

Date: March 15, 2013

To: Board Members

From: Dr. Shawn Mackey, Associate Executive Director for Workforce, Career and Technical Education

Re: 2012 Postsecondary Career and Technical Education Curricula Revisions

As part of the annual curriculum revision and development process in Career & Technical Education, postsecondary curriculum writing and revision teams (consisting of college faculty, deans and directors, business and industry representatives, and curriculum specialists from Mississippi State University's Research and Curriculum Unit) updated and developed the listed postsecondary curricula. All curricula were posted online by the Research and Curriculum Unit at Mississippi State University for validation by college faculty, deans and directors, after which the final validated curricula were posted online at:

<http://www.rcu.msstate.edu/Curriculum/CurriculumDownload.aspx>

This request is for approval to begin the Administrative Procedures Act process with regards to the 2012 Mississippi Postsecondary Curriculum Frameworks.

The following Postsecondary CTE Curriculum Frameworks are recommended for approval:

### **Postsecondary Programs**

- Barber/Stylist (CIP: 12.0402)
- Electrical Technology (CIP:46.0302)
- Fashion Merchandising Technology (CIP:52.1902)
- Fire Science Fire-Fighting Technology (CIP:43.0203)
- Information Systems Technology –Computer Programming Technology (CIP: 11.0201)
- Information Systems Technology –Network Security Technology (CIP:11.1003)
- Information Systems Technology –Computer Networking Technology (CIP: 11.0901)
- Information Systems Technology –Database Administration Technology (CIP:11.0802)
- Interpreter Training Technology (CIP: 16.1603)
- Logistics Technology (CIP: 52.0203)
- Marketing Management Technology (CIP: 52.1401)
- Pharmacy Technology (CIP:51.0805)
- Plumbing Technology (CIP:46.0503)
- Real estate Technology (CIP:52.1501)

Each curriculum framework follows the format established for postsecondary career and technical programs. Draft curricula for each program were revised and reviewed with input from local district personnel and business/industry collaborators. Postsecondary curricula will be approved for implementation immediately following final adoption and must be implemented by August, 2014.

The *Executive Summary-2012 Postsecondary Curricula Frameworks* contains the following elements for each revised postsecondary curricula:

- ❖ Program Description
- ❖ Suggested Course Sequence
- ❖ Listing of Courses
  - >Course Name
  - >Course Abbreviation
  - >Classification
  - >Description (including recommended number of lecture and lab contact hours)
  - >Pre/Corequisites
- ❖ 2012 Curriculum Revisions by Program (with major changes noted)

All curricula frameworks are designed to provide local programs with a foundation that can be used to develop localized instructional management plans and course syllabi. Contents of each framework are not designed to limit the content of a course, but to provide a minimum baseline of instruction, which all programs must meet.

Teachers, administrators, and instructional management personnel are encouraged to expand and enhance the statewide frameworks to better meet the needs of their students.

We request MCCB Board approval to submit these final validated curricula for public review and comment through the process required by the Administrative Procedures Act. The *Executive Summary-2012 Postsecondary Career and Technical Curricula Frameworks* is attached.

2012 REVISED  
CURRICULUM  
FRAMEWORKS FOR  
POSTSECONDARY  
CAREER–TECHNICAL PROGRAMS

POSTSECONDARY  
EXECUTIVE SUMMARY

2012

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**REVISED POSTSECONDARY CAREER AND TECHNICAL EDUCATION  
CURRICULUM FRAMEWORKS  
2012 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. Career–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 career–technical programs. Federal and state legislation calls for articulation between high school and community college programs, integration of academic and career 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. Departments of Education and Labor, provide career and technical educators with the expectations of employers across the United States. All of these factors are reflected in the framework found in this document.

Referenced throughout the courses of the curriculum are the 21st Century Skills, which were developed by the Partnership for 21st Century Skills, a group of business and education organizations concerned about the gap between the knowledge and skills learned in school and those needed in communities and the workplace. A portion of the 21st Century Skills addresses learning skills needed in the 21st century, including information and communication skills, thinking and problem-solving skills, and interpersonal and self-directional skills. Another important aspect of learning and working in the 21st century involves technology skills. The International Society for Technology in Education, developer of the National Educational Technology Standards (NETS), was a strategic partner in the Partnership for 21st Century Skills.

Each postsecondary program of instruction consists of a program description and a suggested sequence of courses that focus on the development of occupational competencies. The MS-CPAS2 blueprints are based upon the suggested course sequences to allow for Career Certificate (Y1) and Technical Certificate (Y2) assessments for all exit options. Please refer to the blueprint online. Each career–technical course in this sequence has been written using a common format, which includes the following components:

- Course Name – A common name that will be used by all community and junior colleges in reporting students
- Course Abbreviation – A common abbreviation that will be used by all community and junior colleges in reporting students

- Classification – Courses may be classified as the following:
  - Career–technical core – A required career–technical course for all students
  - Area of concentration (AOC) core – A course required in an area of concentration of a cluster of programs
  - Career–technical elective – An elective career–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
- 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 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 or revised
  - Activities that include integration of academic and career–technical skills and course work, school-to-work transition activities, and articulation of secondary and postsecondary career–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 all of the required Career Certificate courses, Technical Certificate courses **AND** a minimum of 15 semester hours of General Education Core Courses. The courses in the General Education Core may be spaced out over the entire length of the program so that students complete some academic and Career Technical courses each semester. Each community college specifies the actual courses that are required to meet the General Education Core Requirements for the Associate of Applied Science Degree at their college. The following 2012 SACS standard applies.

- *Section 2.7.3 For degree completion in associate programs, the component constitutes a minimum of 15 semester hours or the equivalent. These credit hours are to be drawn from and include at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural science/mathematics.*

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

- Adding new competencies and suggested objectives to complement the existing competencies and suggested objectives in the program framework.
- Revising or extending the suggested objectives for individual competencies
- Adjusting the semester credit hours of a course to be up 1 hour or down 1 hour (after informing the Mississippi Community College Board [MCCB] of the change)

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

- Sequencing courses within the suggested course sequence reflecting the new assessment format
- Developing and adding a new course that meets specific needs of industries and other clients in the community or junior college district (with MCCB approval)
- Adding courses listed in the “Approved Career and Technical Electives List” as local certificate and degree completion requirements to meet specific needs of industries and other clients in the community. The “Approved Career and Technical Electives” are currently approved in the Uniform Course Numbering Book; therefore, MCCB approval is not required.

## **COMMUNITY/JUNIOR COLLEGE CAREER–TECHNICAL PROGRAMS 2012 REVISION**

- Postsecondary Barber/Stylist (CIP: 12.0402)
- Postsecondary Electrical Technology (CIP:46.0302)
- Postsecondary Fashion Merchandising Technology (CIP:52.1902)
- Postsecondary Fire Science Fire-Fighting Technology (CIP:43.0203)
- Postsecondary Information Systems Technology –Computer Programming Technology (CIP: 11.0201)
- Postsecondary Information Systems Technology –Network Security Technology (CIP:11.1003)
- Postsecondary Information Systems Technology –Computer Networking Technology (CIP: 11.0901)
- Postsecondary Information Systems Technology –Database Administration Technology (CIP:11.0802)
- Postsecondary Interpreter Training Technology (CIP: 16.1603)
- Postsecondary Logistics Technology (CIP: 52.0203)
- Postsecondary Marketing Management Technology (CIP: 52.1401)
- Postsecondary Pharmacy Technology (CIP:51.0805)
- Postsecondary Plumbing Technology (CIP:46.0503)
- Postsecondary Real Estate Technology (CIP:52.1501)

## Table of Contents

FOREWORD .....	5
COMMUNITY/JUNIOR COLLEGE CAREER-TECHNICAL PROGRAMS .....	8
PROGRAM DESCRIPTIONS AND SUGGESTED COURSES SEQUENCES .....	10
Barber/Stylist .....	10
Electrical Technology .....	16
Fashion Merchandising .....	23
Fire Protection Technology.....	30
Information Systems Technology .....	35
Interpreter Training Technology.....	63
Logistics Technology.....	69
Marketing Management .....	73
Pharmacy Technology .....	80
Plumbing Technology.....	83
Real Estate Technology .....	89
LISTING OF COURSES.....	96
Barber/Stylist .....	96
Electrical Technology .....	99
Fashion Merchandising .....	108
Fire Protection Technology.....	111
Information Systems Technology .....	116
Information Systems Technology Core Courses .....	116
Computer Networking Technology Courses .....	119
Computer Programming Technology Courses.....	122
Database Administration Technology Courses.....	128
Networking Security Technology Courses .....	130
Baseline, Service, and Related Courses .....	132
Interpreter Training.....	134
Logistics Technology.....	138
Marketing Management Technology .....	141
Pharmacy Technology .....	145
Plumbing Technology.....	149
Real Estate Technology .....	153
Appendix A: Related Academic Standards.....	155
Appendix B: 21 <sup>st</sup> Century Skills .....	156
2012 Curriculum Revisions by Program.....	158

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## **PROGRAM DESCRIPTIONS AND SUGGESTED COURSE SEQUENCES**

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### **BARBER/STYLIST**

The Barber/Stylist postsecondary instructional program prepares individuals to cut, color, perm, shampoo, and style hair. Students are also instructed on the proper techniques for facial massaging and shaving. Special attention is given to hygiene, safety, skin, scalp diseases, and equipment sterilization. Included is the study of sales, business management, laws governing the profession of barbering, and customer relationships. Instruction qualifies students for the MS State Board of Barber Examiners certification examination.

#### **PROGRAM REQUIREMENTS**

Mississippi laws governing the profession of barbering require completion of not less than 1500 hours of study at a barbering school approved by the MS State Board of Barber Examiners to become qualified to receive a certificate of registration to practice barbering. The academic requirements may be satisfied by successfully completing three semesters of study and with documentation of a high school diploma or GED and meet the college's entry requirements for the program.

The curriculum for Barber/Stylist is based upon data collected from curricula guides, state board documents, input from the business community, and a revision team. The listing of tasks from these sources served as baseline data for the development 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 include use of the appropriate equipment needed to accomplish certain tasks. It is also assumed that each student will receive instruction to locate and use current reference materials from publications which present manufacturers' recommended or required specifications and procedures for doing the various tasks.
2. The individual program should have detailed, written 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 which 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 business community.

## **Program Description Barber Instructor Training Option**

This instructional program prepares individuals to teach others to cut, perm, color, relax, and style hair. Student instructors will also learn to teach proper administration of facials, straight razor shaves, as well as the significance of hygiene, sanitation, safety, skin and scalp diseases, and equipment sterilization. Finally, this program will prepare individuals to teach others in the area of sales, business management, state law and customer relationships. Satisfactory completion of the courses qualifies students for the MS State Board of Barber Examiners instructor licensing examination.

### **PROGRAM REQUIREMENTS**

The curriculum is designed for students who currently hold a valid Mississippi barber license. Student instructors who do not have two years active experience must complete a minimum of 1000 hours of the instructor training program, while those who have two or more active years of experience must complete a minimum of 600 hours of the program. The curriculum complies with the standards of the MS State Board of Barber Examiners, and successful completion of the program qualifies students for the state licensing examination for barber instructors.

***\*\*Please follow the MS State Board of Barber Examiners rules and regulations.\*\****

The curriculum for the Barber Instructor Training Option is based upon data collected from curricula guides, state board documents, input from businesses, and a revision team. The listing of tasks, which falls within the laws, rules, and regulations of the MS State Board of Barber Examiners, serves as the baseline data for the development of this curriculum and 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 includes use of the appropriate equipment needed to accomplish certain tasks. It is also assumed that each student will receive instruction to locate and use current reference materials from 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 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 business.

## Suggested Course Sequences Barber/Stylist

### Technical Certificate Option

A Technical Certificate will be awarded upon completion of all the following technical courses in the Barber/Stylist program.

BAV 1118	Basic Practices in Barbering	8 sch: 2 hr. lecture, 18 hr lab
BAV 1218	Fundamental Practices in Barbering I	8 sch: 3 hr. lecture, 15 hr. lab
BAV 1318	Fundamental Practices in Barbering II	8 sch: 2 hr. lecture, 18 hr. lab
BAV 1418	Intermediate Practices in Barbering I	8 sch: 3 hr. lecture, 15 hr. lab
BAV 1518	Intermediate Practices in Barbering II	8 sch: 6 hr. lecture, 6 hr. lab
BAV 1618	Advanced Practices in Barbering	8 sch: 6 hr. lecture, 6 hr. lab
	Total Semester Credit Hours for a Technical Certificate	48 sch

### Instructor Training Certificate Option

An Instructor Training Certificate will be awarded upon completion of all required Technical Certificate courses **AND** the following required instructor courses in the Barber/Stylist program.

	Instructor Training Certificate Option	48 sch
BAV 2217	Barber Training I	7 sch: 2 hr. lecture 15 hr. lab
BAV 2227	Barber Training II	7 sch: 2 hr. lecture 15 hr. lab
BAV 2237	Barber Training III	7 sch: 2 hr. lecture, 15 hr. lab
BAV 2247	Barber Training IV	7 sch: 2 hr. lecture, 15 hr. lab
	Total Semester Credit Hours for an Instructor Training Certificate	76 sch

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





## Associate of Applied Science Degree Option

To receive the Associate of Applied Science (AAS) degree in barber/stylist, a student must complete all of the required technical-certificate courses **AND** a minimum of 15 semester hours of general education core courses. The courses in the general education core may be spaced out over the entire length of the program so that students complete some academic and career technical courses each semester. Each community college specifies the actual courses that are required to meet the general education core requirements for the Associate of Applied Science degree at the college. The following 2012 SACS standard applies.

*Section 2.7.3 For degree completion in associate programs, the component constitutes a minimum of 15 semester hours or the equivalent. These credit hours are to be drawn from and include at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural science/mathematics.*

A student must complete the following minimum credit requirements for the AAS degree option:

Technical Certificate	48 credits minimum
Instructor Training Certificate	28 credit minimum (optional)
General Education Core Courses	15 credits minimum
Total Semester Credit Hours for the Associate of Applied Science Degree	63 credits minimum

Approved career–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 area. In order to provide flexibility within the districts, individual courses within a framework may be customized by doing the following:

- Adding new competencies and suggested objectives to complement the existing competencies and suggested objectives in the program framework
- Revising or extending the suggested objectives for individual competencies
- Adjusting the semester credit hours of a course to be up 1 hour or down 1 hour (**after informing the Mississippi Community College Board [MCCB] of the change**)

## ELECTRICAL TECHNOLOGY

The Postsecondary Electrical Technology program prepares individuals to install, operate, maintain, and repair electrical systems. These systems include residential, commercial, and industrial wiring, 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 career and technical program designed to provide its students with technical skills. 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). Also, the National Electrical Code was used to ensure compliance with applicable codes.

The listing of tasks served as a baseline 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 Electrical Technology program offers a Career certificate, Technical certificate and/or an Associate of Applied Science Degree.

## Suggested Course Sequence Electrical Technology

### Career Certificate Option

A Career Certificate will be awarded upon completion of the required courses for the Career Certificate option in Electrical Technology.

<b>*ELT 1113</b>	<b>Residential/Light Commercial Wiring</b>	<b>3 sch: 2 hr lecture, 2 hr lab</b>
<b>*ELT 1123</b>	<b>Commercial and Industrial Wiring</b>	<b>3 sch: 2 hr lecture, 2 hr lab</b>
<b>*ELT 1144<sup>+</sup></b>	<b>AC and DC Circuits for Electrical Technology</b>	<b>4 sch: 2 hr lecture, 4 hr lab</b>
<b>*ELT 1192-3</b>	<b>Fundamentals of Electricity</b>	<b>2-3 sch: 1 hr lecture, 2-4 hr lab</b>
<b>*ELT 1213</b>	<b>Electrical Power</b>	<b>3 sch: 2 hr. lecture, 2 hr. lab</b>
<b>*ELT 1253</b>	<b>Branch Circuit and Service Entrance Calculations</b>	<b>3 sch: 2 hr. lecture, 2 hr. lab</b>
<b>*ELT 1263</b>	<b>Blueprint Reading/Planning in Residential Installation</b>	<b>3 sch: 2 hr lecture, 2 hr lab</b>
<b>*ELT 1413</b>	<b>Motor Control Systems</b>	<b>3 sch: 2 hr lecture, 2 hr lab</b>
	Approved Career Technical Electives	5 -6 sch
	Total Semester Credit Hours for a Career Certificate	30 sch

+ DC Circuits (EET 1114) and AC Circuits (EET 1123) may be taken instead of AC and DC Circuits for Electrical Technology (ELT 1144) and the 3 hour elective.

**\*These course competencies will be assessed in the MSCPAS2 Career certificate (Y1) assessment.**

Students who lack entry level skills in math, English, science, etc. will be provided related studies.

## Suggested Course Sequence Electrical Technology

### Technical Certificate Option

A Technical Certificate will be awarded upon completion of all required Career Certificate courses **AND** the following required Technical Certificate courses in the Electrical Technology program.

	Career Certificate	30 sch
<b>*ELT 2113-4</b>	<b>Equipment Maintenance, Troubleshooting, and Repair</b>	<b>3-4 sch: 1hr lecture, 4-6 hr lab</b>
<b>*ELT 2424</b>	<b>Solid State Motor Control</b>	<b>4 sch: 2 hr lecture, 4 hr lab</b>
<b>*ELT 2613</b>	<b>Programmable Logic Controllers</b>	<b>3 sch: 1 hr. lecture, 4 hr. lab</b>
	Approved Career Technical Electives	4-5 sch
	Total Semester Credit Hours for a Technical Certificate	45 sch

**\*These course competencies will be assessed in the MSCPAS2 Technical certificate (Y2) assessment.**

## Suggested Course Sequence Electrical Technology

### Associate of Applied Science Degree Option

To receive the Associate of Applied Science Degree in Electrical Technology, a student must complete all of the required Career Certificate courses, Technical Certificate courses **AND** a minimum of 15 semester hours of General Education Core Courses. The courses in the General Education Core may be spaced out over the entire length of the program so that students complete some academic and Career Technical courses each semester. Each community college specifies the actual courses that are required to meet the General Education Core Requirements for the Associate of Applied Science Degree at their college. The following 2012 SACS standard applies.

Section 2.7.3 For degree completion in associate programs, the component constitutes a minimum of 15 semester hours or the equivalent. These credit hours are to be drawn from and include at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural science/mathematics.

A student must complete the following minimum credit requirements for the AAS Degree Option:

Career Certificate	30 credits minimum
Technical Certificate	15 credits minimum
General Education Core Courses	15 credits minimum
Total Semester Credit Hours for the Associate of Applied Science Degree	60 credits minimum hours earned as a compilation of Career, Technical, and Academic credit hours.

Approved Career–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 area.

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

- Adding new competencies and suggested objectives to complement the existing competencies and suggested objectives in the program framework.
- Revising or extending the suggested objectives for individual competencies
- Adjusting the semester credit hours of a course to be up 1 hour or down 1 hour (**after informing the Mississippi Community College Board [MCCB] of the change**)

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

- Sequencing courses within the suggested course sequence to reflecting the new assessment format

- Developing and adding a new course that meets specific needs of industries and other clients in the community or junior college district (**with MCCB approval**)
- Adding courses listed in the “Approved Career and Technical Electives List” as local certificate and degree completion requirements to meet specific needs of industries and other clients in the community. The “Approved Career and Technical Electives” are currently approved in the Uniform Course Numbering Book; therefore, MCCB approval is **not** required.

**APPROVED CAREER AND TECHNICAL ELECTIVES**  
for  
**Electrical Technology**

CPT 1113	Fundamentals of Microcomputer Applications†	3 sch: See Appropriate Program Description
CTE 1143	Fundamentals of Construction and Manufacturing	(3 sch: 2 hr. lecture, 2 hr. lab)
CTE 1153	Computational Methods for Career and Technical Education	(3 sch: 2-hr lecture, 2-hr lab)
CTE 1163	Introduction to Sustainable and Renewable Energy	(3 sch: 2-hr lecture, 2-hr lab)
EET 1214	Digital Electronics	3 sch: See Appropriate Program Description
EET 1334	Solid State Devices and Circuits	3 sch: See Appropriate Program Description
EET 1613	Computer Fundamentals for Electronics/Electricity†	3 sch: See Appropriate Program Description
EET 2423	Fundamentals of Fiber Optics	3 sch: See Appropriate Program Description
ELT 100(3-6)	Introduction to Electrical Technology	(3 sch: 1 hr lecture, 4 hr lab; 6 sch: 2 hr lecture, 8 hr lab)
ELT 1013	Introduction to Electrical Technology I	(3 sch: 1 hr lecture, 4 hr lab)
ELT 1023	Introduction to Electrical Technology II	(3 sch: 1 hr lecture, 4 hr lab)
ELT 1133	Introduction to the National Electric Code	3 sch: 2 hr lecture, 2 hr lab
ELT 1153	Computational Methods for Electrical Technology	3 sch: 2 hr lecture, 2 hr lab
ELT 1163	Drafting for Electrical Technology	3 sch: 1 hr lecture, 4 hr lab
ELT 1223	Motor Maintenance and Troubleshooting	3 sch: 2 hr lecture, 2 hr lab
ELT 1253	Branch Circuit and Service Entrance Calculations	3 sch: 2 hr lecture, 2 hr lab
ELT 1263	Blueprint Reading/Planning in Residential Installation	3 sch: 2 hr lecture, 2 hr lab
ELT 1273	Switching Circuits for Residential, Commercial, and Industrial Applications	3 sch: 2 hr lecture, 2 hr lab
ELT 1283	Estimating the Cost of a Residential Installation	3 sch: 2 hr lecture, 2 hr lab
ELT 1313	Automated Manufacturing Control for Electricity	3 sch: 2 hr lecture, 2 hr lab
ELT 1324	Calibration and Measurement Principles used in the Electrical Industry	4 sch: 3 hr lecture, 2 hr lab
ELT 1334	Flexible Manufacturing Systems for Electrical Technology	4 sch: 2 hr lecture, 4 hr lab
ELT 1343	Fundamentals of Instrumentation	3 sch: 2 hr lecture, 2 hr lab
ELT 1353	Fundamentals of Robotics for Electrical	3 sch: 2 hr lecture, 2 hr lab

	Technology	
ELT 1363	Industrial Hydraulics for Electrical Technology	3 sch: 2 hr lecture, 2 hr lab
ELT 1373	Industrial Pneumatics for Electrical Technology	3 sch: 2 hr lecture, 2 hr lab
ELT 1383	Industrial Robotics for Electrical Technology	3 sch: 2 hr lecture, 2 hr lab
ELT 1393	Servo Control Systems for Electrical Technology	3 sch: 2 hr lecture, 2 hr lab
ELT 1434	Solid State Devices and Circuits for Electrical Technology	4 sch: 2 hr lecture, 4 hr lab
ELT 1513	Data Acquisition and Communications	3 sch: 2 hr lecture, 2 hr lab
ELT 1523	Fundamentals of Fiber Optics for Electrical Technology	3 sch: 2 hr lecture, 2 hr lab
ELT 1533	Fundamentals of Data Communications for Electrical Technology	3 sch: 2 hr lecture, 2 hr lab
ELT 1544	Network Systems for Electrical Technology	4 sch: 2 hr lecture, 4 hr lab
ELT 1553	Satellite Systems	3 sch: 1 hr lecture, 4 hr lab
ELT 1564	Telephone Systems for Special Systems Electrical Technology	4 sch: 3 hr lecture, 2 hr lab
ELT 1614	Principles of Hydraulics and Pneumatics	3-4 sch: 1 hr lecture, 4-6 hr lab
ELT 2113-4	Equipment Maintenance, Troubleshooting, and Repair	3-4 sch: 1 hr lecture, 4-6 hr lab
ELT 2213	Introduction to Sustainable and Renewable Energy	3 sch: 2 hr lecture, 2 hr lab
ELT 2613	Programmable Logic Controllers	3 sch: 2 hr lecture, 2 hr lab
ELT 2623	Advanced Programmable Logic Controllers	3 sch: 2 hr lecture, 2 hr lab
IMM 1933	Manufacturing Skills	3 sch: See Appropriate Program Description
ELT 291(1-3) ELT 293(1-3)	Special Project I Special Project II	3 sch: 2-6 hr. lab
ELT 292(1-6) ELT 294(1-6)	Supervised Work Experience I Supervised Work Experience II	1-6 sch: 3-18 hr. externship
WBL 191(1-3) WBL 192(1-3) WBL 193(1-3) WBL 291(1-3) WBL 292(1-3) WBL 293(1-3)	Work-Based Learning	1-3 sch: 3-9 hr. externship
<p><b>Other instructor approved electives that are listed in the MCCB approved CTE or Academic Uniform Course Numbering document.</b></p>		

## **FASHION MERCHANDISING**

The Fashion Merchandising program of study is designed to provide specialized instruction in all phases of fashion marketing in order to prepare students for careers in the fashion industry, such as a sales manager, wardrobe consultant, buyer, wholesale market representative, visual merchandiser, and fashion director. A combination of class work and practical experience is stressed.

