lab)

PPV/PCT 1333 Blueprint Reading for Plumbing
An in-depth understanding of blueprint reading related to plumbing profession (3 sch: 1-hr lecture, 4-hr lab)

PPV/PCT 1411 Pressure Boilers
Introduction to safe operation of pressure boilers for heating, steam production, and water heating. (1 sch: 2-hr lab)

PPV/1426 Basic Fabrication for Pipefitting
Use of pipefitting tools and equipment, different ways of cutting and fitting pipes, methods of calculating pipe fittings, and various types of fit-ups for different types of pipe. (6 sch: 2-hr. lecture, 8-hr lab)

PPV 1432 Pipe Specifications and Systems
Different metals used in making pipe; their sizes, weights, and strengths; and how they are manufactured. The pipe systems on ships and industrial plants are studied. (2 sch: 1-hr lecture, 2-hr lab)

PPV/PCT 1443 Piping Level/Transit
Applications of the leveling instruments, shooting elevations, and grading pipes. (3 sch: 1-hr lecture, 4-hr lab)

PPV 1456 Advanced Pipefitting Lab
Advanced pipefitting layout, fabrication, and testing of piping systems. (6 sch: 2-hr lecture, 8-hr lab)

PPV/PCT 1513 Drainage and Sewer Systems
Information and practical aspects of drainage and disposal systems and the International Plumbing Code. Included are the installation of the drainage system in a residential unit covering health aspects and the disposal of poisonous gases arising from the discharge of traps. Instruction is provided on elements of disposal systems, including sewer, septic tanks, tank size calculations, maintenance causes, and removal of sewer obstructions. (3 sch: 1 hr. lecture, 4 hr. lab)

PPV/PCT 1612 Heating Devices
Information on local codes for installing and repairing water heaters, force air units, and floor furnaces. (2 sch: 1 hr. lecture, 2 hr. lab)

PPV/PCT 1622 Gas Piping
Information on standard gas codes. The safe installation of gas appliances and gas lines, according to codes, will be included. (2 sch: 1 hr. lecture, 2 hr. lab)

PPV/PCT 1712 Domestic Systems
Information on the installation of a hot water system according to the unit fixture system. Also information on sizing and installation of a potable cold water system. (2 sch: 4-hr lab)

PPV/PCT 1722 Plumbing Fixtures Lab
Information on the installation of the rough-in and finish fixtures used in the plumbing construction according to International Plumbing Code. (2 sch: 4-hr lab)

PPV/PCT 1732 Backflow Cross Connection
Information on the different types of backflow devices, and the installation and testing of the devices. (2 sch: 1-hr lecture, 2-hr lab)

PPV/PCT 1743 Advanced Plumbing Lab
Additional study in the area of advanced plumbing in the commercial area. (3 sch: 1-hr lecture, 4-hr lab)

PPV/PCT 1812 Rigging and Signaling
Basic use of hand signals, rigging, and equipment. (2 sch: 1-hr lecture, 2-hr lab)

PPV 1823 Steel Ship Building and Marine Construction
Structure of a ship and abbreviation of parts and sections of ships. Also, various types of piping systems, including both building and marine pipefitting systems. (3 sch: 2-hr lecture, 2-hr lab)

PPV/PCT 191(1-3) Special Project in Plumbing
Practical application of skills and knowledge gained in other technical courses. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. (1-3 sch: 2- to - hr lab)

PPV/PCT 192(1-6) Supervised Work Experience in Plumbing
This course is a cooperative program between industry and education and is designed to integrate the student's studies with industrial experience. Variable credit is awarded on the basis of semester hour per 45 industrial contact hours. (1–6 sch: 3- to 18-hr externship)

PPV 291(1-3) Special Project in Pipefitting
Practical application of skills and knowledge gained in other technical courses. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. (1-3 sch: 2- to 6-hr lab)

PPV 292(1-6) Supervised Work Experience in Pipefitting
A cooperative program between industry and education and is designed to integrate the student's studies with industrial experience. Variable credit is awarded on the basis of semester hour per 45 industrial contact hours. (1-6 sch: 3- to 18-hr externship)

TAH 1113 Medical Terminology in Allied Health
A general medical terminology course applicable to students seeking a career in allied health, word structure, pronunciation, and application of medical terms of the body and systems of the body. (3 sch: 3 hr. lecture)

TAT 1113 Early Childhood Education for Teacher Assistant
This course is a continuation of Supervised Work Experience in Food Production and Management Technology I. It is a cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours. (1-3 sch: 3-9 hr. externship)

TAT 1213 Assisting with the Special Child
A review of the characteristics of the normal, exceptional, abused, and/or neglected child. (3 sch: 2 hr. lecture, 2 hr. lab)

