

# Chattanooga State Technical Community College

2001-2002 Catalog

**CollegeSource**

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# **Chattanooga State Technical Community College**

**a college with contagious warmth and energy**

**a college which powerfully addresses community needs**

**a college whose faculty and staff are recognized for their special genius for  
enabling students of all backgrounds and preparations to succeed**

**a college whose faculty and staff are widely respected  
as transforming leaders**

**the most comprehensive community college in our region**

**Chattanooga State Technical Community College is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools  
(1866 Southern Lane, Decatur, Georgia 30033-4097; Telephone number 404-679-4501) to award the associate degree.  
Pub. No. 11-67-65100-6-11/2000/jdd**

**Under the leadership of the Tennessee Board of Regents**

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## Transform Your Life!

- General and transfer education
- Career (applied) education
- Professional and corporate training
- Technology transfer to business and industry
- Community education and advancement
- Workforce development

*We are a college whose faculty and staff are recognized for their special genius for enabling students of all backgrounds and preparations to succeed. We believe in student success.*

## Academic Calendar

*This calendar is subject to change at any time prior to or during an academic term due to emergencies or causes beyond the reasonable control of the institution, including severe weather, loss of utility services, or orders by federal or state agencies.*

### Fall 2001

Classes begin for Industrial Technology and other designated programs	August 20
Registration	August 22-23
Classes begin	August 27
Last day to add	August 31
Labor Day holiday (no classes)	September 3
Fall Reading Days (no classes)	October 7-9
Last day to withdraw	October 31
Application for Graduation Due	October 31
Thanksgiving holidays (no classes)	November 22-25
Last day of classes	December 8
Finals	December 11-15

### Spring 2002

Classes begin for Industrial Technology and other designated programs	January 7
Registration	January 9-10
Classes begin	January 14
Last day to add	January 18
M.L. King holiday (no classes)	January 21
Spring Break (no classes)	March 11-17
Last day to withdraw	March 20
Good Friday holiday (no classes)	March 29-30
Last day of classes	May 1
Finals	May 3-8
Commencement	May 11

### Summer 2002

Industrial Technology classes begin	May 7
Registration (all sessions)	May 13
Classes begin for 12-week and 1st 6-week sessions	May 15
Last day to add for 1st 6-week session	May 17
Last day to add for 12-week session	May 20
Memorial Day holiday (no classes)	May 27
Classes begin for 10-week session	May 29
Last day to add for 10-week session	June 3
Last day to withdraw for 1st 6-week session	June 12
Last day of classes for 1st 6-week session	June 26
Classes begin for 2nd 6-week session	June 27
Last day to add for 2nd 6-week session	July 1
Independence Day holiday (no classes)	July 4-7
Last day to withdraw for 12-week session	July 10
Last day to withdraw for 10-week session	July 15
Last day to withdraw 2nd 6-week session	July 25
Last day of classes for Industrial Technology, 12-week, 10-week, and 2nd 6-week sessions	August 8

## Telephone Numbers

<b>Chattanooga State Main Campus, 4501 Amnicola Highway</b>	697-4400
<b>Chattanooga State Downtown, 535 Chestnut St., Suite 112</b>	697-3100
<b>Chattanooga State East, 7158 Lee Highway</b>	697-4797
<b>Chattanooga State North, Dayton</b>	365-5010
<b>Chattanooga State West, Kimball</b>	837-1327
<b>Chattanooga State Grundy County High School</b>	837-1327
<b>Chattanooga State Sequatchie Valley Technical Center</b>	554-4027
Admissions	697-4401
Adult Education (GED)	697-2529
Business and Community Development Center	697-3100
Career Planning	697-4421
Child Development Center	697-4412
Counseling Services	697-4421
Disabilities Support Services	697-4452
Distance Education Program	697-4408
Financial Aid	697-4402
Records	697-4401
Library Services	697-4448
Orientation, Advisement and Retention	697-4483
Small Business Development and Resource Center	752-1774
<b>Academic Departments</b>	
Allied Health	697-4450
Business & Information Systems	697-4441
Engineering, Environmental & Emergency Technologies	697-4434
Humanities	697-4440
Industrial Technology	697-4433
Licensed Practical Nursing/Surgical Technology	697-4447
Mathematics & Sciences	697-4442
Nursing Program/Erlanger	778-8080
Social & Behavioral Sciences	697-3127





## A Guide To Academic Terminology

*The following is a list of terms commonly used in admission and registration procedures.*

**Academic load** The total semester hours of credit for all courses taken during a semester.

**Add and drop deadlines** The latest date in an academic term when a course may be added to or dropped from a student's class schedule.

**Admissions** The process of being admitted to the College with the opportunity to register for classes. Completion of the Admissions process does not constitute registration for classes.

**Admissions file** The set of documents related to a request for admission. The set contains the application form and official transcripts of previous work in high school or college and may contain standardized test scores or other information required by the Admissions Office.

**Audit** Registering for and attending class but not receiving credit.

**Concentration** A group of courses within a major which emphasizes one aspect of the major.

**Corequisite** A course to be taken or a requirement to be fulfilled at the same time as a particular course is being taken.

**Curriculum** The set of courses offered in a particular degree or certificate program. More generally, the courses (in total) offered in a college or university. The plural word is curricula.

**Drop** Officially discontinuing a portion of one's schedule for the remainder of the semester.

**Elective** A course that is accepted toward fulfillment of credit for a degree or certificate but is not specifically required for that degree or certificate. So termed because a student "elects" or chooses to take the course(s).

**Early registration** The period of time before registration day in which students may register for the following semester.

**Grade point average (GPA)** An average on the four point scale determined by dividing the total accumulated quality points by the corresponding total hours of credit attempted. Certain grades do not influence this computation.

**Honors course** A version of a regular course reserved for students with superior preparation for that course.

**Major** The academic area in which one specializes.

**Orientation** A meeting (or series of meetings) designed to acquaint a new student with the facilities, policies, sources of information and assistance, and academic and social atmosphere of the College.