Career certificate and technical certificate options are embedded in the program that can be stacked as a student progresses through the program; allowing them to develop a “portfolio” of credentials that will serve them even if they do not complete a full degree program. These certificates, each of which will build upon the other, ultimately stack into an Associate of Applied Science degree in Fashion Merchandising.

## Suggested Course Sequence

### Fashion Merchandising

#### Career Certificate Option

A Career Certificate will be awarded upon completion of the required courses for the Career Certificate option in Fashion Merchandising.

<b>*FMT 1213</b>	<b>Fashion Marketing</b>	<b>3 sch: 2 hr lecture, 2 hr lab</b>
<b>*FMT 2513</b>	<b>Image and Wardrobe Consulting</b>	<b>3 sch: 1-hr lecture, 4-hr lab</b>
<b>*FMT 1223</b>	<b>Product Knowledge</b>	<b>3 sch: 2 hr lecture, 2 hr lab</b>
FMT 1313	Fundamentals of Textiles	3 sch: 2 hr lecture, 2 hr lab
MMT 1113	Principles of Marketing	3 sch: 3 hr lecture
	Approved Career-Technical Electives	15 sch
	Total Semester Credit Hours for a Career Certificate	30 sch

The MSCPAS2 Y1 test will be administered upon completion of the above courses.

**\*These course competencies will be assessed using the MSCPAS2 Y1 test.**

Students who lack entry level skills in math, English, science, etc. will be provided related studies.

## Suggested Course Sequence

### Fashion Merchandising

#### Technical Certificate Option

A Technical Certificate will be awarded upon completion of all required Career Certificate courses **AND** the following required Technical Certificate courses in the Fashion Merchandising program.

	Career Certificate	30 sch
<b>*FMT 2414</b>	<b>Visual Merchandising</b>	<b>4 sch: 2-hr lecture, 4-hr lab</b>
<b>*FMT 1113</b>	<b>Fashion Design Fundamentals</b>	<b>3 sch: 2 hr lecture, 2 hr lab</b>
<b>*MMT 2423</b>	<b>Retail Management</b>	<b>3 sch: 3 hr lecture</b>
FMT 1233	Buying Fundamentals	3 sch: 2 hr lecture, 2 hr lab
	Approved Career-Technical Electives	2 sch**
	Total Semester Credit Hours for a Technical Certificate	45 sch

The MSCPAS2 Y2 test will be administered upon completion of the above courses.

**\*These course competencies will be assessed using the MSCPAS2 Y2 test.**

\*\*These are the minimum credit hours of approved career-technical electives needed to meet the 45-hour requirement; however, it is understood that there will be cases when students will have a surplus of credit hours because most approved career-technical electives exceed the minimum credit hours required.

## Suggested Course Sequence

### Fashion Merchandising

#### Associate of Applied Science Degree Option

To receive the Associate of Applied Science Degree in Fashion Merchandising, a student must complete all of the required Career Certificate courses, Technical Certificate courses **AND** a minimum of 15 semester hours of General Education Core Courses. The courses in the General Education Core may be spaced out over the entire length of the program so that students complete some academic and career-technical courses each semester. Each community college specifies the actual courses that are required to meet the General Education Core Requirements for the Associate of Applied Science Degree at their college. The following 2012 SACS standard applies.

Section 2.7.3 For degree completion in associate programs, the component constitutes a minimum of 15 semester hours or the equivalent. These credit hours are to be drawn from and include at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural science/mathematics.

A student must complete the following minimum credit requirements for the AAS Degree Option:

Career Certificate	30 credits minimum
Technical Certificate	15 credits minimum
General Education Core Courses	15 credits minimum
Total Semester Credit Hours for the Associate of Applied Science Degree	60 credits minimum hours earned as a compilation of Career, Technical, and Academic credit hours.

Approved career-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 area.

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

- Adding new competencies and suggested objectives to complement the existing competencies and suggested objectives in the program framework.
- Revising or extending the suggested objectives for individual competencies
- Adjusting the semester credit hours of a course to be up 1 hour or down 1 hour (**after informing the Mississippi Community College Board [MCCB] of the change**)

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

- Sequencing courses within the suggested course sequence to reflect the new assessment format
- Developing and adding a new course that meets specific needs of industries and other clients in the community or junior college district (**with MCCB approval**)
- Adding courses listed in the “Approved Career-Technical Electives” as local certificate and degree completion requirements to meet specific needs of industries and other clients in the community. The “Approved Career-Technical Electives” are currently approved in the Uniform Course Numbering Book; therefore, MCCB approval is **not** required.

## APPROVED CAREER-TECHNICAL ELECTIVES FOR FASHION MERCHANDISING

FMT 2613	Fashion Show Production	3 sch: 1-hr lecture, 4-hr lab
FMT 2623	Fashion Forecasting	3 sch: 1-hr lecture, 4-hr lab
FMT 291(1-6)	Internship in Fashion Marketing Technology	1-6 sch: 3- to 18-hr externship
FMT 292(1-6)	Fashion Cooperative Education	1-6 sch: 3- to 18-hr externship
MMT 1123	Marketing Applications	3 sch: 3-hr lecture
MMT 1313	Selling	3 sch: 3-hr lecture
MMT 1323	Advertising	3 sch: 3-hr lecture
MMT 1413	Merchandising Math	3 sch: 3 hr lecture
MMT 171(1-3)	Marketing Seminar I, II, III, IV, and V	1-3 sch: 2-6 hr lab
MMT 172(1-3)		
MMT 173(1-3)		
MMT 174(1-3)		
MMT 175(1-3)		
MMT 2213	Principles of Management	3 sch: 3-hr lecture
MMT 2233	Human Resources Management	3 sch: 3 hr lecture
MMT 2243	Marketing Case Studies	3 sch: 3 hr lecture
MMT 2313	E-Commerce Marketing	3 sch: 3 hr lecture
MMT 2333	Multimedia Presentations for Marketing	3 sch: 2-hr lecture, 2-hr lab
MMT 2343	Marketing Web Page Design	3 sch: 2 hr lecture, 2 hr lab
MMT 2513	Entrepreneurship	3 sch: 3 hr lecture
MMT 2523	Event Management	3 sch: 2 hr lecture, 2 hr lab
MMT 2613	International Marketing	3 sch: 3-hr lecture
MMT 291(1-6)	Internship in Marketing Management	1-6 sch: 3- to 18-hr externship
MMT 292(1-6)	Marketing Cooperative Education	1-6 sch: 3- to 18-hr externship
BOT 1133	Microcomputer Applications	3 sch: 3-hr lecture OR 2-hr lecture, 2-hr lab

BOT 1313	Applied Business Math	3 sch: 3 hr lecture
BOT 2813	Business Communications	3 sch: 3 hr lecture
CAT 1113	Graphic Design and Production	3 sch: 6 hr. lab
CPT 1323	Survey of Microcomputer Applications	3 sch: 2 hr. lecture, 2 hr. lab
LET 1113	Intro to Law	3 sch: 3 hr lecture
MDT 1244 COM 2483	Principles of Mass Communication	4 sch: 4 hr. lecture
WBL 191(1-3) WBL 192(1-3) WBL 193(1-3) WBL 291(1-3) WBL 292(1-3) WBL 293(1-3)	Work-Based Learning	1-3 sch: 3-9 hr. externship
Other instructor approved electives that are listed in the MCCB approved CTE Uniform Course Numbering document.		

APPROVED ACADEMIC ELECTIVES FOR FASHION MERCHANDISING

ECO 2113	Principles of Macroeconomics	3 sch: 3 hr lecture
ECO 2123	Principles of Microeconomics	3 sch: 3 hr lecture
Other instructor approved electives that are listed in the MCCB approved Academic Uniform Course Numbering document.		

## FIRE PROTECTION TECHNOLOGY

Fire Protection Technology is an instructional program that prepares individuals to provide firefighting and basic emergency care. Firefighters also function as a part of the EMS response, providing skills and knowledge in a variety of emergencies. Fire Protection Technology may be taught as a Career Certificate, Technical Certificate, and an Associate of Applied Science (AAS) degree. Courses taken as part of the Career Certificate can be transferred to the Technical Certificate and the AAS degree program. Students who complete the program are eligible to take certification courses at the Mississippi Fire Academy.

The certification courses are based on professional qualification standards referenced by the Mississippi Fire Personnel Minimum Standards and Certification Board and the Mississippi Fire Academy (<http://www.mid.state.ms.us/fireacad/>) as developed by the National Fire Association, National Fire Protection Association (<http://www.nfpa.org/>), and the United States Fire Administration (<http://www.usfa.fema.gov/>).

## Suggested Course Sequence

### Fire Protection Technology

#### Career Certificate Option

A Career Certificate will be awarded upon completion of the required courses for the Career Certificate option in Fire Science Technology.

FFT 1113	FFT 1113 Introduction to Fire Science	<b>3 sch: 3 hr lecture</b>
FFT 1123	FFT 1123 Introduction to Fire Prevention	<b>3 sch: 3 hr lecture</b>
FFT 1213	FFT 1213 Firefighting Principles and Practices	<b>3 sch: 3 hr lecture</b>
FFT 1223	FFT 1223 Fire Apparatus and Hydraulics	<b>3 sch: 3 hr lecture</b>
FFT 2313	FFT 2313 Disaster Management	<b>3 sch: 3 hr lecture</b>
FFT 2323	FFT 2323 Building Construction	<b>3 sch: 3 hr lecture</b>
FFT 2333	FFT 2333 Fire Fighter Safety	<b>3 sch: 3 hr lecture</b>
FFT 2413	FFT 2413 Strategy and Tactics	<b>3 sch: 3 hr lecture</b>
FFT 2423	FFT 2423 Incident Management Systems	<b>3 sch: 3 hr lecture</b>
FFT 2433	FFT 2433 Special Problems in Fire Protection	<b>3 sch: 3 hr lecture</b>
	<b>Total Semester Credit Hours for a Career Certificate</b>	<b>30 sch</b>

Students who lack entry level skills in math, English, science, etc. will be provided related studies.

## Technical Certificate Options

A Technical Certificate will be awarded upon completion of all required Career Certificate courses **AND** the following required Technical Certificate courses in the Fire Science Technology program.

### Fire Administration Technical Certificate Option

	Career Certificate	30 sch
FFT 1813	FFT 1813 Fire Law	<b>3 sch: 3 hr lecture</b>
FFT 2813	FFT 2813 Fire Department Management	<b>3 sch: 3 hr lecture</b>
FFT 2823	FFT 2823 Fire Service Supervision	<b>3 sch: 3 hr lecture</b>
FFT 2833	FFT 2833 Financial Management	<b>3 sch: 3 hr lecture</b>
	Approved Elective	<b>3 sch</b>
	<b>Total Semester Credit Hours for a Technical Certificate</b>	<b>45 sch</b>

### Community Fire Risk Management Technical Certificate Option

	Career Certificate	30 sch
FFT 1913	Planning for Fire and Emergency Services	<b>3 sch: 3 hr lecture</b>
FFT 2913	Delivery of Fire and Emergency Services	<b>3 sch: 3 hr lecture</b>
FFT 2923	Community Risk Management I	<b>3 sch: 3 hr lecture</b>
FFT 2933	FFT 2933 Community Risk Management II	<b>3 sch: 3 hr lecture</b>
	Approved Elective	<b>3 sch</b>
	<b>Total Semester Credit Hours for a Technical Certificate</b>	<b>45 sch</b>

## Associate of Applied Science Degree Option

To receive the Associate of Applied Science Degree in Fire Science Technology, a student must complete all of the required Career Certificate courses, Technical Certificate courses **AND** a minimum of 15 semester hours of General Education Core Courses. The courses in the General Education Core may be spaced out over the entire length of the program so that students complete some academic and Career Technical courses each semester. Each community college specifies the actual courses that are required to meet the General Education Core Requirements for the Associate of Applied Science Degree at their college. The following 2012 SACS standard applies.

Section 2.7.3 For degree completion in associate programs, the component constitutes a minimum of 15 semester hours or the equivalent. These credit hours are to be drawn from and include at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural science/mathematics.

A student must complete the following minimum credit requirements for the AAS Degree Option:

Career Certificate	30 credits minimum
Technical Certificate	15 credits minimum
General Education Core Courses	15 credits minimum
Total Semester Credit Hours for the Associate of Applied Science Degree	60 credits minimum hours earned as a compilation of Career, Technical, and Academic credit hours.

Approved Career–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 area.

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

- Adding new competencies and suggested objectives to complement the existing competencies and suggested objectives in the program framework.
- Revising or extending the suggested objectives for individual competencies
- Adjusting the semester credit hours of a course to be up 1 hour or down 1 hour (**after informing the Mississippi Community College Board [MCCB] of the change**)

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

- Sequencing courses within the suggested course sequence to reflecting the new assessment format
- Developing and adding a new course that meets specific needs of industries and other clients in the community or junior college district (**with MCCB approval**)

- Adding courses listed in the “Approved Career and Technical Electives List” as local certificate and degree completion requirements to meet specific needs of industries and other clients in the community. The “Approved Career and Technical Electives” are currently approved in the Uniform Course Numbering Book; therefore, MCCB approval is **not** required.

### **APPROVED CAREER AND TECHNICAL ELECTIVES**

FFT 1813	Fire Law	3 sch: 3 hr lecture
FFT 2813	Fire Department Management	3 sch: 3 hr lecture
FFT 2823	Fire Service Supervision	3 sch: 3 hr lecture
FFT 2833	Financial Management	3 sch: 3 hr lecture
FFT 1913	Planning for Fire and Emergency Services	3 sch: 3 hr lecture
FFT 2913	Delivery of Fire and Emergency Services	3 sch: 3 hr lecture
FFT 2923	Community Risk Management I	3 sch: 3 hr lecture
FFT 2933	Community Risk Management II	3 sch: 3 hr lecture
Computer Elective – (CPT 1113 Fundamentals of Microcomputer Applications or other computer elective approved by the instructor)		
<b>Other instructor approved electives that are listed in the MCCB approved CTE Uniform Course Numbering document.</b>		

### **APPROVED ACADEMIC ELECTIVES**

Written Communication Elective
Oral Communication Elective
<b>Other instructor approved electives that are listed in the MCCB approved Academic Uniform Course Numbering document.</b>

## 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 degree in applied science. Students who successfully complete the program should have the skills required for obtaining CompTIA A+® Certification or other certifications as skills allow. Industry standards referenced are from the National Workforce Center for Emerging Technologies Skill Standards for Information Technology.

Technical Skills attainment for students completing any of the Career Certificate options within the Information System Technology Curriculum Cluster may be assessed using the Information Systems Technology Y1 MS-CPAS2 assessment. However, a college may utilize an approved alternative assessment (e.g. Comptia\* A+ Certifications 220-701 and 220-702) to assess technical skills attainment for students completing any of the Career Certificate options.

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.

## Executive Summary

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 Programming Technology

#### Career Certificate Option

A Career Certificate will be awarded upon completion of the required courses for the Career Certificate option in Computer Programming Technology.

*IST 1124 (or CPT 1333 and CNT 2423/CPT 2383)	IT Foundations (or Operating Platforms and Systems Maintenance)	4 sch: 2-hr lecture, 4-hr lab
*IST 1143	Principles of Information Security	3 sch: 2-hr lecture, 2-hr lab
*IST 1134	Fundamentals of Data Communications	4 sch: 2-hr lecture, 4-hr lab
*IST 1154	Web and Programming Concepts	4 sch: 2-hr lecture, 4-hr lab
*IST 1163	Concepts of Database Design	3 sch: 2-hr lecture, 2-hr lab
	Programming Electives	6 sch
	Approved Career Technical Electives	6 sch
	<b>Total Semester Credit Hours for a Career Certificate</b>	<b>30 sch</b>

MSCPAS2 test will be administered upon completion of the above courses.

**\*These course competencies will be assessed in the MSCPAS2 Y1 Test.** However, a college may utilize an approved alternative assessment (e.g. Comptia\* A+ Certifications 220-701 and 220-702) to assess these course competencies.

Students who lack entry level skills in math, English, science, etc. will be provided related studies.

## Suggested Course Sequence

### Computer Programming Technology

#### Technical Certificate Option\*

A Technical Certificate will be awarded upon completion of all required Career Certificate courses **AND** the following required Technical Certificate courses in the Computer Programming Technology program.

	Career Certificate	30 sch
IST 2314	Systems Analysis and Design	4 sch: 2-hr lecture, 4-hr lab
	Programming Electives	8 sch
	Approved Career Technical Electives	3 sch
	<b>Total Semester Credit Hours for a Technical Certificate</b>	<b>45 sch</b>

**\*The nature of this program does not allow for a Y2, MSCPAS Technical Certificate test. Since all participating colleges teach different programming languages, the requirements involve primarily programming electives based on the relevant programming language for the college.** A college may utilize as an approved alternative assessment (e.g. CIW Certification Partners “Site Development Associate”) to assess these course competencies.

## Suggested Course Sequence

### Computer Programming Technology

#### Associate of Applied Science Degree Option

To receive the Associate of Applied Science Degree in Computer Programming Technology, a student must complete all of the required Career Certificate courses, Technical Certificate courses **AND** a minimum of 15 semester hours of General Education Core Courses. The courses in the General Education Core may be spaced out over the entire length of the program so that students complete some academic and Career Technical courses each semester. Each community college specifies the actual courses that are required to meet the General Education Core Requirements for the Associate of Applied Science Degree at their college. The following 2012 SACS standard applies.

Section 2.7.3 For degree completion in associate programs, the component constitutes a minimum of 15 semester hours or the equivalent. These credit hours are to be drawn from and include at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural science/mathematics.

A student must complete the following minimum credit requirements for the AAS Degree Option:

Career Certificate	30 credits minimum
Technical Certificate	+15 credits minimum
General Education Core Courses	+15 credits minimum
<b>Total Semester Credit Hours for the Associate of Applied Science Degree</b>	<b>60 credits minimum hours earned as a compilation of Career, Technical, and Academic credit hours.</b>

Approved Career–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 area.

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

- Adding new competencies and suggested objectives to complement the existing competencies and suggested objectives in the program framework.
- Revising or extending the suggested objectives for individual competencies
- Adjusting the semester credit hours of a course to be up 1 hour or down 1 hour (**after informing the Mississippi Community College Board [MCCB] of the change**)

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

- Sequencing courses within the suggested course sequence to reflecting the new assessment format
- Developing and adding a new course that meets specific needs of industries and other clients in the community or junior college district (**with MCCB approval**)
- Adding courses listed in the “Approved Career and Technical Electives List” as local certificate and degree completion requirements to meet specific needs of industries and other clients in the community. The “Approved Career and Technical Electives” are currently approved in the Uniform Course Numbering Book; therefore, MCCB approval is **not** required.

**APPROVED ELECTIVES FOR  
COMPUTER PROGRAMMING TECHNOLOGY**

<b>Programming Electives</b>		
IST 1314	Visual Basic Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 1324	RPG Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 1334	COBOL Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 1414	Client-side Programming	4 sch: 2-hr lecture, 4-hr lab
IST 1424	Web Design Applications	4 sch: 2 hr. lecture, 4 hr. lab
IST 1513	SQL Programming	3 sch: 2-hr lecture, 2-hr lab
IST 1523	Advanced SQL Programming	3 sch: 2-hr lecture, 2-hr lab
IST 1714	Java Programming Language	4 sch: 2 hr. lecture, 4 hr. lab
IST 2324	Script Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2334	Advanced Visual BASIC Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2344	Database Programming and Design	4 sch: 2 hr. lecture, 4 hr. lab
IST 2354	Advanced RPG Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2364	Advanced COBOL Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2374	C Programming Language	4 sch: 2 hr. lecture, 4 hr. lab
IST 2384	Advanced C Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2424	XML Programming	4 sch: 2-hr lecture, 4-hr lab
IST 2434	Server-side Programming I	4 sch: 2 hr. lecture, 4 hr. lab
IST 2444	Server-side Programming II	4 sch: 2 hr. lecture, 4 hr. lab
IST 2454	Mobile Application Development	4 sch: 2 hr lecture, 4 hr lab
Other instructor approved electives that are listed in the MCCB approved CTE or Academic Uniform Course Numbering document.		

<b>Approved Career Technical Electives</b>		
BOT 1213	Professional Development	3 sch: See Appropriate Program Description
BOT 2323	Database Management	3 sch: See Appropriate Program Description
BOT 2813	Business Communication	3 sch: See Appropriate Program Description
CPT 1113	Fundamentals of Microcomputer Applications	3 sch: 2-hr lecture, 2-hr lab
CPT 1323	Survey of Microcomputer Applications	3 sch: 2-hr lecture, 2-hr lab
CPT 2133	Career Development	3 sch: 2-hr lecture, 2-hr lab
CPT 2354	Web Site and Systems Development	
IST 1113	Fundamentals of Information Technology	3 sch: 2-hr lecture, 2-hr lab
IST 1173	Principles of Database Management	3 sch: 2-hr lecture, 2-hr lab
IST 1213	Client Installation and Configuration	3 sch: 2-hr lecture, 2-hr lab
IST 1234	Network Administration Using Novell	4 sch: 2-hr lecture, 4-hr lab

IST 1244	Network Administration Using Microsoft Windows Server	4 sch: 2-hr lecture, 4-hr lab
IST 1254	Network Administration Using Linux	4 sch: 2-hr lecture, 4-hr lab
IST 1314	Visual BASIC Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 1324	RPG Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 1334	COBOL Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 1414	Client-side Programming	4 sch: 2-hr lecture, 4-hr lab
IST 1424	Web Design Applications	4 sch: 2 hr. lecture, 4 hr. lab
IST 1483	Fundamentals of Virtualization	3 sch: 2-hr lecture, 2-hr lab
IST 1513	SQL Programming	3 sch: 2-hr lecture, 2-hr lab
IST 1523	Advanced SQL Programming	3 sch: 2-hr lecture, 2-hr lab
IST 1613	Computer Forensics	3 sch: 2-hr lecture, 2-hr lab
IST 1714	Java Programming Language	4 sch: 2 hr. lecture, 4 hr. lab
IST 2213	Network Security	3 sch: 2-hr lecture, 2-hr lab
IST 2244	Advanced Network Administration Using Novell	4 sch: 2-hr lecture, 4-hr lab
IST 2254	Advanced Network Administration Using Microsoft Windows Server	4 sch: 2-hr lecture, 4-hr lab
IST 2264	Advanced Network Administration Using Linux	4 sch: 2-hr lecture, 4-hr lab
IST 2314	Systems Analysis and Design	4 sch: 2-hr lecture, 4-hr lab
IST 2324	Script Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2334	Advanced Visual BASIC Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2344	Database Programming and Design	4 sch: 2 hr. lecture, 4 hr. lab
IST 2354	Advanced RPG Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2364	Advanced COBOL Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2374	C Programming Language	4 sch: 2 hr. lecture, 4 hr. lab
IST 2384	Advanced C Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2424	XML Programming	4 sch: 2-hr lecture, 4-hr lab
IST 2434	Server-side Programming I	4 sch: 2 hr. lecture, 4 hr. lab
IST 2444	Server-side Programming II	4 sch: 2 hr. lecture, 4 hr. lab
IST 2454	Mobile Application Development	4 sch: 2 hr lecture, 4 hr lab
IST 2473	E-commerce Strategies	3 sch: 2-hr lecture, 2-hr lab
IST 2483	Web Server	3 sch: 2-hr lecture, 2-hr lab
IST 2534	IT Project Management	4 sch: 2-hr lecture, 4-hr lab
IST 2623	Linux/Unix Security	3 sch: 2-hr lecture, 2-hr lab
IST 2634	Security Testing and Implementation	4 sch: 2-hr lecture, 4-hr lab
IST 1111	IST Seminar I	1 sch: 1-hr lecture
IST 1121	IST Seminar II	1 sch: 1-hr lecture
IST 2111	IST Seminar III	1 sch: 1-hr lecture
IST 2121	IST Seminar IV	1 sch: 1-hr lecture
IST 291(1-6)	Supervised Work Experience in Information Systems Technology	1-6 sch: 3-18 hr. externship
IST 292(1-3)	Special Problem in Information Systems	1-3 sch: 2-6 hr. lab

Executive Summary

	Technology	
WBL 191(1-3) WBL 192(1-3) WBL 193(1-3) WBL 291(1-3) WBL 292(1-3) WBL 293(1-3)	Work-based Learning I, II, III, IV, V, and VI	1-3 sch: 3-9 hr. externship
Other instructor approved electives that are listed in the MCCB approved CTE or Academic Uniform Course Numbering document.		

## Suggested Course Sequence

### Computer Networking Technology

#### Career Certificate Option

A Career Certificate will be awarded upon completion of the required courses for the Career Certificate option in Computer Networking Technology.