TAT 1313 Receptive and Expressive Language Arts Skills
A course designed for personal skills development in the areas of oral reading, reading comprehension, effective listening, nonverbal communication, oral and written language, and oral presentations. (3 sch: 2 hr. lecture, 2 hr. lab)

TAT 1413 Health, Nutrition, and Safety for the Elementary Child
An introduction to the concepts of health, safety, and nutrition and their relationship to early childhood education. It is intended to help adults assist children to develop good habits and attitudes, and to assume lifelong responsibility for their own well-being. (3 sch: 2 hr. lecture, 2 hr. lab)

TAT 1513 Direction Activities for the Elementary Child
A course designed to familiarize the students with an understanding of the artistic, physical, and musical development of the elementary child and the appropriate applications of methods and materials used for activities in the elementary classroom. (3 sch: 2 hr. lecture, 2 hr. lab)

TAT 1613 Methods and Materials in Handwriting for the Teacher Assistant
A course designed to familiarize the students with the methods and materials used in handwriting instruction and the appropriate applications. (3 sch: 1 hr. lecture, 4 hr. lab)

TAT 1624 Methods and Materials in Reading for the Teacher Assistant
This course is designed to introduce the student to the methods and materials used in reading instruction and the appropriate applications in the elementary classroom. (4 sch: 3 hr. lecture, 2 hr. lab)

TAT 1634 Methods and Materials in Mathematics for the Teacher Assistant
A course designed to familiarize the student with the methods and materials used in mathematics instruction and appropriate applications. The student will understand and apply basic math concepts. (4 sch: 2 hr. lecture, 4 hr. lab)

TAT 1713 Effective Use of Media and Resources for the Teacher Assistant
A course designed to teach the student to create and use resource materials effectively. Emphasis will be placed on proper use of audiovisual and office equipment for development and use of instructional materials. (3 sch: 2 hr. lecture, 2 hr. lab)

TAT 1813 Educational Planning for the Teacher Assistant
This course will introduce the student to the scope and sequence of elementary curricula. Emphasis will be placed on the educational planning process, the use of written, audiovisual, and computer based instructional materials, and classroom organization. (3 sch: 2 hr. lecture, 2 hr. lab)

TAT 1914 Practicum I for the Teacher Assistant
The student will spend scheduled time in classrooms for supervised learning experiences and will observe and record the daily aspects of the elementary instructional program within the classroom. (4 sch: 8 hr. lab)

TAT 1924 Practicum II for the Teacher Assistant
The student will spend scheduled time in the elementary classroom for supervised learning experiences and will observe and record the daily aspects of the elementary instructional program within the classroom. (4 sch: 2 hr. lecture, 4 hr. lab)

WBL 191(1-3); WBL 192(1-3); WBL 193(1-3); WBL 291(1-3); WBL 292(1-3); WBL 293(1-3) Work-Based Learning I, II, III, IV, V, and VI
A structured worksite learning experience in which the student, program area teacher, Work-Based Learning Coordinator, and worksite supervisor/mentor develop and implement an educational training agreement. Designed to integrate the student's academic and technical skills into a work environment. Includes regular meetings and seminars with school personnel for supplemental instruction and progress reviews. (1-3 sch: 3-9 hours externship).
Course Name: Work-Based Learning I, II, III, IV, V, and VI
Corequisite: Concurrent enrollment in vocational–technical program area courses

WJV 1114 Fundamentals of Watch and Jewelry Repair
This course includes a basic background and history of jewelry, as well as the modern watch. The course also includes tool making, use of various measuring instruments and gauges, use of torch for soldering as well as for heat treatment, filing brass projects to measurement, safety practices, and sharpening of turning gravers. Also included are polishing and cleaning jewelry, watch bands, take-in repairs, adjusting watch bands, engraving, and some battery installations. (4 sch: 2 hr. lecture, 4 hr. lab)

WJV 1124 Mechanical Watch I
This course includes identifying watch tools and the proper use and care of those tools. The course includes limited lathe work as it relates to sharpening of turning gravers. Students will learn to handle tools and watch parts with care using safety precautions. This course also includes disassembling, identifying watch parts along with the functions of those parts, and reassembling watches. Developing hand skills, proper use of eyewear, and adjusting the workstation is necessary in the course. (4 sch: 2 hr. lecture, 4 hr. lab)

WJV 1134 Mechanical Watch II
This course concentrates on the disassembly and reassembly process with emphasis on regular, calendar, automatics, and small ladies' watches as relate to servicing. The student is introduced to removing and replacing a balance staff, and basic moving removing and replacing parts. Also included is how to professionally clean and service all types of watches. (4 sch: 2 hr. lecture, 4 hr. lab)

