REVISED MISSISSIPPI CURRICULUM FRAMEWORKS FOR VOCATIONAL–TECHNICAL PROGRAMS

POSTSECONDARY EXECUTIVE SUMMARY

2009
REVISED POSTSECONDARY CURRICULUM FRAMEWORKS
2009 EDITION
EXECUTIVE SUMMARY
FOREWORD

As the world economy continues to evolve, businesses and industries must adopt new practices and processes in order to survive. Quality and cost control, work teams and participatory management, and an infusion of technology are transforming the way people work and do business. Employees are now expected to read, write, and communicate effectively; think creatively, solve problems, and make decisions; and interact with each other and the technologies in the workplace. Vocational–technical programs must also adopt these practices in order to provide graduates who can enter and advance in the changing work world.

The curriculum framework in this document reflects these changes in the workplace and a number of other factors that impact local vocational–technical programs. Federal and state legislation calls for articulation between high school and community college programs, integration of academic and vocational skills, and the development of sequential courses of study that provide students with the optimum educational path for achieving successful employment. National skills standards, developed by industry groups and sponsored by the U.S. Department of Education and Labor, provide vocational educators with the expectations of employers across the United States. All of these factors are reflected in the framework found in this document.

Each postsecondary program of instruction consists of a program description and a suggested sequence of courses that focuses on the development of occupational competencies. Each vocational–technical course in this sequence has been written using a common format that includes the following components:

- **Course Name** – A common name that will be used by all community/junior colleges in reporting students
- **Course Abbreviation** – A common abbreviation that will be used by all community/junior colleges in reporting students
- **Classification** – Courses may be classified as the following:
  - Vocational–technical core – A required vocational–technical course for all students.
  - Area of concentration (AOC) core – A course required in an area of concentration of a cluster of programs
  - Vocational–technical elective – An elective vocational–technical course
  - Related academic course – An academic course that provides academic skills and knowledge directly related to the program area
  - Academic core – An academic course that is required as part of the requirements for an associate’s degree
Executive Summary

- Description – A short narrative that includes the major purpose(s) of the course and the recommended number of hours of lecture and laboratory activities to be conducted each week during a regular semester

- Prerequisites – A listing of any courses that must be taken prior to or on enrollment in the course

- Corequisites – A listing of courses that may be taken while enrolled in the course

- Competencies and Suggested Objectives – A listing of the competencies (major concepts and performances) and of the suggested student objectives that will enable students to demonstrate mastery of these competencies

The following guidelines were used in developing the program(s) in this document and should be considered in compiling and revising course syllabi and daily lesson plans at the local level:

- The content of the courses in this document reflects approximately 75% of the time allocated to each course. The remaining 25% of each course should be developed at the local district level and may reflect the following:
  - Additional competencies and objectives within the course related to topics not found in the state framework, including activities related to specific needs of industries in the community college district
  - Activities that 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 that 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 work site learning activities, to better prepare individuals in the courses for their chosen occupational areas

- Sequencing of the course within a program is left to the discretion of the local district. Naturally, foundation courses related to topics such as safety, tool and equipment usage, and other fundamental skills should be taught first. Other courses related to specific skill areas and related academics, however, may be sequenced to take advantage of seasonal and climatic conditions, resources located outside of the school, and other factors.

- Programs that offer an Associate of Applied Science degree must include a minimum 15 semester credit hour academic core. Specific courses to be taken within this core are to be determined by the local district. Minimum academic core courses are as follows:
  - 3 semester credit hours Math/Science Elective
  - 3 semester credit hours Written Communications Elective
  - 3 semester credit hours Oral Communications Elective
  - 3 semester credit hours Humanities/Fine Arts Elective
Executive Summary

- 3 semester credit hours
  Social/Behavioral Science Elective
Executive Summary

It is recommended that courses in the academic core be spaced out over the entire length of the program so that students complete some academic and vocational–technical courses each semester. Each community/junior college has the discretion to select the actual courses that are required to meet this academic core requirement.

- In instances where secondary programs are directly related to community and junior college programs, competencies and suggested objectives from the high school programs are listed as Baseline Competencies. These competencies and objectives reflect skills and knowledge that are directly related to the community and junior college vocational–technical program. In adopting the curriculum framework, each community and junior college is asked to give assurances that:
  o students who can demonstrate mastery of the Baseline Competencies do not receive duplicate instruction and
  o students who cannot demonstrate mastery of this content will be given the opportunity to do so.

- The roles of the Baseline Competencies are to:
  o assist community/junior college personnel in developing articulation agreements with high schools and
  o ensure that all community and junior college courses provide a higher level of instruction than their secondary counterparts.

- The Baseline Competencies may be taught as special “Introduction” courses for 3–6 semester hours of institutional credit that will not count toward associate degree requirements. Community and junior colleges may choose to integrate the Baseline Competencies into ongoing courses in lieu of offering the “Introduction” courses or may offer the competencies through special projects or individualized instruction methods.

- Technical elective courses have been included to allow community colleges and students to customize programs to meet the needs of industries and employers in their areas.

In order to provide flexibility within the districts, individual courses within a framework may be customized by:

- adding new competencies and suggested objectives;
- revising or extending the suggested objectives for individual competencies;
- integrating baseline competencies from associated high school programs; or
- adjusting the semester credit hours of a course to be up 1 hour or down 1 hour (after informing the State Board for Community and Junior Colleges [SBCJC] of the change).

In addition, the curriculum framework as a whole may be customized by:

- resequencing courses within the suggested course sequence;
- developing and adding a new course that meets specific needs of industries and other clients in the community or junior college district (with SBCJC approval); or
- utilizing the technical elective options in many of the curricula to customize programs.
COMMUNITY/JUNIOR COLLEGE VOCATIONAL–TECHNICAL PROGRAMS
2008 REVISION

Agriculture Business and Management Technology
Automotive Machinist Technology
Cardiovascular Technology
Construction Engineering Technology
Court Reporting Technology
Early Childhood Education Technology
Electrical Technology
Electronics and Related Engineering Technology
Information Systems Technology
Nuclear Medicine Technology
Occupational Safety Health Technology
Radiologic Technology
Respiratory Care Technology
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AGRICULTURE BUSINESS AND MANAGEMENT TECHNOLOGY

Agribusiness Management Concentration

The Agribusiness Management option is a program designed to provide students with training in a variety of agriculturally related areas. The program is designed for students desiring to enter the broad range of jobs related to the management of agricultural enterprises and the marketing and sales of agricultural supplies and products. The program involves both technical and academic courses, with provisions for related activities along with on-the-job training (internships).

Emphasis is placed on plant, animal, and soil sciences, along with training in management techniques in production, marketing, and sales. Competencies and objectives for the courses in this program have been correlated to the knowledge and skill statements as listed in *Career Cluster Resources for Agriculture, Food and Natural Resources* as published by the National Association of State Directors of Career and Technical Education Consortium.

The Associate of Applied Science degree is awarded upon successful completion of 63 semester credit hours of coursework. Students completing the following 32 semester credit hours are eligible to receive a certificate in Agriculture Business and Management.

3 sch  Applied Agricultural Economics (AGT 2263)
4 sch  Applied Principles of Animal Production (AGT 1214)
3 sch  Applied Principles of Plant Production (AGT 1313)
3 sch  Principles of Agricultural Management (AGT 1413)
3 sch  Principles of Agricultural Marketing (AGT 1513)
4 sch  Applied Soils-Conservation and Use (AGT 1714)
3 sch  Fundamentals of Microcomputer Applications (CPT 1113)*
1 sch  Survey of Agricultural Technology (AGT 1111)
8 sch  Technical Electives

* Students may substitute Science and Technology (ATE 1113), Microcomputer Applications I (CSC 1123), or another acceptable computer course.

Articulation:

Articulation credit from Secondary Agricultural and Environmental Science Technology – Animals, AEST – Plants, AEST – Agribusiness and Entrepreneurship, Agriculture and Natural Resources, and Agriscience to Postsecondary Agriculture Business Technology will be awarded upon implementation of this curriculum by the college. The courses to be articulated include AGT 1214 Applied Principles of Animal Production for AEST Animals, AGT 1313 Applied Principles of Plant Production for AEST Plants, AGT 1613 Agricultural Records for AEST Agribusiness and Entrepreneurship, and AGT 1111 Survey of Agriculture for Ag and Natural Resources.
Executive Summary

Resources and Agribusiness with the stipulation of passing the MS-CPAS2 according to SBCJC guidelines.
**Suggested Course Sequence**

**Agribusiness Management Concentration**

Baseline Competencies for Agriculture Business and Management Technology**

**FIRST YEAR**

<table>
<thead>
<tr>
<th>4 sch</th>
<th>Applied Principles of Animal Production (AGT 1214)</th>
<th>3 sch</th>
<th>Applied Agricultural Economics (AGT 2263)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3–4sch</td>
<td>Applied Principles of Plant Production (AGT 1313) or Botany (BIO 1314)</td>
<td>4 sch</td>
<td>Applied Soils - Conservation and Use (AGT 1714)</td>
</tr>
<tr>
<td>3 sch</td>
<td>Fundamentals of Microcomputer Applications (CPT 1113)***</td>
<td>3 sch</td>
<td>Written Communications Elective</td>
</tr>
<tr>
<td>3 sch</td>
<td>Math/Science Elective</td>
<td>6 sch</td>
<td>Technical Electives</td>
</tr>
<tr>
<td>1 sch</td>
<td>Survey of Agricultural Technology (AGT 1111)</td>
<td></td>
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</tr>
</tbody>
</table>

14–15 sch

**SECOND YEAR**

<table>
<thead>
<tr>
<th>3 sch</th>
<th>Humanities/Fine Arts Elective</th>
<th>3 sch</th>
<th>Oral Communications Elective</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 sch</td>
<td>Principles of Agricultural Management (AGT 1413)</td>
<td>3 sch</td>
<td>Principles of Agricultural Marketing (AGT 1513)</td>
</tr>
<tr>
<td>3 sch</td>
<td>Social/Behavioral Science Elective</td>
<td>3–6 sch</td>
<td>Supervised Agricultural Experience [AGT 292(1-6)]</td>
</tr>
<tr>
<td>6 sch</td>
<td>Technical Electives</td>
<td>10 sch</td>
<td>Technical Electives</td>
</tr>
</tbody>
</table>

15 sch

19–22 sch

* Students who lack entry level skills in math, English, science, and so forth will be provided related studies.

** Baseline competencies are taken from the high school Agricultural and Environmental Science and Technology program. Students who can document mastery of these competencies should not receive duplicate instruction. Students who cannot demonstrate mastery will be required to do so.

*** Students may substitute Science and Technology (ATE 1113), Introduction to Computer Concepts (CSC 1113), or another acceptable computer course.
TECHNICAL ELECTIVES - AGribusiness Management OPTION

3 sch  Introduction to Spatial Information Systems (AGT 1163)
3 sch  Agricultural Machinery and Shop Management (AGT 2563)
3 sch  Agricultural Sales (AGT 2213)
3 sch  Agricultural Records (AGT 1613)
3 sch  Applied Animal Nutrition (AGT 2663)
3 sch  Applied Business Mathematics (BOT 1313)
3 sch  Business Law (BAD 2413)
3 sch  Business Mathematics (BAD 1313)
3 sch  Beef Production I (AGT 2713)
3 sch  Beef Production II (AGT 2723)
3 sch  Introduction to Computer Concepts (CSC 1113)
3 sch  Crop Production (General) (AGT 2363)
3 sch  Agricultural Pest Management (AGT 2483)
3 sch  Fish Management (AGT 2513)
3 sch  Fitting/Grooming/Judging (AGT 1813)
3 sch  Forage and Pasture Crops (AGT 2613)
4 sch  Forest Surveying (FOT 2124)*
3 sch  Horse Production (AGT 2863)
3 sch  Poultry Production (AGR 2613)
3 sch  Swine Production (AGT 2813)
3 sch  Vegetable Production (AGR 1333)
3 sch  Vegetable Crop Production (AGT 1333)
3 sch  Science and Technology (ATE 1113)
1–3 sch Special Problem in Agriculture Business and Management [AGT 291(1–3)]
(Maximum of 6 hours counts toward graduation requirements.)

Any other course as approved by the instructor

* Students may substitute Elementary Surveying (DDT 1413).
Program Description
Animal Husbandry Concentration

The Animal Husbandry Concentration of Agriculture Business and Management Technology are designed to prepare the student for a career in the animal husbandry industry. Students will receive instruction in feeding, breeding, management, and health care of cattle, sheep, horses, swine, and poultry. In addition, the student will complete course work dealing with agricultural business management, marketing, record keeping, feed crops, and soils. Competencies and objectives for the courses in this program have been correlated to the knowledge and skill statements as listed in Career Cluster Resources for Agriculture, Food and Natural Resources as published by the National Association of State Directors of Career and Technical Education Consortium.

The Associate of Applied Science degree may be granted to students who complete a minimum of 66 semester credit hours of course work in the program. Upon completion of the following 32 semester credit hours, the student may receive a certificate in Agriculture Business and Management:

- 4 sch Applied Principles of Animal Production (AGT 1214)
- 3 sch Applied Principles of Plant Production (AGT 1313)
- 4 sch Applied Soils - Conservation and Use (AGT 1714)
- 3 sch Forage and Pasture Crops (AGT 2613)
- 3 sch Fundamentals of Microcomputer Applications (CPT 1113) *
- 3 sch Math/Science Elective
- 3 sch Principles of Agricultural Management (AGT 1413)
- 3 sch Principles of Agricultural Marketing (AGT 1513)
- 1 sch Survey of Agricultural Technology (AGT 1111)
- 5 sch Technical Electives

* Students may substitute Science and Technology (ATE 1113), Microcomputer Applications I (CSC 1123), or another acceptable computer course.

Articulation:

Articulation credit from Secondary Agricultural and Environmental Science Technology – Animals, AEST – Plants, AEST – Agribusiness and Entrepreneurship, Agriculture and Natural Resources, and Agriscience to Postsecondary Agriculture Business Technology will be awarded upon implementation of this curriculum by the college. The courses to be articulated include AGT 1214 Applied Principles of Animal Production for AEST Animals, AGT 1313 Applied Principles of Plant Production for AEST Plants, AGT 1613 Agricultural Records for AEST Agribusiness and Entrepreneurship, and AGT 1111 Survey of Agriculture for Ag and Natural Resources and Agribusiness with the stipulation of passing the MS-CPAS2 according to SBCJC guidelines.
### Suggested Course Sequence*

**Animal Husbandry Concentration**

Baseline Competencies for Agriculture Business and Management Technology**

#### FIRST YEAR

<table>
<thead>
<tr>
<th>Sch</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Applied Principles of Animal Production (AGT 1214)</td>
</tr>
<tr>
<td>3–4</td>
<td>Applied Principles of Plant Production (AGT 1313) or Botany (BIO 1314)</td>
</tr>
<tr>
<td>3</td>
<td>Fundamentals of Microcomputer Applications (CPT 1113)***</td>
</tr>
<tr>
<td>3</td>
<td>Math/Science Elective</td>
</tr>
<tr>
<td>3</td>
<td>Principles of Agricultural Management (AGT 1413)</td>
</tr>
<tr>
<td>1</td>
<td>Survey of Agricultural Technology (AGT 1111)</td>
</tr>
</tbody>
</table>

| Total Sch | 17–18 |

#### SECOND YEAR

<table>
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<tr>
<th>Sch</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>3</td>
<td>Applied Animal Nutrition (AGT 2663)</td>
</tr>
<tr>
<td>3</td>
<td>Technical Electives</td>
</tr>
<tr>
<td>3</td>
<td>Beef Production I (AGT 2713)</td>
</tr>
<tr>
<td>3</td>
<td>Humanities/Fine Arts Elective</td>
</tr>
<tr>
<td>3</td>
<td>Social/Behavioral Science Elective</td>
</tr>
<tr>
<td>3</td>
<td>Animal Reproduction (AGT 1913)</td>
</tr>
<tr>
<td>6</td>
<td>Technical Electives</td>
</tr>
<tr>
<td>3</td>
<td>Beef Production II (AGT 2723)</td>
</tr>
<tr>
<td>3</td>
<td>Horse Production (AGT 2863)</td>
</tr>
<tr>
<td>3</td>
<td>Oral Communications Elective</td>
</tr>
</tbody>
</table>

| Total Sch | 18 |

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* Students who lack entry level skills in math, English, science, and so forth will be provided related studies.

** Baseline competencies are taken from the high school Agricultural and Environmental Science and Technology program. Students who can document mastery of these competencies should not receive duplicate instruction. Students who cannot demonstrate mastery will be required to do so.

*** Students may substitute Science and Technology (ATE 1113), Introduction to Computer Concepts (CSC 1113), or another acceptable computer course.
TECHNICAL ELECTIVES - ANIMAL HUSBANDRY

3 sch  Introduction to Spatial Information Systems (AGT 1163)
3 sch  Agricultural Records (AGT 1613)
3 sch  Agricultural Sales (AGT 2213)
3 sch  Applied Agricultural Economics (AGT 2263)
3 sch  Business Mathematics (BAD 1313)
3 sch  Introduction to Computer Concepts (CSC 1113)
3 sch  Crop Production (General) (AGT 2363)
3 sch  Fish Management (AGT 2513)
3 sch  Fitting/Grooming/Judging (AGT 1813)
3 sch  Agricultural Pest Management (AGT 2483)
3 sch  Agricultural Machinery and Shop Management (AGT 2563)
3 sch  Poultry Production (AGR 2613)
3 sch  Swine Production (AGT 2813)
3 sch  Science and Technology (ATE 1113)
1–3 sch Special Problem in Agriculture Business and Management [AGT 291(1–3)]
1–6 sch Supervised Agricultural Experience [AGT 292(1–6)]
(Maximum of 6 hours counts toward graduation requirements.)

Any other course as approved by the instructor
Program Description

Field Crops Concentration

The Field Crops Concentration of the Agriculture Business and Management Technology program is designed to provide students with a common core of management skills and additional training related to the production of agricultural crops. Emphasis in the second year is placed on production of field crops and weed and insect control. This program relies upon computerized agricultural business simulations. Elective courses in the second year allow the students to tailor their educational programs to their occupational objectives. Competencies and objectives for the courses in this program have been correlated to the knowledge and skill statements as listed in *Career Cluster Resources for Agriculture, Food, and Natural Resources* as published by the National Association of State Directors of Career and Technical Education Consortium.

The Associate of Applied Science degree is awarded upon successful completion of a minimum of 64 semester credit hours. Students completing the following 32 semester credit hours are eligible to receive a certificate in Agricultural Business and Management.

3 sch Applied Agricultural Economics (AGT 2263)
4 sch Applied Principles of Animal Production (AGT 1214)
3 sch Applied Principles of Plant Production (AGT 1313)
4 sch Applied Soils- Conservation and Use (AGT 1714)
1 sch Survey of Agricultural Technology (AGT 1111)
3 sch Fundamentals of Microcomputer Applications (CPT 1113)*
3 sch Math/Science Elective
3 sch Principles of Agricultural Management (AGT 1413)
3 sch Principles of Agricultural Marketing (AGT 1513)
5 sch Technical Electives

* Students may substitute Science and Technology (ATE 1113), Microcomputer Applications I (CSC 1123), or another acceptable computer course.

Articulation:

Articulation credit from Secondary Agricultural and Environmental Science Technology – Animals, AEST – Plants, AEST – Agribusiness and Entrepreneurship, Agriculture and Natural Resources, and Agriscience to Postsecondary Agriculture Business Technology will be awarded upon implementation of this curriculum by the college. The courses to be articulated include AGT 1214 Applied Principles of Animal Production for AEST Animals, AGT 1313 Applied Principles of Plant Production for AEST Plants, AGT 1613 Agricultural Records for AEST Agribusiness and Entrepreneurship, and AGT 1111 Survey of Agriculture for Ag and Natural Resources and Agribusiness with the stipulation of passing the MSCPAS2 according to SBCJC guidelines.
### Suggested Course Sequence*  
**Field Crops Concentration**

Baseline Competencies for Agriculture Business and Management Technology**

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Sch</th>
<th>Course Description</th>
<th>Sch</th>
<th>Course Description</th>
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</thead>
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<tr>
<td>4</td>
<td>Applied Principles of Animal Production (AGT 1214)</td>
<td>3</td>
<td>Applied Agricultural Economics (AGT 2263)</td>
</tr>
<tr>
<td>3–4</td>
<td>Applied Principles of Plant Production (AGT 1313) or Botany (BIO 1314)</td>
<td>4</td>
<td>Applied Soils—Conservation and Use (AGT 1714)</td>
</tr>
<tr>
<td>3</td>
<td>Fundamentals of Microcomputer Applications (CPT 1113)***</td>
<td>3</td>
<td>Principles of Agricultural Management (AGT 1413)</td>
</tr>
<tr>
<td>3</td>
<td>Math/Science Elective</td>
<td>3</td>
<td>Principles of Agricultural Marketing (AGT 1513)</td>
</tr>
<tr>
<td>1</td>
<td>Survey of Agricultural Technology (AGT 1111)</td>
<td></td>
<td>Written Communications Elective</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16</td>
<td></td>
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<tr>
<td>14–15</td>
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</table>

**SECOND YEAR**

<table>
<thead>
<tr>
<th>Sch</th>
<th>Course Description</th>
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<th>Course Description</th>
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<tbody>
<tr>
<td>3</td>
<td>Insects and Controls (AGT 2463)</td>
<td>3</td>
<td>Agricultural Machinery and Shop Management (AGT 2563)</td>
</tr>
<tr>
<td>3</td>
<td>Oral Communications Elective</td>
<td></td>
<td>Technical Electives</td>
</tr>
<tr>
<td>3</td>
<td>Grain Crops (AGT 2383)</td>
<td>6</td>
<td>Technical Electives</td>
</tr>
<tr>
<td>3</td>
<td>Weed Control (AGT 2413)</td>
<td>3</td>
<td>Fiber and Oilseed Crops (AGT 2373)</td>
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<tr>
<td>4</td>
<td>Technical Electives</td>
<td>3</td>
<td>Humanities/Fine Arts Elective</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>Social/Behavioral Science Elective</td>
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<td>18</td>
<td></td>
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<tr>
<td>16</td>
<td></td>
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</tr>
</tbody>
</table>

* Students who lack entry level skills in math, English, science, and so forth will be provided related studies.

** Baseline competencies are taken from the high school Agricultural and Environmental Science and Technology program. Students who can document mastery of these competencies should not receive duplicate instruction. Students who cannot demonstrate mastery will be required to do so.

*** Students may substitute Science and Technology (ATE 1113), Introduction to Computer Concepts (CSC 1113), or another acceptable computer course.
TECHNICAL ELECTIVES - FIELD CROPS

3 sch  Introduction to Spatial Information Systems (AGT 1163)
3 sch  Agricultural Records (AGT 1613)
3 sch  Agricultural Sales (AGT 2213)
3 sch  Agricultural Pest Management (AGT 2483)
3 sch  Applied Business Mathematics (BOT 1313)
3 sch  Business Law (BAD 2413)
3 sch  Business Mathematics (BAD 1313)
3 sch  Beef Production I (AGT 2713)
3 sch  Beef Production II (AGT 2723)
3 sch  Introduction to Computer Concepts (CSC 1113)
3 sch  Crop Production (General) (AGT 2363)
3 sch  Fish Management (AGT 2513)
4 sch  General Chemistry Survey (Basic) (CHE 1114)
4 sch  Principles of Chemistry I (CHE 1314)
3 sch  Poultry Production (AGR 2613)
3 sch  Vegetable Production (AGR 1333)
3 sch  Vegetable Crop Production (AGT 1333)
3 sch  Water Quality Management (CFT 1143)
3 sch  Science and Technology (ATE 1113)
1–3 sch Special Problem in Agriculture Business and Management [AGT 291(1–3)]
3 sch  Supervised Agricultural Experience [AGT 292(1-6)]
1–6 sch Work–Based Learning [WBL 191(1–3), 192(1–3), 193(1–3), 291(1–3), 292(1–3), 293(1–3)] (Maximum of 6 hours counts toward graduation requirements.)

Any other instructor approved course
Program Description

Precision Agriculture Technology Concentration

Recent developments in entomology, plant pathology, and weed science in conjunction with advanced technologies such as remote sensing, global positioning, geographic information systems, and variable rate technology are dynamically influencing agricultural productivity. In addition, the implementation of these technologies can greatly improve environmental quality by reducing the volume of agricultural chemicals applied. The emergence of these technologies has increased the demand for technically trained workers.

Competencies and objectives for the courses in this program have been correlated to the knowledge and skill statements as listed in Career Cluster Resources for Agriculture, Food, and Natural Resources as published by the National Association of State Directors of Career and Technical Education Consortium.

Upon completion of this associate degree program, graduates will possess a working knowledge of these emerging technologies as well as practical hands-on experience in their application and use.