*IST 1124 (or CPT 1333 and CNT 2423/CPT 2383)	IT Foundations (or Operating Platforms and Systems Maintenance)	4 sch: 2-hr lecture, 4-hr lab
*IST 1143	Principles of Information Security	3 sch: 2-hr lecture, 2-hr lab
*IST 1134	Fundamentals of Data Communications	4 sch: 2-hr lecture, 4-hr lab
*IST 1154	Web and Programming Concepts	4 sch: 2-hr lecture, 4-hr lab
*IST 1163	Concepts of Database Design	3 sch: 2-hr lecture, 2-hr lab
IST 1223	Network Components	3 sch: 2-hr lecture, 2-hr lab
	Networking Electives	6 sch
	Approved Career Technical Electives	3 sch
	<b>Total Semester Credit Hours for a Career Certificate</b>	<b>30 sch</b>

MSCPAS2 test will be administered upon completion of the above courses.

**\*These course competencies will be assessed in the MSCPAS2 Y1 Test.** However, a college may utilize an approved alternative assessment (e.g. \*Comptia A+ Certifications 220-701 and 220-702) to assess these course competencies.

Students who lack entry level skills in math, English, science, etc. will be provided related studies.

## Suggested Course Sequence

### Computer Networking Technology

#### Technical Certificate Option

A Technical Certificate will be awarded upon completion of all required Career Certificate courses **AND** the following required Technical Certificate courses in the Computer Networking Technology program.

	Career Certificate	30 sch
*IST 2224	Network Planning and Design	4 sch: 2-hr lecture, 4-hr lab
*IST 2234	Network Implementation	4 sch: 2-hr lecture, 4-hr lab
	Programming Elective	3 sch
	Approved Career Technical Electives	4 sch
	<b>Total Semester Credit Hours for a Technical Certificate</b>	<b>45 sch</b>

The year 2 MSCPAS2 test will be administered upon completion of the above courses.

**\*These course competencies will be assessed in the MSCPAS2 Y2 test.** However, a college may utilize as an approved alternative assessment (e.g. \*Comptia Network+ Certification) to assess these course competencies.

## Suggested Course Sequence

### Computer Networking Technology

#### Associate of Applied Science Degree Option

To receive the Associate of Applied Science Degree in Computer Networking Technology, a student must complete all of the required Career Certificate courses, Technical Certificate courses **AND** a minimum of 15 semester hours of General Education Core Courses. The courses in the General Education Core may be spaced out over the entire length of the program so that students complete some academic and Career Technical courses each semester. Each community college specifies the actual courses that are required to meet the General Education Core Requirements for the Associate of Applied Science Degree at their college. The following 2012 SACS standard applies.

Section 2.7.3 For degree completion in associate programs, the component constitutes a minimum of 15 semester hours or the equivalent. These credit hours are to be drawn from and include at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural science/mathematics.

A student must complete the following minimum credit requirements for the AAS Degree Option:

Career Certificate	30 credits minimum
Technical Certificate	+15 credits minimum
General Education Core Courses	+15 credits minimum
<b>Total Semester Credit Hours for the Associate of Applied Science Degree</b>	<b>60 credits minimum hours earned as a compilation of Career, Technical, and Academic credit hours.</b>

Approved Career–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 area.

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

- Adding new competencies and suggested objectives to complement the existing competencies and suggested objectives in the program framework.
- Revising or extending the suggested objectives for individual competencies
- Adjusting the semester credit hours of a course to be up 1 hour or down 1 hour **(after informing the Mississippi Community College Board [MCCB] of the change)**

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

- Sequencing courses within the suggested course sequence to reflecting the new assessment format
- Developing and adding a new course that meets specific needs of industries and other clients in the community or junior college district (**with MCCB approval**)
- Adding courses listed in the “Approved Career and Technical Electives List” as local certificate and degree completion requirements to meet specific needs of industries and other clients in the community. The “Approved Career and Technical Electives” are currently approved in the Uniform Course Numbering Book; therefore, MCCB approval is **not** required.

**APPROVED ELECTIVES FOR  
COMPUTER NETWORKING TECHNOLOGY**

<b>Networking Electives</b>		
IST 1213	Client Installation and Configuration	3 sch: 2-hr lecture, 2-hr lab
IST 1234	Network Administration Using Novell	4 sch: 2-hr lecture, 4-hr lab
IST 1244	Network Administration Using Microsoft Windows Server	4 sch: 2-hr lecture, 4-hr lab
IST 1254	Network Administration Using Linux	4 sch: 2-hr lecture, 4-hr lab
IST 2244	Advanced Network Administration Using Novell	4 sch: 2-hr lecture, 4-hr lab
IST 2254	Advanced Network Administration Using Microsoft Windows Server	4 sch: 2-hr lecture, 4-hr lab
IST 2264	Advanced Network Administration Using Linux	4 sch: 2-hr lecture, 4-hr lab
Other instructor approved electives that are listed in the MCCB approved CTE or Academic Uniform Course Numbering document.		

<b>Programming Electives</b>		
IST 1314	Visual Basic Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 1324	RPG Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 1334	COBOL Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 1414	Client-side Programming	4 sch: 2-hr lecture, 4-hr lab
IST 1424	Web Design Applications	4 sch: 2 hr. lecture, 4 hr. lab
IST 1513	SQL Programming	3 sch: 2-hr lecture, 2-hr lab
IST 1523	Advanced SQL Programming	3 sch: 2-hr lecture, 2-hr lab
IST 1714	Java Programming Language	4 sch: 2 hr. lecture, 4 hr. lab
IST 2324	Script Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2334	Advanced Visual BASIC Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2344	Database Programming and Design	4 sch: 2 hr. lecture, 4 hr. lab
IST 2354	Advanced RPG Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2364	Advanced COBOL Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2374	C Programming Language	4 sch: 2 hr. lecture, 4 hr. lab
IST 2384	Advanced C Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2424	XML Programming	4 sch: 2-hr lecture, 4-hr lab
IST 2434	Server-side Programming I	4 sch: 2 hr. lecture, 4 hr. lab
IST 2444	Server-side Programming II	4 sch: 2 hr. lecture, 4 hr. lab
IST 2454	Mobile Application Development	4 sch: 2 hr lecture, 4 hr lab
Other instructor approved electives that are listed in the MCCB approved CTE or Academic Uniform Course Numbering document.		

<b>Approved Career Technical Electives</b>		
BOT 1213	Professional Development	3 sch: See Appropriate Program Description
BOT 2323	Database Management	3 sch: See Appropriate Program Description
BOT 2813	Business Communication	3 sch: See Appropriate Program Description
CPT 1113	Fundamentals of Microcomputer Applications	3 sch: 2-hr lecture, 2-hr lab
CPT 1323	Survey of Microcomputer Applications	3 sch: 2-hr lecture, 2-hr lab
CPT 2133	Career Development	3 sch: 2-hr lecture, 2-hr lab
CPT 2354	Web Site and Systems Development	
IST 1113	Fundamentals of Information Technology	3 sch: 2-hr lecture, 2-hr lab
IST 1173	Principles of Database Management	3 sch: 2-hr lecture, 2-hr lab
IST 1213	Client Installation and Configuration	3 sch: 2-hr lecture, 2-hr lab
IST 1234	Network Administration Using Novell	4 sch: 2-hr lecture, 4-hr lab
IST 1244	Network Administration Using Microsoft Windows Server	4 sch: 2-hr lecture, 4-hr lab
IST 1254	Network Administration Using Linux	4 sch: 2-hr lecture, 4-hr lab
IST 1314	Visual BASIC Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 1324	RPG Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 1334	COBOL Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 1414	Client-side Programming	4 sch: 2-hr lecture, 4-hr lab
IST 1424	Web Design Applications	4 sch: 2 hr. lecture, 4 hr. lab
IST 1483	Fundamentals of Virtualization	3 sch: 2-hr lecture, 2-hr lab
IST 1513	SQL Programming	3 sch: 2-hr lecture, 2-hr lab
IST 1523	Advanced SQL Programming	3 sch: 2-hr lecture, 2-hr lab
IST 1613	Computer Forensics	3 sch: 2-hr lecture, 2-hr lab
IST 1714	Java Programming Language	4 sch: 2 hr. lecture, 4 hr. lab
IST 2213	Network Security	3 sch: 2-hr lecture, 2-hr lab
IST 2244	Advanced Network Administration Using Novell	4 sch: 2-hr lecture, 4-hr lab
IST 2254	Advanced Network Administration Using Microsoft Windows Server	4 sch: 2-hr lecture, 4-hr lab
IST 2264	Advanced Network Administration Using Linux	4 sch: 2-hr lecture, 4-hr lab
IST 2314	Systems Analysis and Design	4 sch: 2-hr lecture, 4-hr lab
IST 2324	Script Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2334	Advanced Visual BASIC Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2344	Database Programming and Design	4 sch: 2 hr. lecture, 4 hr. lab
IST 2354	Advanced RPG Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2364	Advanced COBOL Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2374	C Programming Language	4 sch: 2 hr. lecture, 4 hr. lab
IST 2384	Advanced C Programming Language	4 sch: 2-hr lecture, 4-hr lab

Executive Summary

IST 2424	XML Programming	4 sch: 2-hr lecture, 4-hr lab
IST 2434	Server-side Programming I	4 sch: 2 hr. lecture, 4 hr. lab
IST 2444	Server-side Programming II	4 sch: 2 hr. lecture, 4 hr. lab
IST 2454	Mobile Application Development	4 sch: 2 hr lecture, 4 hr lab
IST 2473	E-commerce Strategies	3 sch: 2-hr lecture, 2-hr lab
IST 2483	Web Server	3 sch: 2-hr lecture, 2-hr lab
IST 2534	IT Project Management	4 sch: 2-hr lecture, 4-hr lab
IST 2623	Linux/Unix Security	3 sch: 2-hr lecture, 2-hr lab
IST 2634	Security Testing and Implementation	4 sch: 2-hr lecture, 4-hr lab
IST 1111	IST Seminar I	1 sch: 1-hr lecture
IST 1121	IST Seminar II	1 sch: 1-hr lecture
IST 2111	IST Seminar III	1 sch: 1-hr lecture
IST 2121	IST Seminar IV	1 sch: 1-hr lecture
IST 291(1-6)	Supervised Work Experience in Information Systems Technology	1-6 sch: 3-18 hr. externship
IST 292(1-3)	Special Problem in Information Systems Technology	1-3 sch: 2-6 hr. lab
WBL 191(1-3) WBL 192(1-3) WBL 193(1-3) WBL 291(1-3) WBL 292(1-3) WBL 293(1-3)	Work-based Learning I, II, III, IV, V, and VI	1-3 sch: 3-9 hr. externship
Other instructor approved electives that are listed in the MCCB approved CTE or Academic Uniform Course Numbering document.		

## Suggested Course Sequence

### Database Administration Technology

#### Career Certificate Option

A Career Certificate will be awarded upon completion of the required courses for the Career Certificate option in Database Administration Technology.

*IST 1124 (or CPT 1333 and CNT 2423/CPT 2383)	IT Foundations (or Operating Platforms and Systems Maintenance)	4 sch: 2-hr lecture, 4-hr lab
*IST 1143	Principles of Information Security	3 sch: 2-hr lecture, 2-hr lab
*IST 1134	Fundamentals of Data Communications	4 sch: 2-hr lecture, 4-hr lab
*IST 1154	Web and Programming Concepts	4 sch: 2-hr lecture, 4-hr lab
*IST 1163	Concepts of Database Design	3 sch: 2-hr lecture, 2-hr lab
IST 1513	SQL Programming	3 sch: 2-hr lecture, 2-hr lab
IST 1314	Visual Basic Programming	4 sch: 2-hr lecture, 4-hr lab
	Database Elective	3 sch
	Approved Career Technical Electives	2 sch**
	<b>Total Semester Credit Hours for a Career Certificate</b>	<b>30 sch</b>

MSCPAS2 test will be administered upon completion of the above courses.

**\*These course competencies will be assessed in the MSCPAS2 Y1 Test.** However, a college may utilize an approved alternative assessment (e.g. \*Comptia A+ Certifications 220-701 and 220-702) to assess these course competencies.

**\*\*These are the minimum credit hours of approved career-technical electives needed to meet the 45-hour requirement; however, it is understood that there will be cases when students will have a surplus of credit hours because most approved career-technical electives exceed the minimum credit hours required.**

Students who lack entry level skills in math, English, science, etc. will be provided related studies.

## Suggested Course Sequence

### Database Administration Technology

#### Technical Certificate Option

A Technical Certificate will be awarded upon completion of all required Career Certificate courses **AND** the following required Technical Certificate courses in the Database Administration Technology program.

	Career Certificate	30 sch
*IST 1523	Advanced SQL Programming	3 sch: 2-hr lecture, 2-hr lab
*IST 1534	Database Architecture and Administration	4 sch: 2-hr lecture, 4-hr lab
*IST 2514	Advanced Database Architecture and Administration	4 sch: 2-hr lecture, 4-hr lab
*IST 2524 or IST 1254	Linux Operating System Fundamentals or Network Administration Using Linux	4 sch: 2-hr lecture, 4-hr lab
	<b>Total Semester Credit Hours for a Technical Certificate</b>	<b>45 sch</b>

Currently, all Database Administration Technology programs use approved alternative assessments (e.g. Certification Partners (CIW) “Database Design Specialist”) to assess these course competencies.

## Suggested Course Sequence

### Database Administration Technology

#### Associate of Applied Science Degree Option

To receive the Associate of Applied Science Degree in Database Administration Technology, a student must complete all of the required Career Certificate courses, Technical Certificate courses **AND** a minimum of 15 semester hours of General Education Core Courses. The courses in the General Education Core may be spaced out over the entire length of the program so that students complete some academic and Career Technical courses each semester. Each community college specifies the actual courses that are required to meet the General Education Core Requirements for the Associate of Applied Science Degree at their college. The following 2012 SACS standard applies.

Section 2.7.3 For degree completion in associate programs, the component constitutes a minimum of 15 semester hours or the equivalent. These credit hours are to be drawn from and include at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural science/mathematics.

A student must complete the following minimum credit requirements for the AAS Degree Option:

Career Certificate	30 credits minimum
Technical Certificate	+15 credits minimum
General Education Core Courses	+15 credits minimum
<b>Total Semester Credit Hours for the Associate of Applied Science Degree</b>	<b>60 credits minimum hours earned as a compilation of Career, Technical, and Academic credit hours.</b>

Approved Career–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 area.

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

- Adding new competencies and suggested objectives to complement the existing competencies and suggested objectives in the program framework.
- Revising or extending the suggested objectives for individual competencies
- Adjusting the semester credit hours of a course to be up 1 hour or down 1 hour (**after informing the Mississippi Community College Board [MCCB] of the change**)

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

- Sequencing courses within the suggested course sequence to reflecting the new assessment format
- Developing and adding a new course that meets specific needs of industries and other clients in the community or junior college district (**with MCCB approval**)
- Adding courses listed in the “Approved Career and Technical Electives List” as local certificate and degree completion requirements to meet specific needs of industries and other clients in the community. The “Approved Career and Technical Electives” are currently approved in the Uniform Course Numbering Book; therefore, MCCB approval is **not** required.

**APPROVED ELECTIVES FOR  
DATABASE ADMINISTRATION TECHNOLOGY**

<b>Database Electives</b>		
BOT 2323	Database Management	3 sch: See Appropriate Program Description
IST 1173	Principles of Database Management	3 sch: 2-hr lecture, 2-hr lab
Other instructor approved electives that are listed in the MCCB approved CTE or Academic Uniform Course Numbering document.		

<b>Approved Career Technical Electives</b>		
BOT 1213	Professional Development	3 sch: See Appropriate Program Description
BOT 2323	Database Management	3 sch: See Appropriate Program Description
BOT 2813	Business Communication	3 sch: See Appropriate Program Description
CPT 1113	Fundamentals of Microcomputer Applications	3 sch: 2-hr lecture, 2-hr lab
CPT 1323	Survey of Microcomputer Applications	3 sch: 2-hr lecture, 2-hr lab
CPT 2133	Career Development	3 sch: 2-hr lecture, 2-hr lab
CPT 2354	Web Site and Systems Development	
IST 1113	Fundamentals of Information Technology	3 sch: 2-hr lecture, 2-hr lab
IST 1173	Principles of Database Management	3 sch: 2-hr lecture, 2-hr lab
IST 1213	Client Installation and Configuration	3 sch: 2-hr lecture, 2-hr lab
IST 1234	Network Administration Using Novell	4 sch: 2-hr lecture, 4-hr lab
IST 1244	Network Administration Using Microsoft Windows Server	4 sch: 2-hr lecture, 4-hr lab
IST 1254	Network Administration Using Linux	4 sch: 2-hr lecture, 4-hr lab
IST 1314	Visual BASIC Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 1324	RPG Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 1334	COBOL Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 1414	Client-side Programming	4 sch: 2-hr lecture, 4-hr lab
IST 1424	Web Design Applications	4 sch: 2 hr. lecture, 4 hr. lab
IST 1483	Fundamentals of Virtualization	3 sch: 2-hr lecture, 2-hr lab
IST 1513	SQL Programming	3 sch: 2-hr lecture, 2-hr lab
IST 1523	Advanced SQL Programming	3 sch: 2-hr lecture, 2-hr lab
IST 1613	Computer Forensics	3 sch: 2-hr lecture, 2-hr lab
IST 1714	Java Programming Language	4 sch: 2 hr. lecture, 4 hr. lab
IST 2213	Network Security	3 sch: 2-hr lecture, 2-hr lab
IST 2244	Advanced Network Administration Using Novell	4 sch: 2-hr lecture, 4-hr lab
IST 2254	Advanced Network Administration Using Microsoft Windows Server	4 sch: 2-hr lecture, 4-hr lab

IST 2264	Advanced Network Administration Using Linux	4 sch: 2-hr lecture, 4-hr lab
IST 2314	Systems Analysis and Design	4 sch: 2-hr lecture, 4-hr lab
IST 2324	Script Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2334	Advanced Visual BASIC Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2344	Database Programming and Design	4 sch: 2 hr. lecture, 4 hr. lab
IST 2354	Advanced RPG Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2364	Advanced COBOL Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2374	C Programming Language	4 sch: 2 hr. lecture, 4 hr. lab
IST 2384	Advanced C Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2424	XML Programming	4 sch: 2-hr lecture, 4-hr lab
IST 2434	Server-side Programming I	4 sch: 2 hr. lecture, 4 hr. lab
IST 2444	Server-side Programming II	4 sch: 2 hr. lecture, 4 hr. lab
IST 2454	Mobile Application Development	4 sch: 2 hr lecture, 4 hr lab
IST 2473	E-commerce Strategies	3 sch: 2-hr lecture, 2-hr lab
IST 2483	Web Server	3 sch: 2-hr lecture, 2-hr lab
IST 2534	IT Project Management	4 sch: 2-hr lecture, 4-hr lab
IST 2623	Linux/Unix Security	3 sch: 2-hr lecture, 2-hr lab
IST 2634	Security Testing and Implementation	4 sch: 2-hr lecture, 4-hr lab
IST 1111	IST Seminar I	1 sch: 1-hr lecture
IST 1121	IST Seminar II	1 sch: 1-hr lecture
IST 2111	IST Seminar III	1 sch: 1-hr lecture
IST 2121	IST Seminar IV	1 sch: 1-hr lecture
IST 291(1-6)	Supervised Work Experience in Information Systems Technology	1-6 sch: 3-18 hr. externship
IST 292(1-3)	Special Problem in Information Systems Technology	1-3 sch: 2-6 hr. lab
WBL 191(1-3) WBL 192(1-3) WBL 193(1-3) WBL 291(1-3) WBL 292(1-3) WBL 293(1-3)	Work-based Learning I, II, III, IV, V, and VI	1-3 sch: 3-9 hr. externship
Other instructor approved electives that are listed in the MCCB approved CTE or Academic Uniform Course Numbering document.		

## Suggested Course Sequence

### Network Security Technology

#### Career Certificate Option

A Career Certificate will be awarded upon completion of the required courses for the Career Certificate option in Network Security Technology.

*IST 1124 (or CPT 1333 and CNT 2423/CPT 2383)	IT Foundations (or Operating Platforms and Systems Maintenance)	4 sch: 2-hr lecture, 4-hr lab
*IST 1143	Principles of Information Security	3 sch: 2-hr lecture, 2-hr lab
*IST 1134	Fundamentals of Data Communications	4 sch: 2-hr lecture, 4-hr lab
*IST 1154	Web and Programming Concepts	4 sch: 2-hr lecture, 4-hr lab
*IST 1163	Concepts of Database Design	3 sch: 2-hr lecture, 2-hr lab
IST 1223	Network Components	3 sch: 2-hr lecture, 2-hr lab
IST 1244	Network Administration Using Microsoft Windows Server	4 sch: 2-hr lecture, 4-hr lab
IST 1624	Network Security Fundamentals	4 sch: 2-hr lecture, 4-hr lab
	Approved Career Technical Electives	1 sch**
	<b>Total Semester Credit Hours for a Career Certificate</b>	<b>30 sch</b>

MSCPAS2 test will be administered upon completion of the above courses.

**\*These course competencies will be assessed in the MSCPAS2 Y1 Test.** However, a college may utilize an approved alternative assessment (e.g. \*Comptia A+ Certifications 220-701 and 220-702) to assess these course competencies.

**\*\*These are the minimum credit hours of approved career-technical electives needed to meet the 45-hour requirement; however, it is understood that there will be cases when students will have a surplus of credit hours because most approved career-technical electives exceed the minimum credit hours required.**

Students who lack entry level skills in math, English, science, etc. will be provided related studies.

**Suggested Course Sequence**

**Network Security Technology**

Technical Certificate Option

A Technical Certificate will be awarded upon completion of all required Career Certificate courses **AND** the following required Technical Certificate courses in the Network Security Technology program.

	Career Certificate	30 sch
*IST 1633	Wireless Security and Privacy	3 sch: 2-hr lecture, 2-hr lab
*IST 1643	Network Defense and Countermeasures	3 sch: 2-hr lecture, 2-hr lab
*IST 2613	Windows Security	3 sch: 2-hr lecture, 2-hr lab
	Approved Security Electives	3 sch
	Approved Career Technical Electives	3 sch
	<b>Total Semester Credit Hours for a Technical Certificate</b>	<b>45 sch</b>

The year 2 MSCPAS2 test will be administered upon completion of the above courses.

**\*These course competencies will be assessed in the MSCPAS2 Y2 test.** However, a college may utilize as an approved alternative assessment (e.g. \*Comptia Security+) to assess these course competencies.

## Suggested Course Sequence

### Network Security Technology

#### Associate of Applied Science Degree Option

To receive the Associate of Applied Science Degree in Network Security Technology, a student must complete all of the required Career Certificate courses, Technical Certificate courses **AND** a minimum of 15 semester hours of General Education Core Courses. The courses in the General Education Core may be spaced out over the entire length of the program so that students complete some academic and Career Technical courses each semester. Each community college specifies the actual courses that are required to meet the General Education Core Requirements for the Associate of Applied Science Degree at their college. The following 2012 SACS standard applies.

Section 2.7.3 For degree completion in associate programs, the component constitutes a minimum of 15 semester hours or the equivalent. These credit hours are to be drawn from and include at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural science/mathematics.

A student must complete the following minimum credit requirements for the AAS Degree Option:

Career Certificate	30 credits minimum
Technical Certificate	+15 credits minimum
General Education Core Courses	+15 credits minimum
<b>Total Semester Credit Hours for the Associate of Applied Science Degree</b>	<b>60 credits minimum hours earned as a compilation of Career, Technical, and Academic credit hours.</b>

Approved Career–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 area.

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

- Adding new competencies and suggested objectives to complement the existing competencies and suggested objectives in the program framework.
- Revising or extending the suggested objectives for individual competencies
- Adjusting the semester credit hours of a course to be up 1 hour or down 1 hour (**after informing the Mississippi Community College Board [MCCB] of the change**)

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

- Sequencing courses within the suggested course sequence to reflecting the new assessment format
- Developing and adding a new course that meets specific needs of industries and other clients in the community or junior college district (**with MCCB approval**)
- Adding courses listed in the “Approved Career and Technical Electives List” as local certificate and degree completion requirements to meet specific needs of industries and other clients in the community. The “Approved Career and Technical Electives” are currently approved in the Uniform Course Numbering Book; therefore, MCCB approval is **not** required.

**APPROVED ELECTIVES FOR  
NETWORK SECURITY TECHNOLOGY**

<b>Security Electives</b>		
IST 1613	Computer Forensics	3 sch: 2-hr lecture, 2-hr lab
IST 2213	Network Security	3 sch: 2-hr lecture, 2-hr lab
IST 2623	Linux/Unix Security	3 sch: 2-hr lecture, 2-hr lab
IST 2634	Security Testing and Implementation	4 sch: 2-hr lecture, 4-hr lab
Other instructor approved electives that are listed in the MCCB approved CTE or Academic Uniform Course Numbering document.		