WJV 1144 Basic Quartz Analog
This course introduces the student to the quartz watch and how the technology differs from the regular mechanical and other electric timepieces. The student will learn to test circuits and coils, along with other electrical components with safety in mind; to remove and replace parts; to properly clean and service a quartz watch; and to create retro-fitting for quartz watches. (4 sch: 2 hr. lecture, 4 hr. lab)

WJV 1154 Watch Repair
This course includes removing and replacing balance staffs of pocket watches, regular wrist watches, small lady's watches, and truing and poising those balance/crowns, fitting crystals, tightening cannon pinions of various types, straightening hairsprings, setting up the escapement, troubleshooting, and problem solving techniques. Professional dress, professional skills, professional communications, and professional attitude are encouraged, with emphasis of future employment. (4 sch: 2 hr. lecture, 4 hr. lab)

WJV 1164 Advanced Watch Repair I
This course includes cleaning and service of all types of watches as well as troubleshooting and problem solving techniques. It requires the students to be confident and increase speed and accuracy. Also included is major balance assembly repair such as staffing, truing, and poising with emphasis on special tools and their uses. This course should prepare the student to exhibit good habits, professional practices, and conduct conducive to watch and jewelry industry. (4 sch: 2 hr. lecture, 4 hr. lab)

WJV 1174 Advanced Watch Repair II
This course includes cleaning and servicing watches of various types and special features, such as chronometers, chronographs, etc. It requires less assistance from the instructor with speed and accuracy. It requires moderate intensity and concentration. The student is challenged to all types of repair such as crystal fitting, roller jewel setting, balance staffing, truing, poising and escapement setting, and any other type repair one might encounter with minimum advice from the instructor. (4 sch: 2 hr. lecture, 4 hr. lab)

WJV 1184 Advanced Watch Repair III
This course requires the student to be more accurate in troubleshooting and problem solving. It includes waterproofing, using innovative techniques as well as those found in the market place. Personal appearance becomes more important as it relates to the interview process. The student must have good customer relations, good professional practices, and degree of initiative, as well as extrapolative ability in relationship to any watch. The student must be able to clean and service three or more watches in one cleaning basket to insure production methods. (4 sch: 2 hr. lecture, 4 hr. lab)

WJV 1224 Basic Jewelry Repair
This course includes silver soldering rings using the torch to any size larger or smaller without the solder joint showing any imperfections. It also includes putting bright, ripple, hammered, Florentine, and satin finishes on rings. The student must successfully demonstrate knowledge of jewelry process, terms, nomenclature, and basic precautions to stones. (4 sch: 2 hr. lecture, 4 hr. lab)

WJV 1234 Jewelry Casting and Design
This course includes instruction in hand carving wax patterns, spruing, casting, burnout cycle, bombing, electro stripping, rubber molds, and wax injection. This course includes training in manufacturing of all types of jewelry. (4 sch: 2 hr. lecture, 4 hr. lab)

WJV 1244 Jewelry Repair I
Upon completion of this course, the student will be able to use the torch for soldering heads on rings, chains, and wire fabrication. The student will be able to use the flex shaft to set various stones. (4 sch: 2 hr. lecture, 4 hr. lab)

WJV 1254 Jewelry Repair II
Upon completion of the course, the student will be able to solder chains, jump rings, and all chain repairs. The student will be able to re-tip old prongs and replace broken prongs, make rock salt nuggets, charcoal nuggets, solder bails on large items, engrave, test carat of gold, and make all general and minor repairs that come in over the counter from live work. (4 sch: 2 hr. lecture, 4 hr. lab)

WJV 1264 Jewelry Repair III
Upon completion of this course, the student will be able to successfully demonstrate the ability to completely build from round wires, square wore, and flat stock finished articles to size rings and proper drilling of small holes for delicate soldering. The student will also be able to take in live work from over the counter and properly repair all the various types of everyday repairs. (4 sch: 2 hr. lecture, 4 hr. lab)

WJV 1274 Stone Setting

Upon completion of this course, the student will be able to successfully set stones level in cluster and multi-head rings using bearing burrs and hart burrs, setting burrs, and gravers. The student will repair all live work and understand take-in procedures. Upon job completion, all stones must be bright, level, and secure. (4 sch: 2 hr. lecture, 4 hr. lab)

WJV 1284 Advanced Stone Setting

Upon completion of the course, the student will be able to successfully set stones level and secure in bar setting, bezel setting, channel setting, tube setting, gypsy setting, and multi-head setting (free form). The student will be able to take in jewelry repairs using proper take-in procedures, repair carat gold jewelry as assigned, and wait on customers using professional practices. (4 sch: 2 hr. lecture, 4 hr. lab)