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**Preregistration** The period of time before registration day in which students may register for the following semester.

**Prerequisite** A requirement to be completed (or a level of skill or knowledge to be demonstrated) prior to enrollment in a course or program.

**Probation** The status of students when their cumulative GPA drops below Chattanooga State's standards. Students may still enroll while on probation.

**Quality points** Academic performance records are compiled through use of a scale assigning four "quality points" per semester hour of credit for an "A" grade ranging to one "quality point" per semester hour of credit for a "D" grade.

**Reapplication** A form students must fill out if they do not attend Chattanooga State for one or more semesters (summer excluded).

**Registration** The process of officially gaining entrance into one or more courses. Students must be admitted to the College before they are allowed to register for classes.

**Semester** The division of the calendar year used in academic scheduling. A semester is roughly four months in duration.

**Semester credit hour** The unit of academic credit at Chattanooga State. Generally the number of hours a course meets each week determines the amount of credit it carries. (Laboratory and clinical courses are notable exceptions to this guideline.)

**Suspension** The status of students (usually following probation) when their cumulative GPA drops below Chattanooga State's standards for two consecutive semesters. Students may not enroll while on suspension. (Students who have twice previously attempted a transitional studies course and failed to meet the minimum standards for progression will be suspended for one semester.)

**Transcript** A cumulative record of a student's course work and grades.

**Transitional Studies** Foundation courses in English, math, reading, and study skills designed for students who are not prepared for college level courses. Placement in transitional studies courses is determined by ACT or SAT and/or COMPASS tests scores.

**Withdraw** Officially discontinuing all of one's schedule for the remainder of the semester.



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## Transform Your Life!

## General Information

Chattanooga State's career programs prepare students for a specialized career with marketable skills. These programs are designed for the student who does not intend to transfer to a baccalaureate program. Students can pursue programs leading to the Associate of Applied Science (AAS) degree or a Technical Certificate.

### Associate of Applied Science

Associate of Applied Science degrees are designed to prepare students for immediate employment in a specialized area. The AAS degree normally requires a minimum of 60 semester credit hours of college level work, including a minimum of 36 semester hours in the technical specialty.

### Technical Certificate

Programs leading to Technical Certificates are offered in response to the training needs of business and industry. Since the credential depicts proficiency in an area of employment skill, the program's standards are determined primarily by the training needs of business. Students admitted to Technical Certificate programs may be enrolled as special students.

**Note:** Credit hours earned in transitional studies courses are institutional credit; they are not applicable to credit hours required for a degree or certificate.

### General Education

The goal of general education is to provide students with a common set of learning experiences which will develop the attitudes, knowledge, and skills to enable them to function effectively in society and enjoy enriched personal lives.

The Associate of Applied Science degree has a General Education Core Requirement consisting of a minimum of one course from each of the following areas: Written Communication, Oral Communication, Humanities, Mathematics, Natural Science (some majors substitute an additional Mathematics course for Natural Science), Social/Behavioral Science, and Computers.

#### Approved General Education Courses

The following lists indicate courses which have been approved for use in the various General Education categories. Because these are foundation courses on which more advanced work in the major may need to build, the SUMMARY OF REQUIRED HOURS for the student's major may require that a specific course be taken to satisfy a given General Education requirement. Otherwise, the student may select any course from the list. If the requirement calls for 3 credit hours and the student selects a 4- or 5-credit course, the extra credit hour(s) will count as unrestricted elective credit toward graduation. (If the requirement specified in the student's major is a 4-hour course, the 4th credit hour will **not** count toward satisfying the unrestricted elective requirement because it is *required* as opposed to being *selected* by the student.)

Written and Oral Communication Electives (6 hours)

*Must include one course in Written Communication and one course in Oral Communication.*

Written Communication

ENGL 1010 Composition I

Oral Communication

ENGL 2710 Technical Reports

\* MG 254 Salesmanship

SP 110 Fundamentals of Public Speaking

*\*Allowed for designated AAS degree programs in the division of Business and Information Systems only*

Computer Electives (3 hours)

Any course in Information Systems (CS prefix)

Any course in Network Management (NW prefix)

ET 115 Computers in Engineering Technology

OF 125 Word Processing I

OF 126 Word Processing II

OF 127 Desktop Publishing

OF 128 Advanced Desktop Publishing

Humanities Electives (3 hours)

ART 1030 Art Appreciation

ART 2030 Art Structure

ENGL 2110 American Masterpieces I

ENGL 2120 American Masterpieces II

ENGL 2140 African-American Literature

ENGL 2210 English Masterpieces I

ENGL 2220 English Masterpieces II

ENGL 2240 Shakespeare: An Introduction

ENGL 2410 Literature of the Western World I

ENGL 2420 Literature of the Western World II

ENGL 2540 Literature by Women

HUM 1010 Introduction to the Humanities I

HUM 1020 Introduction to the Humanities II

HUM 1230 Philosophy of Science and Technology

HUM 2030 Religions of the World

HUM 2040 Religion in America

HUM 2130 Mythology

HUM 2140 Folklore and Native Culture

HUM 2330 Contemporary Women Artists and Writers

HUM 2550 Leadership Development

MUS 1030 Music Appreciation

PHIL 1030 Introduction to Western Philosophy

PHIL 2410 Philosophy of Religion: Old Testament

PHIL 2420 Philosophy of Religion: New Testament

PHIL 2430 Philosophy of Religion

THEA 1030 Introduction to the Theatre

Mathematics Electives (3 hours)

\* HE 244 Health Statistics

MATH 1010 Contemporary Mathematics

MATH 1410 Structure of Number Systems I

MATH 1420 Structure of Number Systems II

MATH 1510 Statistics I

MATH 1520 Statistics II

MATH 1530 Introductory Statistics

MATH 1710 College Algebra

MATH 1720 Pre-Calculus

MATH 1740 Algebra and Trigonometry for Technologies I

MATH 1750 Algebra and Trigonometry for Technologies II



Natural Science Electives (4 hours)