<b>Approved Career Technical Electives</b>		
BOT 1213	Professional Development	3 sch: See Appropriate Program Description
BOT 2323	Database Management	3 sch: See Appropriate Program Description
BOT 2813	Business Communication	3 sch: See Appropriate Program Description
CPT 1113	Fundamentals of Microcomputer Applications	3 sch: 2-hr lecture, 2-hr lab
CPT 1323	Survey of Microcomputer Applications	3 sch: 2-hr lecture, 2-hr lab
CPT 2133	Career Development	3 sch: 2-hr lecture, 2-hr lab
CPT 2354	Web Site and Systems Development	
IST 1113	Fundamentals of Information Technology	3 sch: 2-hr lecture, 2-hr lab
IST 1173	Principles of Database Management	3 sch: 2-hr lecture, 2-hr lab
IST 1213	Client Installation and Configuration	3 sch: 2-hr lecture, 2-hr lab
IST 1234	Network Administration Using Novell	4 sch: 2-hr lecture, 4-hr lab
IST 1244	Network Administration Using Microsoft Windows Server	4 sch: 2-hr lecture, 4-hr lab
IST 1254	Network Administration Using Linux	4 sch: 2-hr lecture, 4-hr lab
IST 1314	Visual BASIC Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 1324	RPG Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 1334	COBOL Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 1414	Client-side Programming	4 sch: 2-hr lecture, 4-hr lab
IST 1424	Web Design Applications	4 sch: 2 hr. lecture, 4 hr. lab
IST 1483	Fundamentals of Virtualization	3 sch: 2-hr lecture, 2-hr lab
IST 1513	SQL Programming	3 sch: 2-hr lecture, 2-hr lab
IST 1523	Advanced SQL Programming	3 sch: 2-hr lecture, 2-hr lab
IST 1613	Computer Forensics	3 sch: 2-hr lecture, 2-hr lab
IST 1714	Java Programming Language	4 sch: 2 hr. lecture, 4 hr. lab
IST 2213	Network Security	3 sch: 2-hr lecture, 2-hr lab
IST 2244	Advanced Network Administration Using Novell	4 sch: 2-hr lecture, 4-hr lab

IST 2254	Advanced Network Administration Using Microsoft Windows Server	4 sch: 2-hr lecture, 4-hr lab
IST 2264	Advanced Network Administration Using Linux	4 sch: 2-hr lecture, 4-hr lab
IST 2314	Systems Analysis and Design	4 sch: 2-hr lecture, 4-hr lab
IST 2324	Script Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2334	Advanced Visual BASIC Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2344	Database Programming and Design	4 sch: 2 hr. lecture, 4 hr. lab
IST 2354	Advanced RPG Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2364	Advanced COBOL Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2374	C Programming Language	4 sch: 2 hr. lecture, 4 hr. lab
IST 2384	Advanced C Programming Language	4 sch: 2-hr lecture, 4-hr lab
IST 2424	XML Programming	4 sch: 2-hr lecture, 4-hr lab
IST 2434	Server-side Programming I	4 sch: 2 hr. lecture, 4 hr. lab
IST 2444	Server-side Programming II	4 sch: 2 hr. lecture, 4 hr. lab
IST 2454	Mobile Application Development	4 sch: 2 hr lecture, 4 hr lab
IST 2473	E-commerce Strategies	3 sch: 2-hr lecture, 2-hr lab
IST 2483	Web Server	3 sch: 2-hr lecture, 2-hr lab
IST 2534	IT Project Management	4 sch: 2-hr lecture, 4-hr lab
IST 2623	Linux/Unix Security	3 sch: 2-hr lecture, 2-hr lab
IST 2634	Security Testing and Implementation	4 sch: 2-hr lecture, 4-hr lab
IST 291(1-6)	Supervised Work Experience in Information Systems Technology	1-6 sch: 3-18 hr. externship
IST 1111	IST Seminar I	1 sch: 1-hr lecture
IST 1121	IST Seminar II	1 sch: 1-hr lecture
IST 2111	IST Seminar III	1 sch: 1-hr lecture
IST 2121	IST Seminar IV	1 sch: 1-hr lecture
IST 292(1-3)	Special Problem in Information Systems Technology	1-3 sch: 2-6 hr. lab
WBL 191(1-3) WBL 192(1-3) WBL 193(1-3) WBL 291(1-3) WBL 292(1-3) WBL 293(1-3)	Work-based Learning I, II, III, IV, V, and VI	1-3 sch: 3-9 hr. externship
Other instructor approved electives that are listed in the MCCB approved CTE or Academic Uniform Course Numbering document.		

## INTERPRETER TRAINING TECHNOLOGY

The Interpreter Training Program is a career and technical program designed to prepare students to interpret/transliterate spoken English into American Sign Language and American Sign Language into spoken English while working with people who are deaf or hard of hearing. The interpreter works in a variety of settings, including educational, medical, community, business, and occupational. The primary goal of the program is to prepare students to have the knowledge and understanding of the work of a sign language interpreter, develop language skills, and be ready to take the state-level screening test. After a student has passed state-level screening, he or she is ready for an entry-level position in which he or she will continue to gain knowledge and skills and prepare for national certification.

All training activities and instructional material emphasize the importance of maintaining high personal standards. Work habits and ethical practices required on the job are an integral part of the instruction. Students will not only receive hands-on learning experiences in the classroom with industry standard equipment, but they will venture out into the deaf community to apply their knowledge. Upon completion of the program, the student will be awarded the Associate of Applied Science degree in Interpreter Training Technology.

## Suggested Course Sequence\*

### Interpreter Training Technology

#### Career Certificate Option

A Career Certificate will be awarded upon completion of the required courses for the Career Certificate option in Interpreter Training Technology.

<b>*IDT 1113</b>	<b>Introduction to Interpreting</b>	<b>3 sch: 3 hr. lecture</b>
<b>*IDT 1123</b>	<b>Foundations of Deafness</b>	<b>3 sch: 3 hrs lecture</b>
<b>*IDT 1211</b>	<b>Expressive and Receptive Fingerspelling</b>	<b>1 sch: 1 hr. lecture</b>
<b>*IDT 1224</b>	<b>American Sign Language I</b>	<b>4 sch: 3 hrs lecture, 2 hrs lab</b>
<b>*IDT 1234</b>	<b>American Sign Language II</b>	<b>4 sch: 3 hrs lecture, 2 hrs lab</b>
<b>*IDT 1253</b>	<b>Transliterating I</b>	<b>3 sch: 3 hrs lecture</b>
<b>*IDT 2263</b>	<b>Transliterating II</b>	<b>3 sch: 3 hrs lecture</b>
<b>*IDT 2323</b>	<b>Educational Interpreting</b>	<b>3 sch: 3 hrs lecture</b>
<b>*IDT 2313</b>	<b>Sign-to-Voice Interpreting I</b>	<b>3 sch: 3 hrs lecture</b>
	<b>Approved Elective</b>	<b>3 sch</b>
	Total Semester Credit Hours for a Career Certificate	30 sch

MSCPAS2 test will be administered upon completion of the above courses.

**\*These course competencies will be assessed in the MSCPAS2 Y1 Test.**

Students who lack entry level skills in math, English, science, etc. will be provided related studies.

## Suggested Course Sequence\*

### Interpreter Training Technology

#### Technical Certificate Option

A Technical Certificate will be awarded upon completion of all required Career Certificate courses **AND** the following required Technical Certificate courses in the Electrical Technology program.

	Career Certificate	30 sch
<b>*IDT 2243</b>	<b>American Sign Language III</b>	<b>3 sch: 2 hrs lecture, 2 lab hours</b>
<b>*IDT 2333</b>	<b>Interpreting</b>	<b>3 sch: 3 hrs lecture</b>
<b>*IDT 2343</b>	<b>Sign-to-Voice Interpreting II</b>	<b>3 sch: 3 hr. lecture</b>
<b>*IDT 2353</b>	<b>Interpreting in Special Situations</b>	<b>3 sch: 3 hr. lecture</b>
IDT 2413	Interpreting Practicum	3 sch: 150 Clock Hours
	Semester Credit Hour Total	45 sch

The year 2 MSCPAS2 test will be administered upon completion of the above courses.

**\*These course competencies will be assessed in the MSCPAS2 Y2 test.**

## Suggested Course Sequence

### Interpreter Training Technology

#### Associate of Applied Science Degree Option

To receive the Associate of Applied Science Degree in Interpreter Training Technology, a student must complete all of the required Career Certificate courses, Technical Certificate courses **AND** a minimum of 15 semester hours of General Education Core Courses. The courses in the General Education Core may be spaced out over the entire length of the program so that students complete some academic and Career Technical courses each semester. Each community college specifies the actual courses that are required to meet the General Education Core Requirements for the Associate of Applied Science Degree at their college. The following 2012 SACS standard applies.

Section 2.7.3 For degree completion in associate programs, the component constitutes a minimum of 15 semester hours or the equivalent. These credit hours are to be drawn from and include at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural science/mathematics.

Career Certificate Courses	30 sch minimum
Technical Certificate Courses	15 sch minimum
General Education Core Courses	15 sch minimum
Total Semester Credit Hours for the Associate of Applied Science Degree	60 credits minimum hours earned as a compilation of Career, Technical, and Academic credit hours.

Approved Career–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 area.

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

- Adding new competencies and suggested objectives to complement the existing competencies and suggested objectives in the program framework.
- Revising or extending the suggested objectives for individual competencies
- Adjusting the semester credit hours of a course to be up 1 hour or down 1 hour (**after informing the Mississippi Community College Board [MCCB] of the change**)

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

- Sequencing courses within the suggested course sequence to reflecting the new assessment format

- Developing and adding a new course that meets specific needs of industries and other clients in the community or junior college district (**with MCCB approval**)
- Adding courses listed in the “Approved Career and Technical Electives List” as local certificate and degree completion requirements to meet specific needs of industries and other clients in the community. The “Approved Career and Technical Electives” are currently approved in the Uniform Course Numbering Book; therefore, MCCB approval is **not** required.

### APPROVED CAREER AND TECHNICAL ELECTIVES

IDT 2363	Artistic Interpreting	3 sch: 3 hr. lecture
IDT 2373	Legal Interpreting	3 sch: 3 hr. lecture
CDT 1214	Child Development I	4 sch: 3 hr. lecture, 2 hr. lab
BOT 1613	Medical Terminology I	3 sch: 3 hr. lecture
LET 1113	Introduction to Law	3 sch: 3 hr. lecture
Other instructor approved electives that are listed in the MCCB approved CTE Uniform Course Numbering document		

## APPROVED ACADEMIC ELECTIVES

BAD 2533	Computers in Business and Industry	3 sch: See Appropriate Program Description
SOC 2113	Introduction to Sociology	3 sch: See Appropriate Program Description
SPT 2173	Interpersonal Communication	3 sch: See Appropriate Program Description
ENG 1123	English Composition II	3 sch: See Appropriate Program Description
PSY 1513	General Psychology I	3 sch: See Appropriate Program Description
PSY 1523	General Psychology II	3 sch: See Appropriate Program Description
EDU 2513	Introduction to Elementary Education	3 sch: See Appropriate Program Description
EDU 2613	Introduction to Secondary Education	3 sch: See Appropriate Program Description
CRJ 1313	Introduction to Criminal Justice	3 sch: See Appropriate Program Description
EPY 2513	Child Psychology	3 sch: See Appropriate Program Description
LET 1113	Introduction to Law	3 sch: See Appropriate Program Description
SPT 1233	Acting I	3 sch: See Appropriate Program Description
Other instructor approved electives that are listed in the MCCB approved Academic Uniform Course Numbering document		

## LOGISTICS TECHNOLOGY

The Logistics Technology program of study is designed to prepare individuals to manage and coordinate the procurement, distribution, maintenance, and replacement of material and personnel. Logistical functions in an enterprise range from acquisitions to receiving and handling, through internal allocation of resources to the handling and delivery of a product or service.

The curriculum is designed as a stackable credential career–technical program. An Associate of Applied Science degree will be awarded at the culmination of satisfactory study of the required courses.

Industry standards referenced are from The International Society of Logistics <http://www.sole.org/default.asp>, The Demonstrated Logistician Program, <http://www.sole.org/dlp.asp>

Students will be awarded a credential recognized by industry - the International Society of Logistics (SOLE) requirements for the Demonstrated Logistician Program.

## Suggested Course Sequence\*

### Logistics Technology

#### Career Certificate Option

A Career Certificate will be awarded upon completion of the required courses for the Career Certificate option in Logistics Technology.

LGT 1113	Fundamentals to Logistics	3 sch: 3 hr lecture
LGT 1313	Supply Chain Management	3 sch: 3 hr. lecture
LGT 1233	Materials Management	3 sch: 3 hr. lecture
LGT 1213	Transportation & Distribution	3 sch: 3 hr. lecture
LGT 1413	Logistic Support Analysis	3 sch: 3 hr. lecture
LGT 1513	Production Planning & Control	3 sch: 3 hr. lecture
LGT 2113	Logistics Management	3 sch: 3 hr. lecture
LGT 2513	Maintenance Management	3 sch: 3 hr. lecture
MMT 2213	Principles of Management (or BAD 2513 Principles of Management)	3 sch: 3 hr. lecture
BOT 1133	Microcomputer Applications (or BAD 2533 Computer Applications in Business & Industry)	3 sch: 3 hr. lecture
	Total Semester Credit Hours for a Career Certificate	30 sch

#### Technical Certificate Option

A Technical Certificate will be awarded upon completion of all required Career Certificate courses **AND** the following required Technical Certificate courses in the Logistics Technology program.

	Career Certificate +	30 sch
LGT 2533	Configuration Management	3 sch: 3 hr. lecture
LGT 2814	Business Logistics Capstone Project	4 sch: 4 hr. lecture
	Any instructor/department chair-approved field-related electives 8 credits	
	Total Semester Credit Hours for a Technical Certificate	45 sch

**Associate of Applied Science Degree Option**

To receive the Associate of Applied Science Degree in Logistics Technology, a student must complete all of the required Career Certificate courses, Technical Certificate courses **AND** a minimum of 15 semester hours of General Education Core Courses. The courses in the General Education Core may be spaced out over the entire length of the program so that students complete some academic and Career Technical courses each semester. Each community college specifies the actual courses that are required to meet the General Education Core Requirements for the Associate of Applied Science Degree at their college. The following 2012 SACS standard applies.

Section 2.7.3 For degree completion in associate programs, the component constitutes a minimum of 15 semester hours or the equivalent. These credit hours are to be drawn from and include at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural science/mathematics.

A student must complete the following minimum credit requirements for the AAS Degree Option:

Career Certificate	30 credits minimum
Technical Certificate	15 credits minimum
General Education Core Courses	15 credits minimum
Total Semester Credit Hours for the Associate of Applied Science Degree	60 credits minimum hours earned as a compilation of Career, Technical, and Academic credit hours.

Approved Career–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 area. In order to provide flexibility within the districts, individual courses within a framework may be customized by doing the following:

- Adding new competencies and suggested objectives to complement the existing competencies and suggested objectives in the program framework.
- Revising or extending the suggested objectives for individual competencies
- Adjusting the semester credit hours of a course to be up 1 hour or down 1 hour (**after informing the Mississippi Community College Board [MCCB] of the change**)

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

- Sequencing courses within the suggested course sequence to reflecting the new assessment format
- Developing and adding a new course that meets specific needs of industries and other clients in the community or junior college district (**with MCCB approval**)
- Adding courses listed in the “Approved Career and Technical Electives List” as local certificate and degree completion requirements to meet specific needs of industries and

other clients in the community. The “Approved Career and Technical Electives” are currently approved in the Uniform Course Numbering Book; therefore, MCCB approval is **not** required.

**APPROVED ELECTIVES  
for Logistics Technology**

**Technical Electives**

LGT 1243	Purchasing	3 sch: 3 hr. lecture
LGT 2324	Automatic Identification/Data Capture in Logistics	4 sch: 4 hr. lecture
LGT 292(1-3)	Special Project	1-3 sch: 1-3 hr. lecture
BOT 1413	Business Accounting	3 sch: 3 hr. lecture
BOT 1213	Professional Development	3 sch: 3 hr. lecture
BOT 2623	Principles of Management	3 sch: 3 hr. lecture
BOT 2813	Business Communications	3 sch: 3 hr. lecture
BOT 1413	Records Management	3 sch: 3 hr. lecture
DDT 1313	Principles of CAD	3 sch: 3 hr. lecture
DDT 1513	Blueprint Reading I	3 sch: 3 hr. lecture
MMT 1113	Principles of Marketing	3 sch: 3 hr. lecture
MMT 2613	International Marketing	3 sch: 3 hr. lecture
Other instructor approved electives that are listed in the MCCB approved CTE Uniform Course Numbering document.		
* Students who lack entry-level skills in math, English, science, and so forth will be provided related studies.		

**Academic Electives**

ACC 1213	Principles of Accounting	3 sch: 3 hr. lecture
ECO 2113	Principles of Macroeconomics	3 sch: 3 hr. lecture
ECO 2123	Microeconomics	3 sch: 3 hr. lecture
BAD 2323	Business Statistics	3 sch: 3 hr. lecture
BAD 2413	Legal Environment of Business	3 sch: 3 hr. lecture
LEA 1813	Leadership Development	3 sch: 3 hr. lecture
MAT 1613	Calculus I	3 sch: 3 hr. lecture
MAT 1323	Trigonometry	3 sch: 3 hr. lecture
MAT 1513	Business Calculus I	3 sch: 3 hr. lecture
MAT 2323	Statistics	3 sch: 3 hr. lecture
PHY 2424	General Physics I	4 sch: 4 hr. lecture
Other instructor approved electives that are listed in the MCCB approved CTE Uniform Course Numbering document.		
* Students who lack entry-level skills in math, English, science, and so forth will be provided related studies.		

## **MARKETING MANAGEMENT**

The Marketing Management program of study prepares the graduate for a career in sales, advertising, management, public relations, merchandising, and buying. A combination of class work and practical experience gives students the opportunity to acquire the background and skills necessary to enter the business and community workforce in positions leading to the mid-management level and higher.

## Suggested Course Sequence

### Marketing Management

#### Career Certificate Option

A Career Certificate will be awarded upon completion of the required courses for the Career Certificate option in Marketing Management.

<b>*MMT 1113</b>	<b>Principles of Marketing</b>	<b>3 sch: 3 hr lecture</b>
<b>*MMT 1313</b>	<b>Selling</b>	<b>3 sch: 3 hr lecture</b>
<b>*MMT 1123</b>	<b>Marketing Applications</b>	<b>3 sch: 3 hr lecture</b>
MMT 2333	Multimedia Presentations for Marketing or Approved Computer-Related Elective	3 sch: 2-hr lecture, 2-hr lab
MMT 2233	Human Resources Management	3 sch: 2-hr lecture, 2-hr lab
MMT 1413 or BOT 1313 or Approved Math Course	Merchandising Math, BOT 1313 Applied Business Math or Approved Math Course	3 sch: 3 hr lecture
	Approved Career-Technical Electives	12 sch
	<b>Total Semester Credit Hours for a Career Certificate</b>	<b>30 sch</b>

The MSCPAS2 Y1 test will be administered upon completion of the above courses.

**\*These core course competencies will be assessed using the MSCPAS2 Y1 test.**

Students who lack entry level skills in math, English, science, etc. will be provided related studies.

**Suggested Course Sequence**

**Marketing Management**

Technical Certificate Option

A Technical Certificate will be awarded upon completion of all required Career Certificate courses **AND** the following required Technical Certificate courses in the Marketing Management program.

	Career Certificate	30 sch
<b>*MMT 2313</b>	<b>E-Commerce Marketing</b>	<b>3 sch: 3 hr lecture</b>
<b>*MMT 1323</b>	<b>Advertising</b>	<b>3 sch: 3 hr lecture</b>
<b>*MMT 2213</b>	<b>Principles of Management</b>	<b>3 sch: 3 hr lecture</b>
BAD 2413 or LET 1113	BAD 2413 Legal Environment of Business or LET 1113 Intro to Law	3 sch: 3 hr lecture
	Approved Career-Technical Electives	3 sch
	Total Semester Credit Hours for a Technical Certificate	45 sch

The MSCPAS2 Y2 test will be administered upon completion of the above courses.

**\*These core course competencies will be assessed using the MSCPAS2 Y2 test.**

## Suggested Course Sequence

### Marketing Management

#### Associate of Applied Science Degree Option

To receive the Associate of Applied Science Degree in Marketing Management, a student must complete all of the required Career Certificate courses, Technical Certificate courses **AND** a minimum of 15 semester hours of General Education Core Courses. The courses in the General Education Core may be spaced out over the entire length of the program so that students complete some academic and Career Technical courses each semester. Each community college specifies the actual courses that are required to meet the General Education Core Requirements for the Associate of Applied Science Degree at their college. The following 2012 SACS standard applies.

Section 2.7.3 For degree completion in associate programs, the component constitutes a minimum of 15 semester hours or the equivalent. These credit hours are to be drawn from and include at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural science/mathematics.

A student must complete the following minimum credit requirements for the AAS Degree Option:

Career Certificate	30 credits minimum
Technical Certificate	15 credits minimum
General Education Core Courses	15 credits minimum
Total Semester Credit Hours for the Associate of Applied Science Degree	60 credits minimum hours earned as a compilation of Career, Technical, and Academic credit hours.

Approved Career–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 area.

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

- Adding new competencies and suggested objectives to complement the existing competencies and suggested objectives in the program framework.
- Revising or extending the suggested objectives for individual competencies
- Adjusting the semester credit hours of a course to be up 1 hour or down 1 hour **(after informing the Mississippi Community College Board [MCCB] of the change)**

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

- Sequencing courses within the suggested course sequence to reflecting the new assessment format
- Developing and adding a new course that meets specific needs of industries and other clients in the community or junior college district (**with MCCB approval**)
- Adding courses listed in the “Approved Career and Technical Electives List” as local certificate and degree completion requirements to meet specific needs of industries and other clients in the community. The “Approved Career and Technical Electives” are currently approved in the Uniform Course Numbering Book; therefore, MCCB approval is **not** required.

APPROVED CAREER-TECHNICAL ELECTIVES FOR MARKETING MANAGEMENT

BOT 1133	Microcomputer Applications	3 sch: 3-hr lecture OR 2-hr lecture, 2-hr lab
MMT 171(1-3), MMT 172(1-3), MMT 173(1-3), MMT 174(1-3), MMT 175(1-3)	Marketing Seminar (I, II, III, IV, or V)	1 sch: 2-hr lab; 2 sch: 4-hr lab; or 3 sch: 6-hr lab
MMT 2243	Marketing Case Studies	3 sch: 3 hr lecture
MMT 2343	Marketing Web Page Design	3 sch: 2 hr lecture, 2 hr lab
MMT 2423	Retail Management	3 sch: 3 hr lecture
MMT 2513	Entrepreneurship	3 sch: 3 hr lecture
MMT 2523	Event Management	3 sch: 2 hr lecture, 2 hr lab
MMT 2613	International Marketing	3 sch: 3-hr lecture
MMT 291[1-6]	Internship in Marketing Management	1-6 sch: 3- to18-hr externship
MMT 292(1-6)	Marketing Cooperative Education	1-6 sch: 3- to18-hr externship
FMT 1113	Fashion Design Fundamentals	3 sch: 2 hr lecture, 2 hr lab
FMT 1213	Fashion Marketing	3 sch: 2 hr lecture, 2 hr lab
FMT 1223	Product Knowledge	3 sch: 2 hr lecture, 2 hr lab
FMT 1233	Buying Fundamentals	3 sch: 2 hr lecture, 2 hr lab
FMT 1313	Fundamentals of Textiles	3 sch: 2 hr lecture, 2 hr lab
FMT 2414	Visual Merchandising	4 sch: 2-hr lecture, 4-hr lab
FMT 2513	Image and Wardrobe Consulting	3 sch: 1-hr lecture, 4-hr lab
FMT 2613	Fashion Show Production	3 sch: 1-hr lecture, 4-hr lab
FMT 2623	Fashion Forecasting	3 sch: 1-hr lecture, 4-hr lab
FMT 291(1-6)	Internship in Fashion Marketing Technology	1-6 sch: 3- to18-hr externship
FMT 292(1-6)	Fashion Cooperative Education	1-6 sch: 3- to18-hr externship
MDT 1244 or COM 2483	Principles of Mass Communication	4 sch: 4 hr. lecture
BOT 1313	Applied Business Math	3 sch: 3 hr lecture
BOT 2813	Business Communications	3 sch: 3 hr lecture
CAT 1113	Graphic Design and Production	3 sch: 6 hr. lab
CPT 1323	Survey of Microcomputer Applications	3 sch: 2 hr. lecture, 2 hr. lab
WBL 191[1-3] WBL 192[1-3] WBL 193[1-3] WBL 291[1-3] WBL 292[1-3] WBL 293[1-3]	Work-Based Learning	1-3 sch: 3-9 hr. externship
Other instructor approved electives that are listed in the MCCB approved CTE Uniform Course Numbering document.		

Note: Marketing Management Lab (MMT 1000) is sometimes used as an optional open lab for all lab assignments in the program.

**APPROVED ACADEMIC ELECTIVES FOR MARKETING MANAGEMENT**

ECO 2113	Principles of Macroeconomics	3 sch: 3 hr lecture
ECO 2123	Principles of Microeconomics	3 sch: 3 hr lecture
Other instructor approved electives that are listed in the MCCB approved Academic Uniform Course Numbering document.		