Articulation:

Articulation credit from Secondary Agricultural and Environmental Science Technology – Animals, AEST – Plants, AEST – Agribusiness and Entrepreneurship, Agriculture and Natural Resources, and Agriscience to Postsecondary Agriculture Business Technology will be awarded upon implementation of this curriculum by the college. The courses to be articulated include AGT 1214 Applied Principles of Animal Production for AEST Animals, AGT 1313 Applied Principles of Plant Production for AEST Plants, AGT 1613 Agricultural Records for AEST Agribusiness and Entrepreneurship, and AGT 1111 Survey of Agriculture for Ag and Natural Resources and Agribusiness with the stipulation of passing the MSCPAS2 according to SBCJC guidelines.
**Suggested Course Sequence**

**Precision Agriculture Technology Concentration**

Baseline Competencies for Agriculture Business and Management Technology Cluster**

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Sch</th>
<th>Course Description</th>
<th>Sch</th>
<th>Course Description</th>
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</thead>
<tbody>
<tr>
<td>3–4</td>
<td>Applied Principles of Plant Production (AGT 1313) or Botany I (BIO 1314)</td>
<td>3–4</td>
<td>Approved Elective****</td>
</tr>
<tr>
<td>3</td>
<td>Introduction to Spatial Information Systems (AGT 1163)</td>
<td>3</td>
<td>Approved Elective****</td>
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<tr>
<td>4</td>
<td>GPS Data Collection (AGT 1254)</td>
<td>3</td>
<td>Social/Behavioral Science Elective</td>
</tr>
<tr>
<td>3</td>
<td>Microcomputer Applications I (CSC 1123)***</td>
<td>3</td>
<td>Written Communications Elective</td>
</tr>
<tr>
<td>3</td>
<td>Microcomputer Applications I (CSC 1123)***</td>
<td>3</td>
<td>Math/Science Elective</td>
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13–14 sch

**SECOND YEAR**

<table>
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<tr>
<th>Sch</th>
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<th>Course Description</th>
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<tr>
<td>4</td>
<td>Geographic Information Systems I (AGT 2154)</td>
<td>4</td>
<td>Variable Rate Technology (AGT 2164)</td>
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<td>4</td>
<td>Crop Management Zones (AGT 2434)</td>
<td>4</td>
<td>Agricultural Geographic Information Systems (AGT 2174)</td>
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<td>Approved Elective****</td>
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<td>Remote Sensing (AGT 1354)</td>
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<td>3</td>
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<td>4</td>
<td>Site Specific Pest Management (AGT 2474)</td>
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<td>3</td>
<td>Oral Communications Elective</td>
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</tr>
</tbody>
</table>

17 sch

16 sch

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* Students who lack entry level skills in math, English, science, and so forth will be provided related studies

** Baseline competencies are taken from the high school Agriculture and Environmental Science and Technology program. Students who can document mastery of these competencies should not receive duplicate instruction. Students who cannot demonstrate mastery will be required to do so.

*** Students who are computer literate may substitute a more advanced computer course.

**** Approved Electives:

1 sch Survey of Agriculture Technology (AGT 1111)
4 sch Applied Soils - Conservation and Use (AGT 1714)
3 sch Crop Production (General) (AGT 2363)
3 sch Fiber and Oilseed Crops (AGT 2373)
<table>
<thead>
<tr>
<th>3 sch</th>
<th>Grain Crops (AGT 2383)</th>
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</thead>
<tbody>
<tr>
<td>3 sch</td>
<td>Weed Control (AGT 2413)</td>
</tr>
<tr>
<td>3 sch</td>
<td>Insects and Controls (AGT 2463)</td>
</tr>
<tr>
<td>3 sch</td>
<td>Agricultural Pest Management (AGT 2483)</td>
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<tr>
<td>3 sch</td>
<td>Vegetable Crop Production (AGT 1333)</td>
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<tr>
<td>3 sch</td>
<td>Physical Science Survey I (PHY 2243)</td>
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<td>3 sch</td>
<td>Physical Science Survey II (PHY 2253)</td>
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<tr>
<td>1–3 sch</td>
<td>Special Problem in Agriculture Business and Management [AGT 291(1–3)]</td>
</tr>
<tr>
<td>1–3 sch</td>
<td>Supervised Agricultural Experience [AGT 292(1–3)]</td>
</tr>
</tbody>
</table>

(Maximum of 6 hours counts toward graduation requirements.)

Any other instructor approved course
AUTOMOTIVE MACHINIST TECHNOLOGY

The Automotive Machinist Technology program provides instruction in the use of precision measuring instruments, hand tools, machines, and equipment. Topics covered are types and uses of hand, mechanical, power, and hydraulic tools, along with types of fluids, cutting oils, and coolants. Disassembly and inspection of automotive engines, resurfacing brake drums and rotors, basic engine balancing, and cylinder head rebuilding are included. Students receive instruction and practice in cylinder boring and submerged arc welding of crankshafts. The operations of the drill press and crankshaft grinder, along with a general knowledge of the milling machine, connecting rod rebuilding, and engine assembly, are also covered.

Exit points are provided to allow for employment and National Institute for Automotive Service Excellence (ASE) certification after the completion of Cylinder Head Service (ASE - Upper Engine), Cylinder Block Service (ASE - Lower Engine), and Engine Assembly (ASE - Engine Assembly). Successful graduates are awarded an Automotive Machinist Certificate and may be employed as auto machinists in auto machine shops, auto parts concerns, automotive dealerships, mechanics shops, and automotive engine manufacturing firms.

1. In all areas, appropriate theory, safety, and support instruction is required for performing each task. It is assumed that this instruction has included identification and use of appropriate tools and testing and measuring equipment required to accomplish certain tasks. It is also assumed that the student has received necessary training to locate and use current reference and training materials from accepted industry publications (in most cases, published by the vehicle manufacturer) that present manufacturers’ recommended or required specifications and procedures for performing various tasks.

2. All diagnostic and repair tasks described in this document are to be accomplished in accordance with manufacturers’ recommended procedures and specifications.

3. The individual training program being evaluated for certification should have written and detailed performance standards for each task taught in the curriculum. Learning progress of students should be monitored and evaluated against these performance standards. A system should be in place to inform all students of their individual progress through all phases of the training program.

4. It is recognized that individual courses of study will differ across automobile technician training programs. The development of appropriate learning delivery systems and tests that monitor student progress will be the responsibility of the individual training program.

(Adapted from ASE certification for automobile training programs. National Institute for Automotive Service Excellence, Reston, VA. 1993.)

For additional information on ASE certification, contact:

National Automotive Technicians Education Foundation
13505 Dulles Technology Drive
Herndon, VA 22071-3415
(702) 713-010
Executive Summary

The curriculum for Automotive Machinist Technology is designed to serve as the core of instruction for approximately 75% of each Automotive Machinist Technology course. The remaining 25% of each course is to be added at the local level based upon needs of students and local employers. Certificate programs in Automotive Machinist Technology require a minimum of 32 semester hours of credit.

Industry standards are based on the Standards and Guidelines for Automotive Machinist Programs.

Articulation

Articulation credit from Secondary Metal Trades to Postsecondary Automotive Machinist Technology will be awarded upon implementation of this curriculum by the college. The course to be articulated is Fundamentals for Automotive Machinists (AUV 1116), with the stipulation of passing the MS-CPAS2 assessment according to SBCJC guidelines.
### Suggested Course Sequence*

#### Automotive Machinist Technology

Baseline Competencies for Automotive Machinist Technology**

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Sch</th>
<th>Course Description</th>
<th>Sch</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Fundamentals for Automotive Machinists (AUV 1116)</td>
<td>6</td>
<td>Cylinder Block Service (AUV 1316)</td>
</tr>
<tr>
<td>6</td>
<td>Cylinder Head Service (AUV 1216)</td>
<td>6</td>
<td>Engine Assembly (AUV 1416)</td>
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<tr>
<td>1–3</td>
<td>Special Problem in Automotive Machinist [AUV 191(1–3)]</td>
<td>3–6</td>
<td>Electives</td>
</tr>
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<td></td>
<td></td>
<td>1–6</td>
<td>Supervised Work Experience in Automotive Machinist [AUV 192(1–6)]</td>
</tr>
<tr>
<td>13–15</td>
<td></td>
<td>16–24</td>
<td></td>
</tr>
</tbody>
</table>

* Students who lack entry-level skills in math, English, science, and so forth will be provided related studies.

** Baseline competencies are taken from the high school Automotive Service Technology program. Students who can document mastery of these competencies should not receive duplicate instruction. Students who cannot demonstrate mastery will be required to do so.

**APPROVED ELECTIVES**

- Other Instructor Approved Electives
- Science and Technology (ATE 1113)
- Parts and Labor (AUV 1513)
- Crankshaft Balancing and Advanced Crankshaft Grinding (AUV 1613)
- Brake Rotor and Drum Machining (AUV 1713)
- Work-Based Learning [WBL 191(1–3), WBL 192(1–3), WBL 193(1–3), WBL 291(1–3), WBL 292(1–3), and WBL 293(1–3)]
The Cardiovascular Technology program trains technologists to operate sophisticated equipment in assisting physicians with diagnosing and treating patients with cardiac disease. The primary focus is on invasive cardiology procedures. The technologists are trained to work in a cardiac catheterization laboratory where they prepare patients for and assist the physician with a variety of diagnostic and therapeutic procedures usually performed via radiologically-guided catheters and other instrumentation. Most cardiovascular technologists work in hospital cardiology departments, while some work in cardiologists’ offices, cardiac rehabilitation centers, or ambulatory surgery centers. This curriculum was written to meet the Commission on Accreditation of Allied Health Education Programs (CAAHEP) Standards and Guidelines for Cardiovascular Technologists.

Graduates of this 2-year program will be awarded an Associate of Applied Science Degree in Cardiovascular Technology and are eligible to make application to sit for the Cardiovascular Credentialing International (CCI), Registered Cardiovascular Invasive Specialist (RCIS) Exam.

Industry standards are based on the Cardiovascular Credentialing International (CCI), Registered Cardiovascular Invasive Specialist (RCIS) Examination Outline.
**Executive Summary**

**Suggested Course Sequence**
**Cardiovascular Technology**

**FIRST YEAR**

Prerequisite to admission to the program: Anatomy and Physiology I (With lab)

<table>
<thead>
<tr>
<th>FALL SEMESTER</th>
<th>SPRING SEMESTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 sch Social/Behavioral Elective</td>
<td>4 sch Principles of Chemistry (CHE 1313 and 1311)</td>
</tr>
<tr>
<td>4 sch Anatomy and Physiology II (BIO 1523 and 1521)</td>
<td>3 sch Business Communication (BOA 2613)</td>
</tr>
<tr>
<td>3 sch Foundations of Cardiovascular Technology (CVT 1113)</td>
<td>4 sch Cardiovascular Anatomy and Physiology (CVT 1214)</td>
</tr>
<tr>
<td>3 sch College Algebra (MAT 1313)</td>
<td>3 sch Written Communications Elective</td>
</tr>
<tr>
<td>3 sch Humanities/Fine Arts Elective</td>
<td>2 sch Cardiovascular Pharmacology (CVT 1312)</td>
</tr>
<tr>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>16 sch</td>
<td>16 sch</td>
</tr>
</tbody>
</table>

**SUMMER TERM**

| 4 sch Microbiology (BIO 2924 and 2920) |
| 3 sch Oral Communications Elective |
| 6 sch Cardiovascular Clinical I (CVT 2716) |
| ______ | ______ |
| 13 sch | 13 sch |
### SECOND YEAR

#### FALL SEMESTER

<p>| 4 sch | Invasive Cardiology I (CVT 2414) |
| 4 sch | Non-Invasive Cardiology I (CVT 2614) |
| 8 sch | Cardiovascular Clinical II (CVT 2728) |</p>
<table>
<thead>
<tr>
<th>3 sch</th>
<th>Introduction to Computer Concepts (CSC 1113)</th>
</tr>
</thead>
<tbody>
<tr>
<td>19 sch</td>
<td></td>
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</tbody>
</table>

#### SPRING SEMESTER

<p>| 4 sch | Invasive Cardiology II (CVT 2424) |
| 4 sch | Non-Invasive Cardiology II (CVT 2624) |
| 2 sch | Critical Care Applications (CVT 2512) |</p>
<table>
<thead>
<tr>
<th>8 sch</th>
<th>Cardiovascular Clinical III (CVT 2738)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 sch</td>
<td></td>
</tr>
</tbody>
</table>

* Students who lack entry-level skills in math, English, science, and so forth will be provided related studies.
CONSTRUCTION ENGINEERING TECHNOLOGY

The Construction Engineering Technology (CON) program is an instructional program designed to prepare technicians for employment within the construction industries and firms in mid-level management operations as estimators, planners, project managers, layout specialists, or other construction operations. Individuals currently employed as professionals will enhance their ability to perform their duties in the construction business.

This curriculum leads to an Associate of Applied Science degree. Students completing the program will be prepared for jobs in supervision, estimating, layout, cost control, materials procurement, safety, leadership, and organization of construction projects. In the program, students learn environmental and workplace safety issues. They also learn how to identify safety hazards and notify the proper authorities. Through an internship program, students have the opportunity to work in a position related to construction engineering technology.

Certifications and/or training:

- National Center for Construction Education and Research (NCCER)
- OSHA 10-hr and 30-hr training
- Competent Person Training in Excavations
- American Concrete Institute grade 1 testing certificate

This curriculum has been aligned to modules in the Contren program as endorsed by the National Center for Construction Education and Research (NCCER). Students who study this curriculum using the Contren materials under the supervision of an instructor who has been certified by the NCCER are eligible to be tested on each module. Students who successfully pass these tests may be certified to the NCCER by the instructor and will receive documentation from NCCER.

Articulation

Articulation credit from Secondary Contren Learning Series programs to Postsecondary Construction Engineering Technology will be awarded upon implementation of this curriculum by the college. The course to be articulated is Fundamentals of Survey of Modern Construction (CON 1113), with the stipulations of passing the MS-CPAS2 according to SBCJC guidelines and Contren Learning Series Core Certification.
# Suggested Course Sequence*
## Construction Engineering Technology

### FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>Survey of Modern Construction (CON 1113)</td>
<td>3 sch</td>
</tr>
<tr>
<td>Construction Materials (CON 1213)</td>
<td>3 sch</td>
</tr>
<tr>
<td>Math/Science Elective</td>
<td>3 sch</td>
</tr>
<tr>
<td>Technical Elective</td>
<td>3 sch</td>
</tr>
<tr>
<td>Computer Science Elective***</td>
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<td><strong>Total</strong></td>
<td>15 sch</td>
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### SUMMER

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internship in Construction Engineering Technology [CON 261(3–6)]</td>
<td>3–6 sch</td>
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<tr>
<td><strong>Total</strong></td>
<td>3–6 sch</td>
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### SECOND YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction Layout (CON 2313)</td>
<td>3 sch</td>
</tr>
<tr>
<td>Construction Cost Estimation (CON 2123)</td>
<td>3 sch</td>
</tr>
<tr>
<td>Technical Elective</td>
<td>3 sch</td>
</tr>
<tr>
<td>Construction Systems II (CON 2233)</td>
<td>3 sch</td>
</tr>
<tr>
<td>Humanities/Fine Arts Elective</td>
<td>3 sch</td>
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<tr>
<td><strong>Total</strong></td>
<td>15 sch</td>
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<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction Job Site Management (CON 2113)</td>
<td>3 sch</td>
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<tr>
<td>Construction Safety Standards (CON 2413)</td>
<td>3 sch</td>
</tr>
<tr>
<td>Social/Behavioral Science Elective</td>
<td>3 sch</td>
</tr>
<tr>
<td>Leadership and Organization (CON 2513)</td>
<td>3 sch</td>
</tr>
<tr>
<td>Technical Elective**</td>
<td>3 sch</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>15 sch</td>
</tr>
</tbody>
</table>

*Students who lack entry-level skills in math, English, science, and so forth will be provided related studies.

**APPROVED TECHNICAL ELECTIVES**

- Principles of Accounting I (ACC 1213)
- Construction Systems III (CON 2243)
- Statics and Strength of Materials (DDT 2253)
- Architectural Design I (DDT 1613)
- Fundamentals of Drafting (DDT 1114)
Construction Drawing (CON 1313)
Legal Environment of Business (BAD 2413)
Principles of CAD (DDT 1313)
Intermediate CAD (DDT 1323)
Civil Drafting (DDT 2153)
Special Problem in Construction Engineering Technology [CON 291(1–3)]
Supervised Work Experience in Construction Engineering Technology [CON 292(1–6)]
WBL 291(1–3), WBL 292(1–3), WBL 293(1–3)]

APPROVED COMPUTER SCIENCE ELECTIVES***

Fundamentals of Microcomputer Applications (CPT 1113)
Introduction to Computer Concepts (CSC 1113)
The Court Reporting Technology program includes a basic core of courses designed to prepare a student for entry-level employment as an official and/or freelance judicial reporter, Communication Access Realtime Translation (CART) provider, or captioner. Students enrolled in this program can prepare for one of the following reporting options:

- Judicial Reporting
- CART
- Captioning
- Scoping Certificate

Court Reporting Technology is a 2-year program of study that requires courses in the career-technical core, designated areas of concentration, and the academic core. The Associate of Applied Science degree is earned upon successful completion of the Judicial Reporting, CART, or Captioning curriculum.

The Judicial Reporting program provides training for official and freelance reporters.

The CART program of study prepares students for the position of CART provider for persons with hearing impairments and other disabilities.

The Captioning program of study prepares students to provide captioning services for live television broadcasts and other programs.

The Scoping Certificate option prepares students to provide editing and transcription services for judicial reporting.

This framework is based on student outcomes specified in the General Requirements and Minimum Standards published by the National Court Reporters Association Council on Approved Education. Additional research data used in the development of this publication were collected from a review of related literature and from surveys of local experts in business, industry, and education.

Industry standards are based on the National Court Reporters Association Council on Approved Education.

**Articulation**

Articulation credit from Secondary Business and Computer Technology to Postsecondary Court Reporting Technology will be awarded upon implementation of this curriculum by the college. The course to be articulated includes Applied Business Math (BOT 1313), with the stipulation of passing the MS-CPAS2 according to SBCJC guidelines.
# Suggested Course Sequence*
## Court Reporting Technology **
### Judicial Reporting Option**
#### 2-Year Associate’s Degree

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Sch</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>4</td>
<td>Stenotype Machine Shorthand I (CRT 1114)</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Introduction to Law (LET 1113)</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Applied Business Math (BOT 1313)</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Mechanics of Communication (BOT 1713)</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Speed Building I (CRT 1133)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
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**SUMMER SESSION**

<table>
<thead>
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<th>Credits</th>
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<tbody>
<tr>
<td>3–4</td>
<td>Math/Science Elective</td>
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<tr>
<td>3</td>
<td>Court Reporting English and Grammar (CRT 1173)</td>
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**SECOND YEAR**

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<th>Course Name</th>
<th>Credits</th>
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<tr>
<td>4</td>
<td>Stenotype Machine Shorthand III (CRT 2114)</td>
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<td>2</td>
<td>Judicial Reporting Technology (CRT 2162)</td>
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<td>3</td>
<td>Speed Building III (CRT 2133)</td>
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<td>3</td>
<td>Medical Office Terminology II (BOT 1623)</td>
<td>1</td>
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<tr>
<td>4</td>
<td>Court Reporting Procedures (CRT 1154)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>
Executive Summary

* Students who lack entry-level skills in math, English, science, and so forth will be provided related studies.

** Total hours required for completion of this program may be reduced through articulation agreements with local high schools or vocational centers. Local demands for note-taking skills may be implemented through Continuing Education, Adult Education, and Industry Services.

*** Prior to enrollment in Document Formatting and Production (BOT 1113), students will be required to key straight-copy material at a minimum of 35 GWPM, on a 5-minute timed writing, with a maximum of one error per minute. Students who do not demonstrate this level of proficiency will be required to enroll in Introduction to Keyboarding (BOT 1013).
# Suggested Course Sequence*
## Court Reporting Technology
### CART Option**
#### 2-Year Associate’s Degree

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Sch</th>
<th>Course Title</th>
<th>Sch</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Stenotype Machine Shorthand I (CRT 1114)</td>
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<td>Document Formatting (BOT 1113)**</td>
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<td>Introduction to Law (LET 1113)</td>
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<td>Stenotype Machine Shorthand II (CRT 1123)</td>
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<td>3</td>
<td>Applied Business Math (BOT 1313)</td>
<td>3</td>
<td>Medical Office Terminology I (BOT 1613)</td>
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<td>3</td>
<td>Mechanics of Communication (BOT 1713)</td>
<td>3</td>
<td>Speed Building II (CRT 1143)</td>
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<tr>
<td>3</td>
<td>Speed Building I (CRT 1133)</td>
<td>3</td>
<td>Written Communications Elective</td>
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<td></td>
<td><strong>16 sch</strong></td>
<td></td>
<td><strong>15 sch</strong></td>
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**SUMMER SESSION**

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<th>Sch</th>
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</thead>
<tbody>
<tr>
<td>3–4</td>
<td>Math/Science Elective</td>
<td>3</td>
<td>Social/Behavioral Science Elective</td>
</tr>
<tr>
<td>3</td>
<td>Court Reporting English and Grammar (CRT 1173)</td>
<td>3</td>
<td>Oral Communications Elective</td>
</tr>
<tr>
<td></td>
<td><strong>6–7 sch</strong></td>
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**SECOND YEAR**

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<th>Course Title</th>
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<th>Course Title</th>
</tr>
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<tbody>
<tr>
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<td>CART I (CRT 2514)</td>
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<td>Speed Building IV (CRT 2144)</td>
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<td>CART Technology (CRT 2562)</td>
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<td>CART II (CRT 2524)</td>
</tr>
<tr>
<td>3</td>
<td>Speed Building III (CRT 2133)</td>
<td>2</td>
<td>CART Dictionary Development (CRT 2572)</td>
</tr>
<tr>
<td>3</td>
<td>Foundations of Deafness (IDT 1143)</td>
<td>1</td>
<td>Internship for CART (CRT 2921)</td>
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<tr>
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<td>Fingerspelling (IDT 1131)</td>
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<td>Humanities/Fine Arts Elective</td>
</tr>
<tr>
<td>4</td>
<td>Court Reporting Procedures (CRT 1154)</td>
<td></td>
<td><strong>14 sch</strong></td>
</tr>
<tr>
<td></td>
<td><strong>17 sch</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Executive Summary

* Students who lack entry-level skills in math, English, science, and so forth will be provided related studies.

** Total hours required for completion of this program may be reduced through articulation agreements with local high schools or vocational centers. Local demands for note-taking skills may be implemented through Continuing Education, Adult Education, and Industry Services.

*** Prior to enrollment in Document Formatting and Production (BOT 1113), students will be required to key straight-copy material at a minimum of 35 GWPM, on a 5-minute timed writing, with a maximum of one error per minute. Students who do not demonstrate this level of proficiency will be required to enroll in Introduction to Keyboarding (BOT 1013).
### Executive Summary

#### Suggested Course Sequence*

**Court Reporting Technology**  
**Captioning Option**

2-Year Associate’s Degree

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#### FIRST YEAR

<table>
<thead>
<tr>
<th>Sch</th>
<th>Course</th>
<th>Sch</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Stenotype Machine Shorthand I (CRT 1114)</td>
<td>3</td>
<td>Document Formatting (BOT 1113)***</td>
</tr>
<tr>
<td>3</td>
<td>Introduction to Law (LET 1113)</td>
<td>3</td>
<td>Stenotype Machine Shorthand II (CRT 1123)</td>
</tr>
<tr>
<td>3</td>
<td>Applied Business Math (BOT 1313)</td>
<td>3</td>
<td>Medical Office Terminology I (BOT 1613)</td>
</tr>
<tr>
<td>3</td>
<td>Mechanics of Communication (BOT 1713)</td>
<td>3</td>
<td>Speed Building II (CRT 1143)</td>
</tr>
<tr>
<td>3</td>
<td>Speed Building I (CRT 1133)</td>
<td>3</td>
<td>Written Communications Elective</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong>: 16 sch</td>
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</table>

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#### SUMMER SESSION

**First Term**  
**Second Term**

<table>
<thead>
<tr>
<th>Sch</th>
<th>Course</th>
<th>Sch</th>
<th>Course</th>
</tr>
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<tbody>
<tr>
<td>3–4</td>
<td>Math/Science Elective</td>
<td>3</td>
<td>Social/Behavioral Science Elective</td>
</tr>
<tr>
<td>3</td>
<td>Court Reporting English and Grammar (CRT 1173)</td>
<td>3</td>
<td>Oral Communications Elective</td>
</tr>
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<td><strong>Total</strong>: 6–7 sch</td>
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#### SECOND YEAR

<table>
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<tbody>
<tr>
<td>4</td>
<td>Captioning I (CRT 2714)</td>
<td>4</td>
<td>Speed Building IV (CRT 2144)</td>
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<td>2</td>
<td>Captioning Technology (CRT 2762)</td>
<td>4</td>
<td>Captioning II (CRT 2724)</td>
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<td>3</td>
<td>Speed Building III (CRT 2133)</td>
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<td>Captioning Dictionary Development (CRT 2772)</td>
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<tr>
<td>3</td>
<td>HIS, PSC, GEO Elective</td>
<td>1</td>
<td>Internship for Captioning (CRT 2931)</td>
</tr>
<tr>
<td>4</td>
<td>Court Reporting Procedures (CRT 1154)</td>
<td>3</td>
<td>Humanities/Fine Arts Elective</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong>: 16 sch</td>
<td></td>
<td><strong>Total</strong>: 14 sch</td>
</tr>
</tbody>
</table>

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*Students who lack entry-level skills in math, English, science, and so forth will be provided related studies.*
** Total hours required for completion of this program may be reduced through articulation agreements with local high schools or vocational centers. Local demands for note-taking skills may be implemented through Continuing Education, Adult Education, and Industry.

*** Prior to enrollment in Document Formatting and Production (BOT 1113), students will be required to key straight-copy material at a minimum of 35 GWPM, on a 5-minute timed writing, with a maximum of one error per minute. Students who do not demonstrate this level of proficiency will be required to enroll in Introduction to Keyboarding (BOT 1013).
# Suggested Course Sequence*

**Court Reporting Technology**  
**Scoping Certificate Option**

## FIRST YEAR

<table>
<thead>
<tr>
<th>Sch</th>
<th>Course</th>
<th>Sch</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Stenotype Machine Shorthand I (CRT 1114)</td>
<td>3</td>
<td>Document Formatting (BOT 1113)**</td>
</tr>
<tr>
<td>3</td>
<td>Introduction to Law (LET 1113)</td>
<td>3</td>
<td>Stenotype Machine Shorthand II (CRT 1123)</td>
</tr>
<tr>
<td>3</td>
<td>Applied Business Math (BOT 1313)</td>
<td>3</td>
<td>Medical Office Terminology I (BOT 1613)</td>
</tr>
<tr>
<td>3</td>
<td>Mechanics of Communication (BOT 1713)</td>
<td>4</td>
<td>Court Reporting Procedures (CRT 1154)</td>
</tr>
<tr>
<td>3</td>
<td>Speed Building I (CRT 1133)</td>
<td>3</td>
<td>English Composition (ENG 1113)</td>
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<tr>
<td></td>
<td><strong>16 sch</strong></td>
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## SUMMER SESSION

### First Term

<table>
<thead>
<tr>
<th>Sch</th>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>3</td>
<td>Court Reporting English and Grammar (CRT 1173)</td>
</tr>
<tr>
<td>3</td>
<td>Social/Behavioral Science Elective</td>
</tr>
<tr>
<td></td>
<td><strong>6 sch</strong></td>
</tr>
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### Second Term

<table>
<thead>
<tr>
<th>Sch</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Oral Communications Elective</td>
</tr>
<tr>
<td></td>
<td><strong>3 sch</strong></td>
</tr>
</tbody>
</table>

* Students who lack entry-level skills in math, English, science, and so forth will be provided related studies.