ASTR	1030	Astronomy
BIOL	1110	General Biology I
BIOL	1120	General Biology II
† BIOL	2010	Human Anatomy and Physiology I
† BIOL	2020	Human Anatomy and Physiology II
BIOL	2050	Plant Morphology
CHEM	1010	Introduction to Chemistry I
CHEM	1020	Introduction to Chemistry II
CHEM	1110	General Chemistry I
CHEM	1120	General Chemistry II
ESC	1110	Environmental Science I
ESC	1120	Environmental Science II
GEOL	1040	Physical Geology
GEOL	1050	Historical Geology
PHYS	1030	Concepts of Physics
PHYS	2010	Non-Calculus-Based Physics I
PHYS	2020	Non-Calculus-Based Physics II
PHYS	2110	Calculus-Based Physics I
PHYS	2120	Calculus-Based Physics II
PSCI	1030	The Physical Environment

†Allowed for the following majors only:

Human Services Specialist

Emergency Services Technology—Emergency Medical Care Concentration

Management—Health Services Management Concentration

Designated AAS degree programs within the division of Nursing/Allied Health

Social and Behavioral Science Electives (3 hours)

EC	211	Principles of Economics I—Macro
EC	212	Principles of Economics II—Micro
GO	101	Physical Geography
GO	103	World Geography
HIST	1010	Western Civilization I
HIST	1020	Western Civilization II
HIST	1110	History of World Civilizations I
HIST	1120	History of World Civilizations II
HIST	1180	Heroes and Villains
HIST	2010	United States History I
HIST	2020	United States History II
HIST	2030	Tennessee History
HIST	2130	Afro-American History
PO	110	Introduction to American Government
PY	101	General Psychology
PY	241	Psychology of Individual Differences
PY	250	Leadership Development
PY	251	Psychology of Personal Adjustment
SO	110	Introduction to Sociology
SO	120	Social Problems
SO	215	Marriage and Family
SO	216	Cultural Anthropology

MATH 1830 Calculus for Management, Life, and Social Sciences

MATH 1910 Calculus I with Analytic Geometry

MATH 1920 Calculus II with Analytic Geometry

† MG 165 Business Mathematics

\*Allowed for Health Information Management majors only

†Allowed for designated AAS degree programs in the division of Business and Information Systems only

Math Placement

For students pursuing majors requiring Calculus, Pre-Calculus, or Algebra and Trigonometry for Technologies, placement in math courses is based on the criteria listed below. The student should take the highest level course for which he/she is qualified. If this is a higher level course than the one required for graduation, it will automatically be substituted for the lower level course. All degrees at Chattanooga State require at least one college level math course. Meeting the criteria to place into a higher level course does not exempt the student from this requirement. If a student in a career program places into a higher level math course, he/she may be allowed to graduate with fewer than the total number of hours published in the SUMMARY OF REQUIRED HOURS for that major, provided that all other requirements for the degree are met and the student completes at least 64 semester hours.

Criteria	Advanced Placement Course
1. Three (3) high school math credits above the Algebra I level <b>and</b> a Math subscore of 25 on the ACT or corresponding SAT score.	Calculus I with Analytic Geometry, MATH 1910
2. Two (2) high school math credits above the Algebra I level <b>and</b> a Math subscore of 21 on the ACT or corresponding SAT score.	Pre-Calculus, MATH 1720 or Algebra and Trigonometry for Technologies II, MATH 1750 or Calculus for Management, Life, and Social Sciences, MATH 1830

Note: The Associate of Applied Science Degree is designed for students who do not intend to pursue a bachelor's degree. However, many of the courses required in these programs will transfer. Consult your adviser for more information.

## Business & Information Systems

### Accounting Technology

Associate of Applied Science Degree

The Accounting Technology program gives theoretical and practical accounting concepts, principles, standards, methods and procedures. A Financial Planning concentration is available.

#### Career Opportunities

Accountant, bookkeeper, cost accountant, payroll bookkeeper, accounts receivable bookkeeper, auditor, accounts payable bookkeeper, tax accountant, internal auditor, controller

##### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
<b>Freshman</b>			
BU 114,115	Principles of Accounting I, II	4	4
BU 173,175	Business Law I, II	3	3
ENGL 1010	Composition I	3	
MATH 1510	Statistics I		3
MATH 1710 or MG 165	College Algebra or Business Mathematics	3	
MG 103	Introduction to Business	3	
MG 254	*Salesmanship		3
	Computer Elective		3
	Social/Behavioral Science Elective		3
		<u>16</u>	<u>19</u>
<b>Sophomore</b>			
BU 110	Business Tax Reporting		3
BU 185	Federal Taxes I	3	
BU 204,205	Intermediate Accounting I, II	3	3
BU 224	Cost & Budgeting	3	
BU 233	Auditing		3
BU 240	Practical Accounting Applications	3	
BU 250,251	Accounting Information Systems I, II	3	3
BU 255	Professional Review in Accounting and Taxation		3
	Humanities Elective	3	
	Unrestricted Elective		1
		<u>18</u>	<u>16</u>

Total Hours: 69

\*Satisfies Oral Communication requirement.

### Advertising Arts

Associate of Applied Science Degree

Advertising Arts trains students for careers in advertising agencies, art services, department stores, printing industries, television, graphic arts industries, and in-plant or agency packaging services. Students will need to spend approximately \$200-\$250 for basic professional equipment the first year.

#### Career Opportunities

Art director, production artist, graphic designer, illustrator, printer, printing, pre-press, service bureau

##### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
<b>Freshman</b>			
AA 106	Design	4	
AA 107	Illustration I		3
AA 108	Advertising Concepts	3	
AA 109	Production Art	4	
AA 116	Typography		4
ENGL 1010	Composition I	3	
OF 127	*Desktop Publishing		3
	Computer Elective	3	
	Mathematics/Natural Science Elective		3-4
	Social/Behavioral Science Elective		3
		<u>17</u>	<u>16-17</u>
<b>Sophomore</b>			
AA 209,210	Graphic Design I, II	4	4
AA 215,217	Advertising Design I, II	3	3
AA 219	Illustration II	4	
AA 222	Portfolio		2
AA 245	**Computer Applications for Graphic Design	3	
AA 246	Computer Illustration		3
ART 1030	Art Appreciation		3
MG 165	Business Mathematics	3	
SP 110	Fundamentals of Public Speaking		3
	Unrestricted Elective	1	
		<u>18</u>	<u>18</u>

Total Hours: 69-70

\*Prerequisite: OF 107 or equivalent keyboarding skills.