## PHARMACY TECHNOLOGY

The Pharmacy Technology curriculum is a program of study designed to prepare the student for employment and advancement in the pharmacy field. The curriculum requires a minimum of 72 hr of courses in order to obtain an Associate of Applied Science degree. CPR-Health Care Provider is a prerequisite for the program.

Pharmacy technicians assist and support licensed pharmacists in providing direct patient care and medications to patients. Pharmacy technicians must work under the direction of a licensed pharmacist. Employers include pharmacies based in hospitals, retail settings, home health care, nursing homes, clinics, nuclear medicine settings, and mail-order prescription companies. Nontraditional employers for pharmacy technicians include medical-insurance companies, medical-computer-software companies, drug-manufacturing companies, drug-wholesale companies, and food-processing companies. The one requirement these pharmacy technician duties have in common is a need for absolute accuracy and precision in the technical and clerical aspects of this career.

Upon graduation from the program, the student is eligible to take the Pharmacy Technician Certification Board (PTCB) Pharmacy Technician Certification Exam.

## Suggested Course Sequences

### Pharmacy Technology

#### Technical Certificate Option

A Technical Certificate will be awarded upon completion of all the following technical courses in the Pharmacy Technology program.

PHM 1111	Pharmacy Technician Fundamentals	1 sch: 1 hr. lecture
PHM 1123	Pharmacy Law	3 sch: 3 hr. lecture
PHM 1212	Computer Applications in Pharmacy	2 sch: 4 hr. lab
PHM 1314	Pharmacy Math and Dosage Calculations	3 sch: 3 hr. lecture
PHM 1413	Pharmacy Anatomy and Physiology	3 sch: 3 hr. lecture
PHM 1424	Pharmacology I	4 sch: 4 hr. lecture
PHM 1512	Pharmaceutical Compounding	2 sch: 1 hr. lecture, 2 hr. lab
PHM 1525	Pharmacy Practice	5 sch: 3 hr. lecture, 4 hr. lab
PHM 2434	Pharmacology II	4 sch: 4 hr. lecture
PHM 2534	Nonprescription Medications and Devices	4 sch: 4 hr. lecture
PHM 2543	Drug Information Research	3 sch: 2 hr. lecture, 2 hr. lab
PHM 2614	Practicum I	4 sch: 12 hr. clinical
PHM 2624	Practicum II	4 sch: 12 hr. clinical
PHM 2634	Practicum III	4 sch: 12 hr. clinical
PHM 2715	Pharmacy Management	4 sch: 3 hr. lecture, 2 hr. lab
PHM 2813	Pharmacy Transition	3 sch: 3 hr. lecture
MAT ****	Intermediate Algebra (or higher)	3 sch: 3 hr. lecture
	Total Semester Credit Hours for a Technical Certificate	56 sch

### Associate of Applied Science Degree Option

To receive the Associate of Applied Science (AAS) degree in pharmacy technology, a student must complete all of the required career-certificate and technical-certificate courses **AND** a minimum of 15 semester hours of general education core courses. The courses in the general education core may be spaced out over the entire length of the program so that students complete some academic and career technical courses each semester. Each community college specifies the actual courses that are required to meet the general education core requirements for the Associate of Applied Science degree at the college. The following 2012 SACS standard applies.

*Section 2.7.3 For degree completion in associate programs, the component constitutes a minimum of 15 semester hours or the equivalent. These credit hours are to be drawn from and include at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural science/mathematics.*

A student must complete the following minimum credit requirements for the AAS degree option:

Technical Certificate	56 credits minimum
Additional courses to meet the General Education Requirement for AAS	12 credits minimum (3 general ed hours are obtained in certificate option)
Total Semester Credit Hours for the Associate of Applied Science Degree	68 credits minimum

Approved career–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 area. In order to provide flexibility within the districts, individual courses within a framework may be customized by doing the following:

- Adding new competencies and suggested objectives to complement the existing competencies and suggested objectives in the program framework
- Revising or extending the suggested objectives for individual competencies
- Adjusting the semester credit hours of a course to be up 1 hr or down 1 hr (**after informing the Mississippi Community College Board [MCCB] of the change**)

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

- Sequencing courses within the suggested course sequence to reflect the new assessment format
- Developing and adding a new course that meets specific needs of industries and other clients in the community or junior college district (**with MCCB approval**)

Adding courses listed in the “Approved Career and Technical Electives List” as local certificate- and degree-completion requirements to meet specific needs of industries and other clients in the community (The “Approved Career and Technical Electives” are currently approved in the Uniform Course Numbering Book; therefore, MCCB approval is **not** required.)

## **PLUMBING TECHNOLOGY**

The Plumbing Technology program prepares a person for advanced placement in plumbing and related fields. Graduates of this program can take the journeyman exam and become employed as supervisors, instructors, material expeditors, inspectors, estimators, consultants, employers, or contractors. This document was developed with the use of the competencies and objectives as prepared by the National Center for Construction Education and Research, along with applicable national, state, and local codes.

The Plumbing Technology program offers a Career certificate, Technical certificate and/or an Associate of Applied Science Degree.

## Suggested Course Sequence

### Plumbing Technology

#### Career Certificate Option

A Career Certificate will be awarded upon completion of the required courses for the Career Certificate option in Plumbing Technology.

<b>*PCT 1113</b>	<b>Fundamentals of Plumbing</b>	<b>3 sch: 2 hr. lecture, 2 hr. lab</b>
<b>*PCT 1333</b>	<b>Blueprint Reading for Plumbing</b>	<b>3 sch: 1 hr. lecture, 4 hr. lab</b>
<b>*PCT 1411</b>	<b>Low Pressure Boilers</b>	<b>1 sch: 2 hr. lab</b>
<b>*PCT 1443</b>	<b>Piping Level/Transit</b>	<b>3 sch: 1 hr. lecture, 4 hr. lab</b>
<b>*PCT 1513</b>	<b>Drainage and Sewer Systems</b>	<b>3 sch: 1 hr. lecture, 4 hr. lab</b>
<b>*PCT 1612</b>	<b>Heating Devices</b>	<b>2 sch: 1 hr. lecture, 2 hr. lab</b>
<b>*PCT 1622</b>	<b>Gas Piping</b>	<b>2 sch: 1 hr. lecture, 2 hr. lab</b>
<b>*PCT 1712</b>	<b>Domestic Systems</b>	<b>2 sch: 4 hr. lab</b>
<b>*PCT 1722</b>	<b>Plumbing Fixtures Lab</b>	<b>2 sch: 4 hr. lab</b>
<b>*PCT 1732</b>	<b>Backflow Cross Connection</b>	<b>2 sch: 1 hr. lecture, 2 hr. lab</b>
<b>*PCT 1743</b>	<b>Advanced Plumbing lab</b>	<b>3 sch: 1 hr. lecture, 4 hr. lab</b>
	Career/Technical Electives	4 sch
	Total Semester Credit Hours for a Career Certificate	30 sch

**\*These course competencies will be assessed in the MSCPAS2 Career certificate (Y1) assessment.**

Students who lack entry level skills in math, English, science, etc. will be provided related studies.

## Suggested Course Sequence

### Plumbing Technology

#### Technical Certificate Option

A Technical Certificate will be awarded upon completion of all required Career Certificate courses **AND** the following required Technical Certificate courses in the Plumbing Technology program.

	Career Certificate	30 sch
<b>*PCT 1213</b>	<b>Tacking, Brazing and Burning</b>	<b>3 sch: 1 hr. lecture, 4 hr. lab</b>
<b>*PCT 1323</b>	<b>Sketching</b>	<b>3 sch: 2 hr. lecture, 2 hr. lab</b>
<b>*PCT 1812</b>	<b>Rigging and Signaling</b>	<b>2 sch: 1 hr. lecture, 2 hr. lab</b>
DDT 2243	Cost Estimating	3 sch: See Appropriate CTE Program Description
	Career/Technical Elective	3 sch: See Appropriate CTE Program Description
PCT 1911	Special Project in Plumbing	1 sch: 2 hr. lab
	Total Semester Credit Hours for a Technical Certificate	45 sch

**\*These course competencies will be assessed in the MSCPAS2 Career certificate (Y1) assessment.**

## Suggested Course Sequence

### Plumbing Technology

#### Associate of Applied Science Degree Option

To receive the Associate of Applied Science Degree in Plumbing Technology, a student must complete all of the required Career Certificate courses, Technical Certificate courses **AND** a minimum of 15 semester hours of General Education Core Courses. The courses in the General Education Core may be spaced out over the entire length of the program so that students complete some academic and Career Technical courses each semester. Each community college specifies the actual courses that are required to meet the General Education Core Requirements for the Associate of Applied Science Degree at their college. The following 2012 SACS standard applies.

Section 2.7.3 For degree completion in associate programs, the component constitutes a minimum of 15 semester hours or the equivalent. These credit hours are to be drawn from and include at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural science/mathematics.

A student must complete the following minimum credit requirements for the AAS Degree Option:

Career Certificate	30 credits minimum
Technical Certificate	15 credits minimum
General Education Core Courses	15 credits minimum
Total Semester Credit Hours for the Associate of Applied Science Degree	60 credits minimum hours earned as a compilation of Career, Technical, and Academic credit hours.

Approved Career–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 area.

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

- Adding new competencies and suggested objectives to complement the existing competencies and suggested objectives in the program framework.
- Revising or extending the suggested objectives for individual competencies
- Adjusting the semester credit hours of a course to be up 1 hour or down 1 hour **(after informing the Mississippi Community College Board [MCCB] of the change)**

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

- Sequencing courses within the suggested course sequence to reflecting the new assessment format
- Developing and adding a new course that meets specific needs of industries and other clients in the community or junior college district (**with MCCB approval**)
- Adding courses listed in the “Approved Career and Technical Electives List” as local certificate and degree completion requirements to meet specific needs of industries and other clients in the community. The “Approved Career and Technical Electives” are currently approved in the Uniform Course Numbering Book; therefore, MCCB approval is **not** required.

**APPROVED CAREER TECHNICAL ELECTIVES FOR  
PLUMBING TECHNOLOGY**

BOT 1413	Business Accounting	3 sch: See Appropriate Program Description
BOT 1713	Mechanics of Communication	3 sch: See Appropriate Program Description
CST 1123	Basic Computer Systems	3 sch: See Appropriate Program Description
CPT 2133	Career Development	3 sch: See Appropriate Program Description
DDT 1213	Construction Materials	3 sch: See Appropriate Program Description
MMT 1313	Salesmanship	3 sch: See Appropriate Program Description
MMT 2213	Management	3 sch: See Appropriate Program Description
MMT 2513	Entrepreneurship	3 sch: See Appropriate Program Description
PCT 1323	Sketching	3 sch: 1 hr. lecture, 4 hr. lab
PCT 1213	Tacking, Brazing and Burning	3 sch: 2 hr. lecture, 2 hr. lab
PCT 1812	Rigging and Signaling	2 sch: 1 hr. lecture, 2 hr. lab
PCT 291(1-3)	Special Project in Plumbing Technology	3 sch: 2–6 hr. lab
PCT 292(1-6)	Supervised Work Experience in Plumbing Technology	1-6 sch: 3-18 hr. externship
WBL 191(1-3) WBL 192(1-3) WBL 193(1-3) WBL 291(1-3) WBL 292(1-3) WBL 293(1-3)	Work-Based Learning	1-3 sch: 3-9 hr. externship
Other instructor approved electives that are listed in the MCCB approved CTE Uniform Course Numbering document.		

**APPROVED ACADEMIC ELECTIVES FOR  
PLUMBING TECHNOLOGY**

BAD 2413	Legal Environment of Business	3 sch: See Academic Program Description
Other instructor approved electives that are listed in the MCCB approved Academic Uniform Course Numbering document.		

## **REAL ESTATE TECHNOLOGY**

Real Estate Technology is a program of study designed to provide specialized occupational instruction in all phases of real estate in order to prepare students for careers as real estate agents and brokers. A combination of classwork and practical experience is emphasized.

## Suggested Course Sequence

### Real Estate Technology

#### Career Certificate Option

A Career Certificate will be awarded upon completion of the required courses for the Career Certificate option in Real Estate Technology.

MMT 1113	Principles of Marketing	3 sch: 3 hr lecture
MMT 2213	Principles of Management	3 sch: 3 hr lecture
MMT 1313	Selling	3 sch: 3 hr lecture
MMT 1323	Advertising	3 sch: 3 hr lecture
<b>*RET 2713</b>	<b>Principles of Real Estate</b>	<b>3 sch: 3 hr lecture</b>
<b>*RET 2733</b>	<b>Real Estate Sales</b>	<b>3 sch: 3 hr lecture</b>
BAD 2413	Legal Environment of Business	3 sch: 3 hr lecture
<b>*RET 2723</b>	<b>Real Estate Law</b>	<b>3 sch: 3 hr lecture</b>
	Approved Career-Technical Electives	6 sch
	Total Semester Credit Hours for a Career Certificate	30 sch

**\*These course competencies will be assessed using the Mississippi real estate salesperson licensing examination.**

Students who lack entry level skills in math, English, science, etc. will be provided related studies.

## Suggested Course Sequence

### Real Estate Technology

#### Technical Certificate Option

A Technical Certificate will be awarded upon completion of all required Career Certificate courses **AND** the following required Technical Certificate courses in the Real Estate Technology program.

	Career Certificate	30 sch
ECO 2113	Principles of Macroeconomics	3 sch: 3 hr lecture
MMT 2233	Human Resource Management	3 sch: 3 hr lecture
<b>*RET 2743</b>	<b>Real Estate Appraisal</b>	<b>3 sch: 3 hr lecture</b>
<b>*RET 2783</b>	<b>Residential Mortgage Lending</b>	<b>3 sch: 3 hr lecture</b>
	Approved Career-Technical Electives	3 sch
	Total Semester Credit Hours for a Technical Certificate	45 sch

**\*These course competencies will be assessed using the Mississippi real estate salesperson licensing examination.**

## Suggested Course Sequence

### Real Estate Technology

#### Associate of Applied Science Degree Option

To receive the Associate of Applied Science Degree in Real Estate Technology, a student must complete all of the required Career Certificate courses, Technical Certificate courses **AND** a minimum of 15 semester hours of General Education Core Courses. The courses in the General Education Core may be spaced out over the entire length of the program so that students complete some academic and Career Technical courses each semester. Each community college specifies the actual courses that are required to meet the General Education Core Requirements for the Associate of Applied Science Degree at their college. The following 2012 SACS standard applies.

Section 2.7.3 For degree completion in associate programs, the component constitutes a minimum of 15 semester hours or the equivalent. These credit hours are to be drawn from and include at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural science/mathematics.

A student must complete the following minimum credit requirements for the AAS Degree Option:

Career Certificate	30 credits minimum
Technical Certificate	15 credits minimum
General Education Core Courses	15 credits minimum
Total Semester Credit Hours for the Associate of Applied Science Degree	60 credits minimum hours earned as a compilation of Career, Technical, and Academic credit hours.

Approved Career–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 area. In order to provide flexibility within the districts, individual courses within a framework may be customized by doing the following:

- Adding new competencies and suggested objectives to complement the existing competencies and suggested objectives in the program framework.
- Revising or extending the suggested objectives for individual competencies
- Adjusting the semester credit hours of a course to be up 1 hour or down 1 hour (**after informing the Mississippi Community College Board [MCCB] of the change**)

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

- Sequencing courses within the suggested course sequence to reflecting the new assessment format
- Developing and adding a new course that meets specific needs of industries and other clients in the community or junior college district (**with MCCB approval**)
- Adding courses listed in the “Approved Career and Technical Electives List” as local certificate and degree completion requirements to meet specific needs of industries and other clients in the community. The “Approved Career and Technical Electives” are currently approved in the Uniform Course Numbering Book; therefore, MCCB approval is **not** required.

**APPROVED CAREER-TECHNICAL ELECTIVES FOR  
REAL ESTATE TECHNOLOGY**

MMT 1123	Marketing Applications	3 sch: 3 hr lecture
MMT 1413	Merchandising Math	3 sch: 3 hr lecture
MMT 171(1-3) MMT 172(1-3) MMT 173(1-3) MMT 174(1-3) MMT 175(1-3)	Marketing Seminar I, II, III, and IV	1-3 sch: 1 sch: 2-hr lab, 2 sch: 4-hr lab, 3 sch: 6-hr lab
MMT 2233	Human Resources Management	3 sch: 3 hr lecture
MMT 2243	Marketing Case Studies	3 sch: 3 hr lecture
MMT 2313	E-Commerce Marketing	3 sch: 3 hr lecture
MMT 2333	Multimedia Presentations for Marketing	3 sch: 2-hr lecture, 2-hr lab
MMT 2343	Marketing Web Page Design	3 sch: 2 hr lecture, 2 hr lab
MMT 2423	Retail Management	3 sch: 3 hr lecture
MMT 2513	Entrepreneurship	3 sch: 3 hr lecture
MMT 2523	Event Management	3 sch: 2 hr lecture, 2 hr lab
MMT 2613	International Marketing	3 sch: 3-hr lecture
CAT 1113	Graphic Design and Production	3 sch: 6 hr. lab
MDT 1244 COM 2483	Principles of Mass Communication	4 sch: 4 hr. lecture
MMT 291[1-6]	Internship in Marketing Management	1-6 sch: 3- to18-hr externship
WBL 191(1-3) WBL 192(1-3) WBL 193(1-3) WBL 291(1-3) WBL 292(1-3) WBL 293(1-3)	Work-Based Learning	1-3 sch: 3-9 hr. externship
Other instructor approved electives that are listed in the MCCB approved CTE Uniform Course Numbering document.		

**APPROVED ACADEMIC ELECTIVES FOR REAL ESTATE TECHNOLOGY**

Executive Summary

ECO 2113	Principles of Macroeconomics	3 sch: 3 hr lecture
ECO 2123	Principles of Microeconomics	3 sch: 3 hr lecture
Other instructor approved electives that are listed in the MCCB approved Academic Uniform Course Numbering document.		

## LISTING OF COURSES

### BARBER/STYLIST

\* \* \* \* \*

**Course Name:** Basic Practices in Barbering

**Course Abbreviation:** BAV 1118

**Classification:** Career–Technical Core

**Description:** Basic practices including orientation, safety, and practical experiences in handling tools and hair cutting. Practices are performed independently with supervision. (8 sch: 2 hr. lecture, 18 hr. clinical lab)

**Prerequisite:** Students must have a high school diploma, GED, and minimal scores for barbering on the Compass Test to enter the program.

\* \* \* \* \*

**Course Name:** Fundamental Practices in Barbering I

**Course Abbreviation:** BAV 1218

**Classification:** Career–Technical Core

**Description:** Fundamental practices in styling, shampooing, blow drying, perm rolling, and perm processing. Practices are performed independently with supervision. (8 sch: 3 hr. lecture, 15 hr. clinical lab)

**Prerequisite:** (BAV 1118)

\* \* \* \* \*

**Course Name:** Fundamental Practices in Barbering II

**Course Abbreviation:** BAV 1318

**Classification:** Career–Technical Core

**Description:** Fundamental practices in sanitation, sterilization, prevention and control of contamination, and execution of decontamination in the workplace, hygiene and good grooming, hair analysis, and the application of a chemical hair relaxer and style. Practices are performed independently with supervision. (8 sch: 2 hr. lecture, 18 hr. clinical lab)

**Prerequisite:** (BAV 1118, 1218)

\* \* \* \* \*

**Course Name:** Intermediate Practices in Barbering I

**Course Abbreviation:** BAV 1418

**Classification:** Career–Technical Core

**Description:** Intermediate practices, including theory of colors, classifications of hair color, color preparation and applications, and treatment of damaged hair. Practices are performed independently with supervision. (8 sch: 3 hr. lecture, 15 hr. clinical lab)

**Prerequisite:** (BAV 1118, 1218, 1318)



**Course Name:** Intermediate Practices in Barbering II

**Course Abbreviation:** BAV 1518

**Classification:** Career–Technical Core

**Description:** Additional study of the structure and function of the skin, common skin disorders, and scalp and hair disorders. Practices include providing facial massages, rendering plain facials, shaving, mustache and beard trimming, and barbering services previously introduced. (8 sch: 6 hr. lecture, 6 hr. clinical lab)

**Prerequisite:** (BAV 1118, 1218, 1318, 1418).



**Course Name:** Advanced Practices in Barbering

**Course Abbreviation:** BAV 1618

**Classification:** Career–Technical Core

**Description:** Advanced practices in business management and business law applicable to barber/styling shop management in preparation for the MS State Board of Barber Examiners licensing exam. (8 sch: 6 hr. lecture, 6 hr. clinical lab)

**Prerequisite:** (BAV 1118, 1218, 1318, 1418, 1518).



**Course Name:** Barbering Instructor Training I

**Course Abbreviation:** BAV 2217

**Classification:** Career–Technical Core

**Description:** Successful completion of this course will enable the student to apply the training and instruction he or she received at the community/junior college program with the company of his or her choice. The student will perform/observe independently with minimal supervision from a company trainer. (7 sch: 2 hr. lecture, 15 hr clinical lab)

**Prerequisites:** Completion of BAV 1118-1618, consent of instructor, and a current and valid barber license



**Course Name:** Barbering Instructor Training II

**Course Abbreviation:** BAV 2227

**Classification:** Career–Technical Core

**Description:** Successful completion of this course will enable the student to apply the training and instruction he or she received at the community/junior college program with the company of his or her choice. The student will perform/observe independently with minimal supervision from a company trainer. (7 sch: 2 hr. lecture, 15 hr. clinical lab)

**Prerequisites:** Completion of BAV 2217, consent of instructor, and a current and valid barber license



**Course Name:** Barbering Instructor Training III

**Course Abbreviation:** BAV 2237

**Classification:** Career-Technical Core

**Description:** Successful completion of this course will enable the student to apply the training and instruction he or she received at the community/junior college program with the company of his or her choice. The student will perform/observe independently with minimal supervision from a company trainer. (7 sch: 2 hr. lecture, 15 hr. clinical lab)

**Prerequisites:** Completion of BAV 2217 and BAV 2227, consent of instructor, and a current and valid barber license



**Course Name:** Barbering Instructor Training IV

**Course Abbreviation:** BAV 2247

**Classification:** Career-Technical Core

**Description:** Successful completion of this course will enable the student to apply the training and instruction he or she received at the community/junior college program with the company of his or her choice. The student will perform/observe independently with minimal supervision from a company trainer. (7 sch: 2 hr. lecture, 15 hr. clinical lab)

**Prerequisites:** Completion of BAV 2217, BAV 2227, and BAV 2237, consent of instructor, and a current and valid barber license

## ELECTRICAL TECHNOLOGY



**Course Name:** Residential/Light Commercial Wiring

**Course Abbreviation:** ELT 1113

**Classification:** Career, Technical, and Associate Degree 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).

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



**Course Name:** Commercial and Industrial Wiring

**Course Abbreviation:** ELT 1123

**Classification:** Career, Technical, and Associate Degree 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)

**Prerequisite:** 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 Abbreviation:** ELT 1133

**Classification:** Career, Technical, and Associate Degree 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)

**Prerequisite:** None



**Course Name:** AC and DC Circuits for Electrical Technology

**Course Abbreviation:** ELT 1144

**Classification:** Career, Technical, and Associate Degree 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)

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



**Course Name:** Computational Methods for Electrical Technology

**Course Abbreviation:** ELT 1153

**Classification:** Career, Technical, and Associate Elective

**Description:** Study of computational skills required for the development of accurate design and drafting methods used in the electrical technology profession. (3 sch: 2-hr lecture, 2-hr lab)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Drafting for Electrical Technology

**Course Abbreviation:** ELT 1163

**Classification:** Career, Technical, and Associate Elective

**Description:** Preparation and interpretation of schematics and electrical drawing and electrical blueprints (3 sch: 1-hr lecture, 4-hr lab)

**Prerequisite:** Fundamentals of Electricity ELT 1192 or by permission of instructor

\* \* \* \* \*

**Course Name:** Fundamentals of Electricity

**Course Abbreviation:** ELT 1192-3

**Classification:** Career, Technical, and Associate 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)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Electric Power

**Course Abbreviation:** ELT 1213

**Classification:** Career, Technical, and Associate 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)

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

\* \* \* \* \*

**Course Name:** Motor Maintenance and Troubleshooting

**Course Abbreviation:** ELT 1223

**Classification:** Career, Technical, and Associate Elective

**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)

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

\* \* \* \* \*

**Course Name:** Branch Circuit and Service Entrance Calculations

**Course Abbreviation:** ELT 1253

**Classification:** Career, Technical, and Associate Core

**Description:** Calculating circuit sizes for all branch circuits and service entrances in residential installation (3 sch: 2-hr lecture, 2-hr lab)

**Prerequisite:** Residential/Light Commercial Wiring (ELT 1113) or by permission of instructor



**Course Name:** Blueprint Reading/Planning in Residential Installation

**Course Abbreviation:** ELT 1263

**Classification:** Career, Technical, and Associate Core

**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)

**Prerequisite:** 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:** Career, Technical, and Associate Elective

**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 residential/commercial automation systems (3 sch: 2-hr lecture, 2-hr lab)

**Prerequisite:** 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:** Career, Technical, and Associate Elective

**Description:** Cost of an electrical installation. Specifications set forth for a particular structure (3 sch: 2-hr lecture, 2-hr lab)

**Prerequisite:** 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:** Career, Technical, and Associate 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, programmable controllers, solid state motor controls, and other similar devices. (3 sch: 2-hr lecture, 2-hr lab)

**Prerequisite:** Motor Controls ELT1413, PLC's ELT 2613, Solid State Motor Controls ELT 2424, or by permission of instructor



**Course Name:** Calibration and Measurement Principles Used in the Electrical Industry

**Course Abbreviation:** ELT 1324

**Classification:** Career, Technical, and Associate 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)

**Prerequisite:** Programmable Logic Controls ELT 2613 and Advanced Programmable Controls ELT 2623



**Course Name:** Flexible Manufacturing Systems for Electrical Technology

**Course Abbreviation:** ELT 1334

**Classification:** Career, Technical, and Associate 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)

**Prerequisite:** Motor Controller (ELT 1413), Advanced PLCs (ELT 2623), Solid State Motor Controls (ELT 2424), or by permission of instructor



**Course Name:** Fundamentals of Instrumentation

**Course Abbreviation:** ELT 1343

**Classification:** Career, Technical, and Associate 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)

**Prerequisite:** Fundamentals of Electricity (ELT 1192-3), AC and DC Circuits (ELT 1144), or by permission of instructor



**Course Name:** Fundamentals of Robotics for Electrical Technology

**Course Abbreviation:** ELT 1353

**Classification:** Career, Technical, and Associate 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)

**Prerequisite:** Fundamentals of Electricity (ELT 1192-3), Motor Controls (ELT 1413), PLCs (ELT 2613), Solid State Motor Control (ELT 2424), and Automated Manufacturing Controls for Electrical Technology (ELT 1313).