** Prior to enrollment in Document Formatting and Production (BOT 1113), students will be required to key straight-copy material at a minimum of 35 GWPM, on a 5-minute timed writing, with a maximum of one error per minute. Students who do not demonstrate this level of proficiency will be required to enroll in Introduction to Keyboarding (BOT 1013).
The Early Childhood Education Technology program provides preparation for a professional career in the discipline of Early Childhood Education spanning a variety of career options. This discipline includes classroom instruction, supervised laboratory experiences, and work-based learning experiences. Students will develop competencies that enable them to provide services, teach, and guide young children as related to various child development professions.

The Early Childhood Education Technology curriculum is a 2-year discipline that requires a minimum of 68 semester hours of course work. These minimum course requirements are 18 semester hours of general education and 50 semester hours of child development and guidance management courses. Suggested levels are optional. Successful completion of the Early Childhood Education Technology curriculum results in the student’s receiving an Associate in Applied Science degree. This curriculum meets the National Association for the Education of Young Children Standards for Early Childhood Professional Preparation and the Mississippi Department of Education Benchmarks for Pre–Kindergarten (3- and 4-year-olds).

Jobs are available for all students who complete this discipline, in a public, private, or parochial Early Childhood Education Technology Program, including those in public and private child care centers that serve children of all socioeconomic levels and abilities; commercial, industrial, institutional centers; and recreational and hospital child care centers.

Articulation

Articulation credit from Secondary Early Childhood Services and Education Technology to Postsecondary Early Childhood Education Technology will be awarded upon implementation of this curriculum by the college. The courses to be articulated include Early Childhood Profession (CDT 1113) and Child Health and Safety (CDT 1343) with the stipulation of passing the MS-CPAS2 according to SBCJC guidelines.
**Suggested Course Sequence**

**Early Childhood Education Technology**

Baseline Competencies for Early Childhood Education Technology**

**FIRST YEAR**

<table>
<thead>
<tr>
<th>3 sch</th>
<th>Early Childhood Profession (CDT 1113)</th>
<th>4 sch</th>
<th>Child Development II (CDT 1224)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 sch</td>
<td>Creative Arts for Young Children (CDT 1314)</td>
<td>3 sch</td>
<td>Language and Literacy Development for Young Children (CDT 1713)</td>
</tr>
<tr>
<td>4 sch</td>
<td>Child Development I (CDT 1214)</td>
<td>4 sch</td>
<td>Social Studies, Math, and Science for Young Children (CDT 2714)</td>
</tr>
<tr>
<td>3 sch</td>
<td>Child Health and Safety (CDT 1343)</td>
<td>3 sch</td>
<td>Written Communications II Elective (District option)</td>
</tr>
<tr>
<td>3 sch</td>
<td>Written Communications Elective</td>
<td>3 sch</td>
<td>Fine Arts/Humanities Elective</td>
</tr>
<tr>
<td><strong>17 sch</strong></td>
<td><strong>17 sch</strong></td>
<td></td>
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</tbody>
</table>

**SECOND YEAR**

<table>
<thead>
<tr>
<th>3 sch</th>
<th>Guiding Social and Emotional Behavior (CDT 2233)</th>
<th>5 sch</th>
<th>Student Teaching II (CDT 2925)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 sch</td>
<td>Nutrition for Young Children (CDT 1513)</td>
<td>3 sch</td>
<td>Atypical Child Development (CDT 2413)</td>
</tr>
<tr>
<td>5 sch</td>
<td>Student Teaching I (CDT 2915)</td>
<td>3 sch</td>
<td>Administration of Programs for Young Children (CDT 2813)</td>
</tr>
<tr>
<td>3 sch</td>
<td>Methods and Materials (CDT 2613)</td>
<td>3 sch</td>
<td>Oral Communications Elective</td>
</tr>
<tr>
<td>3 sch</td>
<td>Math/Science Elective</td>
<td>3 sch</td>
<td>Social/Behavioral Science Elective</td>
</tr>
<tr>
<td><strong>17 sch</strong></td>
<td></td>
<td><strong>17 sch</strong></td>
<td></td>
</tr>
</tbody>
</table>

* Students who lack entry level skills in math, English, science, and so forth will be provided related studies.

** Baseline competencies are taken from the high school Early Childhood Services and Education program. Students who can document mastery of these competencies should not receive duplicate instruction. Students who cannot demonstrate mastery will be required to do so.
Executive Summary

ELECTRICAL TECHNOLOGY

The Postsecondary Electrical Technology program prepares individuals to install, operate, maintain, and repair electrical-energized systems. These systems include residential, commercial, and industrial wiring, DC and AC motors controls, and electrical distribution panels. The program offers extensive hands-on training in electrical troubleshooting and the development of problem-solving skills in industrial electrical procedures, programmable logic controllers, and process control.

Program Requirements

Electrical Technology is an articulated technical program designed to provide its students with technical skills. Entry into the program is based upon mastery of skills that are taught in secondary electrician programs. Students who do not possess such skills must complete additional course work in order to graduate from the program. The technical program consists of essential skills that may be obtained in a secondary program or at the community/junior college level and technical skills and academics that must be obtained at the community/junior college level.

This curriculum in Electrical Technology was developed using the competencies and objectives as developed by the National Center for Construction Education and Research (NCCER), 2008. Also, the National Electrical Code (2008) was used to ensure compliance with applicable codes. The listing of tasks served as a baseline data for the revision of this curriculum. The task list used in this curriculum is based upon the following assumptions:

1. In all areas, appropriate theory, safety, and support instruction will be provided for each task. It is essential that all instruction has included use of appropriate tools, testing, and measuring instruments needed to accomplish certain tasks. It is also assumed that each student has received instruction to locate and use current reference materials from industry publications that present manufacturers’ recommended or required specifications and procedures for doing the various tasks.

2. The individual program should have written and detailed evaluation standards for each task covered in the curriculum. Learning progress of students should be monitored and evaluated against these stated standards. A system should be in place that informs all students of their progress throughout the program.

3. It is recognized that individual courses will differ across the technical programs. The development of appropriate learning activities and tests will be the responsibility of the individual program.

4. These standards require that tasks contained in the list be included in the program to validate that the program is meeting the needs of the electrical industry.

The curriculum for Electrical Technology is designed to serve as the core curriculum for approximately 75% of each course at the postsecondary level. The remaining 25% of each course is to be added at the local level based upon needs of students and area employers.
The technical program in Electrical Technology requires a minimum of 65 semester credit hours (sch) beyond the baseline competencies. Fifteen semester credit hours of academic core courses are included in this minimum. Certificate programs in Electrical Technology require a minimum of 36 semester credit hours.

**Articulation**

Articulation credit from Secondary Electrician and Industrial Maintenance to Postsecondary Electrical Technology will be awarded upon implementation of this curriculum by the college. The course to be articulated is Fundamentals of Electricity (ELT 1192-3) with the stipulations of passing the MS-CPAS2 according to SBCJC guidelines and an entrance/performance test.
**Suggested Course Sequence**

**Electrical Technology**

**Electrical Technology Certificate**

Baseline Competencies for Electrical Technology**

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2–3 sch Fundamentals of Electricity (ELT 1192–3)</td>
<td>3 sch</td>
<td>Blueprint Reading/Planning in Residential Installation (ELT 1263)</td>
</tr>
<tr>
<td>4 sch AC and DC Circuits for Electrical Technology (ELT 1144)***</td>
<td>3 sch</td>
<td>Switching Circuits for Residential, Commercial, and Industrial Applications (ELT 1273)</td>
</tr>
<tr>
<td>3 sch Technical Elective****</td>
<td>3 sch</td>
<td>Electrical Power (ELT 1213)</td>
</tr>
<tr>
<td>3 sch Residential/Light Commercial Wiring (ELT 1113)</td>
<td>3 sch</td>
<td>Motor Control Systems (ELT 1413)</td>
</tr>
<tr>
<td>3 sch Commercial and Industrial Wiring (ELT 1123)</td>
<td>3–6 sch Elective****</td>
<td></td>
</tr>
<tr>
<td>3 sch Branch Circuit and Service Entrance Calculations (ELT 1253)</td>
<td>15–18 sch</td>
<td></td>
</tr>
</tbody>
</table>

18–19 sch

* Students who lack entry level skills in math, English, science, and so forth will be provided related studies.

** Baseline competencies are taken from the high school Electrician program. Students who can document mastery of these competencies should not receive duplicate instruction. Students who cannot demonstrate mastery will be required to do so.

*** DC Circuits (EET 1114) and AC Circuits (EET 1123) may be taken instead of AC and DC Circuits for Electrical Technology (ELT 1144).
### TECHNICAL ELECTIVES

<table>
<thead>
<tr>
<th>SCH</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Introduction to the National Electric Code (ELT 1133)</td>
</tr>
<tr>
<td>4</td>
<td>Digital Electronics (EET 1214)</td>
</tr>
<tr>
<td>3</td>
<td>Fundamentals of CAD (DDT 1313/ELT 1153)</td>
</tr>
<tr>
<td>3</td>
<td>Drafting for Electrical Technology (1163)</td>
</tr>
<tr>
<td>3</td>
<td>Drafting for Electronic/Electrical Technology (EET 1713)</td>
</tr>
<tr>
<td>3</td>
<td>Branch Circuit and Service Entrance Calculations (ELT 1253)</td>
</tr>
<tr>
<td>3</td>
<td>Blueprint Reading/Planning in Residential Installation (ELT 1263)</td>
</tr>
<tr>
<td>3</td>
<td>Automated Manufacturing Control for Electricity (ELT 1313)</td>
</tr>
<tr>
<td>4</td>
<td>Calibration and Measurement Principles used in the Electrical Industry (ELT 1324)</td>
</tr>
<tr>
<td>4</td>
<td>Flexible Manufacturing Systems for Electrical Technology (ELT 1334)</td>
</tr>
<tr>
<td>3</td>
<td>Fundamentals of Instrumentation (ELT 1343)</td>
</tr>
<tr>
<td>3</td>
<td>Fundamentals of Robotics for Electrical Technology (ELT 1353)</td>
</tr>
<tr>
<td>3</td>
<td>Industrial Hydraulics for Electrical Technology (ELT 1363)</td>
</tr>
<tr>
<td>3</td>
<td>Industrial Pneumatics for Electrical Technology (ELT 1373)</td>
</tr>
<tr>
<td>3</td>
<td>Industrial Robotics (ELT 1383)</td>
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<tr>
<td>3</td>
<td>Servo Control Systems (ELT 1393)</td>
</tr>
<tr>
<td>3</td>
<td>Fundamentals of Fiber Optics (ELT 1393)</td>
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<tr>
<td>3</td>
<td>Computer Fundamentals for Electronics/Electricity (EET 1613)†</td>
</tr>
<tr>
<td>3</td>
<td>Fundamentals of Microcomputer Applications (CPT 1113)†</td>
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<tr>
<td>4</td>
<td>Solid State Devices and Circuits for Electrical Technology (ELT 1434)</td>
</tr>
<tr>
<td>3</td>
<td>Data Acquisition and Communications (ELT 1513)</td>
</tr>
<tr>
<td>3</td>
<td>Fundamentals of Fiber Optics for Electrical Technology (ELT 1523)</td>
</tr>
<tr>
<td>3</td>
<td>Fundamentals of Data Communications for Electrical Technology (ELT 1533)</td>
</tr>
<tr>
<td>4</td>
<td>Network Systems for Electrical Technology (ELT 1544)</td>
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<tr>
<td>3</td>
<td>Satellite Systems (ELT 1553)</td>
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<tr>
<td>4</td>
<td>Telephone Systems for Special Systems Electrical Technology (ELT 1564)</td>
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<tr>
<td>3</td>
<td>Principles of Hydraulics and Pneumatics (IMM 1314/ELT 1614)</td>
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<td>4</td>
<td>Equipment Maintenance, Troubleshooting, and Repair (IMM 2114/ELT 2114)</td>
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<tr>
<td>3</td>
<td>Advanced Programmable Logic Controllers (ELT 2623)</td>
</tr>
<tr>
<td>3</td>
<td>Approved Computer Programming Language†</td>
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<tr>
<td>1–3</td>
<td>Special Project I, II [ELT 291(1–3), ELT 293(1–3)]</td>
</tr>
<tr>
<td>1–6</td>
<td>Supervised Work Experience I, II [ELT 292(1–6), ELT 294(1–6)]</td>
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<tr>
<td>3</td>
<td>Estimating the Cost of a Residential Installation (ELT 1283)</td>
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</table>

### ELECTIVES

Any instructor-approved related technical or academic course
### Suggested Course Sequence
#### Electrical Technology
#### Associate Degree

Baseline Competencies for Electrical Technology**

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Credits</th>
<th>Course Title and Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2–3 sch</td>
<td>Fundamentals of Electricity (ELT 1192–3)</td>
</tr>
<tr>
<td>4 sch</td>
<td>AC and DC Circuits for Electrical Technology (ELT 1144)***</td>
</tr>
<tr>
<td>3 sch</td>
<td>Technical Elective****</td>
</tr>
<tr>
<td>3 sch</td>
<td>Residential/Light Commercial Wiring (ELT 1113)</td>
</tr>
<tr>
<td>3 sch</td>
<td>Electrical Power (ELT 1213)</td>
</tr>
<tr>
<td>3 sch</td>
<td>Math/Science Elective</td>
</tr>
</tbody>
</table>

**18–19 sch**

<table>
<thead>
<tr>
<th>Credits</th>
<th>Course Title and Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 sch</td>
<td>Commercial and Industrial Wiring (ELT 1123)</td>
</tr>
<tr>
<td>3 sch</td>
<td>Motor Maintenance and Troubleshooting (ELT 1223)</td>
</tr>
<tr>
<td>3 sch</td>
<td>Motor Control Systems (ELT 1413)</td>
</tr>
<tr>
<td>3 sch</td>
<td>Switching Circuits for Residential, Commercial, and Industrial Applications (ELT 1273)</td>
</tr>
<tr>
<td>3–6 sch</td>
<td>Elective*****</td>
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**SECOND YEAR**

<table>
<thead>
<tr>
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<th>Course Title and Description</th>
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<tr>
<td>3 sch</td>
<td>Programmable Logic Controllers (ELT 2613)</td>
</tr>
<tr>
<td>4 sch</td>
<td>Solid State Motor Control (ELT 2424)</td>
</tr>
<tr>
<td>3 sch</td>
<td>Computer Related Elective</td>
</tr>
<tr>
<td>3 sch</td>
<td>Written Communications Elective</td>
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<td>3 sch</td>
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**16 sch**

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<td>Technical Electives</td>
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<td>3 sch</td>
<td>Oral Communications Elective</td>
</tr>
<tr>
<td>3 sch</td>
<td>Social/Behavioral Science Elective</td>
</tr>
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</table>

**7–15 sch**

---

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** Baseline competencies are taken from the high school Electrician program. Students who can document mastery of these competencies should not receive duplicate instruction. Students who cannot demonstrate mastery will be required to do so.

*** DC Circuits (EET 1114) and AC Circuits (EET 1123) may be taken instead of AC and DC Circuits for Electrical Technology (ELT 1144).
## TECHNICAL ELECTIVES

<table>
<thead>
<tr>
<th>3 sch</th>
<th>Introduction to the National Electric Code (ELT 1133)</th>
<th>4 sch</th>
<th>Solid State Devices and Circuits for Electrical Technology (ELT 1434)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 sch</td>
<td>Digital Electronics (EET 1214)</td>
<td>3 sch</td>
<td>Data Acquisition and Communications (ELT 1513)</td>
</tr>
<tr>
<td>3 sch</td>
<td>Fundamentals of CAD (DDT 1313/ELT 1153)</td>
<td>3 sch</td>
<td>Fundamentals of Fiber Optics for Electrical Technology (ELT 1523)</td>
</tr>
<tr>
<td>3 sch</td>
<td>Drafting for Electrical Technology (1163)</td>
<td>3 sch</td>
<td>Fundamentals of Data Communications for Electrical Technology (ELT 1533)</td>
</tr>
<tr>
<td>3 sch</td>
<td>Drafting for Electronic/Electrical Technology (EET 1713)</td>
<td>4 sch</td>
<td>Network Systems for Electrical Technology (ELT 1544)</td>
</tr>
<tr>
<td>3 sch</td>
<td>Branch Circuit and Service Entrance Calculations (ELT 1253)</td>
<td>3 sch</td>
<td>Satellite Systems (ELT 1553)</td>
</tr>
<tr>
<td>3 sch</td>
<td>Blueprint Reading/Planning in Residential Installation (ELT 1263)</td>
<td>4 sch</td>
<td>Telephone Systems for Special Systems Electrical Technology (ELT 1564)</td>
</tr>
<tr>
<td>3 sch</td>
<td>Automated Manufacturing Control for Electricity (ELT 1313)</td>
<td>4 sch</td>
<td>Principles of Hydraulics and Pneumatics (IMM 1314/ELT 1614)</td>
</tr>
<tr>
<td>4 sch</td>
<td>Calibration and Measurement Principles used in the Electrical Industry (ELT 1324)</td>
<td>4 sch</td>
<td>Equipment Maintenance, Troubleshooting, and Repair (IMM 2114/ELT 2114)</td>
</tr>
<tr>
<td>4 sch</td>
<td>Flexible Manufacturing Systems for Electrical Technology (ELT 1334)</td>
<td>3 sch</td>
<td>Advanced Programmable Logic Controllers (ELT 2623)</td>
</tr>
<tr>
<td>3 sch</td>
<td>Fundamentals of Instrumentation (ELT 1343)</td>
<td>3 sch</td>
<td>Approved Computer Programming Language†</td>
</tr>
<tr>
<td>3 sch</td>
<td>Fundamentals of Robotics for Electrical Technology (ELT 1353)</td>
<td>1–3 sch</td>
<td>Special Project I, II [ELT 291(1–3), ELT 293(1–3)]</td>
</tr>
<tr>
<td>3 sch</td>
<td>Industrial Hydraulics for Electrical Technology (ELT 1363)</td>
<td>1–6 sch</td>
<td>Supervised Work Experience I, II [ELT 292(1–6), ELT 294(1–6)]</td>
</tr>
<tr>
<td>3 sch</td>
<td>Industrial Pneumatics for Electrical Technology (ELT 1373)</td>
<td>3 sch</td>
<td>Estimating the Cost of a Residential Installation (ELT 1283)</td>
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<tr>
<td>3 sch</td>
<td>Servo Control Systems (ELT 1393)</td>
<td>3 sch</td>
<td>Approved Computer Programming Language†</td>
</tr>
<tr>
<td>3 sch</td>
<td>Fundamentals of Fiber Optics (EET 2423)</td>
<td>1–3 sch</td>
<td>Special Project I, II [ELT 291(1–3), ELT 293(1–3)]</td>
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<tr>
<td>3 sch</td>
<td>Computer Fundamentals for Electronics/Electricity (EET 1613)†</td>
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<tr>
<td>3 sch</td>
<td>Fundamentals of Microcomputer Applications (CPT 1113)†</td>
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</tr>
</tbody>
</table>

## ELECTIVES

Any instructor-approved related technical or academic course

† May be selected as computer related elective
Communications Electronics Repair Technology is an instructional program that prepares individuals to assemble, install, operate, and maintain communications equipment and systems, including one- and two-way communications systems, home entertainment systems, and other communications equipment. Instruction is included in the use and repair of the actual equipment.

Communications Electronics Repair Technology is an articulated certificate/technical program designed to provide advanced and technical skills to its graduates. Entrance into the postsecondary program is based upon mastery of baseline competencies from the high school Electronics program.

This curriculum was developed with the use of the competencies and objectives as prepared by the Electronics Technicians Association, International (2004), as adopted by the National Coalition for Electronics Education (NCEE), 2003, Consumer Electronics Service Technician specialty-C.E.S.T.

The certificate program in Communications Electronics Repair Technology requires successful completion of a minimum of 34 semester credit hours of technical course work. Emphasis is placed on home entertainment system repair in the certificate program.

Articulation

Articulation credit from Secondary Basic Electronics to Postsecondary Electronics Technology will be awarded upon implementation of this curriculum by the college. The course to be articulated is DC Circuits (EET 1114), with the stipulation of passing the MS-CPAS2 according to SBCJC guidelines.
Suggested Course Sequence*
Electronics and Related Engineering Technology
Communications Electronics Repair Technology
Certificate

Baseline Competencies for Electronics Technology**

FIRST YEAR

<table>
<thead>
<tr>
<th>Sch</th>
<th>Course Description</th>
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</thead>
<tbody>
<tr>
<td>4</td>
<td>DC Circuits (EET 1114)</td>
</tr>
<tr>
<td>3</td>
<td>AC Circuits (EET 1123)</td>
</tr>
<tr>
<td>3</td>
<td>Technical Elective</td>
</tr>
<tr>
<td>4</td>
<td>Digital Electronics (EET 1214)</td>
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<tr>
<td>4</td>
<td>Solid State Devices and Circuits (EET 1334)</td>
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Total 18 sch

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<tr>
<td>3</td>
<td>Digital Television Systems (EET 2823)</td>
</tr>
<tr>
<td>3</td>
<td>Video Systems Repair Lab (CET 2823)</td>
</tr>
<tr>
<td>4</td>
<td>Electronic Communications (EET 2414)</td>
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<tr>
<td>3</td>
<td>Diagnostics and Troubleshooting Lab (CET 2223)</td>
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<tr>
<td>3</td>
<td>Video Recording Systems Lab (CET 2323)</td>
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Total 16 sch

* Students who lack entry-level skills in math, English, science, and so forth will be provided related studies.

** Baseline competencies are taken from the high school Electronics program. Students who can document mastery of these competencies should not receive duplicate instruction. Students who cannot demonstrate mastery will be required to do so.

TECHNICAL ELECTIVES

<table>
<thead>
<tr>
<th>Sch</th>
<th>Course Description</th>
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<tbody>
<tr>
<td>3</td>
<td>Satellite Systems (CET 1113)</td>
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<td>3</td>
<td>Math for Electronics (EET 1413)</td>
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<tr>
<td>3</td>
<td>Physics in Electronics (EET 2433)</td>
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<tr>
<td>1–3</td>
<td>Special Project [CET 291(1–3)]</td>
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<tr>
<td>1–6</td>
<td>Supervised Work Experience [CET 292(1–6)]</td>
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Program Description

Electronics and Related Engineering Technology
Electronics Technology

Electronics Technology is an instructional program that prepares individuals to support electrical engineers and other professionals in the design, development, and testing of electrical circuits, devices, and systems. The program includes instruction in model and prototype development and testing; systems analysis and integration, including design and development of corrective and preventive maintenance techniques; application of engineering data; and the preparation of reports and test results.

The purpose of the Electronics Technology curriculum is to provide instruction necessary for a student to become a competent electronic technician. A graduate of this curriculum will be eligible for entry-level employment into any of the options in electronics and will be capable of correlating the activities of scientific research, engineering, and production for a wide variety of occupational fields. A graduate of the Electronics Technology curriculum will possess the capability of working and communicating directly with engineers, scientists, and other technical personnel in his or her specialized area.

Program Requirements

Electronics Technology is an articulated technical program designed to provide its students with technical skills. Entry into the postsecondary program is based upon mastery of skills that are taught in the secondary Electronics programs. The technical program consists of essential skills that may be obtained in a secondary program or at the community/junior college and technical skills and academics that must be obtained at the community/junior college level.

The curriculum for Electronics Technology was developed with the use of the competencies and objectives as prepared by the Electronic Technicians Association, International (2004), as recommended by the National Coalition for Electronics Education (NCEE) and the ETA’s Associate C.E.T. Exam Development Committee for Basic Electronics. The listing of competencies within this document served as baseline data for the revision of the curriculum. The competency list used in the curriculum is based upon the following assumptions:

1. In all areas, appropriate theory, safety, and support instruction will be provided for each competency. It is essential that all instruction has included use of appropriate tools and testing and measuring instruments needed to accomplish certain competencies. It is also assumed that each student has received instruction to locate and use current reference and materials from industry publications that present manufacturers’ recommended or required specifications and procedures for doing the various competencies.

2. The individual program should have written and detailed evaluation standards for each competency covered in the curriculum. Learning progress of students should be monitored and evaluated against these stated standards. A system that informs all students of their progress throughout the program should be in place.
3. It is recognized that individual courses will differ across the technical programs. The development of appropriate learning activities and tests will be the responsibility of the individual program.

4. These national standards require that competencies contained in the list be included in the program to validate that the program is meeting the needs of the electronics industry.

The standard curriculum for Electronics Technology is designed to serve as the core curriculum for approximately 75% of each course at the postsecondary level. The remaining 25% of each course is to be added at the local level based upon needs of students and area employers.

The technical program in Electronics Technology requires a minimum of 64 semester credit hours (sch) beyond the essential skills level. Fifteen semester credit hours of academic core courses are included in this minimum.

The certificate program in Electronics Technology requires a minimum of 33 semester hours of credit.