\*\*Prerequisite: CS 190.

### Applied Technology

Associate of Applied Science Degree

The Applied Technology program broadens the education of Industrial Technology students and prepares them for entry into supervisory level positions. The following Industrial Technology programs are approved concentrations in Applied Technology: Air Conditioning and Refrigeration, Auto Body Repair, Automotive Technology, Cosmetology, Diesel Equipment Mechanics, Industrial Electricity, Industrial Electronics, Industrial Maintenance Mechanics, Landscaping and Turf Management, Machine Tool Technology, Marine Engine Technology, Medical Office Assisting, Surgical Technology, Technical Drafting, Welding.

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SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours		
		FALL	SPR	SUM
	*Advanced Placement	32		
BU 114	Principles of Accounting I	4		
BU 173	Business Law I		3	
ENGL 1010	Composition I	3		
MG 103	Introduction to Business	3		
MG 114	Principles of Management		3	
MG 134	Supervision and Human Relations			3
MG 165	Business Mathematics	3		
MG 254	**Salesmanship		3	
PY 251	Psychology of Personal Adjustment		3	
	Computer Elective	3		
	Humanities Elective			3
	Natural Science Elective		4	
	Unrestricted Elective			1
Total Hours: 71		48	16	7

\*Advanced Placement credit will be awarded in accordance with the Industrial Technology Certificate/AAS Degree Articulation policy found in the "Industrial Technology Programs" section of the catalog.

\*\*Satisfies Oral Communication requirement.

Continued from previous column

- AV 141 Flight Instruction I—3 credit hours
- Commercial Pilot, Airplane Single or Multi-Engine Land**
- AV 111 Flight Theory—3 credit hours
- AV 112 Navigation—3 credit hours
- AV 113 FAA Regulations—3 credit hours
- AV 142 Flight Instruction II—3 credit hours
- Instrument Rating, Airplane**
- AV 123 Meteorology—3 credit hours
- AV 143 Flight Instruction III—3 credit hours
- AV 231 Instrument Flight—3 credit hours

Certificates must be current and valid, and the student must provide documentation to the Vice President for Academic Affairs through the appropriate faculty/department. Flight evaluation may be required before granting credit.

**Banking and Financial Management Concentration**

**Management**

Associate of Applied Science Degree

The Banking and Financial Management Concentration prepares students for management in the financial services industry, within the guidelines of the American Institute of Banking, American Bankers Association.

**Career Opportunities**

Bank operations, branch banking, commercial lending, consumer credit, mortgage lending

SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
Freshman			
BK 110	Principles of Banking	3	
BK 112	Money and Banking	3	
BK 122	Economics for Bankers		3
BK 130	Consumer Lending	3	
BU 114	Principles of Accounting I		4
ENGL 1010	Composition I	3	
MATH 1510	Statistics I or Natural Science Elective	3-4	
MG 103	Introduction to Business		3
MG 165	Business Mathematics		3
MG 254	*Salesmanship		3
	Computer Elective	3	
		18-19	16
Sophomore			
BK 211	Marketing for Bankers		3
BK 212	Analyzing Financial Statements	3	
BK 219	Law and Banking Principles		3
BK 229	Law and Banking Applications		2
BU 115	Principles of Accounting II	4	
BU 173	Business Law I		3
EC 211	Principles of Economics I	3	
MG 114	Principles of Management	3	
MG 134	Supervision and Human Relations	3	
	Banking Electives	3	3
	Humanities Elective		3
	Unrestricted Elective		1
Total Hours: 71-72		19	18

\*Satisfies Oral Communication requirement.

**Business**  
See "Management"

**Aviation Management Concentration**

**Management**

Associate of Applied Science Degree

This program prepares students for careers in aviation. The aviation courses provide preparation for the FAA written exams for the Private Pilot, Instrument Pilot, and the Commercial Pilot. The flight instruction classes provide laboratory flight experience both in flight simulators and in actual aircraft.

SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
Freshman			
AV 111	Flight Theory	3	
AV 112	Navigation	3	
AV 113	FAA Regulations	3	
AV 123	Meteorology		3
AV 141,142	Flight Instruction I, II	3	3
AV 231	Instrument Flight		3
BU 173	Business Law I	3	
ENGL 1010	Composition I	3	
MG 103	Introduction to Business		3
MG 165	Business Mathematics		3
MG 254	*Salesmanship		3
		18	18
Sophomore			
AV 143,144	Flight Instruction III, IV	3	3
AV 201	Aerospace Internship		3
AV 221	Aviation Management		3
BU 114	Principles of Accounting I	4	
MG 114	Principles of Management	3	
MG 134	Supervision and Human Relations		3
	Computer Elective	3	
	Humanities Elective		3
	Mathematics Elective		3
	Social/Behavioral Science Elective	3	
	Unrestricted Elective	1	
Total Hours: 71		17	18

\*Satisfies Oral Communication requirement.

**Advanced Standing For Flight Related Experience**

The following credentials may justify advanced standing with credit for the listed classes:

**Private Pilot, Airplane Single Engine—Land**

AV 101 General Aeronautics—3 credit hours

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### Computer Programming

See "Programming Concentration"

### Computer Science

See: "End User Support Concentration," "Network Management Concentration," "Programming Concentration," "Information Systems Technology Certificate"

### Court Reporting Concentration

#### Office Systems Technology

Associate of Applied Science Degree

Approved by the National Court Reporters Association

The Court Reporting concentration prepares students to perform computer-aided machine shorthand in any jurisdiction when the student is familiar with its laws.