**Course Name:** Industrial Hydraulics for Electrical Technology

**Course Abbreviation:** ELT 1363

**Classification:** Career, Technical, and Associate 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)

**Prerequisite:** Fundamentals of Electricity (ELT 1192-3), Motor Controls (ELT 1413), PLCs (ELT 2613), or by permission of instructor

\* \* \* \* \*

**Course Name:** Industrial Pneumatics for Electrical Technology

**Course Abbreviation:** ELT 1373

**Classification:** Career, Technical, and Associate 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)

**Prerequisite:** Fundamentals of Electricity (ELT 1192-3), Motor Controls (ELT 1413), PLCs (ELT 2613), or by permission of instructor

\* \* \* \* \*

**Course Name:** Industrial Robotics for Electrical Technology

**Course Abbreviation:** ELT 1383

**Classification:** Career, Technical, and Associate 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 (ELT 1353).

\* \* \* \* \*

**Course Name:** Servo Control Systems for Electrical Technology

**Course Abbreviation:** ELT 1393

**Classification:** Career, Technical, and Associate 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:** Career, Technical, and Associate 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)

**Prerequisite:** 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:** Career, Technical, and Associate 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:** Fundamentals of Electricity (ELT 1192-3) and AC/DC Circuits (ELT 1144) or by permission of instructor

\* \* \* \* \*

**Course Name:** Data Acquisition and Communications

**Course Abbreviation:** ELT 1513

**Classification:** Career, Technical, and Associate 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:** By permission of instructor

\* \* \* \* \*

**Course Name:** Fundamentals of Fiber Optics for Electrical Technology

**Course Abbreviation:** ELT 1523

**Classification:** Career, Technical, and Associate Elective

**Description:** Fiber-optic cable in modern industry applications (3 sch: 2-hr lecture, 2-hr lab)

**Prerequisite:** Fundamentals of Electricity (ELT 1192-3) and AC/DC Circuits (ELT 1144) or by permission of instructor

\* \* \* \* \*

**Course Name:** Fundamentals of Data Communications for Electrical Technology

**Course Abbreviation:** ELT 1533

**Classification:** Career, Technical, and Associate 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

\* \* \* \* \*

**Course Name:** Network Systems for Electrical Technology

**Course Abbreviation:** ELT 1544

**Classification:** Career, Technical, and Associate 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)

**Prerequisite:** Fundamentals of Electricity (ELT 1192-3) and AC/DC Circuit (ELT 1144) or by permission of instructor



**Course Name:** Satellite Systems

**Course Abbreviation:** ELT 1553

**Classification:** Career, Technical, and Associate 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)

**Prerequisite:** Fundamentals of Electricity (ELT 1192-3) and AC/DC Circuits (ELT 1144) or by permission of instructor



**Course Name:** Telephone Systems for Special Systems Electrical Technology

**Course Abbreviation:** ELT 1564

**Classification:** Career, Technical, and Associate 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)

**Prerequisite:** None



**Course Name:** Principles of Hydraulics and Pneumatics

**Course Abbreviation:** ELT 1613-4

**Classification:** Career Elective (Certificate); Technical and Associate Core (Degree)

**Description:** Instruction in basic principles of hydraulics and pneumatics and the inspection, maintenance, and repair of hydraulic and pneumatic systems (3-4 sch: 1 hr lecture, 4-6 hr lab) [May be taught as a 90-contact-hour lab in open-entry/open-exit career programs]

**Prerequisite:** None



**Course Name:** Equipment Maintenance, Troubleshooting, and Repair

**Course Abbreviation:** ELT 2113-4

**Classification:** Career Elective (Certificate); Technical and Associate Core (Degree)

**Description:** Maintenance and troubleshooting techniques, use of technical manuals and test equipment, and inspection/evaluation/repair of equipment (3-4 sch: 1hr lecture, 4-6hr lab)

**Prerequisite:** None



**Course Name:** Introduction to Sustainable and Renewable Energy

**Course Abbreviation:** ELT 2213

**Classification:** Career, Technical, and Associate Elective

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

**Prerequisite:** Fundamentals of Electricity (ELT 1192-3), AC/DC Circuits (ELT 1144), and Residential/Light Commercial Wiring (ELT 1113) or by permission of instructor



**Course Name:** Solid State Motor Control

**Course Abbreviation:** ELT 2424

**Classification:** Career Elective (Certificate); Technical and Associate Core (Degree)

**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).

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



**Course Name:** Programmable Logic Controllers

**Course Abbreviation:** ELT 2613

**Classification:** Career Elective (Certificate); Technical and Associate Core (Degree)

**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.).

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



**Course Name:** Advanced Programmable Logic Controllers

**Course Abbreviation:** ELT 2623

**Classification:** Career, Technical, and Associate 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, introduction to function blocks, sequential function chart, introduction to HMI, and logical and conversion instructions (3 sch: 2-hr lecture, 2-hr lab)

**Prerequisite:** 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:** Career, Technical, and Associate Elective

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

**Prerequisite:** Consent of instructor



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

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

**Classification:** Career, Technical, and Associate Elective

**Description:** A cooperative program between industry and education that is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of 1 semester credit hour (sch) per 45 industrial contact hours. (1–6 sch: 3–18-hr externship)

**Prerequisite:** Consent of instructor and completion of at least one semester of advanced coursework in electrical/electronics related programs



**Course Name:** Fundamentals of Construction and Manufacturing

**Course Abbreviation:** CTE 1143

**Classification:** Career, Technical, and Associate Core/Elective (This course may be taught as an elective or a core course. Please refer to the course sequence in the appropriate curriculum to determine the classification of this course.)

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

**Prerequisites:** None



**Course Name:** Computational Methods for Career and Technical Education

**Course Abbreviation:** CTE 1153

**Classification:** Career, Technical, and Associate Elective

**Description:** Study of computational skills required for the development of accurate design and drafting methods used in technology based professions. (3 sch: 2-hr lecture, 2-hr lab)

**Prerequisite:** None



**Course Name:** Introduction to Sustainable and Renewable Energy

**Course Abbreviation:** CTE 1163

**Classification:** Career, Technical, and Associate Elective

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

**Prerequisite:** None

## FASHION MERCHANDISING



**Course Name:** Fashion Design Fundamentals

**Course Abbreviation:** FMT 1113

**Classification:** Career–Technical Core

**Description:** Examines factors influencing fashion color, line, and design. Includes applications of principles of design to clothing creation and selection. (3 sch: 2-hr lecture, 2-hr lab)

**Prerequisite:** None



**Course Name:** Fashion Marketing

**Course Abbreviation:** FMT 1213

**Classification:** Career–Technical Core

**Description:** An introduction to the fashion industry including fashion terminology; nature of fashion and the creating, manufacturing, and marketing of fashion. (3 sch: 2-hr lecture, 2-hr lab)

**Prerequisite:** None



**Course Name:** Product Knowledge

**Course Abbreviation:** FMT 1223

**Classification:** Career–Technical Core

**Description:** Study of the buying and selling function with emphasis on the origin and composition of products, methods of production, quality indicators, the sale of merchandise, and the care of merchandise. (3 sch: 2-hr lecture, 2-hr lab)

**Prerequisite:** None



**Course Name:** Buying Fundamentals

**Course Abbreviation:** FMT 1233

**Classification:** Career-Technical Core

**Description:** Study of the functions of a buyer within the retail operation and the fundamentals of purchasing merchandise for resale when going to market. (3 sch: 2-hr lecture, 2-hr lab)

**Prerequisite:** None



**Course Name:** Fundamentals of Textiles

**Course Abbreviation:** FMT 1313

**Classification:** Career–Technical Core

**Description:** Introduce and explore both natural and manufactured fibers. Examine the production, development, and care of natural and common manufactured fibers as they relate to the apparel industry. (3 sch: 2-hr lecture, 2-hr lab)

**Prerequisite:** None



**Course Name:** Visual Merchandising

**Course Abbreviation:** FMT 2414

**Classification:** Career–Technical Core

**Description:** Application of fundamental principles of design, perspective, and color theory to advanced projects in merchandise presentation. (4 sch: 2-hr lecture, 4-hr lab)

**Prerequisite:** None



**Course Name:** Image and Wardrobe Consulting

**Course Abbreviation:** FMT 2513

**Classification:** Career–Technical Core

**Description:** Assessing and developing an appropriate client image for individuals in a variety of occupations and careers. Emphasis on solving figure problems, make up techniques, wardrobe coordination, and the use of posture and poise to improve image. Seasonal color coding is dated. Determining whether warm, neutral, or cool colors should be used or worn is the current trend. (3 sch: 1-hr lecture, 4-hr lab)

**Prerequisite:** None



**Course Name:** Fashion Show Production

**Course Abbreviation:** FMT 2613

**Classification:** Career–Technical Elective

**Description:** Principles and application of retail sales promotion with emphasis on in-store activities, advertising, publicity, fashion shows, and other special events. (3 sch: 1-hr lecture, 4-hr lab)

**Prerequisite:** None



**Course Name:** Fashion Forecasting

**Course Abbreviation:** FMT 2623

**Classification:** Career–Technical Elective

**Description:** Principles and application of predicting fashion trends based on past and present style-related information, the interpretation and analysis of the motivation behind a trend, writing trend reports, and creating mood boards to artistically illustrate fashion direction. (3 sch: 1-hr lecture, 4-hr lab)

**Prerequisite:** None



**Course Name:** Internship in Fashion Marketing Technology

**Course Abbreviation:** FMT 291(1-6)

**Classification:** Career–Technical Elective

**Description:** Direct application of concepts, terminology, and theory of fashion marketing. Students must be employed in a work environment where they must solve problems as

encountered in industry. (Credit is awarded at the rate of 1 sch per 3-hr externship.) (1-6 sch: 9- to 18-hr externship)

**Prerequisite:** None



**Course Name:** Fashion Cooperative Education

**Course Abbreviation:** FMT 292(1-6)

**Classification:** Career–Technical Elective

**Description:** Direct application of concepts and theory of marketing management. Students will work in a marketing-related environment. (1-6 sch: 3- to 18-hr externship)

**Prerequisite:** Permission of the instructor



**Course Name:** Work-Based Learning I, II, III, IV, V, and VI

**Course Abbreviation:** 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)

**Classification:** Free Elective

**Description:** A structured work-site learning experience in which the student, program-area teacher, work-based learning coordinator, and work-site supervisor or mentor develop and implement an educational training agreement. Designed to integrate the student’s academic and technical skills into a work environment. 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 career–technical program-area courses

## FIRE PROTECTION TECHNOLOGY



**Course Name:** Introduction to Fire Science

**Course Abbreviation:** FFT 1113

**Classification:** Career–Technical Core (Certificate and Associate Degree)

**Description:** An orientation to the fire service, this course explores department structure and organization, operations and responsibilities, and the history of the fire services and changes that are currently remodeling traditional fire services. (3 sch: 3-hr lecture)

**Prerequisite:** None



**Course Name:** Introduction to Fire Prevention

**Course Abbreviation:** FFT 1123

**Classification:** Career–Technical Core (Certificate and Associate Degree)

**Description:** This course introduces students to modern approaches of fire prevention. An overview of current fire prevention methods is provided, including codes and standards, company-based inspections, public fire education, interdiction programs, and legislation affecting fire prevention activities. (3 sch: 3-hr lecture)

**Prerequisite:** None



**Course Name:** Firefighting Principles and Practices

**Course Abbreviation:** FFT 1213

**Classification:** Career–Technical Core (Certificate and Associates Degree)

**Description:** A basic fire fighting tactical course, this class provides information about the major principles and practices conducted at fire and emergency scenes. Concentrating on activities of rescue, ventilation, salvage, overhaul, offensive and defensive attack methods, and firefighter safety, students explore various operations that must be conducted in a coordinated manner. (3 sch: 3-hr lecture)

**Prerequisite:** None



**Course Name:** Fire Apparatus and Hydraulics

**Course Abbreviation:** FFT 1223

**Classification:** Career–Technical Core (Certificate and Associate Degree)

**Description:** Engines, pumps, operating procedures, maintenance techniques, and equipment specifications are discussed while providing a working knowledge and understanding of various types of apparatus and equipment used by the fire service. (3 sch: 3-hr lecture)

**Prerequisite:** None



**Course Name:** Fire Law

**Course Abbreviation:** FFT 1813

**Classification:** Career-Technical Core for Fire Administration Technical Certificate and Associate Degree and Career-Technical Elective for other options

**Description:** An analysis of public law that affects the fire service is the basics of this class. From laws related to codes and standards, administrative and management practices, to those related to the fire ground, students learn the fundamentals of fire department operations and management. (3 sch: 3-hr lecture)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Planning for Fire and Emergency Services

**Course Abbreviation:** FFT 1913

**Classification:** Career-Technical Core for Community Fire Risk Management Technical Certificate and Associate Degree and Career-Technical Elective for other options

**Description:** With emphasis on the identification and evaluation of problems common to the management of public-safety resources, this course explores the planning, training, and logistical concerns needed to maintain organizational readiness and community preparedness. (3 sch: 3-hr lecture)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Disaster Management

**Course Abbreviation:** FFT 2313

**Classification:** Career–Technical Core (Certificate and Associate Degree)

**Description:** A study in the fundamental principles of preparing for and responding to local disasters. This course focuses on analyzing resources, developing and implementing response plans, and starting the recovery process. (3 sch: 3-hr lecture)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Building Construction

**Course Abbreviation:** FFT 2323

**Classification:** Career–Technical Core (Certificate and Associate Degree)

**Description:** Why do buildings burn? What are the danger areas of various types of construction? This course investigates building construction from the standpoint of the fire service. A basic overview of building codes and construction methods is used to familiarize students with building components and construction types. (3 sch: 3-hr lecture)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Fire Fighter Safety

**Course Abbreviation:** FFT 2333

**Classification:** Career–Technical Core (Certificate and Associate Degree)

**Description:** This course provides an overview of safety practices for the emergency service worker. Covering the individual and team from “in the station,” through the emergency scene, and return back to service, this course is essential for those who participate in emergency service activities. (3 sch: 3-hr lecture)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Strategy and Tactics

**Course Abbreviation:** FFT 2413

**Classification:** Career–Technical Core (Certificate and Associate Degree)

**Description:** Strategy and tactics used in a variety of situations faced by the fire service are explored. Covering different situations from small everyday occurrences to massive conflagrations, this course makes use of simulations and case histories in exploring necessary strategy and tactical endeavors. (3 sch: 3-hr lecture)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Incident Management Systems

**Course Abbreviation:** FFT 2423

**Classification:** Career–Technical Core (Certificate and Associate Degree)

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

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Special Problems in Fire Protection

**Course Abbreviation:** FFT 2433

**Classification:** Career–Technical Core (Certificate and Associate Degree)

**Description:** This course provides selected problems aimed at local fire-service needs. Students utilize critical thinking and perform the necessary research to develop effective solutions. (3 sch: 3-hr lecture)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Fire Department Management

**Course Abbreviation:** FFT 2813

**Classification:** Career-Technical Core for Fire Administration Technical Certificate and Associate Degree and Career-Technical Elective for other options

**Description:** This course introduces students to management. Particular attention is paid to the management process as it relates to both nonemergency and emergency aspects of the fire officer's role. (3 sch: 3-hr lecture)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Fire Service Supervision

**Course Abbreviation:** FFT 2823

**Classification:** Career-Technical Core for Fire Administration Technical Certificate and Associate Degree and Career-Technical Elective for other options

**Description:** Focusing specifically on supervising and managing personnel involved with fire protection, this course provides students with information on developing effective supervisory techniques, the role of the supervisor, dealing with problem situations, and other areas relating to personnel in fire science and individual work groups. (3 sch: 3-hr lecture)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Financial Management

**Course Abbreviation:** FFT 2833

**Classification:** Career-Technical Core for Fire Administration Technical Certificate and Associate Degree and Career-Technical Elective for other options

**Description:** Budgeting and financial management are the primary concerns of this course. Various methods of budgeting are discussed as well as budgetary tracking methods and evaluation procedures. An applied project requires the development of a model budget for the student's fire service organization. (3 sch: 3-hr lecture)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Delivery of Fire and Emergency Services

**Course Abbreviation:** FFT 2913

**Classification:** Career-Technical Core for Community Fire Risk Management Technical Certificate and Associate Degree and Career-Technical Elective for other options

**Description:** The proper deployment of adequate resources is often the most critical aspect of an effective response. This course emphasizes methods for interpreting data and making sound tactical decisions to manage local emergency situations and other large-scale incidents. (3 sch: 3-hr lecture)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Community Risk Management I

**Course Abbreviation:** FFT 2923

**Classification:** Career-Technical Core for Community Fire Risk Management Technical Certificate and Associate Degree and Career-Technical Elective for other options

**Description:** This course facilitates the analysis of local-area hazard data and threat control principles relating to personal and environmental risks. Investigation techniques, inspection methodologies, and prevention programs essential to public safety are emphasized. (3 sch: 3-hr lecture)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Community Risk Management II

**Course Abbreviation:** FFT 2933

**Classification:** Career-Technical Core for Community Fire Risk Management Technical Certificate and Associate Degree and Career-Technical Elective for other options

**Description:** A continuation of the principles addressed in Community Risk Management I, this course requires the analysis of a specific hazard and the application of specialized mitigation and

Executive Summary

control measures. The use of various codes, standards, and regulations related to such activities serves as the focal point of this course. (3 sch: 3-hr lecture)

**Prerequisite:** None

**INFORMATION SYSTEMS TECHNOLOGY**

**Information Systems Technology Core Courses**

\* \* \* \* \*

**Course Name:** IT Foundations

**Course Abbreviation:** IST 1124

**Classification:** Career Technical Core

**Description:** This course covers the diagnosis, troubleshooting, and maintenance of computer components and interpersonal communications for information technology (IT) professionals. Topics include hardware compatibility, system architecture, memory, input devices, video displays, disk drives, modems, printers, safety and environmental issues, communication, and professional behavior (4 sch: 2-hr lecture, 4-hr lab).

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Operating Platforms

**Course Abbreviation:** CPT 1333

**Classification:** Career Technical Core

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

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Systems Maintenance

**Course Abbreviation:** CNT 2423/CPT 2383

**Classification:** Career 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)

\* \* \* \* \*

**Course Name:** Fundamentals of Data Communications

**Course Abbreviation:** IST 1134

**Classification:** Career Technical Core

**Description:** This course presents basic concepts of Internet protocol (IP) telephony, local area networks, wide area networks, data transmission, and topology methods (4 sch: 2-hr lecture, 4-hr lab).

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Principles of Information Security

**Course Abbreviation:** IST 1143

**Classification:** Career 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:** Career 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. (4 sch: 2-hr lecture, 4-hr lab).

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Web Development Concepts

**Course Abbreviation:** WDT 1123

**Classification:** Career 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:** Career 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:** Career 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



**Course Name:** IST Seminar I

**Course Abbreviation:** IST 1111

**Classification:** Career and Technical Elective

**Description:** The Information Systems Technology Seminars are designed to prepare students to enter the workplace. Students learn the value of teamwork, cooperation, community involvement, professionalism, and the latest developments in the computer field (1 sch; 1-hr lecture).

**Prerequisite:**



**Course Name:** IST Seminar II

**Course Abbreviation:** IST 1121

**Classification:** Career and Technical Elective

**Description:** The Information Systems Technology Seminars are designed to prepare students to enter the workplace. Students learn the value of teamwork, cooperation, community involvement, professionalism, and the latest developments in the computer field (1 sch; 1-hr lecture).

**Prerequisite:**



**Course Name:** IST Seminar III

**Course Abbreviation:** IST 2111

**Classification:** Career and Technical Elective

**Description:** The Information Systems Technology Seminars are designed to prepare students to enter the workplace. Students learn the value of teamwork, cooperation, community involvement, professionalism, and the latest developments in the computer field (1 sch; 1-hr lecture).

**Prerequisite:**



**Course Name:** IST Seminar IV

**Course Abbreviation:** IST 2121

**Classification:** Career and Technical Elective

**Description:** The Information Systems Technology Seminars are designed to prepare students to enter the workplace. Students learn the value of teamwork, cooperation, community involvement, professionalism, and the latest developments in the computer field (1 sch; 1-hr lecture).

**Prerequisite:**

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## Computer Networking Technology Courses

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**Course Name:** Client Installation and Configuration

**Course Abbreviation:** IST 1213

**Classification:** 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



**Course Name:** Network Components

**Course Abbreviation:** IST 1223

**Classification:** AOC Core (Computer Networking and Network Security)

**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)



**Course Name:** Network Administration Using Novell

**Course Abbreviation:** IST 1234

**Classification:** 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



**Course Name:** Network Administration Using Microsoft Windows Server

**Course Abbreviation:** IST 1244

**Classification:** AOC Core (Network Security); 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:** 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:** Network Security Elective; 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:** Principles of Information Security (IST 1143) and Network Components (IST 1223)

\* \* \* \* \*

**Course Name:** Network Planning and Design

**Course Abbreviation:** IST 2224

**Classification:** AOC Core (Computer Networking)

**Description:** This course involves applying network concepts in planning and designing a functioning network. Emphasis is placed on recognizing the need for a network, conducting an analysis, and designing a solution (4 sch: 2-hr lecture, 4-hr lab).

**Prerequisites:** Network Operating Systems Elective; Network Components (IST 1223)

\* \* \* \* \*

**Course Name:** Network Implementation

**Course Abbreviation:** IST 2234

**Classification:** AOC Core (Computer Networking)

**Description:** This course is the culmination of all concepts learned in the network curriculum. Topics include planning, installation, evaluation, and maintenance of a network solution (4 sch: 2-hr lecture, 4-hr lab).

**Prerequisite:** Network Planning and Design (IST 2224)

\* \* \* \* \*

**Course Name:** Advanced Network Administration Using Novell

**Course Abbreviation:** IST 2244

**Classification:** Technical Elective

**Description:** This course is a continuation of Network Administration Using Novell. Emphasis is placed on installation, configuration, and implementation of a Novell network (4 sch: 2-hr lecture, 4-hr lab).

**Prerequisite:** Network Administration Using Novell (IST 1234)

\* \* \* \* \*

**Course Name:** Advanced Network Administration Using Microsoft Windows Server

**Course Abbreviation:** IST 2254

**Classification:** 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)



**Course Name:** Advanced Network Administration Using Linux

**Course Abbreviation:** IST 2264

**Classification:** 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 user profiles 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 familiarizes the student with object-oriented programming and a graphical integrated development environment (4 sch: 2-hr lecture, 4-hr lab).

**Prerequisite:** None



**Course Name:** Survey of Microcomputer Applications

**Course Abbreviation:** CPT 1323

**Classification:** Technical Elective

**Description:** This course introduces the student to 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** Web Development Concepts (WDT 1123) and Programming Development Concepts (CPT 1143) **OR** permission of instructor



**Course Name:** COBOL Programming Language

**Course Abbreviation:** IST 1334

**Classification:** Technical Elective

**Description:** This course is designed to introduce the student to the use of the COBOL language for business applications, including arithmetic operations, report editing, control break processing, and table processing techniques (4 sch: 2-hr lecture, 4-hr lab).