Articulation

Articulation credit from Secondary Basic Electronics to Postsecondary Electronics Technology will be awarded upon implementation of this curriculum by the college. The course to be articulated is DC Circuits (EET 1114), with the stipulation of passing the MS-CPAS2 according to SBCJC guidelines.
### Suggested Course Sequence*

**Electronics and Related Engineering Technology**  
**Electronics Technology**  
**Certificate**

Baseline Competencies for Electronics Technology**

#### FIRST YEAR

<table>
<thead>
<tr>
<th>Sch</th>
<th>Course</th>
<th>Sch</th>
<th>Course</th>
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<tr>
<td>3</td>
<td>Technical Electives</td>
<td>3</td>
<td>AC Circuits (EET 1123)</td>
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<td>4</td>
<td>DC Circuits (EET 1114)</td>
<td>4</td>
<td>Microprocessors (EET 1324)</td>
</tr>
<tr>
<td>4</td>
<td>Digital Electronics (EET 1214)</td>
<td>4</td>
<td>Linear Integrated Circuits (EET 2334)</td>
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<tr>
<td>4</td>
<td>Solid State Devices and Circuits (EET 1334)</td>
<td>4</td>
<td>Electronic Communications (EET 2414)</td>
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<tr>
<td>15</td>
<td></td>
<td>3</td>
<td>Technical Electives</td>
</tr>
</tbody>
</table>

18 sch

* Students who lack entry-level skills in math, English, science, and so forth will be provided related studies.

** Baseline competencies are taken from the high school Electronics program. Students who can document mastery of these competencies should not receive duplicate instruction. Students who cannot demonstrate mastery will be required to do so.
## Suggested Course Sequence*

**Electronics and Related Engineering Technology**  
**Electronics Technology**  
**Associate’s Degree**

Baseline Competencies for Electronics Technology**

### FIRST YEAR

<table>
<thead>
<tr>
<th>Sch</th>
<th>Course Description</th>
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<tr>
<td>3</td>
<td>Technical Electives</td>
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<tr>
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<td>DC Circuits (EET 1114)</td>
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<td>Digital Electronics (EET 1214)</td>
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<td>Computer-Related Elective</td>
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### SECOND YEAR

<table>
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<td>Linear Integrated Circuits (EET 2334)</td>
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<td>4</td>
<td>Electronic Communications (EET 2414)</td>
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### Technical Electives

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<thead>
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<td>AC Circuits (EET 1123)</td>
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<td>Solid State Devices and Circuits (EET 1334)</td>
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<td>Microprocessors (EET 1324)</td>
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<td>Technical Electives</td>
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<td>Written Communications Elective</td>
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### Human/Behavioral Electives

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<td>Social/Behavioral Science Elective</td>
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<tr>
<td>15</td>
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</tbody>
</table>

### ** Students who lack entry-level skills in math, English, science, and so forth will be provided related studies.

### ** Baseline competencies are taken from the high school Electronics program. Students who can document mastery of these competencies should not receive duplicate instruction. Students who cannot demonstrate mastery will be required to do so.
### TECHNICAL ELECTIVES

<table>
<thead>
<tr>
<th>Credit</th>
<th>Course Title and Code</th>
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<tr>
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<td>Drafting for Electronic/Electrical Technology (EET 1713)</td>
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<td>Solid State Motor Control (ELT 2424/EET 2354)</td>
<td>1–3 sch</td>
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<td>3 sch</td>
<td>Programmable Logic Controllers (ELT 2613/EET 2363)</td>
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<td>Introduction to Computers (CPT 1114)†</td>
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<td>3 sch</td>
<td>Computer Fundamentals for Electronics/Electricity (EET 1613)†</td>
<td>3 sch</td>
</tr>
<tr>
<td>3–4 sch</td>
<td>Approved Computer Programming Language†</td>
<td>3 sch</td>
</tr>
<tr>
<td>2 sch</td>
<td>Fundamentals of Electronics (EET 1192)</td>
<td>3 sch</td>
</tr>
<tr>
<td>4 sch</td>
<td>Interfacing Techniques (EET 2514)</td>
<td>3 sch</td>
</tr>
<tr>
<td>4 sch</td>
<td>Fluid Power (INT 1214/EET 1174)</td>
<td>3 sch</td>
</tr>
<tr>
<td>4 sch</td>
<td>Equipment Maintenance, Troubleshooting, and Repair (IMM 2114/EET 1154)</td>
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</tr>
<tr>
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<td>Math for Electronics (EET 1413)</td>
<td>3 sch</td>
</tr>
<tr>
<td>3 sch</td>
<td>Physics in Electronics (EET 2433)</td>
<td>3 sch</td>
</tr>
</tbody>
</table>

† May be selected as computer-related elective
Program Description

Electronics and Related Engineering Technology
Biomedical Equipment Repair Technology

Biomedical Equipment Repair Technology is an instructional and field service program that provides the students with technical knowledge and skills necessary for gaining employment as a biomedical equipment technician. They are entry-level technicians who can install, set up, troubleshoot, integrate, program, test, operate, and repair biomedical equipment.

The AAS Degree in Electronics Technology (BMET) option will be awarded upon the successful completion of a minimum of 64 semester hours of the courses within the program. Upon completion, the student will have an opportunity to apply for the Biomedical Equipment Technician Certification Examination.

This curriculum corresponds with the international certification content areas from the Examination for Certification as Biomedical Equipment Technician of the Association for the Advancement of Medical Instrumentation.

Articulation

Articulation credit from Secondary Basic Electronics to Postsecondary Electronics Technology will be awarded upon implementation of this curriculum by the college. The course to be articulated is DC Circuits (EET 1114), with the stipulation of passing the MS-CPAS2 according to SBCJC guidelines.
### Suggested Course Sequence*

**Electronics and Related Engineering Technology**

**Biomedical Equipment Repair Technology**

Baseline Competencies for Electronics Technology**

#### FIRST YEAR

<table>
<thead>
<tr>
<th>Sch</th>
<th>Course</th>
<th>Sch</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Orientation to Biomedical Equipment Repair (EET 1311)</td>
<td>3</td>
<td>AC Circuits (EET 1123)</td>
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<tr>
<td>4</td>
<td>DC Circuits (EET 1114)</td>
<td>4</td>
<td>Solid State Devices and Circuits (EET 1334)</td>
</tr>
<tr>
<td>4</td>
<td>Digital Electronics (EET 1214)</td>
<td>4</td>
<td>Microprocessors (EET 1324)</td>
</tr>
<tr>
<td>3</td>
<td>Anatomy and Physiology I (BIO 2513)</td>
<td>3</td>
<td>Anatomy and Physiology II (BIO 2523)</td>
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<td>1</td>
<td>Anatomy and Physiology I Lab (BIO 2511)</td>
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<td>Anatomy and Physiology II Lab (BIO 2521)</td>
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#### SECOND YEAR

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<td>Supervised Work Experience in Biomedical Equipment Repair I [EET 211(3–6)]</td>
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<td>Supervised Work Experience in Biomedical Equipment Repair II [EET 222(3–6)]</td>
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<tr>
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<td>Linear Integrated Circuits (EET 2334)</td>
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<td>Fundamentals of Fiber Optics (EET 2423)</td>
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* Students who lack entry-level skills in math, English, science, and so forth will be provided related studies.

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<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>Fundamentals of Electronics (EET 1192)</td>
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<tr>
<td>Computer Fundamentals for Electronics/Electricity (EET 1613)</td>
<td>3 sch</td>
</tr>
<tr>
<td>Special Project [EET 291(1–3)]</td>
<td>1–3 sch</td>
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<tr>
<td>Interfacing Techniques (EET 2514)</td>
<td>4 sch</td>
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<tr>
<td>Electronic Communications (EET 2414)</td>
<td>4 sch</td>
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<tr>
<td>Fluid Power (INT 1214/EET 1173)</td>
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<tr>
<td>Computer Servicing Lab I (CST 2113/EET 1233)</td>
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<tr>
<td>Computer Servicing Lab II (CST 2123/EET 2233)</td>
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</tr>
<tr>
<td>IT Foundations (IST 1124/EET 1224) OR Operating Platforms (CPT 1333)</td>
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</tr>
<tr>
<td>and Systems Maintenance (CNT 2423/CPT 2383)†</td>
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<td>Approved Computer Programming Language†</td>
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<tr>
<td>Math for Electronics (EET 1413)</td>
<td>3 sch</td>
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<tr>
<td>Physics in Electronics (EET 2433)</td>
<td>3 sch</td>
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</table>
Program Description

Electronics and Related Engineering Technology
Telecommunications Technology

This 2-year program is designed to prepare students for a wide range of technical positions within the telecommunications industry. Specific preparation is in modes, techniques, and mediums of voice, and data transmissions and reception. Emphasis is on the telephone instrument, key systems, PBX systems, analog and digital voice communications, data communications, fiber-optic communications, and satellite and microwave communications. Graduates will be qualified to help select, install, operate, maintain, troubleshoot, and repair telecommunications systems. An Associate of Applied Science Degree is awarded upon successful completion of a minimum of 64 semester credit hours of approved course work.

This curriculum was developed using the Electronics Technicians Association, International, standards from the National Coalition for Electronics Education and ETA’s Associate C.E.T. Examination Development Committee.

Articulation

Articulation credit from Secondary Basic Electronics to Postsecondary Electronics Technology will be awarded upon implementation of this curriculum by the college. The course to be articulated is DC Circuits (EET 1114), with the stipulation of passing the MS-CPAS2 according to SBCJC guidelines.
**Suggested Course Sequence***

**Electronics and Related Engineering Technology**

**Telecommunications Technology**

Baseline Competencies for Electronics Technology**

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Sch</th>
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<td>Digital Electronics (EET 1214)</td>
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<td>Solid State Devices and Circuits (EET 1334)</td>
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**SECOND YEAR**

<table>
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<td>Digital Communications II (TCT 2324)</td>
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<td>4</td>
<td>Technical/Academic-Related Elective</td>
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<td>Computer-Related Elective</td>
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<td>Fundamentals of Fiber Optics (EET 2423)</td>
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<td>Social/Behavioral Science Elective</td>
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<td>17 sch</td>
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<td>13–14 sch</td>
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### TECHNICAL ELECTIVES

<table>
<thead>
<tr>
<th>3 sch</th>
<th>Computer Fundamentals for Electronics/Electricity (EET 1613)</th>
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<tbody>
<tr>
<td>3 sch</td>
<td>Fundamentals of Data Communications (CPT 1413)</td>
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<td>Network Management (CPT 2153)</td>
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<td>3 sch</td>
<td>Approved Computer Programming Language Course</td>
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<td>PBX Systems (TCT 2224)</td>
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<td>Network Systems (TCT 2424)</td>
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<td>Interfacing Techniques (EET 2514)</td>
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<tr>
<td>4 sch</td>
<td>Linear Integrated Circuits (EET 2334)</td>
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<td>4 sch</td>
<td>Microprocessors (EET 1324)</td>
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<td>3 sch</td>
<td>Computer Servicing Lab I (CST 2113/EET 1233)</td>
</tr>
<tr>
<td>4 sch</td>
<td>IT Foundations (IST 1124/EET 1224) OR Operating Platforms (CPT 1333) and Systems Maintenance (CNT 2423/CPT 2383)</td>
</tr>
<tr>
<td>1–4 sch</td>
<td>Special Project [TCT 291(1–4)]</td>
</tr>
<tr>
<td>1–6 sch</td>
<td>Supervised Work Experience [TCT 292(1–6)]</td>
</tr>
</tbody>
</table>
INFORMATION SYSTEMS TECHNOLOGY

The Information Systems Technology program includes a basic core of courses designed to prepare a student for a variety of entry-level positions through selection of a concentration of courses in the following areas:

- Computer Networking Technology
- Computer Programming Technology
- Database Administration Technology
- Network Security Technology

The curriculum is designed to give each student:

- a broad overview of information systems;
- exposure to career options available within the field; and
- a concentration of skills in a specific area.

Upon successful completion of the program, graduates earn an associate’s degree in applied science. Students who successfully complete the program should have the skills required for obtaining CompTIA A+® Certification. Industry standards referenced are from the National Workforce Center for Emerging Technologies Skill Standards for Information Technology.

The Computer Networking Technology option offers training in telecommunications, network technologies, administration, maintenance, operating systems and network planning, and implementation. Computer Networking graduates will have opportunities for employment as computer support specialists, network technicians, and network managers or administrators.

The Computer Programming Technology option offers training in the design of coding and testing of applications using a variety of programming languages, database manipulation, hardware maintenance, and operating system functions. Opportunities for graduates with expertise in computer programming include employment as computer consultants or in corporations in the fields of health care, manufacturing, and telecommunications.

The Database Administration Technology option is designed to prepare students for entry-level employment in the database administration field. Students will set up, administer, and maintain small- and large-scale relational database systems and will prepare for certification exams in database administration.

The Network Security Technology option offers training in the areas of confidentiality, integrity, and availability in information security. Students will learn to install, design, manage, operate, plan, and troubleshoot a secure information technology infrastructure.
**Suggested Course Sequence**

**Computer Networking Technology**

**FIRST YEAR**

| 3 sch | Written Communications Elective |
| 3 sch | Security Principles and Policies (IST 1143) |
| 4 sch | IT Foundations (IST 1124) **OR** Operating Platforms (CPT 1333) and Systems Maintenance (CNT 2423/CPT 2383)*** |
| 4 sch | Fundamentals of Data Communications (IST 1134) |
| 4 sch | Web and Programming Concepts (IST 1154) **OR** Web Development Concepts (WDT 1123) and Programming Development Concepts (CPT 1143)**** |

18 sch

**SECOND YEAR**

| 3–4 sch | Technical Elective |
| 3–4 sch | Technical Elective |
| 4 sch | Network Operating System Elective |
| 3 sch | Concepts of Database Design (IST 1163) |
| 4 sch | Network Planning and Design (IST 2224) |

17–19 sch

* Students who lack entry-level skills in math, English, science, and so forth will be provided related studies.

** Fundamentals of Information Technology (IST 1113) is an elective course 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.

*** Operating Platforms (CPT 1333) and Systems Maintenance (CNT 2423) may be taken in lieu of IT Foundations (IST 1124)

**** Web Development Concepts (WDT 1123) and Programming Development Concepts (CPT 1143) may be taken in lieu of Web and Programming Concepts (IST 1154).
Executive Summary

Technical Electives:

Fundamentals of Information Technology (IST 1113)
Business Communication (BOT 2813) OR Career Development (CPT 2133) OR Professional Development (BOT 1213)
Client Installation and Configuration (IST 1213)
Network Administration Using Novell (IST 1234)
Network Administration Using Microsoft Windows Server (IST 1244)
Network Administration Using Linux (IST 1254)
Network Security (IST 2213)
Advanced Network Administration Using Novell (IST 2244)
Advanced Network Administration Using Microsoft Windows Server (IST 2254)
Advanced Network Administration Using Linux (IST 2264)
Web Server (IST 2483)
Fundamentals of Microcomputer Applications (CPT 1113) [Service Course]
Supervised Work Experience in Information Systems Technology [(IST 291(1–6)]
Special Problem in Information Systems Technology [(IST 292(1–3)]

Network Operating System Electives:

Client Installation and Configuration (IST 1213)
Network Administration Using Novell (IST 1234)
Network Administration Using Microsoft Windows Server (IST 1244)
Network Administration Using Linux (IST 1254)
Advanced Network Administration Using Novell (IST 2244)
Advanced Network Administration Using Microsoft Windows Server (IST 2254)
Advanced Network Administration Using Linux (IST 2264)

Programming Electives:

Visual Basic Programming Language (IST 1314)
RPG Programming Language (IST 1324)
Client-side Programming (IST 1414)
COBOL Programming Language (IST 1334)
Java Programming Language (IST 1714)
Database Programming and Design (IST 2344)
C Programming Language (IST 2374)
Server-side Programming I (IST 2434)
Server-side Programming II (IST 2444)
Any instructor-approved related programming course
## Suggested Course Sequence*
### Computer Programming Technology

#### FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Programming Elective</td>
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<tr>
<td>Web and Programming Concepts (IST 1154) OR Web Development Concepts (WDT 1123) and Programming Development Concepts (CPT 1143)****</td>
<td>4 sch</td>
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<tr>
<td>Fundamentals of Data Communication (IST 1134)</td>
<td>4 sch</td>
</tr>
<tr>
<td>Written Communications Elective</td>
<td>3 sch</td>
</tr>
<tr>
<td>IT Foundations (IST 1124) OR Operating Platforms (CPT 1333) and Systems Maintenance (CNT 2423/CPT 2383)***</td>
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19 sch

#### SECOND YEAR

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<td>Programming Elective</td>
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<td>Elective</td>
<td>3–4 sch</td>
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18–19 sch

<table>
<thead>
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<th>Course</th>
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<tr>
<td>Oral Communication Elective</td>
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<td>Programming Elective</td>
<td>4 sch</td>
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<tr>
<td>Humanities or Fine Arts Elective</td>
<td>3 sch</td>
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<tr>
<td>Elective</td>
<td>3 sch</td>
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<tr>
<td>Systems Analysis and Design (IST 2314)</td>
<td>4 sch</td>
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</table>

17 sch

* Students who lack entry-level skills in math, English, science, and so forth will be provided related studies.

** Fundamentals of Information Technology is an elective course 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.

*** Operating Platforms (CPT 1333) and Systems Maintenance (CNT 2423) may be taken in lieu of IT Foundations (IST 1124)

**** Web Development Concepts (WDT 1123) and Programming Development Concepts (CPT 1143) may be taken in lieu of Web and Programming Concepts (IST 1154)
Programming Electives:

Fundamentals of Information Technology (IST 1113)
Visual BASIC Programming Language (IST 1314)
RPG Programming Language (IST 1324)
COBOL Programming Language (IST 1334)
Client-side Programming (IST 1414)
Web Design Applications (IST 1424)
SQL Programming (IST 1513)
Advanced SQL Programming (IST 1523)
Java Programming Language (IST 1714)
Web Site and Systems Development (CPT 2354)
Script Programming Language (IST 2324)
Advanced Visual BASIC Programming Language (IST 2334)
Database Programming and Design (IST 2344)
Advanced RPG Programming Language (IST 2354)
Advanced COBOL Programming Language (IST 2364)
C Programming Language (IST 2374)
Advanced C Programming Language (IST 2384)
XML Programming (IST 2424)
Server-side Programming I (IST 2434)
Server-side Programming II (IST 2444)
E-commerce Strategies (IST 2473)
Business Communication (BOT 2813) OR Career Development (CPT 2133) OR Professional Development (BOT 1213)
Fundamentals of Microcomputer Applications (CPT 1113) [Service Course]
Survey of Microcomputer Applications (CPT 1323)
Supervised Work Experience in Information Systems Technology [(IST 291(1–6)]
Special Problem in Information Systems Technology [(IST 292(1–3)]
Any instructor-approved related programming course

Network Operating Systems Electives:

Client Installation and Configuration (IST 1213)
Network Administration Using Novell (IST 1234)
Network Administration Using Microsoft Windows Server (IST 1244)
Network Administration Using Linux (IST 1254)
Web Server (IST 2483)
Any instructor-approved related networking course
Suggested Course Sequence*
Database Administration Technology

FIRST YEAR

3 sch Concepts of Database Design (IST 1163)
4 sch Web and Programming Concepts (IST 1154) OR Web Development Concepts (WDT 1123) and Programming Development Concepts (CPT 1143)**
4 sch IT Foundations (IST 1124) OR Operating Platforms (CPT 1333) and Systems Maintenance (CNT 2423/CPT 2383)***
3–4 sch Technical Elective
3 sch Written Communications Elective

17–18 sch

SECOND YEAR

3 sch Advanced SQL Programming (IST 1523)
4 sch Database Architecture and Administration (IST 1534)
3 sch Oral Communication Elective
3–4 sch Elective
4 sch IT Project Management (IST 2534)

17–18 sch

18 sch

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** Fundamentals of Information Technology is an elective course 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.

*** Operating Platforms (CPT 1333) and Systems Maintenance (CNT 2423) may be taken in lieu of IT Foundations (IST 1124)
Web Development Concepts (WDT 1123) and Programming Development Concepts (CPT 1143) may be taken in lieu of Web and Programming Concepts (IST 1154).

Technical Electives:

Fundamentals of Information Technology (IST 1113)
Business Communication (BOT 2813) OR Career Development (CPT 2133) OR Professional Development (BOT 1213)
Client Installation and Configuration (IST 1213)
Visual Basic Programming Language (IST 1314)
RPG Programming Language (IST 1324)
COBOL Programming Language (IST 1334)
Client-side Programming (IST 1414)
Java Programming Language (IST 1714)
C Programming Language (IST 2374)
Server-side Programming I (IST 2434)
Server-side Programming II (IST 2444)
Fundamentals of Microcomputer Applications (CPT 1113) [Service Course]
Supervised Work Experience in Information Systems Technology [(IST 291(1–6)]
Special Problem in Information Systems Technology [(IST 292(1–3)]
Any instructor-approved related database course
# Suggested Course Sequence

**Network Security Technology**

## FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>IT Foundations (IST 1124) OR Operating Platforms (CPT 1333) and Systems Maintenance (CNT 2423/CPT 2383)***</td>
<td>4 sch</td>
</tr>
<tr>
<td>Network Administration Using Microsoft Windows Server (IST 1244)</td>
<td>4 sch</td>
</tr>
<tr>
<td>Fundamentals of Data Communication (IST 1134)</td>
<td>4 sch</td>
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<tr>
<td>Security Principles and Policies (IST 1143)</td>
<td>3 sch</td>
</tr>
<tr>
<td>Network Components (IST 1223)</td>
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**Total:** 18 sch

## FIRST-TERM SUMMER SESSION

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<th>Course</th>
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<td>Wireless Security and Privacy (IST 1633)</td>
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**Total:** 3 sch

## SECOND YEAR

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<td>Programming Elective****</td>
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<td>Math or Science Elective</td>
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<tr>
<td>Social or Behavioral Science Elective</td>
<td>3 sch</td>
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<td>Windows Security (IST 2613)</td>
<td>3 sch</td>
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<td>Network Defense and Countermeasures (IST 1643)</td>
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</tr>
<tr>
<td>Humanities or Fine Arts Elective</td>
<td>3 sch</td>
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<tr>
<td>Security Testing and Implementation (IST 2634)</td>
<td>4 sch</td>
</tr>
<tr>
<td>Linux/Unix Security (IST 2623)</td>
<td>3 sch</td>
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<tr>
<td>Concepts of Database Design (IST 1163)</td>
<td>3 sch</td>
</tr>
<tr>
<td>Oral Communication Elective</td>
<td>3 sch</td>
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</tbody>
</table>

**Total:** 16 sch

* Students who lack entry-level skills in math, English, science, and so forth will be provided related studies.

** Fundamentals of Information Technology is an elective course 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.
Executive Summary

*** Operating Platforms (CPT 1333) and Systems Maintenance (CNT 2423) may be taken in lieu of IT Foundations (IST 1124)

**** Web Development Concepts (WDT 1123) and Programming Development Concepts (CPT 1143) may be taken in lieu of Web and Programming Concepts (IST 1154).

***** Any instructor-approved related programming course

Technical electives:

Fundamentals of Information Technology (IST 1113)
Business Communication (BOT 2813) OR Career Development (CPT 2133) OR Professional Development (BOT 1213)
Java Programming Language (IST 1714)
Fundamentals of Microcomputer Applications (CPT 1113) [Service Course]
Supervised Work Experience in Information Systems Technology [(IST 291(1–6)]
Special Problem in Information Systems Technology [(IST 292(1–3)]
NUCLEAR MEDICINE TECHNOLOGY

The Nuclear Medicine Technology curriculum is a flexible program designed to offer a 2-year Associate of Applied Science degree program of study and/or a certificate of completion in Nuclear Medicine Technology. The program is designed to prepare the technologist to perform imaging procedures by administering radioactive materials to patients in a clinical setting. The nuclear medicine technologist is a highly specialized health-care professional who works closely with the nuclear medicine physician. The program is designed to provide the student the knowledge and skills to enter the field as a nuclear medicine technologist and successfully write the certification examinations of the American Registry of Radiologic Technologists (ARRT) and/or the Nuclear Medicine Technology Certification Board (NMTCB) upon successful program completion.

To be admitted into the Nuclear Medicine Program, students must meet the following requirement: completion of an accredited program in radiologic technology.

The curriculum was written to follow the American Society of Radiologic Technologists (ASRT) core curriculum.

Standards are based on ARRT content specifications for the examination in Nuclear Medicine Technology and the NMTCB components of preparedness.
### Suggested Course Sequence*
**Nuclear Medicine Technology**
**Associate of Applied Science**

#### FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
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<td>Science/Math Electives**</td>
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<td>Oral Communications Elective</td>
<td>3 sch</td>
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<td><strong>Total</strong></td>
<td><strong>17 sch</strong></td>
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<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Introduction to Nuclear Medicine (NMT 2511)</td>
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<tr>
<td>Science/Math Electives**</td>
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<tr>
<td>Written Communications Elective</td>
<td>3 sch</td>
</tr>
<tr>
<td>Humanities/Fine Arts Elective</td>
<td>3 sch</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>18 sch</strong></td>
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#### SECOND YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Radiopharmacy (NMT 1142)</td>
<td>2 sch</td>
</tr>
<tr>
<td>Nuclear Medicine Procedures I (NMT 2523)</td>
<td>3 sch</td>
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<tr>
<td>Nuclear Physics (NMT 2611)</td>
<td>1 sch</td>
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<tr>
<td>Instrumentation I: Nonimaging (NMT 2712)</td>
<td>2 sch</td>
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<tr>
<td>Clinical I (NMT 2816)</td>
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<tr>
<td>Nuclear Medicine Procedures II (NMT 2533)</td>
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<tr>
<td>Instrumentation II: Imaging (NMT 2723)</td>
<td>3 sch</td>
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<tr>
<td>Radiation Protection (NMT 2732)</td>
<td>2 sch</td>
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<tr>
<td>Advanced Computer Applications (NMT 2741)</td>
<td>1 sch</td>
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<td>Clinical II (NMT 2826)</td>
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#### SUMMER II

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<tr>
<td>Seminar Review (NMT 2541)</td>
<td>1 sch</td>
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<td>Clinical III (NMT 2833)</td>
<td>3 sch</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>4 sch</strong></td>
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</tbody>
</table>

* Students who lack entry level skills in math, English, science, and so forth will be provided related studies.