SECTION III: STATE-APPROVED INTERDISCIPLINARY COURSES

CTE 1332 Introduction to Health Professions I (Meridian Community College)

This course looks at specific allied health professions, describes the education necessary, certification requirements, and expected ssalary. This course also discusses all levels of healthcare professionals from those requiring a certificate or diploma to those requiring an associate, bachelor, or doctoral degree. 2 hours lecture. (2 sch: lecture)

SECTION IV: STATE-APPROVED LOCAL PROGRAM COURSES

ANT 2433 Advanced Pilot Ground I (Hinds Community College)
This course covers principles of flight, the flight environment, aircraft systems and performance, basic flight planning, physiology, FARs. This course is designed to prepare the student for the FAA Instrument and Commercial Knowledge Exams. 3 hours lecture. (3 sch: lecture)

ANT 2443 Advanced Pilot Ground II (Hinds Community College)
This course covers principles of flight, the flight environment, advanced and multi-engine aircraft systems and performance. Principles of instruction and flight dynamics. This course is designed to prepare the student for the FAA Instrument and Commercial Knowledge Exams. 3 hours lecture. (3 sch: lecture)

ANT 2453 Advanced Pilot Flight I (Hinds Community College)
Dual and solo flight training designed to prepare the student for advanced FAA pilot ratings. Includes flight instruction toward instrument and commercial or higher FAA ratings. Includes complex and multi-engine training as determined by the student's experience and background. Students will learn advanced flight maneuvers that apply to the instrument and commercial pilot ratings. 3 hours lecture. (3 sch: lecture)

ANT 2433 Advanced Pilot Flight II (Hinds Community College)
Dual and solo flight training designed to prepare the student for Certified Flight Instructor (CFI) rating. Students will fly complex aircraft and learn to instruct basic and advanced flight maneuvers. Students will also learn to fly multi-engine aircraft and learn procedures to operate these aircraft during both normal and contingency flight conditions. 3 hours lecture. (3 sch: lecture)

ANT 2833 Aerial Camera Operations - UAS (Hinds Community College)
This course covers the proper setup and operation of specialized camera equipment used on aerial platforms for film and video use. Emphasis will be placed on camera operation, shot composition, and proper maneuvering of UAV equipment. 3 hours lecture. (3 sch: lecture)

ANT 2843 Operations and Procedures - UAS (Hinds Community College)
This course provides an understanding of the operation of Unmanned Aerial Systems activities. The student will achieve a working knowledge of the various components of the facilities in use, the phraseologies and communications, the command and control ineractions, and operational procedures and rules including FAA regulations. 3 hours lecture. (3 sch: lecture)

APT 1171 Human Factors, General Troubleshooting, and Inspection (Northwest Mississippi Community College)
A study of the human factor element involved in aircraft maintenance and development of general troubleshooting and inspection skills. Safety is the primary goal of aircraft maintenance and inspection. This study provides awareness to the types, symptoms, and effects of human factors; discussing error management, situational awareness and accidents/incidents. This course is also an introduction to the basic equipment, guides and practices involved in troubleshooting and inspection. These skills aid the mechanic to better determine the cause of problems and identify discrepancies before they cause an un-safe condition. 1 hours lecture. (1 sch: lecture)

IMM 1273 Industrial Maintenance Electrical and Instrumentation Level I (Part I) (Holmes Community College)
This course includes basic tools of the trade, fasteners and anchors, oxyfuel cutting, gaskets and packing, and craft-related mathematics. Instructors for this course must be certified as an NCCER instructor. 3 hours lecture. (3 sch: 1 lecture 4 lab)

IMM 1283 Industrial Maintenance Electrical and Instrumentation Level I (Part II) (Holmes Community College)
This course covers construction drawings, pumps and drivers, introduction to valves and test equipment, material handling, mobile and support equipment, and lubrication. Instructors for this course must be certified as an NCCER instuctor. 3 hours lecture. (3 sch: 1 lecture 4 lab)

MST 1323 Advanced Shop Mathematics (Hinds Community College)
An applied mathematics course designed for machinists. Includes instruction and practice in algebraic and trigonometric operations essentials for successful machining. 3 hours lecture. (3 sch: lecture)

TAH 1123 Foundations of Allied Health (Itawamba Community College)
This course covers a wide range of topics related to the healthcare profession. Included are medical ethics, healthcare economics, healthcare politics, and legal issues. Managerial and supervisory skills are also discussed. 3 hours lecture. (3 sch: lecture)