**Prerequisite:** Web and Programming Concepts (IST 1154) **OR** Web Development Concepts (WDT 1123) and Programming Development Concepts (CPT 1143) **OR** permission of instructor



**Course Name:** Fundamentals of Virtualization

**Course Abbreviation:** IST 1483

**Classification:** Career Technical Elective

**Description:** This course presents basic concepts of operating-system virtualization, server virtualization, cloning, teams, and virtual networks (3 sch: 2 hr lecture, 2 hr lab).

**Prerequisite:** IST 1124

\* \* \* \* \*

**Course Name:** Java Programming Language

**Course Abbreviation:** IST 1714

**Classification:** 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:** At least one introductory programming language course.

\* \* \* \* \*

**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** Web Development Concepts (WDT 1123) and Programming Development Concepts (CPT 1143) **OR** permission of instructor

\* \* \* \* \*

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

**Prerequisite:** Visual BASIC Programming Language (IST 1314)

\* \* \* \* \*

**Course Name:** Database Programming and Design

**Course Abbreviation:** IST 2344

**Classification:** 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:** Visual BASIC Programming Language (IST 1314) and Concepts of Database Design (IST 1163)

\* \* \* \* \*

**Course Name:** Advanced RPG Programming Language

**Course Abbreviation:** IST 2354

**Classification:** Technical Elective

**Description:** This course is a continuation of the RPG Programming Language course. 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)

\* \* \* \* \*

**Course Name:** Advanced COBOL Programming Language

**Course Abbreviation:** IST 2364

**Classification:** Programming Elective (Computer Programming)

**Description:** This course is a continuation of the COBOL Programming Language course. 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)

\* \* \* \* \*

**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 C Programming Language course (4 sch: 2-hr lecture, 4-hr lab).

**Prerequisite:** C Programming Language (IST 2374)

\* \* \* \* \*

**Course Name:** Career Development

**Course Abbreviation:** CPT 2133

**Classification:** 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 or permission from instructor

\* \* \* \* \*

**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) **OR** Web Development Concepts (WDT 1123) and Programming Development Concepts (CPT 1143) **OR** permission of instructor

**Course Name:** Web Design Applications

**Course Abbreviation:** IST 1424

**Classification:** Technical Elective

**Description:** This course involves the application of various professional and personal Web design techniques. Students will work with the latest WYSIWYG editors, HTML editors, animation/multimedia products, and photo editors (4 sch: 2-hr lecture, 4-hr lab).

**Prerequisite:** Web and Programming Concepts (IST 1154) **OR** Web Development Concepts (WDT 1123) and Programming Development Concepts (CPT 1143) **OR** permission of instructor

\* \* \* \* \*

**Course Name:** Web Site and Systems Development

**Course Abbreviation:** CPT 2354

**Classification:** 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.

\* \* \* \* \*

**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) **OR** Web Development Concepts (WDT 1123) and Programming Development Concepts (CPT 1143) **OR** permission of instructor



**Course Name:** Server-side Programming I

**Course Abbreviation:** IST 2434

**Classification:** Programming Elective (Computer Networking; Computer Programming; Database Administration)

**Description:** This course provides the student with 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:** This course is a continuation of Server-side Programming I with an increased emphasis on data-driven content (4 sch: 2-hr lecture, 4-hr lab)

**Prerequisite:** Server-side Programming I (IST 2434)



**Course Name:** Mobile Application Development

**Course Abbreviation:** IST 2454

**Classification:** Computer Programming Elective; Technical Elective

**Description:** The emergence of a new generation of highly-capable mobile devices and platforms has opened up opportunities for application developers. However, mobile development differs from conventional desktop development in that mobile devices operate in a constrained world with smaller screens, slower network connections, as well as limited memory and processing power. (3 sch: 2 hr lecture, 2 hr lab)

**Prerequisite:** Visual BASIC Programming (IST 1314)



**Course Name:** E-commerce Strategies

**Course Abbreviation:** IST 2473

**Classification:** Technical Elective

**Description:** This course provides opportunities for students to examine strategies and products available for building electronic commerce sites, how such sites are managed, and to 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:** This course introduces students to Web, e-mail, and proxy servers and the platforms on which they reside. Students will be able to install and configure Web, e-mail, and proxy servers (3 sch: 2-hr lecture, 2-hr lab).

**Prerequisite:** IT Foundations (IST 1124) or Operating Platforms (CPT 1333) and Systems Maintenance (CNT 2423/CPT 2383); Fundamentals of Data Communication (IST 1134)

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## Database Administration Technology Courses

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\* \* \* \* \*

**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 retrieve data and produce readable output. (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, manipulate data, 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 the first of a two-part series designed to give students a firm foundation in basic database tasks enabling them to install, create, and maintain a database. Students will gain a conceptual understanding of database architecture and how its components work and interact with one another. Students will also learn how to create an operational database and properly manage the various structures (4 sch: 3-hr lecture, 2-hr lab).

**Prerequisite:** SQL Programming (IST 1513)

**Corequisite:** Advanced SQL Programming (IST 1523)

\* \* \* \* \*

**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) or Operating Platforms (CPT 1333) and Systems Maintenance (CNT 2423/CPT 2383)

\* \* \* \* \*

**Course Name:** IT Project Management

**Course Abbreviation:** IST 2534

**Classification:** Technical Elective

**Description:** In this course, students develop proficiency in using and customizing a project timeline for IT implementation. (4 sch: 2-hr lecture, 4-hr lab).

**Prerequisite:** IT Foundations (IST 1124) or Operating Platforms (CPT 1333) and Systems Maintenance (CNT 2423/CPT 2383)

\* \* \* \* \*

**Course Name:** Principles of Database Management

**Course Abbreviation:** IST 1173

**Classification:** Database Elective

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

**Prerequisite:** None

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## Networking Security Technology Courses

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**Course Name:** Computer Forensics

**Course Abbreviation:** IST 1613

**Classification:** Network Security Elective

**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 concepts, models, and technologies involved in creating a secure network environment. Topics include, but are not limited to, authentication, types of attacks and malicious code, and best practices for securing a network environment (4 sch: 2-hr lecture, 4-hr lab).

**Prerequisites:** Fundamentals of Data Communication (IST 1134); Security Principles and Policies (IST 1143)



**Course Name:** Wireless Security and Privacy

**Course Abbreviation:** IST 1633

**Classification:** AOC Core (Network Security)

**Description:** This course provides a 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)



**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 to respond to 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)

\* \* \* \* \*

**Course Name:** Windows Security

**Course Abbreviation:** IST 2613

**Classification:** AOC Core (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)

\* \* \* \* \*

**Course Name:** Linux/Unix Security

**Course Abbreviation:** IST 2623

**Classification:** Network Security Elective

**Description:** This course provides the knowledge and fundamental understating of Linux/Unix security, how to harden Linux/Unix, and how to defend against potential attacks against vulnerabilities and unused system services. Topics include how to protect password files, monitor log files, and use port scanners and network scanners, and additional Linux/Unix security topics (3 sch: 2-hr lecture, 2-hr lab).

**Prerequisite:** Network Security Fundamentals (IST 1624); Advanced Network Administration Using Linux (IST 2264)

\* \* \* \* \*

**Course Name:** Security Testing and Implementation

**Course Abbreviation:** IST 2634

**Classification:** Network Security Elective

**Description:** This course provides an in-depth exploration of various methods for gaining unauthorized access to networks 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

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## Baseline, Service, and Related Courses

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**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:** 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:** 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

**Course Abbreviation:** 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)

**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 career technical program area courses

## INTERPRETER TRAINING



**Course Name:** Introduction to Interpreting

**Course Abbreviation:** IDT 1113

**Classification:** Career-Technical Core

**Description:** Defines interpreting terms; lists and discusses code of ethics; placement of interpreters in various settings; discusses environmental factors; and describes the assessment and certification process. (3sch: 3hrs lecture)

**Prerequisite:** None



**Course Name:** Expressive and Receptive Fingerspelling

**Course Abbreviation:** IDT 1211

**Classification:** Career–Technical Core

**Description:** This course will develop beginning expressive and receptive fingerspelling skills based on word and phrase recognition principles. Fingerspelling is an important part of communicating. (1sch: 1hr lecture).

**Prerequisite:** None



**Course Name:** Foundation of Deafness

**Course Abbreviation:** IDT 1123

**Classification:** Career–Technical Core

**Description:** This course will provide students with knowledge in types of communication problems resulting from deafness, ease in mixing with deaf persons, occupational trends for the deaf, causes and physiological aspects of deafness, and social barriers faced by deaf individuals. Deaf individuals and leaders in the community will be invited into the classroom to discuss these topics along with professionals working with the deaf in various situations. The course is also designed for students majoring in interpreting for the deaf, teachers, teachers' aides, school counselors, and so forth. This course provides a review of a normal mechanism of speech and hearing and how they are affected by hearing loss, as well as an emphasis on the history of deafness, trends in deaf education, and the deaf community and its culture. (3 sch: 3 hrs lecture)

**Prerequisite:** None



**Course Name:** American Sign Language I

**Course Abbreviation:** IDT 1224

**Classification:** Career–Technical Core

**Description:** A developmental course, meaning that the students (whatever their competency level at the beginning of the course) are expected to grow continuously throughout the semester. The students will develop a high degree of familiarity with and a respect for the usage of the basic principles of American Sign Language (ASL) through nonverbal communication techniques, eye training, and fingerspelling. Also, students will be introduced to the basic patterns of ASL through discipline and instruction. (4 sch: 3 hrs lecture, 2 hrs lab).

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Transliterating I

**Course Abbreviation:** IDT 1253

**Classification:** Career–Technical Core

**Description:** Studies skills required to transmit English into Conceptually Accurate Signed English (CASE). Three lecture hours. (3 sch: 3 hrs lecture)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** American Sign Language II

**Course Abbreviation:** IDT 1234

**Classification:** Career–Technical Core

**Description:** An introduction to sign language idioms and English idioms. This course will introduce ways to express English idioms in signs and also the vocabulary for the sign language idioms. Continuation of building student’s sign language vocabulary is a primary interest of this course. Deaf-resource people, videotapes, and other related materials will be included. (4 sch: 3 hrs lecture, 2 hrs lab).

**Prerequisite:** IDT 1224

\* \* \* \* \*

**Course Name:** American Sign Language III

**Course Abbreviation:** IDT 2243

**Classification:** Career–Technical Core

**Description:** An advanced-level course in American Sign Language (ASL). Will expand sign vocabulary to include English and deaf idioms and proper use in both languages. Concentration will be on proficiency in both ASL and methods of simultaneous translation of hearing-impaired people who communicate in various forms of manual English. Increased emphasis will be placed on the development of native-like fluency. Instruction is through conversational techniques incorporating additional principles and vocabulary items. (3 sch: 2 hrs lecture, 2 lab hours).

**Prerequisites:** IDT 1224 and IDT 1234.

\* \* \* \* \*

**Course Name:** Interpreting in Special Situations

**Course Abbreviation:** IDT 2353

**Classification:** Career–Technical Core

**Description:** This course includes lectures and observation of interpreters in various settings, including educational, legal, medical, religious, platform, deaf-blind, mental health, and so forth. (3 sch: 3 hrs lecture).

**Prerequisite:** Approval of instructor

\* \* \* \* \*

**Course Name:** Sign-to-Voice Interpreting I

**Course Abbreviation:** IDT 2313

**Classification:** Career–Technical Core

**Description:** Classroom work giving verbatim translations and sign-to-voice materials. There is an emphasis on the use of tapes and simulated situations. Vocabulary development, word endings, and the use of temporary signs are discussed. Students will learn to translate simultaneously from manual English to spoken English and learn to interpret from American Sign Language (ASL) to spoken English while keeping appropriate English diction. (3 sch: 3 hrs lecture).

**Prerequisite:** IDT 2243

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**Course Name:** Interpreting

**Course Abbreviation:** IDT 2333

**Classification:** Career–Technical Core

**Description:** Accuracy and clarity in expressive interpreting at a conversational speed. Refine and build English-to-ASL skills. Role-play and videos of actual experiences will be used. (3 sch: 3 hrs lecture).

**Corequisite:** IDT 2243

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**Course Name:** Transliterating II

**Course Abbreviation:** IDT 2263

**Classification:** Career–Technical Core

**Description:** Further study of the skills of transmitting English into Conceptually Accurate Signed English (CASE). (3 sch: 3 hrs lecture).

**Prerequisite:** IDT 1253

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**Course Name:** Educational Interpreting

**Course Abbreviation:** IDT 2323

**Classification:** Career–Technical Core

**Description:** Studies techniques and ethics involved in educational interpreting focusing on special settings, code of conduct, physical arrangements, and resources for educational interpreters. Further study of the skills of transmitting English into Conceptually Accurate Signed English (CASE). (3 sch: 3 hrs lecture).

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Sign-to-Voice Interpreting II

**Course Abbreviation:** IDT 2343

**Classification:** Career–Technical Core

**Description:** Continue classroom work giving verbatim translations and sign-to-voice materials. There is an emphasis on the use of tapes and simulated situations. Vocabulary development, word endings, and the use of temporary signs are discussed. Students will learn to translate simultaneously from manual English to spoken English and to interpret from American Sign Language (ASL) to spoken English while keeping appropriate English diction. (3 sch: 3 hrs lecture).

**Prerequisite:** Approval of instructor



**Course Name:** Artistic Interpreting

**Course Abbreviation:** IDT 2363

**Classification:** Career–Technical Elective

**Description:** Study of the principles and techniques of artistic interpreting including literary and musical works. (3 sch: 3 hrs lecture).

**Prerequisite:** Approval of instructor



**Course Name:** Legal Interpreting

**Course Abbreviation:** IDT 2373

**Classification:** Career–Technical Elective

**Description:** This is a preparation course for legal interpreting. The student will learn to anticipate settings, assess linguistic systems, determine and study specialized vocabulary, identify problems and apply ethical solutions, and practice interpreting legal texts. (3 sch: 3 hrs lecture).

**Prerequisite:** Approval of instructor



**Course Name:** Interpreting Practicum

**Course Abbreviation:** IDT 2413

**Classification:** Career–Technical Core

**Description:** Application of interpreting/transliterating skills in a supervised, approved site(s). All contact hours will be verifiable, and direct observation will be administered by practicum supervising interpreter. (3 sch: 150 clock hours)

**Prerequisite:** Approval of instructor

## LOGISTICS TECHNOLOGY



**Course Name:** Fundamentals to Logistics

**Course Abbreviation:** LGT 1113

**Classification:** Career–Technical Core

**Description:** This course is designed to give the student a firm foundation in the systems approach to managing activities associated with forecasting, procurement, inventory management, life cycle costing, and product support. (3 sch: 3-hr lecture)

**Prerequisite:** None



**Course Name:** Transportation and Distribution

**Course Abbreviation:** LGT 1213

**Classification:** Career–Technical Core

**Description:** This course is designed to give an overview of transportation and distribution issues. Emphasis is placed on domestic and international transportation, third-party selection, regulations, route and schedule development, and planning for shipments. (3 sch: 3-hr lecture)

**Prerequisite:** None



**Course Name:** Materials Management

**Course Abbreviation:** LGT 1233

**Classification:** Career–Technical Core

**Description:** This course provides managerial information concerning inventory information systems, managerial tools and techniques, the warehouse environment, and distribution planning and control. (3 sch: 3-hr lecture)

**Prerequisite:** None



**Course Name:** Purchasing

**Course Abbreviation:** LGT 1243

**Classification:** Career–Technical elective

**Description:** This course provides information about the purchasing function. Emphasis is placed on vendor analysis, negotiations, system contracts, public purchasing, competitive bidding, and personnel. (3 sch: 3-hr lecture)

**Prerequisite:** None



**Course Name:** Supply Chain Management

**Course Abbreviation:** LGT 1313

**Classification:** Career–Technical Core

**Description:** This course provides information concerning the flow of products and information among producers, suppliers, and customers. Emphasis is placed on acquiring, purchasing, and distribution of goods and services throughout the supply chain. (3 sch: 3-hr lecture)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Logistic Support Analysis

**Course Abbreviation:** LGT 1413

**Classification:** Career–Technical Core

**Description:** This course is a study of the support function and the development of analytical tools to support managerial decisions. Topics covered are maintenance planning, provisioning and support, system safety, and life cycle cost. (3 sch: 3-hr lecture)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Production Planning and Controlling

**Course Abbreviation:** LGT 1513

**Classification:** Career–Technical Core

**Description:** This course provides managerial information regarding material requirements, capacity planning and control techniques, master production scheduling, and techniques in cost analysis. (3 sch: 3-hr lecture)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Logistics Management

**Course Abbreviation:** LGT 2113

**Classification:** Career–Technical Core

**Description:** This course is designed to help the student solve actual challenges they will encounter in the marketplace. Basic decision-making tools and concepts will be used for finding cost reduction and strategic opportunities. (3 sch: 3-hr lecture)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Automatic Identification/Data Capture in Logistics

**Course Abbreviation:** LGT 2324

**Classification:** Career–Technical Elective

**Description:** This course is a study of the methods of recognizing objects, getting information about them, and automatically entering that data or feeding it directly into computer systems without any human involvement. Automatic identification and data capture technologies include bar codes, Radio Frequency ID (RFID), Optical Character Recognition (OCR), magnetic stripes, smart cards and other data media. Laboratory experiences will emphasize bar coding and RFID technologies. Various automatic identification data capture applications will be used. (4 sch: 4-hr lecture)

**Prerequisite:** Consent of instructor and completion of at least one semester of advanced coursework in Logistics Technology

\* \* \* \* \*

**Course Name:** Maintenance Management

**Course Abbreviation:** LGT 2513

**Classification:** Career–Technical Core

**Description:** This course enables the student to understand the relationship between reliability and maintainability (R&M) and acquisition logistics and to evaluate the impact of R&M decisions. (3 sch: 3-hr lecture)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Configuration Management

**Course Abbreviation:** LGT 2533

**Classification:** Career–Technical Core

**Description:** This course is designed to give the student a foundation of the interrelationship of configuration management to life cycle activities and logistics support. Emphasis will be placed on configuration identification, audits, controls, as well as data management. (3 sch: 3-hr lecture)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Business Logistics Capstone Project

**Course Abbreviation:** LGT 2814

**Classification:** Career–Technical Core

**Description:** This course is designed to write a research paper specific to an approved logistics/supply chain management topic either selected by the student or assigned by the instructor. (4 sch: 4-hr lecture)

**Prerequisite:** English Composition I (ENG 1113)

\* \* \* \* \*

**Course Name:** Special Project

**Course Abbreviation:** LGT 291(1-3)

**Classification:** Career–Technical Elective

**Description:** A course to provide students with an opportunity to utilize skills and knowledge gained in other Logistics Technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (1-3 sch hr)

**Prerequisite:** Consent of instructor

## MARKETING MANAGEMENT TECHNOLOGY



**Course Name:** Principles of Marketing

**Course Abbreviation:** MMT 1113

**Classification:** Career–Technical Core

**Description:** Study of principles and problems of marketing goods and services and methods of distribution from producer to consumer. Topics include types, functions, and practices of wholesalers and retailers and efficient techniques in the development and expansion of markets. (3 sch: 3-hr lecture)

**Prerequisite:** None



**Course Name:** Marketing Applications

**Course Abbreviation:** MMT 1123

**Classification:** Career–Technical Core

**Description:** A project-based course as a continuation of MMT 1113. (3 sch: 3-hr lecture)

**Prerequisite:** Principles of Marketing (MMT 1113) or approval of instructor



**Course Name:** Selling

**Course Abbreviation:** MMT 1313

**Classification:** Career–Technical Core

**Description:** Basic principles and techniques of professional sales and their practical application. Topics include basic elements of consumer behavior, developing selling strategies, closing and servicing a sale, and developing consumer relations. (3 sch: 3-hr lecture)

**Prerequisite:** None



**Course Name:** Advertising

**Course Abbreviation:** MMT 1323

**Classification:** Career–Technical Core

**Description:** The role of advertising as an integrated marketing communications tool. Topics included are product and consumer analysis, media selection, and creation of advertisements. (3 sch: 3-hr lecture)

**Prerequisite:** None



**Course Name:** Merchandising Math

**Course Abbreviation:** MMT 1413

**Classification:** Career–Technical Elective

**Description:** Study of the mathematical calculations involved in the buying and merchandising process. Fundamental principles and operations in buying, pricing, and inventory control. (3 sch: 3-hr lecture)

**Prerequisite:** None



**Course Name:** Marketing Seminar I, II, III, IV, V  
**Course Abbreviation:** MMT 171(1-3), MMT 172(1-3), MMT 173(1-3), or MMT 174(1-3), MMT 175(1-3)  
**Classification:** Career–Technical Elective  
**Description:** Develops leadership skills and human-relations skills necessary for success in the field of marketing management. Special programs and activities will address topics directly related to marketing careers and career development. Emphasis will be placed on developing civic, social, and business responsibilities. (1 sch: 2-hr lab, 2 sch: 4-hr lab, 3 sch: 6-hr lab)  
**Prerequisite:** None



**Course Name:** Principles of Management  
**Course Abbreviation:** MMT 2213  
**Classification:** Career–Technical Core  
**Description:** Study of the basic principles and functions of organizational management with special emphasis on planning, organizing, directing, staffing, and controlling. (3 sch: 2-hr lecture, 2-hr lab)  
**Prerequisite:** None



**Course Name:** Human Resource Management  
**Course Abbreviation:** MMT 2233  
**Classification:** Career–Technical Core  
**Description:** Objectives, organization, and functions of human resource management. Emphasis is placed on selection and placement, job evaluation, training, education, safety, health, employer-employee relationships, and employee services. (3 sch: 3-hr lecture)  
**Prerequisite:** None



**Course Name:** Marketing Case Studies  
**Course Abbreviation:** MMT 2243  
**Classification:** Career–Technical Elective  
**Description:** The study of effective marketing management decision making through case study analysis. (3 sch: 3-hr lecture)  
**Prerequisite:** Marketing Applications (MMT 1123)



**Course Name:** E-Commerce Marketing  
**Course Abbreviation:** MMT 2313  
**Classification:** Career–Technical Core  
**Description:** This course introduces the fundamental opportunities and challenges associated with e-commerce activities. Topics include designing the user interface, Web security, electronic payment systems, promotion, legal issues, and social media opportunities involved in creating a functioning online business presence. (3 sch: 3-hr lecture)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Multimedia Presentations for Marketing

**Course Abbreviation:** MMT 2333

**Classification:** Career–Technical Elective

**Description:** Design and deliver multimedia marketing presentations through the use of appropriate multimedia software and tools. Topics include marketing design concepts and related marketing communication strategies. (3 sch: 2-hr lecture, 2-hr lab)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Marketing Web Page Design

**Course Abbreviation:** MMT 2343

**Classification:** Career–Technical Elective

**Description:** Use creative marketing strategies, concepts, and techniques to design Web sites that will reach designated target markets. (3 sch: 2-hr lecture, 2-hr lab)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Retail Management

**Course Abbreviation:** MMT 2423

**Classification:** Career–Technical Elective (Marketing Management Technology); Career–Technical Core (Fashion Merchandising)

**Description:** Study of retailing processes including functions performed, principles governing effective operation, and managerial problems resulting from current economic and social trends (3 sch: 3-hr lecture)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Entrepreneurship

**Course Abbreviation:** MMT 2513

**Classification:** Career–Technical Elective

**Description:** Overview of key marketing concepts, methods, and strategic issues relevant to entrepreneurs and the activities involved with planning, establishing, and managing a small business enterprise. Topics to be covered include planning, location, analysis, financing, and development of a business plan. (3 sch: 3-hr lecture)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Event Management

**Course Abbreviation:** MMT 2523

**Classification:** Career–Technical Elective

**Description:** Design a plan for special events, trade and consumer shows, exhibitions, and conventions. (3 sch: 2-hr lecture, 2-hr lab)

**Prerequisite:** None



**Course Name:** International Marketing

**Course Abbreviation:** MMT 2613

**Classification:** Career–Technical Elective

**Description:** Provide students with an overview and understanding of international marketing. This involves an analysis of world markets, their respective consumers and environments, and the marketing management required to meet the demands of constantly changing foreign markets. (3 sch: 3-hr lecture)

**Prerequisite:** None



**Course Name:** Internship in Marketing Management

**Course Abbreviation:** MMT 291(1-6)

**Classification:** Career–Technical Elective

**Description:** Direct application of concepts and theory of marketing management. Students will work in a marketing-related environment. (1-6 sch: 3- to 18-hr externship)

**Prerequisite:** Permission of the instructor



**Course Name:** Marketing Cooperative Education

**Course Abbreviation:** MMT 292(1-6)

**Classification:** Career–Technical Elective

**Description:** Direct application of concepts and theory of marketing management. Students will work in a marketing-related environment. (1-6 sch: 3- to 18-hr externship)