** It is suggested that applicants complete the following courses as part of the Science/Math Electives: Physics, General Chemistry, Human Anatomy and Physiology I, Human Anatomy and Physiology II, Algebra, and Statistics.
**Suggested Course Sequence**

**Nuclear Medicine Technology Certificate**

Prerequisite: General Chemistry (CHE 1211; CHE 1213)

### SUMMER I

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<tr>
<td>Introduction to Nuclear Medicine (NMT 2511)</td>
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### FIRST YEAR

<table>
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<th>Course</th>
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<tr>
<td>Nuclear Medicine Procedures I (NMT 2523)</td>
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<tr>
<td>Nuclear Physics (NMT 2611)</td>
<td>1 sch</td>
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<td>Instrumentation I: Nonimaging (NMT 2712)</td>
<td>2 sch</td>
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<tr>
<td>Radiation Protection (NMT 2732)</td>
<td>2 sch</td>
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<td>Clinical I (NMT 2816)</td>
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### SUMMER II

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<th>Course</th>
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<tbody>
<tr>
<td>Radiopharmacy (NMT 1142)</td>
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<tr>
<td>Seminar Review (NMT 2541)</td>
<td>1 sch</td>
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<tr>
<td>Clinical III (NMT 2833)</td>
<td>3 sch</td>
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</table>

* Students who lack entry level skills in math, English, science, and so forth will be provided related studies.

**It is suggested that applicants complete the following courses prior to beginning the certificate coursework: Physics, General Chemistry, Oral and Written Communication.**
OCCUPATIONAL SAFETY HEALTH TECHNOLOGY

Occupational Safety and Health Technicians, (OSHTs) also known as safety and health practitioners or occupational health and safety inspectors, help to prevent harm to workers, property, the environment, and the general public. They promote occupational health and safety within organizations by advising management on how to increase worker productivity in the 21st Century Workforce through raising morale and reducing absenteeism, turnover, and equipment downtime while securing savings on insurance premiums, worker’s compensation benefits, and litigation expenses. In addition, OSHTs assist employers in complying with Occupational Safety and Health Act (OSHA) regulations and standards. Employment opportunities are available at all levels of government agencies and with public and private businesses.

Upon completion of the 2-year program, the student will be awarded the Associate of Applied Science Degree.

Industry standards referenced are from the *Council on Certification of Health, Environmental and Safety Technologists (CCHEST), Occupational Health and Safety Technologist (OHST)/Certified Loss Control Specialist (CLCS) Examination Blueprint.*
# Suggested Course Sequence*
## Occupational Safety and Health Technology

### FIRST YEAR

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<th>3 sch</th>
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<tr>
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<td>College Algebra (MAT 1313)</td>
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<td>3 sch</td>
<td>Introduction to Safety and Health (HST 1113)</td>
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<td>3 sch</td>
<td>Government Regulatory Agencies (HST 1213)</td>
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<td>3 sch</td>
<td>Supervisor’s Safety (HST 1313)</td>
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### SECOND YEAR

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<td>3 sch</td>
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<td>Safety and Health Communications Training (HST 2433)</td>
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<td>3 sch</td>
<td>Introduction to Computer (CSC 1113)</td>
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<td>3 sch</td>
<td>Safety and Health Seminar (HST 2123)</td>
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<td>OSHA II (HST 2233)</td>
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<td>Safety and Health Auditing (HST 2523)</td>
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<td>Legal Environment of Business (BAD 2413)</td>
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<td>3 sch</td>
<td>Safety and First Aid (HPR 2213)</td>
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<td>3 sch</td>
<td>Natural Science Elective</td>
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<tr>
<td></td>
<td><strong>18 sch</strong></td>
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</table>

* Students who lack entry level skills in math, English, science, and so forth will be provided related studies.
Radiographers perform imaging examinations and accompanying responsibilities at the request of physicians and/or qualified practitioners qualified to prescribe and/or perform radiologic procedures. They utilize equipment emitting ionizing radiation to produce radiographic images of the internal structures of human anatomy. These radiographic images are utilized by the physician for diagnostic and therapeutic purposes. The radiographer is responsible for all functions in the Radiology Department to insure consistent radiographic images and provide for personal and patient safety from ionizing radiation. In addition to producing diagnostic images and primary patient care, other responsibilities may include administrative and educational functions.

Graduates of this 2-year program will be awarded an Associate of Applied Science Degree in Radiologic Technology and are eligible to make application to the American Registry of Radiologic Technology in order to become a Registered Technologist Radiographer.

Industry standards are based on the *ARRT Content Specifications for the Examination in Radiography*. 
Suggested Course Sequence*
Radiologic Technology

SUMMER TERM (2–5 week terms)

4 sch  Anatomy and Physiology I (BIO 1514)  4 sch  Anatomy and Physiology II (BIO 1524)
3 sch  Fundamentals of Radiography (RGT 1213)  3 sch  Patient Care and Radiography (RGT 1223)

7 sch  

FIRST YEAR

3 sch  Math/Science Elective  3 sch  Written Communications Elective
4 sch  Clinical Education I (RGT 1114)  4 sch  Clinical Education II (RGT 1124)
2 sch  Principles of Radiation Protection (RGT 1312)  3 sch  Digital Imaging (RGT 1423)
3 sch  Imaging Principles (RGT 1413)  3 sch  Radiographic Procedures II (RGT 1523)
3 sch  Radiographic Procedures I (RGT 1513)  3 sch  Physics of Imaging Equipment (RGT 1613)

15 sch  

SUMMER TERM (10–week term)

9 sch  Clinical Education III (RGT 1139)

SECOND YEAR

3 sch  Social/Behavioral Science Elective  3 sch  Oral Communications Elective
2 sch  Ethical and Legal Responsibilities (RGT 2132)  7 sch  Clinical Education V (RGT 2157)
7 sch  Clinical Education IV (RGT 2147)  2 sch  Radiographic Procedures IV (RGT 2542)
3 sch  Humanities/Fine Arts Elective  1 sch  Radiation Biology (RGT 2911)
3 sch  Radiographic Procedures III (RGT 2532)  3 sch  Certification Fundamentals (RGT 2933)
1 sch  Radiographic Pathology (RGT 2921)  16 sch

19 sch
Students who lack entry-level skills in math, English, science, and so forth will be provided related studies.
The Respiratory Care Technology program prepares individuals to become respiratory therapists. Respiratory therapists, as members of a team of health-care professionals, work to evaluate, treat, and manage patients of all ages with respiratory, cardiac, and other systemic illnesses. Respiratory therapists are responsible for airway management and the setup and monitoring of life support systems. They provide treatment for heart and lung disorders by administering inhalation treatments, oxygen, drugs, and other therapeutic modalities.

In addition to performing respiratory care procedures, respiratory therapists are involved in clinical decision making (such as patient evaluation, treatment selection, and assessment of treatment efficacy) and patient education. The scope of practice for respiratory therapy includes, but is not limited to, the following:

- Acquiring and evaluating clinical data
- Assessing the cardiopulmonary status of patients
- Performing and assisting in the performance of prescribed diagnostic studies such as drawing blood samples, performing blood gas analysis, and pulmonary function testing
- Utilizing data to assess the appropriateness of prescribed respiratory care
- Establishing therapeutic goals for patients with cardiopulmonary disease
- Participating in the development and modification of respiratory care plans
- Case management of patients with cardiopulmonary and related diseases
- Initiating ordered respiratory care, evaluating and monitoring patients’ responses to such care, modifying the prescribed respiratory therapy and cardiopulmonary procedures, and life support endeavors to achieve desired therapeutic objectives
- Initiating and conducting prescribed pulmonary rehabilitation
- Providing patient, family, and community education
- Promoting cardiopulmonary wellness, disease prevention, and disease management
- Participating in life support activities as required
- Promoting evidence-based medicine, research, and clinical practice guidelines

Respiratory therapists carry out these duties in a wide variety of clinical settings and are expected to act in a professional manner and conform to the standards and ethics of all health-care professionals. Professional standards integrated into this curriculum include the Commission on Accreditation of Allied Health Education Programs Standards and Guidelines for the Profession of Respiratory Care (CoARC/CAAHEP), the National Health Care Skills Standards, and standards for the National Board for Respiratory Care (NBRC).

Graduates of the Respiratory Therapy program are eligible to sit for the NBRC Entry Level Exam. Upon successful completion of the entry level exam, graduates will be eligible to sit for the NBRC Advanced Practitioners Exam.
Suggested Course Sequence*
Respiratory Care Technology

Baseline Competencies for Respiratory Care Practitioner**

Prerequisites
Anatomy and Physiology I (BIO 1514 or 2514)

Pre/Corequisites
Anatomy and Physiology II (BIO 1524 or 2524)

FIRST YEAR

<table>
<thead>
<tr>
<th>4 sch</th>
<th>Math/Science Elective††</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 sch</td>
<td>Cardiopulmonary Anatomy and Physiology (RCT 1313)</td>
</tr>
<tr>
<td>3 sch</td>
<td>Patient Assessment and Planning (RCT 1223)</td>
</tr>
<tr>
<td>3 sch</td>
<td>Respiratory Care Science (RCT 1213)</td>
</tr>
</tbody>
</table>

| 13 sch | |

3 sch Written Communications Elective
6 sch Clinical Practice I (RCT 1516)
3 sch Respiratory Care Pharmacology (RCT 1613)
6 sch Respiratory Care Technology I (RCT 1416)

18 sch

SUMMER TERM

<table>
<thead>
<tr>
<th>4 sch</th>
<th>Clinical Practice II (RCT 1524)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 sch</td>
<td>Respiratory Care Technology II (RCT 1424)</td>
</tr>
<tr>
<td>2 sch</td>
<td>Pulmonary Function Testing (RCT 1322)</td>
</tr>
<tr>
<td>3 sch</td>
<td>Humanities/Fine Arts Elective</td>
</tr>
</tbody>
</table>

| 13 sch | |

SECOND YEAR

<table>
<thead>
<tr>
<th>3 sch</th>
<th>Oral Communications Elective</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 sch</td>
<td>Respiratory Care Technology III (RCT 2434)</td>
</tr>
<tr>
<td>3 sch</td>
<td>Cardiopulmonary Pathology (RCT 2333)</td>
</tr>
<tr>
<td>4 sch</td>
<td>Clinical Practice III (RCT 2534)</td>
</tr>
</tbody>
</table>

| 14 sch | 15 sch |

3 sch Behavioral/Social Science Elective
3 sch Respiratory Care Seminar (RCT 2713)
6 sch Clinical Practice IV (RCT 2546)
3 sch Neonatal/Pediatrics Management (RCT 2613)

* Students who lack entry-level skills in math, English, science, and so forth will be provided related studies.
Executive Summary

** Baseline competencies are taken from the high school Allied Health program. Students who can document mastery of these competencies should not receive duplicate instruction. Students who cannot demonstrate mastery will be required to do so.

† APPROVED MATH/SCIENCE ELECTIVES
Intermediate Algebra (MAT 1233) or higher
Fundamentals of Microcomputer Applications (CPT 1113)
Principles of Chemistry I (CHE 1314)
Principles of Chemistry II (CHE 1324)
General Chemistry I (CHE 1214)
Microbiology (BIO 2924)
Physics (PHY 1214)

TECHINCAL ELECTIVES (May be taken in addition to required courses)
Medical Terminology (MET 1113)
Medical Office Terminology I (MET 1613)
Respiratory Care Practicum [RCT 111 (1–3)]
LISTING OF COURSES

AGRICULTURE BUSINESS AND MANAGEMENT TECHNOLOGY

Course Name: Survey of Agricultural Technology  
Course Abbreviation: AGT 1111  
Classification: Vocational–Technical Core (Agribusiness Management, Animal Husbandry, Field Crops); Vocational–Technical Elective (Precision Agriculture Technology)  
Description: 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. [Note: Survey of Agricultural Technology (AGR 1111) may be substituted for this course.] (1 sch: 1-hr lecture)  
Prerequisites: None

Course Name: Introduction to Spatial Information Systems  
Course Abbreviation: AGT 1163  
Classification: AOC Core (Precision Agriculture Technology), Vocational–Technical Elective (Agriculture Business Management, Animal Husbandry, Field Crops)  
Description: This course provides an overview of spatial information concepts and the tools of spatial information systems (GPS, 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)  
Prerequisites: None

Course Name: Applied Principles of Animal Production  
Course Abbreviation: AGT 1214  
Description: 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.]  
Prerequisites: None
Course Name: GPS Data Collection
Course Abbreviation: AGT 1254
Classification: AOC Core (Precision Agriculture Technology)
Description: A course to introduce students to the general principles of Global Positioning 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)
Prerequisites: Basic computer applications literacy skills

Course Name: Applied Principles of Plant Production
Course Abbreviation: AGT 1313
Classification: Vocational–Technical Core (All areas of concentration)
Description: 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.]
Prerequisites: None

Course Name: Vegetable Crop Production
Course Abbreviation: AGT 1333
Classification: Vocational–Technical Elective (Agribusiness Management, Field Crops, and Precision Agriculture)
Description: 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)
Pre/Co-requisites: Applied Principles of Plant Production (AGT 1313) or Plant Science (AGR 1313) or Botany I (BIO 1314)

Course Name: Remote Sensing
Course Abbreviation: AGT 1354
Classification: AOC Core (Precision Agriculture Technology)
Description: 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)
Prerequisites: None
Course Name: Principles of Agricultural Management  
Course Abbreviation: AGT 1413  
Description: A course that 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.]  
Prerequisites: None

Course Name: Principles of Agricultural Marketing  
Course Abbreviation: AGT 1513  
Description: An introduction to general principles of marketing agricultural products. Includes instruction in general marketing practices and the use of futures contracts. (3 sch: 2-hr lecture, 2-hr lab)  
Prerequisites: None

Course Name: Agricultural Records  
Course Abbreviation: AGT 1613  
Description: 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.]  
Prerequisites: None

Course Name: Applied Soils - Conservation and Use  
Course Abbreviation: AGT 1714  
Classification: Vocational–Technical Core (All areas of concentration)  
Description: A course to introduce students 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.]  
Prerequisites: None

Course Name: Fitting/Grooming/Judging  
Course Abbreviation: AGT 1813  
**Executive Summary**

**Description:** Provides information and practice on fitting, grooming, and judging livestock products. (3 sch: 2-hr lecture, 2-hr lab)

**Prerequisites:** None

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**Course Name:** Animal Reproduction  
**Course Abbreviation:** AGT 1913  
**Classification:** AOC Core (Animal Husbandry)  
**Description:** Provides information and laboratory opportunities to assist students in learning about animal reproduction. (3 sch: 2-hr lecture, 2-hr lab)  
**Prerequisites:** Applied Principles of Animal Production (AGT 1214)

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**Course Name:** Geographic Information Systems I  
**Course Abbreviation:** AGT 2154  
**Classification:** AOC Core (Precision Agriculture Technology)  
**Description:** 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)  
**Prerequisites:** Survey of Microcomputer Applications (CPT 1324), College Algebra (MAT 1313), and/or consent of instructor

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**Course Name:** Variable Rate Technology  
**Course Abbreviation:** AGT 2164  
**Classification:** AOC Core (Precision Agriculture Technology)  
**Description:** 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)  
**Prerequisites:** GPS Data Collection (AGT 1254), Geographic Information Systems I (AGT 2154), Introduction to Spatial Information Systems (AGT 1163), and College Algebra (MAT 1313)

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**Course Name:** Agricultural Geographic Information Systems  
**Course Abbreviation:** AGT 2174  
**Classification:** AOC Core (Precision Agriculture Technology)  
**Description:** 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)  
**Prerequisites:** Survey of Microcomputer Applications (CPT 1324), College Algebra (MAT 1313), Geographic Information Systems I (AGT 2154), or consent of instructor
** Executive Summary **

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Course Abbreviation</th>
<th>Classification</th>
<th>Description</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Sales</td>
<td>AGT 2213</td>
<td>Vocational–Technical Elective (Agribusiness Management, Animal Husbandry, Field Crops)</td>
<td>A course in the advertising, sales, and promotion of agricultural supplies and services. (3 sch: 2-hr lecture, 2-hr lab)</td>
<td>None</td>
</tr>
<tr>
<td>Applied Agricultural Economics</td>
<td>AGT 2263</td>
<td>AOC Core (Agribusiness Management and Field Crops), Vocational–Technical Elective (Animal Husbandry)</td>
<td>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.</td>
<td>None</td>
</tr>
<tr>
<td>Crop Production (General)</td>
<td>AGT 2363</td>
<td>Vocational–Technical Elective (All areas of concentration)</td>
<td>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)</td>
<td>Applied Principles of Plant Production (AGT 1313) or Plant Science (AGR 1313) or Botany (BIO 1314)</td>
</tr>
<tr>
<td>Fiber and Oilseed Crops</td>
<td>AGT 2373</td>
<td>AOC Core (Field Crops), Vocational–Technical Elective (Precision Agriculture Technology)</td>
<td>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)</td>
<td>Applied Principles of Plant Production (AGT 1313) or Plant Science (AGR 1313) or Botany I (BIO 1314)</td>
</tr>
<tr>
<td>Grain Crops</td>
<td>AGT 2383</td>
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</tbody>
</table>
Classification: AOC Core (Field Crops), Vocational–Technical Elective (Precision Agriculture Technology)

Description: 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)

Pre/Corequisites: Applied Principles of Plant Production (AGT 1313) or Plant Science (AGR 1313) or Botany I (BIO 1314)

Course Name: Weed Control
Course Abbreviation: AGT 2413
Classification: AOC Core (Field Crops), Vocational–Technical Elective (Precision Agriculture Technology)

Description: 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)

Pre/Corequisites: Applied Principles of Plant Production (AGT 1313) or Plant Science (AGR 1313) or Botany I (BIO 1314)

Course Name: Crop Management Zones
Course Abbreviation: AGT 2434
Classification: AOC Core (Precision Agriculture Technology)

Description: 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)

Prerequisites: Applied Principles of Plant Production (AGT 1313) or Plant Science (AGR 1313) or Botany I (BIO 1314), and Applied Soils - Conservation and Use (AGT 1714) or Basic Soils (AGR 2314)

Course Name: Insects and Controls
Course Abbreviation: AGT 2463
Classification: AOC Core (Field Crops), Vocational–Technical Elective (Precision Agriculture Technology)

Description: 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)

Pre/Corequisite: Applied Principles of Plant Production (AGT 1313) or Plant Science (AGR 1313) or Botany I (BIO 1314)
Course Name: Site Specific Pest Management  
Course Abbreviation: AGT 2474  
Classification: AOC Core (Precision Agriculture Technology)  
Description: 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)  
Prerequisites: GPS Data Collection (AGT 1254), Geographic Information Systems I (AGT 2154), Crop Management Zones (AGT 2434), Applied Principles of Plant Production (AGT 1313) or Botany I (BIO 1314); or consent of instructor

Course Name: Agricultural Pest Management  
Course Abbreviation: AGT 2483  
Classification: Vocational–Technical Elective (Agribusiness Management, Field Crops, Precision Agriculture Technology)  
Description: 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)  
Pre/Corequisites: Applied Principles of Plant Production (AGT 1313) or Plant Science (AGR 1313) or Botany I (BIO 1314)

Course Name: Fish Management  
Course Abbreviation: AGT 2513  
Classification: Vocational–Technical Elective (All areas of concentration)  
Description: Practical principles and application techniques in the production, harvesting, and marketing of fish. (3 sch: 2-hr lecture, 2-hr lab)  
Prerequisites: None

Course Name: Agricultural Machinery and Shop Management  
Course Abbreviation: AGT 2563  
Classification: AOC Core (Agribusiness Management and Field Crops), Vocational–Technical Elective (Animal Husbandry)  
Description: 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.]  
Prerequisites: None
Course Name: Forage and Pasture Crops
Course Abbreviation: AGT 2613
Description: A comprehensive course in the production and management of forage and pasture crops. (3 sch: 2-hr lecture, 2-hr lab)
Pre/Co-requisites: None

Course Name: Applied Animal Nutrition
Course Abbreviation: AGT 2663
Classification: AOC Core (Animal Husbandry), Vocational–Technical Elective (Agribusiness Management)
Description: A comprehensive course of study on the practical principles and applications of nutrition. (3 sch: 2-hr lecture, 2-hr lab)
Prerequisite: Applied Principles of Animal Production (AGT 1214)

Course Name: Beef Production I
Course Abbreviation: AGT 2713
Classification: AOC Core (Animal Husbandry), Vocational–Technical Elective (Agribusiness Management and Field Crops)
Description: 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)
Prerequisite: None

Course Name: Beef Production II
Course Abbreviation: AGT 2723
Classification: AOC Core (Animal Husbandry), Vocational–Technical Elective (Agribusiness Management and Field Crops)
Description: A continuation of Beef Production I with emphasis on management, herd health, and marketing. (3 sch: 2-hr lecture, 2-hr lab)
Prerequisites: Beef Production I (AGT 2713)

Course Name: Swine Production
Course Abbreviation: AGT 2813
Classification: Vocational–Technical Elective (Animal Husbandry and Agribusiness Management)
Description: A comprehensive course in the production and management of swine. (3 sch: 2-hr lecture, 2-hr lab)
Prerequisites: Applied Principles of Animal Production (AGT 1214)
Executive Summary

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**Course Name:** Horse Production  
**Course Abbreviation:** AGT 2863  
**Classification:** AOC Core (Animal Husbandry), Vocational–Technical Elective (Agribusiness Management)  
**Description:** A comprehensive course in the production and management of horses. (3 sch: 2-hr lecture, 2-hr lab)  
**Prerequisites:** None

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**Course Name:** Special Problem in Agricultural Business and Management Technology  
**Course Abbreviation:** AGT 291(1–3)  
**Classification:** Vocational–Technical Elective (All areas of concentration)  
**Description:** 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)  
**Prerequisites:** Sophomore standing in Agricultural Business and Management Technology or instructor approval

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**Course Name:** Supervised Agricultural Experience  
**Course Abbreviation:** AGT 292(1–6)  
**Classification:** Vocational–Technical Elective (Agriculture Business Management, Field Crops, and Animal Husbandry)  
**Description:** 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)  
**Prerequisites:** Sophomore standing in Agricultural Business and Management Technology or instructor approval
AUTOMOTIVE MACHINIST TECHNOLOGY

*   *   *   *   *

Course Name: Fundamentals for Automotive Machinists  
Course Abbreviation: AUV 1116  
Classification: Vocational–Technical Core  
Description: 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)
Prerequisite: None

*   *   *   *   *

Course Name: Cylinder Head Service  
Course Abbreviation: AUV 1216  
Classification: Vocational–Technical Core  
Description: 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)
Prerequisite: None

*   *   *   *   *

Course Name: Cylinder Block Service  
Course Abbreviation: AUV 1316  
Classification: Vocational–Technical Core  
Description: This course includes the study of cylinder reconditioning, crankshaft renewal, and rod reconditioning. (6 sch: 2-hr lecture, 8-hr lab)
Prerequisite: None

*   *   *   *   *

Course Name: Engine Assembly  
Course Abbreviation: AUV 1416  
Classification: Vocational–Technical Core  
Description: 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)
Prerequisite: None

*   *   *   *   *

Course Name: Parts and Labor  
Course Abbreviation: AUV 1513  
Classification: Vocational–Technical Elective  
Description: This course includes training in the use of computerized parts pricing and inventory, labor price guides, and the purchasing and recovery of core materials. (3 sch: 1-hr lecture, 4-hr lab)
Prerequisite: Consent of the Instructor

Course Name: Crankshaft Balancing and Advanced Crankshaft Grinding
Course Abbreviation: AUV 1613
Classification: Vocational–Technical Elective
Description: 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)
Prerequisite: Consent of the Instructor

Course Name: Brake Rotor and Drum Machining
Course Abbreviation: AUV 1713
Classification: Vocational–Technical Elective
Description: This course includes machining of the brake drum and rotor. (3 sch: -hr lecture, 4-hr lab)
Prerequisite: Consent of the Instructor

Course Name: Special Problem in Automotive Machinist
Course Abbreviation: AUV 191(1–3)
Classification: Vocational–Technical Elective
Description: 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)
Prerequisite: Consent of Instructor

Course Name: Supervised Work Experience in Automotive Machinist
Course Abbreviation: AUV 1921-6
Classification: Vocational–Technical Core
Description: 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)
Prerequisite: Consent of instructor and completion of at least one semester of advanced coursework
**CARDIOVASCULAR TECHNOLOGY**

* * * * * *

**Course Name:** Foundations of Cardiovascular Technology  
**Course Abbreviation:** CVT 1113  
**Classification:** Vocational–Technical Core  
**Description:** This course is designed to introduce the students 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)  
**Prerequisite:** Anatomy and Physiology I (BIO 1513) and Anatomy and Physiology Lab I (BIO 1511)

* * * * * *

**Course Name:** Cardiovascular Anatomy and Physiology  
**Course Abbreviation:** CVT 1214  
**Classification:** Vocational–Technical Core  
**Description:** A study of anatomy and physiology in relation to the practice of cardiovascular technology. (4 sch: 3-hr lecture, 2-hr lab)  
**Prerequisite:** Foundations of Cardiovascular Technology (CVT 1113)

* * * * * *

**Course Name:** Cardiovascular Pharmacology  
**Course Abbreviation:** CVT 1312  
**Classification:** Vocational–Technical Core  
**Description:** 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)  
**Prerequisite:** Foundations of Cardiovascular Technology (CVT 1113) and Cardiovascular Anatomy and Physiology (CVT 1214)