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours		
		FALL	SPR	SUM
<b>Freshman</b>				
ENGL 1010	Composition I		3	
HS 104,114	General Medical Terminology I, II	3	3	
LA 110	Fundamentals of Law	3		
MG 165	Business Mathematics		3	
OF 104	Business Communications I	3		
OF 113	Keyboarding/Document Processing I		3	
OF 210,220,230	Court Reporting I, II, III	5	4	4
	Computer Elective		3	
	Unrestricted Elective		1	
		18	16	4
<b>Sophomore</b>				
LA 130	Legal Research	3		
OF 114	Keyboarding/Document Processing II		3	
OF 175	Medical and Technical Dictation			3
OF 240,250,255	Court Reporting IV, V, VI	4	4	4
OF 260,270	Court Reporting Procedures I, II	4	4	
SP 110	Fundamentals of Public Speaking		3	
	Humanities Elective	3		
	Natural Science Elective		4	
	Social/Behavioral Science Elective	3		
		17	18	7
	<b>Total Hours: 80</b>			

### End User Support Concentration

#### Information Systems Technology

Associate of Applied Science Degree

This program trains information systems technicians for the microcomputer field. Technical and non-technical subjects provide a better understanding of possible application areas and supervisory/administrative responsibilities.

### Career Opportunities

Microcomputer specialist, end-user support

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
<b>Freshman</b>			
CS 104	Fundamentals of Information Systems	3	
CS 114	Concepts of Programming	3	
CS 124	Visual Basic I	3	
CS 176	Microcomputer Operating Systems		3
CS 185	C++ Programming Language		3
CS 198	Database Software Applications		3
ENGL 1010	Composition I	3	
MATH 1510,1520	Statistics I, II	3	3
	Humanities Elective		3
	Social/Behavioral Science Elective	3	
		18	15

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<b>Sophomore</b>			
BU 114,115	Principles of Accounting I, II	4	4
CS 197	Spreadsheet Software Applications	3	
CS 204	Microcomputer Architecture	3	
CS 205	Computer Networks	3	
CS 215	Local Area Network Management		3
CS 244	Systems Analysis and Design		3
CS 296	Principles of Database Management Systems	3	
ENGL 2710	Technical Reports		3
	Information Systems Elective		3
	Unrestricted Elective		1
		17	16
	<b>Total Hours: 66</b>		

### Financial Planning Concentration

#### Accounting Technology

Associate of Applied Science Degree

The Financial Planning concentration prepares students to enter the field of financial planning in small businesses, large corporations, or government organizations.

### Career Opportunities

Financial planning—accounting firm, estate law firm, pension & benefits company, insurance agency, investment firm; Financial counseling—nonprofit organization, government agency

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
<b>Freshman</b>			
BU 114,115	Principles of Accounting I, II	4	4
BU 185,186	Federal Taxes I, II	3	3
ENGL 1010	Composition I		3
FP 101	Fundamentals of Financial Planning	3	
IS 107	Principles of Life and Health Insurance	3	
LA 110	Fundamentals of Law		3
MG 165	Business Mathematics		3
MG 185	Basic Investing	3	
	Computer Elective		3
		16	19
<b>Sophomore</b>			
BU 110	Business Tax Reporting		3
EC 211	Principles of Economics I	3	
FP 201	Estate Planning	4	
FP 219 or FP 220	Computerized Financial Planning or Comprehensive Financial Planning		3
IS 104	Insurance Mathematics	3	
IS 113	Pension Planning		3
MG 103	Introduction to Business	3	
SP 110	Fundamentals of Public Speaking		3
	Humanities Elective		3
	Mathematics/Natural Science Elective	3-4	
	Unrestricted Elective	1	
		17-18	15
	<b>Total Hours: 67-68</b>		

## General Management Concentration

Associate of Applied Science Degree

The General Management concentration prepares students to manage businesses and other organizations.

### Career Opportunities

Office manager, assistant manager, department manager, personnel administration, supervisor

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
<b>Freshman</b>			
BU 114,115	Principles of Accounting I, II	4	4
BU 173	Business Law I		3
ENGL 1010	Composition I	3	
MATH 1510	Statistics I		3
MG 103	Introduction to Business	3	
MG 114	Principles of Management		3
MG 165	Business Mathematics		3
	Computer Elective	3	
	Humanities Elective		3
	Social/Behavioral Science Elective	<u>3</u>	
		16	19
<b>Sophomore</b>			
CS 197	Spreadsheet Software Applications	3	
CS 198	Database Software Applications		3
FM 201	Financial Management	3	
MG 105	Introduction to Quality Management	3	
MG 134	Supervision and Human Relations		3
MG 154	Marketing	3	
MG 160	Project Management	3	
MG 254	*Salesmanship		3
MG 264	Human Resources Management	3	
	**Directed Electives		5
	Unrestricted Elective		<u>3</u>
		18	17

Total Hours: 70

\*Satisfies Oral Communication requirement.

\*\*Directed Electives totaling five (5) hours must be selected from the following:

MG 101	Professional Ethics in the Workplace: Business and Commerce	1
MG 110	Leadership Skills	1
MG 170	Labor Relations	3
MG 214	Purchasing	3
MG 285	Organizational Behavior	3
OF 125	Word Processing I	3

## Health Services Management Concentration

### Management

Associate of Applied Science Degree

The Health Services Management Concentration prepares students for supervisory and/or management positions in the health care industry. This program contains an Advanced Placement component which may be satisfied in one of the following ways:

#### STANDARD TRACK

Completion of a clinically-based health program consisting of a minimum of 25 semester credit hours **and** current registration/certification/licensure in the State of Tennessee.

-OR-

Completion of a health related certificate less than 25 semester credit hours **and** completion of 25 semester hours from the courses approved to be taken in lieu of Advanced Placement.

-OR-

A minimum of two years of work experience in a health field **and** completion of 25 semester hours from the

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courses approved to be taken in lieu of Advanced Placement.