**Prerequisite:** Permission of the instructor



**Course Name:** Work-Based Learning I, II, III, IV, V, and VI

**Course Abbreviation:** 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)

**Classification:** Free Elective

**Description:** A structured workplace learning experience in which the student, program-area teacher, work-based learning coordinator, and workplace supervisor or mentor develop and implement an educational training agreement. Designed to integrate the student’s academic and technical skills into a work environment. 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 career-technical program area courses

## PHARMACY TECHNOLOGY



**Course Name:** Pharmacy Technician Fundamentals

**Course Abbreviation:** PHM 1111

**Classification:** Career-Technical Core

**Description:** Introduces the student to the pharmacy technician career field and provides an overview of pharmacy practice and the opportunities open to certified pharmacy technicians. (1 sch: 1-hr lecture)

**Prerequisite:** None



**Course Name:** Pharmacy Law

**Course Abbreviation:** PHM 1123

**Classification:** Career-Technical Core

**Description:** Federal and state laws pertaining to the practice of pharmacy. (3 sch: 3-hr lecture)

**Prerequisite:** None



**Course Name:** Computer Applications in Pharmacy

**Course Abbreviation:** PHM 1212

**Classification:** Career-Technical Core

**Description:** A comprehensive understanding of pharmacy computer systems in addition to hands-on operation. (2 sch: 4-hr lab)

**Prerequisite:** None



**Course Name:** Pharmacy Math and Dosage Calculations

**Course Abbreviation:** PHM 1313

**Classification:** Career-Technical Core

**Description:** Proper use of the metric, apothecary, and avoirdupois systems. Conversion between the systems. Application of formulas, calculations of fractional dosages, and methods of calculating dosages from all drug forms. Review of calculations dealing with ratio and proportion, percentages, ratio strength, reducing and enlarging formulas, and dilution and concentration problems. (3 sch: 3-hr lecture)

**Prerequisite:** Intermediate Algebra (MAT 1233) or higher



**Course Name:** Pharmacy Anatomy and Physiology

**Course Abbreviation:** PHM 1413

**Classification:** Career-Technical Core

**Description:** Study of body structure essential to safe and effective pharmaceutical care. (3 sch: 3-hr lecture)

**Prerequisite:** None



**Course Name:** Pharmacology I

**Course Abbreviation:** PHM 1424

**Classification:** Career-Technical Core

**Description:** A study of human disease processes and rational pharmacotherapeutics relating to fluids and nutrients in the following body systems: nervous, endocrine, skeletal, muscular, gastrointestinal, reproductive, and immune. Indications, contraindications, mechanism of action, side effects, dosages, and methods of administration including how these principles can be utilized in pharmacy practice. (4 sch: 4-hr lecture)

**Prerequisite:** First-semester pharmacy technology courses



**Course Name:** Pharmaceutical Compounding

**Course Abbreviation:** PHM 1512

**Classification:** Career-Technical Core

**Description:** Concepts of design, preparation, use, and evaluation of solid and semisolid dosage forms. Specific topics include powders, tablets, capsules, coated dosage forms, suspensions, emulsions, magmas, gels, lotions, ointments, creams, pastes, suppositories, transdermal systems, sustained release products, and novel drug delivery systems. Exercises in computer application, prescription, and physician order interpretation, and the introduction of extemporaneous compounding are performed in the laboratory. (2 sch: 1-hr lecture, 2-hr lab)

**Prerequisite:** Pharmacy Math and Dosage Calculations (PHM 1314)



**Course Name:** Pharmacy Practice

**Course Abbreviation:** PHM 1525

**Classification:** Career-Technical Core

**Description:** Medication distribution systems utilized in retail and hospital pharmacy, including processing of individual prescriptions, floor stock distribution, unit dose systems, and IV admixture. Topics discussed include hazardous waste handling, infection control, principles of quality assurance, and equipment use and maintenance. Exercises in packaging, unit dose functions, aseptic compounding, parental admixture, and use of computer database systems will be performed in the laboratory. (5 sch: 3-hr lecture, 4-hr lab)

**Prerequisite:** First-semester pharmacy technology courses



**Course Name:** Pharmacology II

**Course Abbreviation:** PHM 2434

**Classification:** Career-Technical Core

**Description:** A study of human disease processes and rational pharmacotherapeutics relating to the cardiovascular, respiratory, renal, hematologic, and dermatologic systems as well as eyes, ears, nose, and throat. Indications, contraindications, mechanism of action, side effects, dosages, and methods of administration including how these principles can be utilized in pharmacy practice. (4 sch: 4-hr lecture)

**Prerequisite:** First three semesters of pharmacy technology courses



**Course Name:** Nonprescription Medications and Devices

**Course Abbreviation:** PHM 2534

**Classification:** Career-Technical Core

**Description:** Reviews the categories of the over-the-counter medications, explains the types and procedures of home monitoring equipment, and provides guidelines for patient counseling.

Explains durable and surgical or nondurable medical products. Highlights concepts of vitamins, herbs, and nutritional supplements and the nontraditional treatment options. (4 sch: 4-hr lecture)

**Prerequisite:** First three semesters of pharmacy technology courses



**Course Name:** Drug Information Research

**Course Abbreviation:** PHM 2543

**Classification:** Career-Technical Core

**Description:** The concepts of obtaining pertinent patient information and data collection, including patient medical records, patient interviews, drug-use reviews, literature resources, and problem solving. (3 sch: 2-hr lecture, 2-hr lab)

**Prerequisite:** First three semesters of pharmacy technology courses



**Course Name:** Practicum I

**Course Abbreviation:** PHM 2614

**Classification:** Career-Technical Core

**Description:** Application of pharmacist technician concepts in community and hospital pharmacy, home health, and extended care settings. The student will be placed in a community or institutional setting as the setting is available. Emphasis is placed on functions associated with medication distribution systems. (4 sch: 12-hr of clinical)

**Prerequisite:** Second semester pharmacy technology courses



**Course Name:** Practicum II

**Course Abbreviation:** PHM 2624

**Classification:** Career-Technical Core

**Description:** Progression of internship rotations in community hospitals, medical centers, or pharmaceutical manufacturers. The student will be placed in the setting not used in Practicum I. Emphasis is placed on intravenous admixture preparations, total parenteral nutrition, chemotherapy preparations, and the use of controlled and investigational drugs in an institution. (4 sch: 12-hr clinical)

**Prerequisite:** First three semesters of pharmacy technology courses



**Course Name:** Practicum III

**Course Abbreviation:** PHM 2634

**Classification:** Career-Technical Core

**Description:** Advanced progression of internship rotations in community hospitals, medical centers, or pharmaceutical manufacturers. Emphasis is placed on intravenous admixture preparations, total parenteral nutrition, chemotherapy preparations, and the use of controlled and investigational drugs in an institution. (4 sch: 12-hr clinical)

**Prerequisite:** First three semesters of pharmacy technology courses

\* \* \* \* \*

**Course Name:** Pharmacy Management

**Course Abbreviation:** PHM 2714

**Classification:** Career-Technical Core

**Description:** Discussion of pharmacy functions relating to policies and procedures, pharmaceutical purchasing, inventory control, drug recall and return, and maintaining transaction records. The class will explore several retail functions, such as payments, billing, oral and written communications, computer data collection, and pharmaceutical merchandising. (4 sch: 3-hr lecture, 2-hr lab)

**Prerequisite:** First four semesters of pharmacy technology courses

\* \* \* \* \*

**Course Name:** Pharmacy Transition

**Course Abbreviation:** PHM 2813

**Classification:** Career-Technical Core

**Description:** Further develops decision-making skills and promotes an interest in continued professional development. Employment opportunities and responsibilities, as well as preparation for the Pharmacy Technician Certification Exam, are emphasized. (3 sch: 3-hr lecture)

**Prerequisite:** First four semesters of pharmacy technology courses

## PLUMBING TECHNOLOGY



**Course Name:** Fundamentals of Plumbing

**Course Abbreviation:** PCT 1113

**Classification:** Career–Technical Core

**Description:** This course includes basic safety, an introduction to construction math, and introduction to hand and power tools, an introduction to construction drawings, and rigging. (3 sch: 2 hr lecture, 2 hr lab)

**Prerequisite:** None



**Course Name:** Blueprint Reading for Plumbing

**Course Abbreviation:** PCT 1333

**Classification:** Career–Technical Core

**Description:** An in-depth understanding of blueprint reading related to plumbing profession (3 sch: 1 hr lecture, 4 hr lab)

**Prerequisite:** None



**Course Name:** Low Pressure Boilers

**Course Abbreviation:** PCT 1411

**Classification:** Career–Technical Core

**Description:** Introduction to safe operation of pressure boilers for heating, steam production, and water heating (1 sch: 2 hr lab)

**Prerequisite:** None



**Course Name:** Tacking, Brazing, and Burning

**Course Abbreviation:** PCT 1213

**Classification:** AOC Core (Plumbing Technical Certificate and Associate Degree) and Career–Technical Elective (Plumbing Career Certificate)

**Description:** Striking an arc; tacking metal together; setting up an oxyacetylene torch and burning, brazing, and soldering; and cutting straight and bevel angles on pipe. Safety procedures will be covered and emphasized. (3 sch: 1 hr lecture, 4 hr lab)

**Prerequisite:** None



**Course Name:** Sketching

**Course Abbreviation:** PCT 1323

**Classification:** AOC Core (Plumbing Technical Certificate Associate Degree) and Career–Technical Elective (Plumbing Career Certificate)

**Description:** Sketching, measuring, and recording required information to supplement oral descriptions and organize ideas to include individual piping components (3 sch: 1 hr lecture, 4 hr lab)

**Prerequisite:** None

\* \* \* \* \*

**Course Name:** Rigging and Signaling

**Course Abbreviation:** PCT 1812

**Classification:** AOC Core (Plumbing Technical Certificate Associate Degree) and Career-Technical Elective (Plumbing Career Certificate)

**Description:** Basic use of hand signals, rigging, and equipment. (2 sch: 1 hr lecture, 2 hr lab)

**Prerequisites:** None

\* \* \* \* \*

**Course Name:** Piping Level/Transit

**Course Abbreviation:** PCT 1443

**Classification:** AOC Core (Plumbing)

**Description:** Applications of the leveling instruments, shooting elevations, and grading pipes. (3 sch: 1 hr lecture, 4 hr lab)

**Prerequisites:** None

\* \* \* \* \*

**Course Name:** Drainage and Sewer Systems

**Course Abbreviation:** PCT 1513

**Classification:** AOC Core (Plumbing)

**Description:** Information and practical aspects of drainage and disposal systems and the International Plumbing Code. Included are the installation of the drainage system in a residential unit covering health aspects and the disposal of poisonous gases arising from the discharge of traps. Instruction is provided on elements of disposal systems, including sewer, septic tanks, tank size calculations, maintenance causes, and removal of sewer obstructions. (3 sch: 1-hr lecture, 4-hr lab)

**Prerequisites:** None

\* \* \* \* \*

**Course Name:** Heating Devices

**Course Abbreviation:** PCT 1612

**Classification:** AOC Core (Plumbing)

**Description:** Information on local codes for installing and repairing water heaters, force air units, and floor furnaces. (2 sch: 1 hr lecture, 2 hr lab)

**Prerequisites:** None

\* \* \* \* \*

**Course Name:** Gas Piping

**Course Abbreviation:** PCT 1622

**Classification:** AOC Core (Plumbing)

**Description:** Information on standard gas codes. The safe installation of gas appliances and gas lines, according to codes, will be included. (2 sch: 1 hr lecture, 2 hr lab)

**Prerequisites:** None



**Course Name:** Domestic Systems

**Course Abbreviation:** PCT 1712

**Classification:** AOC Core (Plumbing)

**Description:** Information on the installation of a hot water system according to the unit fixture system. Also information on sizing and installation of a potable cold water system. (2 sch: 4 hr lab)

**Prerequisites:** None



**Course Name:** Plumbing Fixtures Lab

**Course Abbreviation:** PCT 1722

**Classification:** AOC Core

**Description:** Information on the installation of the rough-in and finish fixtures used in the plumbing construction according to International Plumbing Code. (2 sch: 4 hr lab)

**Prerequisites:** None



**Course Name:** Backflow Cross Connection

**Course Abbreviation:** PCT 1732

**Classification:** AOC Core

**Description:** Information on the different types of backflow devices, and the installation and testing of the devices (2 sch: 1 hr lecture, 2 hr lab)

**Prerequisites:** None



**Course Name:** Advanced Plumbing Lab

**Course Abbreviation:** PCT 1743

**Classification:** AOC Core

**Description:** Additional study in the area of advanced plumbing in the commercial area (3 sch: 1 hr lecture, 4 hr lab)

**Prerequisites:** None



**Course Name:** Special Project in Plumbing

**Course Abbreviation:** PCT 191(1-3)

**Classification:** Career–Technical Elective

**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: 2–6 hr lab)

**Prerequisites:** Consent of Instructor



**Course Name:** Supervised Work Experience in Plumbing

**Course Abbreviation:** PCT 192(1-6)

**Classification:** Career–Technical Elective

**Description:** This course is a cooperative program between industry and education and is designed to integrate the student’s studies with industrial experience. Variable credit is awarded on the basis of semester hour per 45 industrial contact hours. (1–6 sch: 3–18 hr externship)

**Prerequisites:** Consent of Instructor



**Course Name:** Work-Based Learning I, II, III, IV, V, and VI

**Course Abbreviation:** 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)

**Classification:** Free Elective

**Description:** A structured workplace learning experience in which the student, program area teacher, work-based learning coordinator, and workplace supervisor/mentor develop and implement an educational training agreement. Designed to integrate the student’s academic and technical skills into a work environment. May include regular meetings and seminars with school personnel and employers for supplemental instruction and progress reviews. (1–3 sch: 3–9 hr externship)

**Prerequisite:** Concurrent enrollment in Career–technical program area courses

## REAL ESTATE TECHNOLOGY



**Course Name:** Principles of Real Estate

**Course Abbreviation:** RET 2713

**Classification:** Career-Technical Core

**Description:** This course is designed to provide the student with an understanding of the basic principles and business fundamentals of real estate. The student will gain a working knowledge of real estate terminology and concepts in preparation for passing the licensing exam and/or for use in personal business. (3 sch: 3-hr lecture)

**Prerequisite:** None



**Course Name:** Real Estate Law

**Course Abbreviation:** RET 2723

**Classification:** Career-Technical Core

**Description:** This course is designed to give students a general background in the laws of real property and real estate brokerage. (3 sch: 3-hr lecture)

**Prerequisite:** None



**Course Name:** Residential Mortgage Lending

**Course Abbreviation:** RET 2783

**Classification:** Career-Technical Core

**Description:** This course provides an up-to-date survey of the rapidly changing field of residential mortgage lending. (3 sch: 3-hr lecture)

**Prerequisite:** None



**Course Name:** Real Estate Sales

**Course Abbreviation:** RET 2733

**Classification:** Career-Technical Core

**Description:** A study of the methods and techniques employed by real estate salespersons and brokers in the sale and promotion of real estate. (3 sch: 3-hr lecture)

**Prerequisite:** None



**Course Name:** Real Estate Appraisal

**Course Abbreviation:** RET 2743

**Classification:** Career-Technical Elective

**Description:** A study of the methods, procedures, and evaluation techniques of appraising commercial and residential real property under various conditions. (3 sch: 3-hr lecture)

**Prerequisite:** None



**Course Name:** Work-Based Learning I, II, III, IV, V, and VI

**Course Abbreviation:** 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)

**Classification:** Free Elective

**Description:** A structured work-site learning experience in which the student, program-area teacher, work-based learning coordinator, and work-site supervisor or mentor develop and implement an educational training agreement. Designed to integrate the student's academic and technical skills into a work environment. 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 career-technical program-area courses

## Appendix A: Related Academic Standards<sup>1</sup>

### 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 (quotation 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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<sup>1</sup> CTB/McGraw-Hill LLC. (2005). *Tests of adult basic education, forms 7 and 8*. Monterey, CA: Author. Reproduced with permission of CTB/McGraw-Hill LLC. TABE is a registered trademark of The McGraw-Hill Companies, Inc. Copyright © 1994 by CTB/McGraw-Hill LLC. Reproduction of this material is permitted for educational purposes only.

## Appendix B: 21st Century Skills<sup>2</sup>

### **CS1 Global Awareness**

1. Using 21st century skills to understand and address global issues
2. 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
3. Understanding other nations and cultures, including the use of non-English languages

### **CS2 Financial, Economic, Business and Entrepreneurial Literacy**

1. Knowing how to make appropriate personal economic choices
2. Understanding the role of the economy in society
3. Using entrepreneurial skills to enhance workplace productivity and career options

### **CS3 Civic Literacy**

1. Participating effectively in civic life through knowing how to stay informed and understanding governmental processes
2. Exercising the rights and obligations of citizenship at local, state, national and global levels
3. Understanding the local and global implications of civic decisions

### **CS4 Health Literacy**

1. Obtaining, interpreting and understanding basic health information and services and using such information and services in ways that enhance health
2. Understanding preventive physical and mental health measures, including proper diet, nutrition, exercise, risk avoidance, and stress reduction
3. Using available information to make appropriate health-related decisions
4. Establishing and monitoring personal and family health goals
5. Understanding national and international public health and safety issues

### **CS5 Environmental Literacy**

1. Demonstrate knowledge and understanding of the environment and the circumstances and conditions affecting it, particularly as relates to air, climate, land, food, energy, water and ecosystems
2. Demonstrate knowledge and understanding of society's impact on the natural world (e.g., population growth, population development, resource consumption rate, etc.)
3. Investigate and analyze environmental issues, and make accurate conclusions about effective solutions
4. Take individual and collective action towards addressing environmental challenges (e.g., participating in global actions, designing solutions that inspire action on environmental issues)

### **CS6 Creativity and Innovation**

1. Think Creatively
2. Work Creatively with Others
3. Implement Innovations

### **CS7 Critical Thinking and Problem Solving**

1. Reason Effectively
2. Use Systems Thinking
3. Make Judgments and Decisions
4. Solve Problems

### **CS8 Communication and Collaboration**

1. Communicate Clearly
2. Collaborate with Others

### **CS9 Information Literacy**

1. Access and Evaluate Information
2. Use and Manage Information

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<sup>2</sup> *21st century skills*. (n.d.). Washington, DC: Partnership for 21st Century Skills.

**CS10 Media Literacy**

1. Analyze Media
2. Create Media Products

**CS11 ICT Literacy**

1. Apply Technology Effectively

**CS12 Flexibility and Adaptability**

1. Adapt to change
2. Be Flexible

**CS13 Initiative and Self-Direction**

1. Manage Goals and Time
2. Work Independently
3. Be Self-directed Learners

**CS14 Social and Cross-Cultural Skills**

1. Interact Effectively with others
2. Work Effectively in Diverse Teams

**CS15 Productivity and Accountability**

1. Manage Projects
2. Produce Results

**CS16 Leadership and Responsibility**

1. Guide and Lead Others
2. Be Responsible to Others

## 2012 Curriculum Revisions by Program

Industry advisory team members from colleges throughout the state were asked to give input related to changes to be made to each curriculum framework. Specific comments related to soft skills, occupational-specific skills, and safety were solicited and utilized. Additionally, instructors and Advisory Committee members from colleges throughout the state were also asked to give input on changes to be made to the curriculum framework.

### Barber/Stylist Curriculum Changes (CIP: 12.0402)

Changed the SCH breakdown in the courses:

- BAV 1118 Basic Practices in Barbering : 8 sch = 2 hr lecture, 18 hr clinical lab
- BAV 1218 Fundamental Practices in Barbering I: 8 sch = 3 hr lecture, 15 hr clinical lab
- BAV 1318 Fundamental Practices in Barbering II: 8 sch = 2 hr lecture, 18 hr clinical lab
- BAV 1418 Intermediate Practices in Barbering I: 8 sch = 3 hr lecture, 15 hr clinical lab
- BAV 1518 Intermediate Practices in Barbering II : 8 sch = 6 hr lecture, 6 hr clinical lab
- BAV 1618 Advanced Practices in Barbering: 8 sch = 6 hr lecture 6 hr clinical lab

These are new course hour changes:

- BAV 2217 Barber Training I 7 sch = 2 hr lecture, 15 hr lab
- BAV 2227 Barber Training II 7 sch = 2 hr lecture, 15 hr lab
- BAV 2237 Barber Training III 7 sch = 2 hr lecture, 15 hr lab
- BAV 2247 Barber Training IV 7 sch = 2 hr lecture, 15 hr lab
- Reviewed competencies and objectives to ensure accuracy and appropriateness

### Electrical Technology Curriculum Changes (CIP: 46.0302)

Add new courses:

- CTE 1163 Introduction to Sustainable and Renewable Energy
- CTE 1153 Computational Methods for Career and Technical Education
- CTE 1143 Fundamentals of Construction and Manufacturing
- Competencies and objectives were reviewed to ensure accuracy and appropriateness.
- Clarification to content that relates to the Contren Best Practices were made.

- The Recommended Tools and Equipment list was updated to reflect the tool list for successful completion of Electrical Technology theory and content.

### **Fashion Merchandising Curriculum Changes (CIP: 52.1902)**

- Renamed FMT 1313 from Textiles in Fashion to Fundamentals of Textiles.
- Renamed FMT 1233 from Buying to Buying Fundamentals.
- Renamed FMT 2613 from Fashion Sales Direction to Fashion Show Production
- Moved FMT 1223 Product Knowledge to core.
- Moved MMT 2423 Retail Management to core.
- Moved MMT 1323 Advertising to an elective.
- Moved MMT 2213 Principles of Management to an elective.
- Moved MMT 1313 Selling to an elective.
- Created the course FMT 2623 Fashion Forecasting
- Created the course FMT 292(1-6) Fashion Cooperative Education.

### **Fire Protection Technology Curriculum Changes (CIP: 43.0203)**

- New Program No Changes

### **Information Systems Technology Core Curriculum Changes**

- Competencies and objectives were reviewed and adjusted to ensure accuracy and appropriateness.
- IST 1483 Fundamentals of Virtualization was added as a Computer Programming elective.
- IST 1173 Principles of Database Management was added as a Database Administration elective.
- IST 2454 Mobile Application Development was added as a Computer Programming elective.
- IST 1111 IST Seminar I was added as an Information Systems Technology elective.
- IST 1121 IST Seminar II was added as an Information Systems Technology elective.
- IST 2111 IST Seminar III was added as an Information Systems Technology elective.
- IST 2121 IST Seminar IV was added as an Information Systems Technology elective.
- Course outlines for relevant career and technical certificates as well as for the associate of applied science (AAS) degree were updated.
- The title of Security Principles and Policies was changed to Principles of Information Security.

- \*Comptia A+ Certification was added to allow for the use of an Alternative Assessment to Information Systems Technology Career Certificate Options for colleges choosing to utilize the alternative assessment.
- References were updated.

#### **Interpreter Training Curriculum Changes (CIP: 16.1603)**

- New Program No Changes

#### **Logistics Technology Curriculum Changes (52.0203)**

- New Program No Changes

#### **Marketing Management Technology Curriculum Changes (CIP: 52.1401)**

- Renamed MMT 1123 from Marketing Management to Marketing Applications
- Renamed MMT 1313 from Personal Selling to Selling
- Created the course MMT 292(1-6) Marketing Cooperative Education
- Competencies and objectives were reviewed and revised to ensure accuracy and appropriateness.
- The Recommended Tools and Equipment list was updated and placed in the new spreadsheet format that is a separate document.

#### **Pharmacy Technology Curriculum Changes (CIP: 51.0805)**

- Competencies and objectives were reviewed to ensure accuracy and appropriateness.
- Clarification to content that relates to the Pharmacy Tech Standards was made.
- The Recommended Tools and Equipment list was updated to reflect the tool list for successful competition of pharmacy tech theory and content.

#### **Plumbing Technology Curriculum Changes (CIP: 46.0503)**

- Removed references to Pipefitting (PPV/) to all courses except for Oxyfuel Cutting and Steam Traps
- Fundamentals of Plumbing/Pipefitting PPV/PCT 1113 Description: Job safety and health, including first aid. Also, occupational hazards and the scope of the OSHA law. Includes pipefitting and plumbing fittings, valves, hangers, and general trade fitting identification. Included are screwed, welded, flanged, soldered, brazed, glued, compression, and flared fittings. Identification and use of pipefitting and plumbing tools used in today's piping industry. **Changed to**

Fundamentals of Plumbing PCT 1113 Description: This course includes basic safety, an introduction to construction math, and introduction to hand and power tools, an introduction to construction drawings, and rigging. (3 sch: 2 hr lecture, 2 hr lab)

- Integrated the Contren Core in PCT 1113 Fundamentals of Plumbing
- Pressure Boilers PPV/PCT 1411 changed to Low Pressure Boilers PCT 1411
- Reviewed competencies and objectives to ensure accuracy and appropriateness
- Clarified content that relates to the Contren Best Practices
- Updated the Recommended Tools and Equipment list to reflect the tool list for successful competition of Plumbing Technology theory and content

**Real Estate Technology Curriculum Changes (CIP: 52.1501)**

- New Program No Changes