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**Course Name:** Invasive Cardiology I  
**Course Abbreviation:** CVT 2414  
**Classification:** Vocational–Technical Core  
**Description:** 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)  
**Prerequisites:** Foundations of Cardiovascular Technology (CVT 1113), Cardiovascular Anatomy and Physiology (CVT 1214), and Cardiovascular Pharmacology (CVT 1312)
Course Name: Invasive Cardiology II  
Course Abbreviation: CVT 2424  
Classification: Vocational–Technical Core  
Description: 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)  
Prerequisites: Invasive Cardiology I (CVT 2414)

Course Name: Critical Care Application  
Course Abbreviation: CVT 2512  
Classification: Vocational–Technical Core  
Description: 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 illnesses. 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)  
Prerequisites: Invasive Cardiology I (CVT 2414) or Non-Invasive Cardiology I (CVT 2614) and Cardiovascular Clinical I (CVT 2716)

Course Name: Non-Invasive Cardiology I  
Course Abbreviation: CVT 2614  
Classification: Vocational–Technical Core  
Description: 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)  
Prerequisites: Foundations of Cardiovascular Technology (CVT 1113), Cardiovascular Anatomy & Physiology (CVT 1214), and Cardiovascular Pharmacology (CVT 1312)

Course Name: Non-Invasive Cardiology II  
Course Abbreviation: CVT 2624  
Classification: Vocational–Technical Core  
Description: 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 techniques including 2-D, M-Mode, continuous, pulse wave, and color Doppler techniques. (4 sch: 3-hr lecture, 2-hr lab)  
Prerequisites: Non-Invasive Cardiology I (CVT 2614)
Course Name: Cardiovascular Clinical I
Course Abbreviation: CVT 2716
Classification: Vocational–Technical Core
Description: 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)
Prerequisites: Foundations of Cardiovascular Technology (CVT 1113), Cardiovascular Anatomy and Physiology (CVT 1214), and Cardiovascular Pharmacology (CVT 1312), Current American Heart Association BLS

Course Name: Cardiovascular Clinical II
Course Abbreviation: CVT 2728
Classification: Vocational–Technical Core
Description: 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 catheterization procedures. (8 sch: 24-hr clinical)
Prerequisites: Cardiovascular Clinical I (CVT 2716)

Course Name: Cardiovascular Clinical III
Course Abbreviation: CVT 2738
Classification: Vocational–Technical Core
Description: 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)
Prerequisites: Cardiovascular Clinical II (CVT 2728)
**CONSTRUCTION ENGINEERING TECHNOLOGY**

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**Course Name:** Survey of Modern Construction  
**Course Abbreviation:** CON 1113  
**Classification:** Vocational–Technical Core  
**Description:** 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)  
**Prerequisite:** None

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**Course Name:** Construction Materials  
**Course Abbreviation:** CON 1213  
**Classification:** Vocational–Technical Core  
**Description:** 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)  
**Prerequisite:** None

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**Course Name:** Plans and Document Interpretation  
**Course Abbreviation:** CON 1223  
**Classification:** Vocational–Technical Core  
**Description:** 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: 2-hr lecture, 2-hr lab)  
**Prerequisite:** None

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**Course Name:** Construction Systems I  
**Course Abbreviation:** CON 1233  
**Classification:** Vocational–Technical Core  
**Description:** Common practices of engineering principles and construction methods (3 sch: 2-hr lecture, 2-hr lab)  
**Prerequisite:** None

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**Course Name:** Construction Drawing  
**Course Abbreviation:** CON 1313  
**Classification:** Vocational–Technical Core  
**Description:** 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)  
**Prerequisite:** None
Course Name: Construction Jobsite Management  
Course Abbreviation: CON 2113  
Classification: Vocational–Technical Core  
Description: 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)  
Prerequisite: Survey of Modern Construction (CON 1113)

Course Name: Construction Cost Estimation  
Course Abbreviation: CON 2123  
Classification: Vocational–Technical Core  
Description: 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)  
Prerequisite: Consent of Instructor

Course Name: Construction Systems II  
Course Abbreviation: CON 2233  
Classification: Vocational–Technical Core  
Description: Common practices of construction using engineering techniques to determine relations between equipment production and design criteria (3 sch: 2-hr lecture, 2-hr lab)  
Prerequisite: Construction Systems I (CON 1233)

Course Name: Construction Systems III  
Course Abbreviation: CON 2243  
Classification: Vocational–Technical Elective  
Description: 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)  
Prerequisite: Construction Systems II (CON 2233)

Course Name: Construction Layout  
Course Abbreviation: CON 2313  
Classification: Vocational–Technical Core  
Description: 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)  
Prerequisite: Fundamentals of Drafting (DDT 1114)
Course Name: Construction Safety Standards
Course Abbreviation: CON 2413
Classification: Vocational–Technical Core
Description: 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)
Prerequisite: None

Course Name: Leadership and Organization
Course Abbreviation: CON 2513
Classification: Vocational–Technical Core
Description: 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)
Prerequisite: Consent of Instructor

Course Name: Internship in Construction Engineering Technology I
Course Abbreviation: CON 261(3–6)
Classification: Vocational–Technical Core
Description: 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)
Prerequisite: Consent of Instructor

Course Name: Internship in Construction Engineering Technology II
Course Abbreviation: CON 262(3–6)
Classification: Vocational–Technical Core
Description: 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)
Prerequisite: Consent of Instructor

Course Name: Special Problem in Construction Engineering Technology
Course Abbreviation: CON 291(1–3)
Classification: Vocational–Technical Elective
Description: 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)
Prerequisite: Consent of Instructor

Course Name: Supervised Work Experience in Construction Engineering Technology
Course Abbreviation: CON 292(1–6)
Classification: Vocational–Technical Elective
Description: 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: 3- to 18-hr externship)
Prerequisite: Consent of Instructor

Course Name: Work-Based Learning I, II, III, IV, V, and VI
Classification: Free Elective
Description: In this structured work-site learning experience, the student, program area teacher, Work-Based Learning coordinator, and work-site supervisor/mentor develop and implement an educational training agreement. It is designed to integrate the student’s academic and technical skills into a work environment. It may include regular meetings and seminars with school personnel and employers for supplemental instruction and progress reviews. (1–3 sch: 3- to 9-hr externship)
Prerequisite: Concurrent enrollment in vocational–technical program area courses
**COURT REPORTING TECHNOLOGY**

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**Course Name:** Stenotype Machine Shorthand I  
**Course Abbreviation:** CRT 1114  
**Classification:** Vocational–Technical Core  
**Description:** This course provides instruction in writing the spoken word with punctuation using a stenotype realtime translation theory to provide instantaneous English translation with speed and accuracy development. (4 sch: 2-hr lecture, 4-hr lab)  
**Prerequisite:** None

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**Course Name:** Stenotype Machine Shorthand II  
**Course Abbreviation:** CRT 1123  
**Classification:** Vocational–Technical Core  
**Description:** 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: 1-hr lecture, 4-hr lab)  
**Prerequisite:** Stenotype Machine Shorthand I (CRT 1114)

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**Course Name:** Speed Building I  
**Course Abbreviation:** CRT 1133  
**Classification:** Vocational–Technical Core  
**Description:** 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)  
**Prerequisite:** NONE

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**Course Name:** Speed Building II  
**Course Abbreviation:** CRT 1143  
**Classification:** Vocational–Technical Core  
**Description:** 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)  
**Prerequisite:** Speed Building I (CRT 1133)

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**Course Name:** Court Reporting Procedures  
**Course Abbreviation:** CRT 1154
Classification: Vocational–Technical Core

Description: 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. (4 sch: 2-hr lecture, 4-hr lab)

Prerequisite: Stenotype Machine Shorthand I (CRT 1114), Stenotype Machine Shorthand II (CRT 1123), Speed Building I (CRT 1133), and Speed Building II (CRT 1143)

Course Name: Court Reporting English and Grammar
Course Abbreviation: CRT 1173
Classification: AOC Core (Judicial Reporting)

Description: 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. (4 sch: 2-hr lecture, 4-hr lab)

Prerequisite: English Composition (ENG 1113)

Course Name: Stenotype Machine Shorthand III
Course Abbreviation: CRT 2114
Classification: AOC Core (Judicial Reporting)

Description: 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. (4 sch: 2-hr lecture, 4-hr lab)

Prerequisite: Stenotype Machine Shorthand I (CRT 1114), Stenotype Machine Shorthand II (CRT 1123), Speed Building I (CRT 1133), and Speed Building II (CRT 1143)

Course Name: Stenotype Machine Shorthand IV
Course Abbreviation: CRT 2124
Classification: AOC Core (Judicial Reporting)

Description: 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. (4 sch: 2-hr lecture, 4-hr lab)

Prerequisite: Stenotype Machine Shorthand I (CRT 1114), Stenotype Machine Shorthand II (CRT 1123), Stenotype Machine Shorthand III (CRT 2114), Speed Building I (CRT 1133), Speed Building II (CRT 1143), and Speed Building III (CRT 2133)

Course Name: Speed Building III
Course Abbreviation: CRT 2133
**Classification:** Vocational–Technical Core  
**Description:** 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)  
**Prerequisite:** Stenotype Machine Shorthand I (CRT 1114), Stenotype Machine Shorthand II (CRT 1123), Speed Building I (CRT 1133), and Speed Building II (CRT 1143)

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**Course Name:** Speed Building IV  
**Course Abbreviation:** CRT 2144  
**Classification:** Vocational–Technical Core  
**Description:** 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. (4 sch: 2-hr lecture, 4-hr lab)  
**Prerequisite:** Stenotype Machine Shorthand I (CRT 1114), Stenotype Machine Shorthand II (CRT 1123), Stenotype Machine Shorthand III (CRT 2114), Speed Building I (CRT 1133), Speed Building II (CRT 1143), and Speed Building III (CRT 2133)

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**Course Name:** Judicial Reporting Technology  
**Course Abbreviation:** CRT 2162  
**Classification:** AOC Core (Judicial Reporting)  
**Description:** 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. (2 sch: 1-hr lecture, 2-hr lab)  
**Prerequisite:** Stenotype Machine Shorthand I (CRT 1114) and Speed Building I (CRT 1133)

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**Course Name:** Judicial Dictionary Development  
**Course Abbreviation:** CRT 2172  
**Classification:** AOC Core (Judicial Reporting)  
**Description:** 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. (2 sch: 1-hr lecture, 2-hr lab)  
**Prerequisite:** Stenotype Machine Shorthand I (CRT 1114), Speed Building I (CRT 1133), and Judicial Reporting Technology (CRT 2162)
Course Name: CART I  
Course Abbreviation: CRT 2514  
Classification: AOC Core (CART)  
Description: This course provides instruction in writing the spoken word with punctuation using a realtime translation theory for communication access realtime translation (CART). (4 sch: 2-hr lecture, 4-hr lab)  
Prerequisite: Stenotype Machine Shorthand I (CRT 1114), Stenotype Machine Shorthand II (CRT 1123), Speed Building I (CRT 1133), and Speed Building II (CRT 1143)

Course Name: CART II  
Course Abbreviation: CRT 2524  
Classification: AOC Core (CART)  
Description: 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). (4 sch: 2-hr lecture, 4-hr lab)  
Prerequisite: Stenotype Machine Shorthand I (CRT 1114), Stenotype Machine Shorthand II (CRT 1123), Speed Building I (CRT 1133), Speed Building II (CRT 1143), and CART I (CRT 2514)

Course Name: CART Technology  
Course Abbreviation: CRT 2562  
Classification: AOC Core (CART)  
Description: 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. (2 sch: 1-hr lecture, 2-hr lab)  
Prerequisite: Stenotype Machine Shorthand I (CRT 1114), Stenotype Machine Shorthand II (CRT 1123), Speed Building I (CRT 1133), and Speed Building II (CRT 1143)

Course Name: CART Dictionary Development  
Course Abbreviation: CRT 2572  
Classification: AOC Core (CART)  
Description: In this course, the student will continue to build a dictionary for communication access realtime translation (CART). (2 sch: 1-hr lecture, 2-hr lab)  
Prerequisite: Stenotype Machine Shorthand I (CRT 1114), Stenotype Machine Shorthand II (CRT 1123), Speed Building I (CRT 1133), Speed Building II (CRT 1143), CART I (CRT 2514), and CART Technology (CRT 2562)

Course Name: Captioning I  
Course Abbreviation: CRT 2714
Classification: AOC Core (Captioning)
Description: This course provides instruction in writing the spoken word with punctuation using a realtime translation theory to provide instantaneous, realtime translation for broadcast captioning. (4 sch: 2-hr lecture, 4-hr lab)
Prerequisite: Stenotype Machine Shorthand I (CRT 1114), Stenotype Machine Shorthand II (CRT 1123), Speed Building I (CRT 1133), and Speed Building II (CRT 1143)

Course Name: Captioning II
Course Abbreviation: CRT 2724
Classification: AOC Core (Captioning)
Description: 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. (4 sch: 2-hr lecture, 4-hr lab)
Prerequisite: Stenotype Machine Shorthand I (CRT 1114), Stenotype Machine Shorthand II (CRT 1123), Speed Building I (CRT 1133), Speed Building II (CRT 1143), and Captioning I (CRT 2714)

Course Name: Captioning Technology
Course Abbreviation: CRT 2762
Classification: AOC Core (Captioning)
Description: This course is an overview in captioning technology, concepts, and vocabulary. Emphasis is on basic equipment setup for broadcast captioning. (2 sch: 1-hr lecture, 2-hr lab)
Prerequisite: Stenotype Machine Shorthand I (CRT 1114), Stenotype Machine Shorthand II (CRT 1123), Speed Building I (CRT 1133), and Speed Building II (CRT 1143)

Course Name: Captioning Dictionary Development
Course Abbreviation: CRT 2772
Classification: AOC Core (Captioning)
Description: In this course, the student will continue to build a dictionary for captioning. (2 sch: 1-hr lecture, 2-hr lab)
Prerequisite: Stenotype Machine Shorthand I (CRT 1114), Stenotype Machine Shorthand II (CRT 1123), Speed Building I (CRT 1133), Speed Building II (CRT 1143), Captioning I (CRT 2714), and Captioning Technology (CRT 2762)

Course Name: Internship for Judicial Reporters
Course Abbreviation: CRT 2911
Classification: AOC Core (Judicial Reporting)
Description: This course provides supervised practical experience in courts and freelance court reporting firms. (1 sch: 45 clock hours)
Prerequisite: Stenotype Machine Shorthand I (CRT 1114), Stenotype Machine Shorthand II (CRT 1123), Stenotype Machine Shorthand III (CRT 2114), Speed Building I (CRT 1133), Speed Building II (CRT 1143), and Speed Building III (CRT 2133)
Course Name: Internship for CART
Course Abbreviation: CRT 2921
Classification: AOC Core (CART)
Description: This course provides supervised practical experience in communication access realtime translation (CART). (1 sch: 45 clock hours)
Prerequisite: Stenotype Machine Shorthand I (CRT 1114), Stenotype Machine Shorthand II (CRT 1123), Speed Building I (CRT 1133), Speed Building II (CRT 1143), Speed Building III (CRT 2133), CART I (CRT 2514), and CART Technology (CRT 2562)

Course Name: Internship for Captioning
Course Abbreviation: CRT 2931
Classification: AOC Core (Captioning)
Description: This course provides supervised practical experience in broadcast captioning. (1 sch: 45 clock hours)
Prerequisite: Stenotype Machine Shorthand I (CRT 1114), Stenotype Machine Shorthand II (CRT 1123), Speed Building I (CRT 1133), Speed Building II (CRT 1143), Speed Building III (CRT 2133), Captioning I (CRT 2714), and Captioning Technology (CRT 2762)
# EARLY CHILDHOOD EDUCATION TECHNOLOGY

## Course Name: Early Childhood Profession
**Course Abbreviation:** CDT 1113  
**Classification:** Vocational–Technical Core  
**Description:** 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)  
**Prerequisite:** None

## Course Name: Child Development I
**Course Abbreviation:** CDT 1214  
**Classification:** Vocational–Technical Core  
**Description:** This course provides knowledge concerning the care and development of infants and toddlers in group settings. Practice is given in infant and toddler caregiving (birth to 36 months) in group settings through classroom laboratory or collaborative centers. (4 sch: 3-hr lecture, 2-hr lab)  
**Prerequisite:** None

## Course Name: Child Development II
**Course Abbreviation:** CDT 1224  
**Classification:** Vocational–Technical Core  
**Description:** This course provides knowledge concerning the care and development of preschool children in group settings. 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)  
**Prerequisite:** None

## Course Name: Creative Arts for Young Children
**Course Abbreviation:** CDT 1314  
**Classification:** Vocational–Technical Core  
**Description:** This course is designed to plan and develop creative art activities with children birth to age eight. Activities will be implemented during Student Teaching I and II. (4 sch: 4-hr lecture)  
**Prerequisite:** None

## Course Name: Child Health and Safety
**Course Abbreviation:** CDT 1343  
**Classification:** Vocational–Technical Core  
**Description:** This course emphasizes health and safety practices in the care and education of young children that includes health and safety issues required by the Mississippi Department of
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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)

**Prerequisite:** None

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**Course Name:** Nutrition for Young Children  
**Course Abbreviation:** CDT 1513  
**Classification:** Vocational–Technical Core  
**Description:** This course focuses on fundamental principles of child nutrition that include healthy food selections, healthy lifestyle choices, and the practical applications of these principles in the early childhood setting. (3 sch: 3-hr lecture)

**Prerequisite:** None

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**Course Name:** Language and Literacy Development for Young Children  
**Course Abbreviation:** CDT 1713  
**Classification:** Vocational–Technical Core  
**Description:** This course includes the study of oral and written language development of young children and the implementation of a developmentally appropriate language arts curriculum. The Mississippi Early Learning Guidelines, Infant Toddler Environmental Rating Scale Revised (ITERS-R), and Early Childhood Environmental Rating Scale Revised (ECERS-R) are utilized. (3 sch: 3-hr lecture)

**Prerequisite:** None

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**Course Name:** Guiding Social and Emotional Behavior  
**Course Abbreviation:** CDT 2233  
**Classification:** Vocational–Technical Core  
**Description:** This course focuses on the identification of developmental stages and environmental influences on young children’s behavior. Positive guidance principles are discussed and practiced to ensure a productive learning environment. Resources include the Mississippi Department of Health Regulations Governing Licensure of Childcare Facilities, Mississippi Early Learning Guidelines, Infant Toddler Environmental Rating Scale Revised (ITERS-R), and Early Childhood Environmental Rating Scale Revised (ECERS-R). Lab activities will be implemented during Student Teaching I and II. (3 sch: 3-hr lecture)

**Prerequisite:** None

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**Course Name:** Atypical Child Development  
**Course Abbreviation:** CDT 2413  
**Classification:** Vocational–Technical Core  
**Description:** This course focuses on the identification of atypically developing children, family, and classroom intervention strategies and available support services. Legal, ethical, legislative, and family issues will be explored. Resources include Mississippi Early Learning Guidelines,
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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)

**Prerequisite:** Child Development I (CDT 1214) and Child Development II (CDT 1224) or by permission of ECET Program Coordinator

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**Course Name:** Methods and Materials  
**Course Abbreviation:** CDT 2613  
**Classification:** Vocational–Technical Core  
**Description:** The Mississippi Early Learning Guidelines, Infant Toddler Environmental Rating Scale Revised (ITERS-R), and Early Childhood Environmental Rating Scale Revised (ECERS-R) are used to develop classroom curricula in an indoor and outdoor learning environment. Lab activities with the children are implemented during Student Teaching I and II. (3 sch: 3-hr lecture)

**Prerequisite:** None

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**Course Name:** Social Studies, Math, and Science for Young Children  
**Course Abbreviation:** CDT 2714  
**Classification:** Vocational–Technical Core  
**Description:** This course provides instructional and hands-on techniques in planning developmentally appropriate activities in social studies, math, and science for young children. Lab activities with the children are implemented during Student Teaching I and II. (4 sch: 4-hr lecture)

**Prerequisite:** None

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**Course Name:** Administration of Programs for Young Children  
**Course Abbreviation:** CDT 2813  
**Classification:** Vocational–Technical Core  
**Description:** This course provides an overview of the development and administration of programs for young children. Emphasis is placed on evaluation of policies and procedures, organizational structure, management, and the Mississippi Childcare Quality Steps System (MCCQSS). (3 sch: 3-hr lecture)

**Prerequisite:** First three semesters of core courses or by permission of ECET program coordinator

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**Course Name:** Student Teaching I  
**Course Abbreviation:** CDT 2915  
**Classification:** Vocational–Technical Core  
**Description:** This laboratory experience provides opportunities for students to implement experiences planned in the prerequisites and ensures a balance of all curriculum areas. (5 sch: 10-hr lab)

**Prerequisite:** Creative Arts for Young Children (CDT 1314), Language and Literacy Development for Young Children (CDT 1713), Child Health and Safety (CDT 1343), Child
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Development I (CDT 1214), and Child Development II (CDT 1224) or by permission of ECET program coordinator

Corequisite: Nutrition for Young Children (CDT 1513)

Course Name: Student Teaching II
Course Abbreviation: CDT 2925
Classification: Vocational–Technical Core

Description: This course is a continuation of Student Teaching I, which allows advanced child development students to implement knowledge and experience in preparing and implementing positive experiences for young children. Completion of the competencies provides opportunities for students to implement experiences planned in the prerequisites and ensures a balance of all curriculum areas. All competencies will be achieved and documented by the completion of the two student teaching courses. (5 sch: 10-hr lab)

Prerequisite: Creative Arts (CDT 1314), Guiding Social and Emotional Behavior (CDT 2233), Methods and Materials (CDT 2613), Social Studies, Math, Science for Young Children (CDT 2714), Child Development I (CDT 1214), and Child Development II (CDT 1224) Student Teaching I (CDT 2915), or by permission of ECET program coordinator

Corequisite: Administration of Programs for Young Children (CDT 2813)
Course Name: Residential/Light Commercial Wiring  
Course Abbreviation: ELT 1113  
Classification: Vocational–Technical Core  
Description: Advanced skills related to the wiring of multifamily and small commercial buildings. Includes instruction and practice in service entrance installation, specialized circuits, and the use of commercial raceways (3 sch: 2-hr lecture, 2-hr lab)  
Pre/Corequisites: Fundamentals of Electricity (ELT 1192-3) or by permission of instructor

Course Name: Commercial and Industrial Wiring  
Course Abbreviation: ELT 1123  
Classification: Vocational–Technical Core  
Description: 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)  
Prerequisites: Fundamentals of Electricity (ELT 1192-3), Residential/Light Commercial Wiring (ELT 1113), or by permission of instructor

Course Name: Introduction to the National Electric Code  
Course Abbreviations: ELT 1133  
Classification: Vocational–Technical Elective  
Description: This is a course in the layout, format, rules, and regulations set forth in the National Electric Code. Emphasis is placed on developing the student’s ability to find information in the National Electric Code and applying that information in real-world applications. (3 sch: 2-hr lecture, 2-hr lab)  
Prerequisites: None

Course Name: AC and DC Circuits for Electrical Technology  
Course Abbreviation: ELT 1144  
Classification: Vocational–Technical Core  
Description: 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)  
Pre/Corequisites: Fundamentals of Electricity (ELT 1192-3) or by permission of instructor

Course Name: Drafting for Electrical Technology  
Course Abbreviation: ELT 1163  
Classification: Vocational–Technical Elective
Description: Preparation and interpretation of schematics and electrical drawing and electrical blueprints (3 sch: 1-hr lecture, 4-hr lab)

Pre/Corequisites: Fundamentals of Electricity ELT 1192, Blueprint Reading ELT 1263, Estimating Cost ELT 1283, or by permission of instructor

Course Name: Fundamentals of Electricity
Course Abbreviation: ELT 1192-3
Classification: Vocational–Technical Core
Description: Fundamental skills associated with all electrical courses. Safety, basic tools, special tools, equipment, and introduction to simple AC and DC circuits (2 sch: 1-hr lecture, 2-hr lab)

Prerequisites: None

Course Name: Electrical Power
Course Abbreviation: ELT 1213
Classification: Vocational–Technical Core
Description: 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)

Pre/Corequisites: Fundamentals of Electricity (ELT 1192-3) or by permission of instructor

Course Name: Motor Maintenance and Troubleshooting
Course Abbreviation: ELT 1223
Classification: Vocational–Technical Core (Associate degree) or Vocational–Technical Elective (Certificate)
Description: Principles and practice of electrical motor repair. Includes topics on the disassembly/assembly and preventive maintenance of common electrical motors (3 sch: 2-hr lecture, 2-hr lab)

Prerequisites: Fundamentals of Electricity (ELT 1192-3) or by permission of instructor

Course Name: Branch Circuit and Service Entrance Calculations
Course Abbreviation: ELT 1253
Classification: Vocational–Technical Core (Certificate) or Vocational–Technical Elective (Associate degree)
Description: Calculating circuit sizes for all branch circuits and service entrances in residential installation (3 sch: 2-hr lecture, 2-hr lab)

Pre/Corequisites: Residential/Light Commercial Wiring (ELT 1113) or by permission of instructor

Course Name: Blueprint Reading/Planning in Residential Installation
Course Abbreviation: ELT 1263
Classification: Vocational–Technical Core (Certificate) or Vocational–Technical Elective (Associate Degree)
Description: Architectural symbols and electric symbols needed to read blueprints. All elevations and various plans associated with electrical wiring will be studied. Blank blueprints will be provided, and a list of all appliances and their amperage will be supplied. The blanks will be filled with receptacles, switches, and lighting outlets as required by NEC. Circuit layouts for all switching will be demonstrated. All branch circuits will be plotted on the blueprint. (3 sch: 2-hr lecture, 2-hr lab)

Pre/Corequisites: Fundamentals of Electricity (ELT 1192-3) or by permission of instructor

Course Name: Switching Circuits for Residential, Commercial, and Industrial Applications
Course Abbreviation: ELT 1273
Classification: Vocational–Technical Core
Description: Introduction to various methods by which single pole, 3-way, and 4-way switches are used in residential, commercial, and industrial installations. Also includes installation and operation of low voltage, remote control switching (3 sch: 2-hr lecture, 2-hr lab)