### OPTICIANRY TRACK

Current state licensure as a dispensing optician with at least three years (6,000 clock hours) of on-the-job experience **and** completion of the following courses:

OP 103 Optical Theory (3)

OP 113 Organizational Behavior for Ophthalmic Professionals (3)

OP 123 Introduction to the Optical Business (3)

Substitutions in General Education are also required (see footnote).

### Career Opportunities

Emergency medical services management, dental office management, health care field management, opticianry management

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours		
		FALL	SPR	SUM
	*Advanced Placement	25		
BIOL 2010,2020	†Human Anatomy and Physiology I, II	4	4	
BU 114,115	Principles of Accounting I, II	4	4	
BU 173	Business Law I		3	
ENGL 1010	Composition I	3		
MG 103	Introduction to Business	3		
MG 114	Principles of Management		3	
MG 134	Supervision and Human Relations			3
MG 165	†Business Mathematics	3		
SP 110	Fundamentals of Public Speaking			3
	Computer Elective		3	
	Humanities Elective			3
	Social/Behavioral Science Elective			3
	Unrestricted Elective		<u>1-2</u>	
		42	18	12

Total Hours: 72

\*Courses in lieu of Advanced Placement:

HE 222	Medicolegal and Professional Concepts	2
HS 104,114	General Medical Terminology I, II	6
MG 101	Professional Ethics in the Workplace: Business and Commerce	1
MG 105	Introduction to Quality Management	3
MG 286	Health Services Management Practicum	3
OM 101	Medical Office Supervision	1
OM 102	Medical Office Personnel Practices	1
OM 103	Medical Practice Marketing and Ethics	1
OM 104	Medical Office Communications	1
OM 105	Medical Office Accounting	2
	**Directed Electives	<u>4</u>
		25

\*\*Directed Electives totaling four (4) hours must be selected from the following:

OM 106	Medical Office Coding	2
PE 154	First Aid and Safety Education	3
PE 211	Personal and Community Health	3
PHED 1110	Concepts of Wellness	1

†If following the Opticianry Track:

For BIOL 2010, substitute PHYS 1030 or 2010

For BIOL 2020, substitute ENGL 1020

For MG 165, substitute MATH 1530

### Hospitality Management Concentration

#### Management

Associate of Applied Science Degree

This program prepares students to work in hospitality management. Students may specialize in hotel/motel management, restaurant management or tourist attraction management.

#### Career Opportunities

Hotel/motel manager/assistant manager, front office manager, housekeeping supervisor, reservation manager, hotel/motel sales manager, food and beverage manager, tourist attraction supervisor, restaurant manager/assistant manager, conference/convention manager/assistant manager

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
Freshman			
BU 114	Principles of Accounting I	4	
ENGL 1010	Composition I	3	
HM 101	Hospitality Internship I		3
HM 103	Introduction to Hospitality Management	3	
MATH 1510	Statistics I		3
MG 103	Introduction to Business	3	
MG 114	Principles of Management		3
MG 165	Business Mathematics	3	
MG 254	*Salesmanship		3
	Computer Elective	3	
	**Directed Elective		3
		<u>19</u>	<u>15</u>
Sophomore			
BU 173	Business Law I	3	
HM 201	Hospitality Internship II		3
MG 101	Professional Ethics in the Workplace: Business and Commerce		1
MG 134	Supervision and Human Relations	3	
MG 154	Marketing	3	
MG 264	Human Resources Management		3
	**Directed Electives	6	6
	Humanities Elective	3	
	Social/Behavioral Science Elective		3
	Unrestricted Elective		<u>1</u>
		<u>18</u>	<u>17</u>
	Total Hours: 69		

\*Satisfies Oral Communication requirement.

\*\*Directed Electives totaling fifteen (15) hours must be selected from the following:

HM 213	Hotel/Motel Management: Front Office Operations and Administration	3
HM 223	Management of Food and Beverage Operations	3
HM 233	Hospitality Sales and Marketing	3
HM 243	Lodging Management	3
HM 255	Tourism and Travel	3
HM 265	Conference/Convention Management	3
HM 274	Regional Tourist Attractions	3
HM 280	Introduction to Culinary Preparation	3
HM 281	Hot and Cold Food Preparation	3
HM 282	Introduction to Professional Baking Methods	3
ND 120	†Food Service Sanitation	2
ND 121	†Food Service Sanitation Practicum	1

†Prerequisite: BIOL 1430.

### Industrial Management Concentration

#### Management

Associate of Applied Science Degree

This program focuses on the technical aspects of operations management in service and manufacturing industries. Courses provide the technical background necessary to understand marketing, finance, production, quality control, supervision and personnel management. Students develop quantitative and communication skills, as well as an appreciation for proper human resources management.

#### Career Opportunities

Methods and systems analysis, inventory management, production planning and control, quality control, time study and work measurement, industrial sales, personnel administration, purchasing, production supervision

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
Freshman			
BU 114,115	Principles of Accounting I, II	4	4
DD 114	CAD Engineering Drawing I	3	
ENGL 1010	Composition I		3
MATH 1510	Statistics I		3
MD 184	Manufacturing Processes	3	
MG 103	Introduction to Business	3	
MG 134	Supervision and Human Relations		3
MG 165	Business Mathematics	3	
PY 251	Psychology of Personal Adjustment		3
	Computer Elective	3	
	Unrestricted Elective		<u>1</u>
		<u>19</u>	<u>17</u>
Sophomore			
BU 173	Business Law I	3	
FM 201	Financial Management	3	
IM 204	Production and Inventory Control		3
IM 225	Statistical Quality Control		3
IM 230	Work Design and Measurement	3	
MATH 1520	Statistics II	3	
MG 114	Principles of Management		3
MG 154	Marketing		3
MG 214	Purchasing	3	
MG 254	*Salesmanship		3
MG 264	Human Resources Management		3
	Humanities Elective	<u>3</u>	
		<u>18</u>	<u>18</u>
	Total Hours: 72		

\*Satisfies Oral Communication requirement.

### Information Systems Technology

Associate of Applied Science Degree

Information Systems Technology majors specialize in one of the following:

- End User Support
- Network Management
- Programming

Please see those listings.