Pre/Corequisites: Fundamentals of Electricity (ELT 1192-3) or by permission of instructor

Course Name: Estimating the Cost of an Electrical Installation
Course Abbreviation: ELT 1283
Classification: Vocational–Technical Elective
Description: Cost of an electrical installation. Specifications set forth for a particular structure (3 sch: 2-hr lecture, 2-hr lab)

Pre/Corequisites: Fundamentals of Electricity (ELT 1192-3), Residential/Commercial Wiring (ELT 1113), or by permission of instructor

Course Name: Automated Manufacturing Controls for Electrical Technology
Course Abbreviation: ELT 1313
Classification: Vocational–Technical Elective
Description: 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)

Prerequisites: Motor Controls ELT1413, PLC’s ELT 2613, Solid State Motor Controls ELT 2424, or by permission of instructor

Course Name: Calibration and Measurement Principles Used in the Electrical Industry
Course Abbreviation: ELT 1324
Classification: Vocational–Technical Elective
Description: 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)
Prerequisites: Programmable Logic Controls ELT 2613 and Advanced Programmable Controls ELT 2623

Course Name: Flexible Manufacturing Systems for Electrical Technology
Course Abbreviation: ELT 1334
Classification: Vocational–Technical Elective
Description: 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)
Prerequisites: Consent of instructor, Motor Controller ELT 1413, Advanced PLCs, ELT 2623, or Solid State Motor Controller ELT 2424

Course Name: Fundamentals of Instrumentation
Course Abbreviation: ELT 1343
Classification: Vocational–Technical Elective
Description: 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)
Prerequisites: Fundamentals of Electricity ELT 1192, AC and DC Circuits ELT 1144

Course Name: Fundamentals of Robotics for Electrical Technology
Course Abbreviation: ELT 1353
Classification: Vocational–Technical Elective
Description: 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)
Pre/Corequisites: Fundamentals of Electricity ELT 1192, Motor Controls ELT 1413. PLCs ELT 2613, Solid State Motor Control ELT 2424, Automated Manufacturing Controls for Electrical Technology

Course Name: Industrial Hydraulics for Electrical Technology
Course Abbreviation: ELT 1363
Classification: Vocational–Technical Elective
Description: 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)
Pre/Corequisites: Fundamentals ELT 1193, Motor Controls ELT 1413, PLCs ELT 2613
Executive Summary

Course Name: Industrial Pneumatics for Electrical Technology
Course Abbreviation: ELT 1373
Classification: Vocational–Technical Elective
Description: 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)
Prerequisites: Fundamentals of Electricity ELT 1192, Motor Controls ELT 1413, PLCs ELT 2613

Course Name: Industrial Robotics for Electrical Technology
Course Abbreviation: ELT 1383
Classification: Vocational–Technical Elective
Description: 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

Course Name: Servo Control Systems for Electrical Technology
Course Abbreviation: ELT 1393
Classification: Vocational–Technical Elective
Description: 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)
Prerequisite: None

Course Name: Motor Control Systems
Course Abbreviation: ELT 1413
Classification: Vocational–Technical Core
Description: 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)
Prerequisites: Fundamentals of Electricity (ELT 1192-3) or by permission of instructor

Course Name: Solid State Devices and Circuits for Electrical Technology
Course Abbreviation: ELT 1434
Classification: Vocational–Technical Elective
**Description**: Active 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)  
**Prerequisite**: DC Circuits (EET 1114)

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**Course Name**: Data Acquisition and Communications  
**Course Abbreviation**: ELT 1513  
**Classification**: Vocational–Technical Elective  
**Description**: This is a course in acquisition and communication of systems data in industrial automated applications. (3 sch: 2-hr lecture, 2-hr lab)  
**Prerequisite**: Consent of instructor

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**Course Name**: Fundamentals of Fiber Optics for Electrical Technology  
**Course Abbreviation**: ELT 1523  
**Classification**: Vocational–Technical Elective  
**Description**: Fiber-optic cable in modern industry applications (3 sch: 2-hr lecture, 2-hr lab)  
**Pre/Corequisites**: Fundamentals of Electricity ELT 1192, AC\DC Circuits ELT 1144

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**Course Name**: Fundamentals of Data Communications for Electrical Technology  
**Course Abbreviation**: ELT 1533  
**Classification**: Vocational–Technical Elective  
**Description**: Concepts of telephony, local area networks, wide area networks, data transmission, and topology methods (3 sch: 2-hr lecture, 2-hr lab)  
**Prerequisite**: None

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**Course Name**: Network Systems for Electrical Technology  
**Course Abbreviations**: ELT 1544  
**Classification**: Vocational–Technical Elective  
**Description**: Networking fundamentals, voice networking, LANs, and Internet. Also, upgrading of computers to support LAN technology (4 sch: 2-hr lecture, 4-hr lab)  
**Pre/Corequisites**: Fundamentals of Electricity ELT 1192, AC\DC Circuits ELT 1144

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**Course Name**: Satellite Systems  
**Course Abbreviation**: ELT 1553  
**Classification**: Vocational–Technical Elective  
**Description**: 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)  
**Prerequisites**: Fundamentals of Electricity ELT 1192, AC\DC Circuits ELT 1144
Executive Summary

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**Course Name:** Telephone Systems for Special Systems Electrical Technology  
**Course Abbreviation:** ELT 1564  
**Classification:** Vocational–Technical Elective  
**Description:** Information and hands-on experience in installation, operation, troubleshooting, and repair of residential and commercial use telephone systems including analog and digital key systems (4 sch: 3-hr lecture, 2-hr lab)  
**Pre/Corequisite:** None

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**Course Name:** Principles of Hydraulics and Pneumatics  
**Course Abbreviation:** IMM 1314/ELT1614  
**Classification:** Vocational–Technical Core (Associate degree); Vocational–Technical Elective (Certificate)  
**Description:** 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) [May be taught as a 90 contact hour lab in open entry open exit vocational programs]  
**Prerequisite:** None

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**Course Name:** Equipment Maintenance, Troubleshooting, and Repair  
**Course Abbreviation:** IMM 2114/ELT 2114  
**Classification:** Vocational–Technical Core (Associate degree); Vocational–Technical Elective (Certificate)  
**Description:** 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)  
**Prerequisite:** None

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**Course Name:** Solid State Motor Control  
**Course Abbreviation:** ELT 2424  
**Classification:** Vocational–Technical Core (Associate degree), Vocational–Technical Elective (Technical Certificate)  
**Description:** Principles and operation of solid state motor control. Also, the design, installation, and maintenance of different solid state devices for motor control (4 sch: 2-hr lecture, 4-hr lab)  
**Pre/Corequisites:** Motor Control Systems (ELT 1413), Programmable Logic Controllers (ELT 2613), or by permission of instructor

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**Course Name:** Programmable Logic Controllers  
**Course Abbreviation:** ELT 2613  
**Classification:** Vocational–Technical Core (Associate degree), Vocational–Technical Elective (Certificate)
Executive Summary

**Description:** Use of programmable logic controllers (PLCs) in modern industrial settings. Also, the operating principles of PLCs and practice in the programming, installation, and maintenance of PLCs (3 sch: 2-hr lecture, 2-hr lab.)

**Prerequisites:** Motor Control Systems (ELT 1413) or by permission of instructor

**Course Name:** Advanced Programmable Logic Controllers

**Course Abbreviations:** ELT 2623

**Classification:** Vocational–Technical Elective

**Description:** 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, block transfer used in analog input and output programming, and logical and conversion instructions (3 sch: 2-hr lecture, 2-hr lab)

**Prerequisites:** Programmable Logic Controllers (ELT 2613) and Motor Control Systems (ELT 1413) or by permission of instructor

**Course Name:** Special Project I, II

**Course Abbreviation:** ELT 291(1–3), ELT 293(1–3)

**Classification:** Vocational–Technical Elective

**Description:** Practical application of skills and knowledge gained in other electronics or electronics-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:** Consent of instructor

**Course Name:** Supervised Work Experience I, II

**Course Abbreviation:** ELT 292(1–6), ELT 294(1–6)

**Classification:** Vocational–Technical Elective

**Description:** 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: 3–18-hr externship)

**Prerequisites:** Consent of instructor and completion of at least one semester of advanced coursework in electrical/electronics related programs
Communications Electronics Repair Technology Courses

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<tr>
<th>Course Name</th>
<th>Course Abbreviation</th>
<th>Classification</th>
<th>Description</th>
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<td>Satellite Systems</td>
<td>CET 1113</td>
<td>Vocational–Technical Elective (Communications Electronics Repair Technology)</td>
<td>Service, repair, and install home satellite receiving systems. (3 sch: 1-hr lecture, 4-hr lab)</td>
<td>None</td>
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<tr>
<td>Diagnostics and Troubleshooting Lab</td>
<td>CET 2223</td>
<td>Vocational–Technical Core (Communications Electronics Repair Technology)</td>
<td>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)</td>
<td>Television Systems (EET 2813)</td>
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<tr>
<td>Video Recording Systems Lab</td>
<td>CET 2323</td>
<td>Vocational–Technical Core (Communications Electronics Repair Technology)</td>
<td>Maintenance and repair of consumer-type video recording, videocassette recorders, and playback equipment (3 sch: 6-hr lab)</td>
<td>Television Systems (EET 2813)</td>
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<tr>
<td>Video Systems Repair Lab</td>
<td>CET 2823</td>
<td>Vocational–Technical Core (Communications Electronics Repair Technology)</td>
<td>Troubleshooting, repairing, and maintenance of consumer video equipment and television receivers (3 sch: 6-hr lab)</td>
<td>Television Systems (EET 2813)</td>
</tr>
<tr>
<td>Special Project</td>
<td>CET 291(1–3)</td>
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</tbody>
</table>
Classification: Vocational–Technical Elective (Communications Electronics Repair Technology)
Description: 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)
Prerequisite: Consent of Instructor

Course Name: Supervised Work Experience
Course Abbreviation: CET 292(1–6)
Classification: Vocational–Technical Elective (Communications Electronics Repair Technology)
Description: 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)
Prerequisite: Consent of instructor and completion of at least one semester of advanced course work in electronics-related programs

Electronics Technology Courses

Course Name: DC Circuits
Course Abbreviation: EET 1114
Classification: Vocational–Technical Core (Communications Electronics Repair Technology, Electronics Technology, Biomedical Equipment Repair Technology Option, Telecommunications Technology); Vocational–Technical Elective (Computer Servicing Technology)
Description: 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)
Pre/Corequisites: None

Course Name: AC Circuits
Course Abbreviation: EET 1123
Classification: Vocational–Technical Core (Communications Electronics Repair Technology, Electronics Technology, Biomedical Equipment Repair Technology Option, Telecommunications Technology); Vocational–Technical Elective (Computer Servicing Technology)
Description: Principles and theories associated with AC circuits. This course 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)
Pre/Corequisite: DC Circuits (EET 1114) or Equivalent
Course Name: Fundamentals of Electronics
Course Abbreviation: EET 1192
Classification: Vocational–Technical Elective (Electronics Technology, Biomedical Equipment Repair Technology Option)
Description: 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)
Prerequisites: None

Course Name: Digital Electronics
Course Abbreviation: EET 1214
Classification: Vocational–Technical Core (Communications Electronics Repair Technology, Computer Servicing Technology, Electronics Technology, Biomedical Equipment Repair Technology Option, Telecommunications Technology)
Description: 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)
Corequisites: Consent of Instructor

Course Name: Orientation to Biomedical Equipment Repair
Course Abbreviation: EET 1311
Classification: Vocational–Technical Core (Biomedical Equipment Repair Technology)
Description: 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)
Prerequisites: None

Course Name: Microprocessors
Course Abbreviation: EET 1324
Classification: Vocational–Technical Core (Computer Servicing Technology, Electronics Technology, Biomedical Equipment Repair Technology Option); Vocational–Technical Elective (Telecommunications Technology)
Description: Microprocessor architecture, machine and assembly language, timing, interfacing, and other hardware applications associated with microprocessor systems (4 sch: 2-hr lecture, 4-hr lab)
Prerequisite: Digital Electronics (EET 1214)

Course Name: Solid State Devices and Circuits
Course Abbreviation: EET 1334
Classification: Vocational–Technical Core (Communications Electronics Repair Technology, Electronics Technology, Biomedical Equipment Repair Technology Option, Telecommunications Technology)
Description: Active 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)
Pre/Corequisite: DC Circuits (EET 1114)

Course Name: Mathematics for Electronics
Course Abbreviation: EET 1413
Classification: Vocational–Technical Elective
Description: Coverage of those areas of arithmetic, algebra, geometry, and trigonometry that have applications in electronics (3 sch: 2-hr lecture, 2-hr lab)
Pre/Corequisites: None

Course Name: Computer Fundamentals for Electronics/Electricity
Course Abbreviation: EET 1613
Classification: Vocational–Technical Elective (Electronics Technology, Biomedical Equipment Repair Technology Option, Telecommunications Technology); Vocational–Technical Core (Computer Servicing Technology Associate’s Degree)
Description: Basic computer science as used in electricity/electronics areas. Computer nomenclature, logic, numbering systems, coding, and operating system commands are covered. (3 sch: 2-hr lecture, 2-hr lab)
Prerequisites: None

Course Name: Drafting for Electronic/Electrical Technology
Course Abbreviation: EET 1713
Classification: Vocational–Technical Elective (Computer Servicing Technology Associate’s Degree, Electronics Technology, Telecommunications Technology)
Description: Preparation and interpretation of schematics (3 sch: 1-hr lecture, 4-hr lab)
Prerequisites: None

Course Name: Supervised Work Experience in Biomedical Equipment Repair Technology I
Course Abbreviation: EET 211(3–6)
Classification: Vocational–Technical Core (Biomedical Equipment Repair Technology)
Description: 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 patients’ 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)
Prerequisite: Consent of Instructor
** Executive Summary **

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** Course Name:** Supervised Work Experience in Biomedical Equipment Repair Technology II  
** Course Abbreviation:** EET 222(3–6)  
** Classification:** Vocational–Technical Core (Biomedical Equipment Repair Technology)  
** Description:** 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)  
** Prerequisites:** Consent of Instructor and EET 211(3–6)  

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** Course Name:** Linear Integrated Circuits  
** Course Abbreviation:** EET 2334  
** Classification:** Vocational–Technical Core (Electronics Technology, Biomedical Equipment Repair Technology Option); Vocational–Technical Elective (Telecommunications Technology)  
** Description:** 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)  
** Prerequisite:** Solid State Devices and Circuits (EET 1334)  

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** Course Name:** Electronic Communications  
** Course Abbreviation:** EET 2414  
** Classification:** Vocational–Technical Core (Communications Electronics Repair Technology, Electronics Technology); Vocational–Technical Elective (Biomedical Equipment Repair Technology Option, Telecommunications Technology)  
** Description:** 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)  
** Pre/Corequisite:** Solid State Devices and Circuits (EET 1334)  

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** Course Name:** Fundamentals of Fiber Optics  
** Course Abbreviation:** EET 2423  
** Classification:** Vocational–Technical Core (Biomedical Equipment Repair Technology Option, Telecommunications Technology); Vocational–Technical Elective (Electronics Technology)  
** Description:** Fiber-optic cable in modern industry applications (3 sch: 2-hr lecture, 2-hr lab)  
** Pre/Corequisite:** Electronic Communications (EET 2414)  

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** Course Name:** Interfacing Techniques  
** Course Abbreviation:** EET 2514  
** Classification:** Vocational–Technical Elective (Electronics Technology, Biomedical Equipment Repair Technology Option, Computer Servicing Technology)  
** Description:** Data acquisition devices and systems including their interface to microprocessors and other control systems (4 sch: 2-hr lecture, 4-hr lab)
Prerequisite: Digital Electronics (1214)

Course Name: Digital Television Systems
Course Abbreviation: EET 2823
Classification: Vocational–Technical Core (Communications Electronics Repair Technology); Vocational–Technical Elective (Computer Servicing Technology, Electronics Technology)
Description: 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)
Pre/Corequisite: Solid State Devices and Circuits (EET 1334)

Course Name: Special Project
Course Abbreviation: EET 291(1–3)
Classification: Vocational–Technical Elective (Electronics Technology, Biomedical Equipment Repair Technology Option)
Description: 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)
Prerequisite: Consent of Instructor

Course Name: Supervised Work Experience in Electronics Technology
Course Abbreviation: EET 292(1–6)
Classification: Vocational–Technical Elective (Electronics Technology)
Description: 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 electronics-related programs

Telecommunications Technology Courses

Course Name: Fundamentals of Telecommunications
Course Abbreviation: TCT 1114
Classification: Vocational–Technical Core (Telecommunications Technology); Vocational–Technical Elective (Computer Servicing Technology)
Description: History of voice/data communication, fundamental concepts of analog and digital communications, and basic telephone service (4 sch: 3-hr lecture, 2-hr lab)
Prerequisites: None
Course Name: Telephone Systems
Course Abbreviation: TCT 2214
Classification: Vocational–Technical Core (Telecommunications Technology)
Description: 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)
Pre/Corequisite: Fundamentals of Telecommunications (TCT 1114)

Course Name: PBX Systems
Course Abbreviation: TCT 2224
Classification: Vocational–Technical Elective (Telecommunications Technology)
Description: 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)
Prerequisite: Telephone Systems (TCT 2214)

Course Name: Digital Communications I
Course Abbreviation: TCT 2314
Classification: Vocational–Technical Core (Telecommunications Technology); Vocational–Technical Elective (Computer Servicing Technology)
Description: Theories and applications of digital communications and analog pulse modulation (4 sch: 2-hr lecture, 4-hr lab)
Prerequisites: Fundamentals of Telecommunications (TCT 1114) and Digital Electronics (EET 1214)

Course Name: Digital Communications II
Course Abbreviation: TCT 2324
Classification: Vocational–Technical Core (Telecommunications Technology); Vocational–Technical Elective (Computer Servicing Technology)
Description: Theories and applications of digital modulation methods and digital pulse modulation methods (4 sch: 2-hr lecture, 4-hr lab)
Prerequisite: Digital Communications I (TCT 2314)

Course Name: Microwave and Satellite Systems
Course Abbreviation: TCT 2414
Classification: Vocational–Technical Core (Telecommunications Technology)
Description: Theories and applications of microwave and satellite communications (4 sch: 3-hr lecture, 2-hr lab)
**Pre/Corequisites:** Fundamentals of Telecommunications (TCT 1114) and Solid State Devices and Circuits (EET 1314)

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**Course Name:** Physics for Electronics  
**Course Abbreviation:** EET 2423  
**Classification:** Vocational–Technical Elective  
**Description:** Coverage of those areas of physics that have applications in electronics (3 sch: 2-hr lecture, 2-hr lab)  
**Prerequisites:** None

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**Course Name:** Network Systems  
**Course Abbreviations:** TCT 2424  
**Classification:** Vocational–Technical Elective (Telecommunications Technology)  
**Description:** Networking fundamentals, voice networking, LANs, and the Internet. Also covered is upgrading of computers to support LAN technology. (4 sch: 2-hr lecture, 4-hr lab)  
**Pre/Corequisites:** Telephone Systems (TCT 2214) and Fundamentals of Fiber Optics (EET 2423)

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**Course Name:** Special Project  
**Course Abbreviation:** TCT 291(1–4)  
**Classification:** Vocational–Technical Elective (Telecommunications Technology)  
**Description:** 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)  
**Prerequisite:** Consent of Instructor

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**Course Name:** Supervised Work Experience  
**Course Abbreviation:** TCT 292(1–6)  
**Classification:** Vocational–Technical Elective (Telecommunications Technology)  
**Description:** 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
INFORMATION SYSTEMS TECHNOLOGY

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Information Systems Technology Courses

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Course Name: IT Foundations
Course Abbreviation: IST 1124
Classification: Vocational–Technical Core
Description: This course covers the diagnosis, troubleshooting, and maintenance of computer components and interpersonal communications for 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).
Prerequisite: None

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Course Name: Operating Platforms
Course Abbreviation: CPT 1333
Classification: Vocational–Technical Core
Description: This course will provide experience in a variety of operating platforms. Emphasis will be placed on support personnel interaction with the platform to assist users in business environments (3 sch: 2-hr lecture, 2-hr lab).
Prerequisite: None

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Course Name: Systems Maintenance
Course Abbreviation: CNT 2423/CPT 2383
Classification: Vocational–Technical Core
Description: 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: Operating Platforms (CPT 1333)

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Course Name: Fundamentals of Data Communications
Course Abbreviation: IST 1134
Classification: Vocational–Technical Core
Description: This course presents basic concepts of telephony, local area networks, wide area networks, data transmission, and topology methods (4 sch: 2-hr lecture, 4-hr lab).
Prerequisite: None
Course Name: Security Principles and Policies
Course Abbreviation: IST 1143
Classification: Vocational–Technical Core
Description: 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).
Prerequisite: None

Course Name: Web and Programming Concepts
Course Abbreviation: IST 1154
Classification: Vocational–Technical Core
Description: 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 and post it on the Internet (4 sch: 2-hr lecture, 4-hr lab).
Prerequisite: None

Course Name: Web Development Concepts
Course Abbreviation: WDT 1123
Classification: Vocational–Technical Core
Description: 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).
Prerequisite: None

Course Name: Programming Development Concepts
Course Abbreviation: CPT 1143
Classification: Vocational–Technical Core
Description: 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).
Prerequisite: None

Course Name: Concepts of Database Design
Course Abbreviation: IST 1163
Classification: Vocational–Technical Core
Description: 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).
Prerequisite: None

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Computer Networking Technology Courses

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Course Name: Client Installation and Configuration
Course Abbreviation: IST 1213
Classification: Vocational–Technical Elective
Description: 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).
Prerequisite: None

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Course Name: Network Components
Course Abbreviation: IST 1223
Classification: AOC Core (Computer Networking)
Description: 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)

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Course Name: Network Administration Using Novell
Course Abbreviation: IST 1234
Classification: Vocational–Technical Elective
Description: 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).
Prerequisite: None

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Course Name: Network Administration Using Microsoft Windows Server
Course Abbreviation: IST 1244
Classification: Vocational–Technical Elective
Description: 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).
Prerequisite: None
Course Name: Network Administration Using Linux  
Course Abbreviation: IST 1254  
Classification: Vocational–Technical Elective  
Description: 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).  
Prerequisite: None

Course Name: Network Security  
Course Abbreviation: IST 2213  
Classification: Vocational–Technical Elective  
Description: 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: Network Components (IST 1223)
**Prerequisite:** Network Administration Using Novell (IST 1234)

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**Course Name:** Advanced Network Administration Using Microsoft Windows Server  
**Course Abbreviation:** IST 2254  
**Classification:** Vocational–Technical Elective  
**Description:** 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)

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**Course Name:** Advanced Network Administration Using Linux  
**Course Abbreviation:** IST 2264  
**Classification:** Vocational–Technical Elective  
**Description:** 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)

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**Computer Programming Technology Courses**

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**Course Name:** Visual BASIC Programming Language  
**Course Abbreviation:** IST 1314  
**Classification:** Programming Elective (Computer Networking, Computer Programming, Web Development, Network Security); AOC Core (Database Administration)  
**Description:** 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).  
**Prerequisite:** None

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**Course Name:** Survey of Microcomputer Applications  
**Course Abbreviation:** CPT 1323  
**Classification:** Vocational–Technical Elective  
**Description:** Introduces microcomputer operation, word processing, spreadsheets, and database management (3 sch: 2 hr. lecture, 2 hr. lab).  
**Prerequisite:** None
Course Name: RPG Programming Language  
Course Abbreviation: IST 1324  
Classification: Programming Elective  
Description: 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 permission of instructor

Course Name: COBOL Programming Language  
Course Abbreviation: IST 1334  
Classification: Vocational–Technical Elective  
Description: 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 permission of instructor

Course Name: Java Programming Language  
Course Abbreviation: IST 1714  
Classification: Vocational–Technical Elective  
Description: This introduction to the Java Programming Language is to include sort, loops, arrays, and applets (4 sch: 2 hr. lecture, 4 hr. lab).  
Prerequisite: None

Course Name: Systems Analysis and Design  
Course Abbreviation: IST 2314  
Classification: AOC Core (Computer Programming)  
Description: 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: None

Course Name: Script Programming Language  
Course Abbreviation: IST 2324  
Classification: Programming Elective (Computer Programming)  
Description: 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 consent of instructor
Executive Summary

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Course Name: Advanced Visual BASIC Programming Language
Course Abbreviation: IST 2334
Classification: Programming Elective (Computer Programming)
Description: 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)

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Course Name: Database Programming and Design
Course Abbreviation: IST 2344
Classification: Vocational–Technical Elective
Description: 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: Advanced Visual Basic Programming Language (IST 2334) or permission of instructor

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Course Name: Advanced RPG Programming Language
Course Abbreviation: IST 2354
Classification: Vocational–Technical Elective
Description: 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)

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Course Name: Advanced COBOL Programming Language
Course Abbreviation: IST 2364
Classification: Programming Elective (Computer Programming)
Description: 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)

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Course Name: C Programming Language
Course Abbreviation: IST 2374
Classification: Programming Elective
Description: 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
Course Name: Advanced C Programming Language  
Course Abbreviation: IST 2384  
Classification: Programming Elective (Computer Programming)  
Description: 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)

Course Name: Career Development  
Course Abbreviation: CPT 2133  
Classification: Vocational–Technical Elective  
Description: 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).  
Prerequisite: Written Communications Elective

Course Name: Client-side Programming  
Course Abbreviation: IST 1414  
Classification: Programming Elective (Computer Programming; Database Administration)  
Description: 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)

Course Name: Web Design Applications  
Course Abbreviation: IST 1424  
Classification: Vocational–Technical Elective  
Description: 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)

Course Name: Web Site and Systems Development  
Course Abbreviation: CPT 2354  
Classification: Vocational–Technical Elective  
Description: This course introduces techniques used in systems analysis, 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).  
Prerequisite: Concepts of Database Design (IST 1163) and Web Server (IST 2483) or by permission of instructor.
Executive Summary

Course Name: XML Programming
Course Abbreviation: IST 2424
Classification: Programming Elective
Description: 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)

Course Name: Server-side Programming I
Course Abbreviation: IST 2434
Classification: Programming Elective (Computer Networking; Computer Programming; Database Administration)
Description: 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)

Course Name: Server-side Programming II
Course Abbreviation: IST 2444
Classification: Programming Elective (Computer Networking; Computer Programming; Database Administration)
Description: 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)

Course Name: E-commerce Strategies
Course Abbreviation: IST 2473
Classification: Vocational–Technical Elective
Description: 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)

Course Name: Web Server
Course Abbreviation: IST 2483
Classification: Technical Elective (Computer Networking)
Description: 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); Fundamentals of Data Communication (IST 1134)
Database Administration Technology Courses

Course Name: SQL Programming
Course Abbreviation: IST 1513
Classification: AOC Core (Database Administration); Programming Elective
Description: 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).
Prerequisite: None

Course Name: Advanced SQL Programming
Course Abbreviation: IST 1523
Classification: AOC Core (Database Administration); Programming Elective
Description: 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).
Prerequisite: SQL Programming (IST 1513)

Course Name: Database Architecture and Administration
Course Abbreviation: IST 1534
Classification: AOC Core (Database Administration)
Description: 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).
Prerequisite: SQL Programming (IST 1513)
Corequisite: Advanced SQL Programming (IST 1523)

Course Name: Advanced Database Architecture and Administration
Course Abbreviation: IST 2514
Classification: AOC Core (Database Administration)
Description: 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)

Course Name: Linux Operating System Fundamentals
Course Abbreviation: IST 2524
Classification: AOC Core (Database Administration)
Description: 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)

Course Name: IT Project Management
Course Abbreviation: IST 2534
Classification: AOC Core (Database Administration)
Description: 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); Linux Operating System Fundamentals (IST 2524)

Network Security Technology Courses

Course Name: Computer Forensics
Course Abbreviation: IST 1613
Classification: AOC Core (Network Security)
Description: This course is an introduction to the various technical and administrative aspects of computer forensics and laws pertaining to cybercrime. 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).
Prerequisite: None

Course Name: Network Security Fundamentals
Course Abbreviation: IST 1624
Classification: AOC Core (Network Security)
Description: 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)
Executive Summary

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Course Name: Wireless Security and Privacy  
Course Abbreviation: IST 1633  
Classification: AOC (Network Security)  
Description: 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)

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Course Name: Network Defense and Countermeasures  
Course Abbreviation: IST 1643  
Classification: AOC Core (Network Security)  
Description: 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)

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Course Name: Windows Security  
Course Abbreviation: IST 2613  
Classification: AOC (Network Security)  
Description: 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)

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Course Name: Linux/Unix Security  
Course Abbreviation: IST 2623  
Classification: AOC Core (Network Security)  
Description: This course provides the knowledge and fundamental understanding 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)

Course Name: Security Testing and Implementation
Course Abbreviation: IST 2634
Classification: AOC Core (Network Security)
Description: 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

Baseline, Service, and Related Courses

Course Name: Fundamentals of Information Technology
Course Abbreviation: IST 1113
Classification: Additional Elective
Description: 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).
Prerequisite: None

Course Name: Fundamentals of Microcomputer Applications
Course Abbreviation: CPT 1113
Classification: Service course; not to be taken by Business and Office and Related Technology students
Description: This course will introduce information processing concepts including word processing, spreadsheet, and database management software (3 sch: 2-hr lecture, 2-hr lab).
Prerequisites: None

Course Name: Supervised Work Experience in Information Systems Technology
Course Abbreviation: IST 291(1–6)
Classification: Vocational–Technical Elective
Description: 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
Course Name: Special Problem in Information Systems Technology
Course Abbreviation: IST 292(1–3)
Classification: Vocational–Technical Elective
Description: 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).
Prerequisites: Consent of instructor

Course Name: Work-based Learning I, II, III, IV, V, and VI
Classification: Free Elective
Description: In this structured worksite learning experience, the student, program area teacher, work-based learning coordinator, and worksite supervisor/mentor develop and implement an educational training agreement. It is designed to integrate the student’s academic and technical skills into a work environment. It may include regular meetings and seminars with school personnel and employers for supplemental instruction and progress reviews (1–3 sch: 3- to 9-hr externship).
Prerequisite: Concurrent enrollment in vocational–technical program area courses
Executive Summary

NUCLEAR MEDICINE TECHNOLOGY

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**Course Name:** Radiopharmacy  
**Course Abbreviation:** NMT 1142  
**Classification:** Vocational–Technical Core  
**Description:** This course covers the theory and practice of radiopharmacy including preparation, calculation of the dose to be administered, quality control, radiation safety, and applicable regulations. It also deals with the nonradioactive interventional drugs used in nuclear medicine procedures. Students will gain experience in nuclear laboratories, the clinical setting, as well as a centralized radiopharmacy in order to become proficient in this area. (2 sch: 2-hr lecture)  
**Prerequisite:** Introduction to Nuclear Medicine (NMT 2511)

**Course Name:** Introduction to Nuclear Medicine  
**Course Abbreviation:** NMT 2511  
**Classification:** Vocational–Technical Core  
**Description:** This course offers an overview of the health-care system specific to nuclear medicine technology. Included are health-care systems, health-care communications, professional ethics and law, patient care, and professional development. (1 sch: 1-hr lecture)  
**Prerequisite:** None

**Course Name:** Nuclear Medicine Procedures I  
**Course Abbreviation:** NMT 2523  
**Classification:** Vocational–Technical Core  
**Description:** This course covers the diagnostic procedures currently in use. (3 sch: 3-hr lecture)  
**Prerequisite:** Introduction to Nuclear Medicine (NMT 2511)

**Course Name:** Nuclear Medicine Procedures II  
**Course Abbreviation:** NMT 2533  
**Classification:** Vocational–Technical Core  
**Description:** This course is a continuation of NM Procedures I. More advanced imaging procedures will be covered in this section. It is not exhaustive. Didactic learning is essential even if the student will not obtain clinical experience with each of these procedures. (3 sch: 3-hr lecture)  
**Prerequisite:** Nuclear Medicine Procedures I (NMT 2523)

**Course Name:** Seminar Review  
**Course Abbreviation:** NMT 2541  
**Classification:** Vocational–Technical Core  
**Description:** This course is designed to prepare the student for the NMTCB and ARRT certification examinations. (1 sch: 1-hr lecture)
Pre/corequisite: All NMT courses

Course Name: Nuclear Physics  
Course Abbreviation: NMT 2611  
Classification: Vocational–Technical Core  
Description: This course covers the concepts and physical properties that govern radioactivity and the interactions of radioactivity with matter. (1 sch: 1-hr lecture)  
Prerequisite: Introduction to Nuclear Medicine (NMT 2511)

Course Name: Instrumentation I: Non-Imaging  
Course Abbreviation: NMT 2712  
Classification: Vocational–Technical Core  
Description: This course includes the principles, operation, and quality control for nonimaging instruments including monitoring equipment, dose calibrators, well counters, uptake probes, liquid scintillation systems, and the gamma probe. It also includes the principles and applications of statistics as they relate to these instruments. (2 sch: 2-hr lecture)  
Prerequisite: Introduction to Nuclear Medicine (NMT 2511)

Course Name: Instrumentation II: Imaging  
Course Abbreviation: NMT 2723  
Classification: Vocational–Technical Core  
Description: This course deals with in-depth information on the components, use, and quality control of the various types of systems used for gamma and positron imaging. (3 sch: 3-hr lecture)  
Prerequisite: Introduction to Nuclear Medicine (NMT 2511)

Course Name: Radiation Protection  
Course Abbreviation: NMT 2732  
Classification: Vocational–Technical Core  
Description: This course covers the principles and applications of radiation protection, as well as the applicable regulations. Individual regulations will also be covered in detail in content areas where they apply, such as radiopharmacy, instrumentation, and radionuclide therapy. (2 sch: 2-hr lecture)  
Prerequisite: Introduction to Nuclear Medicine (NMT 2511)

Course Name: Advanced Computer Applications  
Course Abbreviation: NMT 2741  
Classification: Vocational–Technical Core  
Description: This course combines knowledge of computers and specific applications for the acquisition and processing of nuclear medicine studies. In addition, this course covers the
configuration, function, and application of computers in nuclear medicine. Students will gain experience performing data acquisition, manipulation, and processing. (1 sch: 1-hr lecture)

**Prerequisite:** Introduction to Nuclear Medicine (NMT 2511)

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**Course Name:** Clinical I
**Course Abbreviation:** NMT 2816
**Classification:** Vocational–Technical Core

**Description:** This course integrates didactic learning into the practical setting. Record keeping and quality control results are an integral part of all procedures. (6 sch: 18-hr clinical)

**Corequisite:** Nuclear Medicine Procedures I (NMT 2523)

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**Course Name:** Clinical II
**Course Abbreviation:** NMT 2826
**Classification:** Vocational–Technical Core

**Description:** This course continues the integration of didactic learning into the practical setting. Record keeping and quality control results are an integral part of all procedures. (6 sch: 18-hr lecture)

**Corequisite:** Nuclear Medicine Procedures II (NMT 2534)

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**Course Name:** Clinical III
**Course Abbreviation:** NMT 2833
**Classification:** Vocational–Technical Core

**Description:** This course continues the integration of didactic learning into the practical setting. Record keeping and quality control results are an integral part of all procedures. (6 sch: 18-hr lecture)

**Prerequisite:** Clinical II (NMT 2826)
Course Name: Introduction to Safety and Health
Course Abbreviation: HST 1113
Classification: Vocational–Technical Core
Description: This course is an introduction to general safety and health concepts and terms, historical development, program concepts and terms, legislative overview, worker’s compensation, and problem identification. (3 sch: 3-hr lecture)
Prerequisite: None

Course Name: Governmental Regulatory Agencies
Course Abbreviation: HST 1213
Classification: Vocational–Technical Core
Description: This course focuses on federal government organization, regulatory process, regulations and standards as established by the Occupational Safety and Health Administration, Minerals Management Services, United States Coast Guard, and Environmental Protection Agency. (3 sch: 3-hr lecture)
Prerequisite: None

Course Name: Supervisor Safety
Course Abbreviation: HST 1313
Classification: Vocational–Technical Core
Description: This course examines the roles and responsibilities of the first-line supervisor pertaining to safety and health/accident prevention and loss control. (3 sch: 3-hr lecture)
Prerequisite: None

Course Name: Safety and Health Program Development
Course Abbreviation: HST 1413
Classification: Vocational–Technical Core
Description: This course focuses on developing the essential components of a company safety and health program. (3 sch: 3-hr lecture)
Prerequisite: None

Course Name: Safety and Health Program Management
Course Abbreviation: HST 1423
Classification: Vocational–Technical Core
Description: This course focuses on the application of proven management principles and techniques to the management of safety and health and loss control programs. (3 sch: 3-hr lecture)
Prerequisite: None
Course Name: Loss Control
Course Abbreviation: HST 1513
Classification: Vocational–Technical Core
Description: This course examines incident/accident reporting, investigation, cost factors, and remediation factors. (3 sch: 3-hr lecture)
Prerequisite: None

Course Name: OSHA I
Course Abbreviation: HST 2223
Classification: Vocational–Technical Core
Description: This course is an investigation of general industry safety and health standards as required by the Occupational Safety and Health Act (OSHA). (3 sch: 3-hr lecture)
Prerequisite: None

Course Name: Industrial Safety
Course Abbreviation: HST 2323
Classification: Vocational–Technical Core
Description: This course explores the aspects of safety and health in an industrial setting with emphasis on safety philosophy, incident/accident causation, hazard identification, prevention, safeguarding equipment, and people. (3 sch: 3-hr lecture)
Prerequisite: None

Course Name: Safety and Health Communications/Training
Course Abbreviation: HST 2433
Classification: Vocational–Technical Core
Description: This course will explore the communications/training aspects of safety and health program planning with emphasis on organizing and conducting company orientation programs, safety meetings, safety and health training and technical seminars. (3 sch: 3-hr lecture)
Prerequisite: None

Course Name: Safety and Health Seminar
Course Abbreviation: HST 2123
Classification: Vocational–Technical Core
Description: This course analyzes a variety of selected safety and health industry problems under the supervision of the Occupational Safety and Health Technology faculty. (3 sch: 3-hr lecture)
Prerequisite: None
Executive Summary

Course Name: OSHA II
Course Abbreviation: HST 2233
Classification: Vocational–Technical Core
Description: This course will focus on the construction industry safety and health standards as required by the Occupational Safety and Health Act (OSHA). (3 sch: 3-hr lecture)
Prerequisite: None

Course Name: Safety and Health Auditing
Course Abbreviation: HST 2523
Classification: Vocational–Technical Core
Description: This course will analyze compliance audits essential to safety and health. (3 sch: 3-hr lecture)
Prerequisite: None
Executive Summary

RADIOLOGIC TECHNOLOGY

Course Name: Clinical Education I
Course Abbreviation: RGT 1114
Classification: Vocational–Technical Core
Description: 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)
Prerequisite: All core courses as scheduled. CPR-Health Care Provider must be completed before Clinical Education I experience begins.

Course Name: Clinical Education II
Course Abbreviation: RGT 1124
Classification: Vocational–Technical Core
Description: 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)
Prerequisites: All core courses as scheduled

Course Name: Clinical Education III
Course Abbreviation: RGT 1139
Classification: Vocational–Technical Core
Description: 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. (9 sch: 27-hr clinical)
Prerequisites: All core courses as scheduled

Course Name: Fundamentals of Radiography
Course Abbreviation: RGT 1213
Classification: Vocational–Technical Core
Description: 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)
Prerequisites: None

Course Name: Patient Care and Radiography
Course Abbreviation: RGT 1223
Classification: Vocational–Technical Core
Description: 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)

**Prerequisite:** None

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**Course Name:** Principles of Radiation Protection  
**Course Abbreviation:** RGT 1312  
**Classification:** Vocational–Technical Core  
**Description:** 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)

**Prerequisite:** None

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**Course Name:** Imaging Principles  
**Course Abbreviation:** RGT 1413  
**Classification:** Vocational–Technical Core  
**Description:** 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)

**Prerequisite:** None

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**Course Name:** Digital Imaging  
**Course Abbreviation:** RGT 1423  
**Classification:** Vocational–Technical Core  
**Description:** 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 introduced along with guidelines for selecting exposure factors and evaluating 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)

**Prerequisites:** All core courses as scheduled

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**Course Name:** Radiographic Procedures I  
**Course Abbreviation:** RGT 1513  
**Classification:** Vocational–Technical Core  
**Description:** 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)

**Pre/Corequisite:** Anatomy and Physiology I (BIO 1514)

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**Course Name:** Radiographic Procedures II
**Course Abbreviation:** RGT 1523
**Classification:** Vocational–Technical Core
**Description:** 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)

**Prerequisites:** Radiographic Procedures I (RGT 1513)

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**Course Name:** Physics of Imaging Equipment
**Course Abbreviation:** RGT 1613
**Classification:** Vocational–Technical Core
**Description:** This course is designed to establish knowledge based 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)

**Prerequisites:** All core courses as scheduled

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**Course Name:** Ethical and Legal Responsibilities
**Course Abbreviation:** RGT 2132
**Classification:** Vocational–Technical Core
**Description:** 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 patients’ 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)

**Prerequisite:** Fundamentals of Radiography (RGT 1213)

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**Course Name:** Clinical Education IV
**Course Abbreviation:** RGT 2147
**Classification:** Vocational–Technical Core
**Description:** 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)

**Prerequisites:** All core courses as scheduled
Course Name: Clinical Education V  
Course Abbreviation: RGT 2157  
Classification: Vocational–Technical Core  
Description: 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)  
Prerequisites: All core courses as scheduled

Course Name: Radiographic Procedures III  
Course Abbreviation: RGT 2533  
Classification: Vocational–Technical Core  
Description: 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. (3 sch: 2-hr lecture, 2-hr lab)  
Prerequisites: Radiographic Procedures II (RGT 1523)

Course Name: Radiographic Procedures IV  
Course Abbreviation: RGT 2542  
Classification: Vocational–Technical Core  
Description: This course is a study of special radiographic procedures that 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-hr lecture)  
Prerequisites: Radiographic Procedures III (RGT 2532)

Course Name: Radiation Biology  
Course Abbreviation: RGT 2911  
Classification: Vocational–Technical Core  
Description: 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)  
Prerequisites: All core courses as scheduled

Course Name: Radiographic Pathology  
Course Abbreviation: RGT 2921  
Classification: Vocational–Technical Core  
Description: 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. (1 sch: 1-hr lecture)  
Prerequisites: All core courses as scheduled
Course Name: Certification Fundamentals  
Course Abbreviation: RGT 2933  
Classification: Vocational–Technical Core  
Description: This course is designed to correlate scientific components of radiography to entry-level knowledge required by the profession. (3 sch: 3-hr lecture)  
Prerequisites: All core courses as scheduled
**RESPIRATORY THERAPY**

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**Course Name:** Respiratory Care Practicum  
**Course Abbreviation:** RCT 111(1–3)  
**Classification:** Vocational–Technical Elective  
**Description:** This course is designed to provide the student with extended observational time with limited participation in respiratory care modalities. The student gains knowledge of healthcare 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)

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**Course Name:** Respiratory Care Science  
**Course Abbreviation:** RCT 1213  
**Classification:** Vocational–Technical Core  
**Description:** 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)  
**Pre/Corequisites:** Anatomy and Physiology I (BIO 1514 or 2514) and Anatomy and Physiology II (BIO 1524 or 2524)

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**Course Name:** Patient Assessment and Planning  
**Course Abbreviation:** RCT 1223  
**Classification:** Vocational–Technical Core  
**Description:** 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)  
**Pre/Corequisite:** Anatomy and Physiology I (BIO 1514 or 2514) and Anatomy and Physiology II (BIO 1524 or 2524)

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**Course Name:** Cardiopulmonary Anatomy and Physiology  
**Course Abbreviation:** RCT 1313  
**Classification:** Vocational–Technical Core  
**Description:** This course is a study of cardiopulmonary physiology in relation to the practice of respiratory care. (3sch: 3-hr lecture)  
**Pre/Corequisites:** Anatomy and Physiology I (BIO 1514 or BIO 2514) and Anatomy and Physiology II (BIO 1524 or BIO 2524)

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**Course Name:** Pulmonary Function Testing (PFT)  
**Course Abbreviation:** RCT 1322  
**Classification:** Vocational–Technical Core
Description: This course is an introduction to pulmonary function technique and testing equipment. (2 sch: 1-hr lecture, 2-hr lab)
Pre/Corequisite: Cardiopulmonary Anatomy and Physiology (RCT 1313) or instructor approval

Course Name: Respiratory Care Technology I
Course Abbreviation: RCT 1416
Classification: Vocational–Technical Core
Description: 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)
Prerequisites: Anatomy and Physiology I (BIO 1514 or BIO 2514)

Course Name: Respiratory Care Technology II
Course Abbreviation: RCT 1424
Classification: Vocational–Technical Core
Description: This course is a continuation of Respiratory Care Practitioner. 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)
Prerequisite: Respiratory Care Technology I (RCT 1416)

Course Name: Clinical Practice I
Course Abbreviation: RCT 1516
Classification: Vocational–Technical Core
Description: 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)
Pre/Corequisites: Respiratory Care Science (RCT 1213), Patient Assessment and Planning (RCT 1223), Cardiopulmonary Anatomy and Physiology (RCT 1313), and Respiratory Care Technology I (RCT 1516)

Course Name: Clinical Practice II
Course Abbreviation: RCT 1524
Classification: Vocational–Technical Core
Description: 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)
Prerequisites: Clinical Practice I (RCT 1516)

Course Name: Respiratory Care Pharmacology
Course Abbreviation: RCT 1613
Classification: Vocational–Technical Core
Description: This course is designed to introduce the student to the pharmacology related to cardiopulmonary disorders. (3 sch: 3-hr lecture)

Pre/Corequisites: Respiratory Care Science (RCT 1214), Cardiopulmonary Anatomy and Physiology (RCT 1313), and Patient Assessment and Planning (RCT 1223)

Course Name: Cardiopulmonary Pathology
Course Abbreviation: RCT 2333
Classification: Vocational–Technical Core
Description: 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)

Prerequisites: Cardiopulmonary Anatomy and Physiology (RCT 1313)

Course Name: Respiratory Care Technology III
Course Abbreviation: RCT 2434
Classification: Vocational–Technical Core
Description: 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)

Prerequisites: Respiratory Care Technology II (RCT 1424)

Course Name: Clinical Practice III
Course Abbreviation: RCT 2534
Classification: Vocational–Technical Core
Description: In this course, students rotate through various clinical areas for evaluation of competency and performance of respiratory care procedures. (4 sch: 12-hr clinical)

Prerequisites: Clinical Practice II (RCT 1524)

Course Name: Clinical Practice IV
Course Abbreviation: RCT 2546
Classification: Vocational–Technical Core
Description: 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. (6 sch: 18-hr clinical)

Prerequisites: Clinical Practice I (RCT 1516), Clinical Practice II (RCT 1524), and Clinical Practice III (RCT 2534)

Course Name: Neonatal/Pediatrics Management
Course Abbreviation: RCT 2613
**Classification:** Vocational–Technical Core
**Description:** 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)
**Pre/Corequisite:** Respiratory Care Technology III (RCT 2434) and Clinical Practice IV (RCT 2546)

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**Course Name:** Respiratory Care Seminar
**Course Abbreviation:** RCT 2713
**Classification:** Vocational–Technical Core
**Description:** 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)
**Prerequisites:** Respiratory Care Technology III (RCT 2434)
Appendix A: Related Academic Standards

Reading
R1 Interpret Graphic Information (forms, maps, reference sources)
R2 Words in Context (same and opposite meaning)
R3 Recall Information (details, sequence)
R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause–effect)
R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)

Mathematics Computation
M1 Addition of Whole Numbers (no regrouping, regrouping)
M2 Subtraction of Whole Numbers (no regrouping, regrouping)
M3 Multiplication of Whole Numbers (no regrouping, regrouping)
M4 Division of Whole Numbers (no remainder, remainder)
M5 Decimals (addition, subtraction, multiplication, division)
M6 Fractions (addition, subtraction, multiplication, division)
M7 Integers (addition, subtraction, multiplication, division)
M8 Percents
M9 Algebraic Operations

Applied Mathematics
A1 Numeration (ordering, place value, scientific notation)
A2 Number Theory (ratio, proportion)
A3 Data Interpretation (graph, table, chart, diagram)
A4 Pre-Algebra and Algebra (equations, inequality)
A5 Measurement (money, time, temperature, length, area, volume)
A6 Geometry (angles, Pythagorean theory)
A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
A8 Estimation (rounding, estimation)

Language
L1 Usage (pronoun, tense, subject–verb agreement, adjective, adverb)
L2 Sentence Formation (fragments, run-on, clarity)
L3 Paragraph Development (topic sentence, supporting sentence, sequence)
L4 Capitalization (proper noun, titles)
L5 Punctuation (comma, semicolon)
L6 Writing Conventions (quotations marks, apostrophe, parts of a letter)

Spelling
S1 Vowel (short, long)
S2 Consonant (variant spelling, silent letter)
S3 Structural Unit (root, suffix)

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Appendix B: 21st Century Skills

CS1 Global Awareness
- Using 21st century skills to understand and address global issues
- Learning from and working collaboratively with individuals representing diverse cultures, religions, and lifestyles in a spirit of mutual respect and open dialogue in personal, work, and community contexts
- Promoting the study of non-English language as a tool for understanding other nations and cultures

CS2 Financial, Economic, and Business Literacy
- Knowing how to make appropriate personal economic choices
- Understanding the role of the economy and the role of business in the economy
- Applying appropriate 21st century skills to function as a productive contributor within an organizational setting
- Integrating oneself within and adapting continually to our nation’s evolving economic and business environment

CS3 Civic Literacy
- Being an informed citizen to participate effectively in government
- Exercising the rights and obligations of citizenship at local, state, national, and global levels
- Understanding the local and global implications of civic decisions
- Applying 21st century skills to make intelligent choices as a citizen

CS4 Information and Communication Skills
- Information and media literacy skills: Analyzing, accessing, managing, integrating, evaluating, and creating information in a variety of forms and media; understanding the role of media in society
- Communication skills: Understanding, managing, and creating effective oral, written, and multimedia communication in a variety of forms and contexts

CS5 Thinking and Problem-Solving Skills
- Critical thinking and systems thinking: Exercising sound reasoning in understanding and making complex choices, understanding the interconnections among systems
- Problem identification, formulation, and solution: Ability to frame, analyze, and solve problems
- Creativity and intellectual curiosity: Developing, implementing, and communicating new ideas to others, staying open and responsive to new and diverse perspectives

CS6 Interpersonal and Self-Directional Skills
- Interpersonal and collaborative skills: Demonstrating teamwork and leadership, adapting to varied roles and responsibilities, working productively with others, exercising empathy, respecting diverse perspectives
- Self-direction: Monitoring one’s own understanding and learning needs, locating appropriate resources, transferring learning from one domain to another

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Appendix C: National Educational Technology Standards for Students

T1 Basic operations and concepts
- Students demonstrate a sound understanding of the nature and operation of technology systems.
- Students are proficient in the use of technology.

T2 Social, ethical, and human issues
- Students understand the ethical, cultural, and societal issues related to technology.
- Students practice responsible use of technology systems, information, and software.
- Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

T3 Technology productivity tools
- Students use technology tools to enhance learning, increase productivity, and promote creativity.
- Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.

T4 Technology communications tools
- Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.
- Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.

T5 Technology research tools
- Students use technology to locate, evaluate, and collect information from a variety of sources.
- Students use technology tools to process data and report results.
- Students evaluate and select new information resources and technological innovations based on the appropriateness for specific tasks.

T6 Technology problem-solving and decision-making tools
- Students use technology resources for solving problems and making informed decisions.
- Students employ technology in the development of strategies for solving problems in the real-world.

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