## Information Systems Technology Certificate

Technical Certificate

This certificate is for persons interested in data processing. Thirteen semester hours of core courses are required of every student; the remaining coursework is chosen from information systems, accounting, management, or office systems technology.

### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
BU 114	Principles of Accounting I	4	
CS 104	Fundamentals of Information Systems	3	
CS 124	*Visual BASIC I	3	
MG 103	Introduction to Business	3	
	**Directed Electives		15-18
Total Hours: 28-31		13	15-18

\*Corequisite: CS 114.

\*\*Must include a minimum of nine (9) hours of courses with a CS prefix. The remaining hours must be chosen from BU, MG, CS, or OF courses. For additional information, see a full-time instructor in the Information Systems Technology Department.

## Insurance Management Concentration Management

Associate of Applied Science Degree

Insurance Management prepares students to work in life/health or property/casualty insurance.

### Career Opportunities

Life insurance agency/branch/home office, health insurance home office/sales, insurance office—government/private business

### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
<b>Freshman</b>			
BU 114,115	Principles of Accounting I, II	4	4
EC 211	Principles of Economics I		3
ENGL 1010	Composition I	3	
IS 107 or IS 109	Principles of Life & Health Insurance or Principles of Risk & Insurance	3	
IS 108	Insurance Law	3	
MG 103	Introduction to Business	3	
MG 134	Supervision and Human Relations		3
MG 165	Business Mathematics		3
MG 254	*Salesmanship		3
	Computer Elective		3
		16	19
<b>Sophomore</b>			
BU 173	Business Law I		3
FM 201	Financial Management	3	
IS 104	Insurance Mathematics	3	
IS 205	Insurance Company Operations		3
MATH 1510	Statistics I		3
MG 114	Principles of Management	3	
MG 264	Human Resources Management		3
	Humanities Elective		3
	Insurance Electives	9	3
	Unrestricted Elective		1
Total Hours: 72		18	19

\*Satisfies Oral Communications requirement.

## Legal Assisting Technology

Associate of Applied Science Degree

Approved by the American Bar Association

The goal of the Legal Assisting Technology program is to provide a general education with emphasis on substantive legal and ethical principles requiring students to apply their knowledge in practical assignments, preparing them for entry-level paralegal positions working under the supervision of an attorney in the private or public sector. This program is also the basis for the first two years of a baccalaureate program in Legal Assisting through Chattanooga State's 2+2 articulation agreement with the University of Tennessee at Chattanooga. (See the Advising Center for details.)

### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
<b>Freshman</b>			
BU 114	Principles of Accounting I	4	
CS 101	Computer Literacy	3	
ENGL 1010	Composition I	3	
LA 110	Fundamentals of Law	3	
LA 130	Legal Research	3	
LA 135	Legal Writing/Case Analysis		3
MATH 1530	Introductory Statistics	3	
SP 110	Fundamentals of Public Speaking		3
	Humanities Elective		3
	Natural Science Elective		4
	Social/Behavioral Science Elective		3
	Unrestricted Elective		1
		19	17
<b>Sophomore</b>			
LA 140	Advanced Legal Writing and Research	3	
LA 210	Contracts		3
LA 220	Torts		3
LA 240	Trial Practice and Civil Procedure	3	
LA 290 or LA 299	Law Practice Management or Internship		3
MG 103	Introduction to Business	3	
OF 125	Word Processing I	3	
	Legal Assisting Electives	6	6
Total Hours: 69		18	15

## Management

Associate of Applied Science Degree

Management majors specialize in one of the following:

- Aviation Management
- Banking and Financial Management
- General Management
- Health Services Management
- Hospitality Management
- Industrial Management
- Insurance Management
- Marketing
- Retail Management
- Small Business Management

Please see those listings.

**Marketing Concentration  
Management**

Associate of Applied Science Degree

This program prepares students to work in Marketing.

**Career Opportunities**

Advertising, customer service, merchandising management, physical distribution, publicity/public relations, research, retailing, sales/sales management, sales promotion, wholesaling

SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
<b>Freshman</b>			
BU 114,115	Principles of Accounting I, II	4	4
BU 173	Business Law I		3
ENGL 1010	Composition I	3	
MATH 1510	Statistics I		3
MG 103	Introduction to Business	3	
MG 114	Principles of Management		3
MG 154	Marketing	3	
MG 165	Business Mathematics	3	
	Computer Elective		3
	Unrestricted Elective	1	
		<u>17</u>	<u>16</u>
<b>Sophomore</b>			
FM 201	Financial Management	3	
MG 134	Supervision and Human Relations		3
MG 214	Purchasing	3	
MG 215	Retail Operations	3	
MG 216	Consumer Behavior		3
MG 235	Merchandising and Inventory Control		3
MG 244	Advertising	3	
MG 254	*Salesmanship		3
MG 260	Market Research	3	
MG 280	Problems in Marketing		3
	Humanities Elective		3
	Social/Behavioral Science Elective	3	
	<b>Total Hours: 69</b>	<u>18</u>	<u>18</u>

\*Satisfies Oral Communication requirement.

**Network Management Concentration  
Information Systems Technology**

Associate of Applied Science Degree

This program prepares graduates for computer network management certification.

**Career Opportunities**

Network manager

SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours		
		SUM	FALL	SPR
<b>Freshman</b>				
BU 114,115	Principles of Accounting I, II		4	4
CS 104	Fundamentals of Information Systems	3		
CS 114	Concepts of Programming	3		
CS 124	Visual Basic I		3	
CS 176	Microcomputer Operating Systems			3
CS 185	C++ Programming Language			3
ENGL 1010	Composition I		3	
MATH 1510,1520	Statistics I, II		3	3
NW 204	Microcomputer Architecture			3
NW 205	*Introduction to Windows NT	2		
NW 206	NT Design and Management			3
		<u>8</u>	<u>16</u>	<u>16</u>
<b>Sophomore</b>				
CS 244	Systems Analysis and Design			3
CS 296	Principles of Database Management Systems		3	
ENGL 2710	Technical Reports			3
NW 207	Advanced NT Network Management		4	
NW 208	Windows NT Server Enterprise Technologies			3
NW 209	TCP/IP Services			2
NW 210	Internet Information Server			2
	Humanities Elective			3
	Social/Behavioral Science Elective			3
	Unrestricted Elective			1
	<b>Total Hours: 67</b>	<u>14</u>	<u>14</u>	<u>13</u>

\*Prerequisite: CS 101 or consent of instructor.

**Office Systems Technology**

Associate of Applied Science Degree

The Office Systems Technology program is designed to provide a two-year degree with emphasis in legal, medical, or professional training. A concentration in Court Reporting is also offered.

**Certified Professional Secretary**

As recommended in the *The National Guide to Credit Recommendations for Non-Collegiate Courses*, up to 32 semester hours of credit toward an appropriate Associate of Applied Science degree may be awarded, on an individual basis, to individuals who pass all parts of the Certified Professional Secretary examination and receive a certificate. See an Office Systems Technology adviser for more information.

**Career Opportunities**

Administrative assistant, clerk/typist, data entry clerk, file clerk, office manager, receptionist, secretary, stenographer, transcriber, word processor

SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
<b>Freshman</b>			
ENGL 1010	Composition I		3
MG 165	Business Mathematics	3	
OF 103	Records Management/Calculators		3
OF 104	Business Communications I	3	
OF 113,114	Keyboarding/Document Processing I, II	3	3
OF 125,126	Word Processing I, II	3	3
OF 127	*Desktop Publishing		3
OF 195	General Office Procedures	3	
	Computer Elective		3
	**Directed Elective	3	
		<u>18</u>	<u>18</u>
<b>Sophomore</b>			
BU 114	Principles of Accounting I		4
CS 293	Microcomputer Software Applications		4
OF 105	Business Communications II	3	
OF 128	Advanced Desktop Publishing		3
OF 183	Machine Transcription	3	
OF 206	Office Systems Internship		3
SP 110	Fundamentals of Public Speaking		3
	**Directed Elective	3	
	Humanities Elective		3
	Mathematics/Natural Science Elective		3-4
	Social/Behavioral Science Elective		3
	Unrestricted Elective	1	
	<b>Total Hours: 72-73</b>	<u>18</u>	<u>18-19</u>

\*Prerequisite: CS 101 or equivalent.

\*\*Directed Electives must be selected based on the student's Emphasis:

Legal Emphasis

BU 173 or	Business Law I or	
LA 110	Fundamentals of Law	3
LA 130	Legal Research	3

Medical Emphasis

HS 104, 114	General Medical Terminology I, II	6
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Professional Emphasis

MG 103	Introduction to Business	3
MG 114	Principles of Management	3

**Paralegal**

See "Legal Assisting Technology"

## Programming Concentration

### Information Systems Technology

Associate of Applied Science Degree

This program prepares students to work as computer programmers in business. Technical and non-technical related subjects give students a better understanding of possible application areas and supervisory and administrative responsibilities.

### Career Opportunities

Computer programmer, control clerk, job control specialist, operations librarian

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
<b>Freshman</b>			
CS 104	Fundamentals of Information Systems	3	
CS 114	Concepts of Programming	3	
CS 124	Visual Basic I	3	
CS 154	COBOL Programming Language I		3
CS 198	Database Software Applications		3
ENGL 1010	Composition I	3	
MATH 1510,1520	Statistics I, II	3	3
MG 160	*Project Management	3	
	Humanities Elective		3
	Social/Behavioral Science Elective		3
	Unrestricted Elective		1
		<u>18</u>	<u>16</u>
<b>Sophomore</b>			
BU 114,115	Principles of Accounting I, II	4	4
CS 160,161	Java Programming I, II	3	3
CS 225	Visual BASIC II		3
CS 244	Systems Analysis and Design		3
CS 280	COBOL Programming Language II	3	
CS 296	Principles of Database Management Systems	3	
CS 299	Special Projects		3
ENGL 2710	Technical Reports	<u>3</u>	
		<u>16</u>	<u>16</u>
Total Hours: 66			

\*Prerequisites: CS 101, MG 103.

## Retail Management Concentration

### Management

Associate of Applied Science Degree

This program trains students for retail management.

### Career Opportunities

Store manager/assistant manager, customer service, buyer, merchandising manager, personnel manager, department manager/assistant manager

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
<b>Freshman</b>			
BU 114,115	Principles of Accounting I, II	4	4
ENGL 1010	Composition I	3	
MATH 1510	Statistics I	3	
MG 103	Introduction to Business	3	
MG 114	Principles of Management		3
MG 154	Marketing		3
MG 165	Business Mathematics	3	
SP 110	Fundamentals of Public Speaking		3
	Social/Behavioral Science Elective	3	
	Unrestricted Elective		3
		<u>19</u>	<u>16</u>

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<b>Sophomore</b>			
BU 173	Business Law I		3
FM 201	Financial Management	3	
MG 134	Supervision and Human Relations	3	
MG 215	Retail Operations		3
MG 235	Merchandising and Inventory Control		3
MG 244	Advertising	3	
MG 254	Salesmanship		3
MG 264	Human Resources Management	3	
	Business & Information Systems Elective	3	
	Computer Elective	3	
	Humanities Elective		3
		<u>18</u>	<u>15</u>
Total Hours: 68			

## Small Business Management Concentration

### Management

Associate of Applied Science Degree

This program is for students interested in starting, financing, and operating a small business. Emphasis is on finance, marketing, accounting, personnel management, and supervision.

### Career Opportunities

Store manager/assistant manager, proprietor, buyer, department supervisor, personnel manager, sales representative

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
<b>Freshman</b>			
BU 114,115	Principles of Accounting I, II	4	4
BU 173	Business Law I		3
ENGL 1010	Composition I	3	
MG 103	Introduction to Business	3	
MG 114	Principles of Management		3
MG 165	Business Mathematics	3	
	Computer Elective	3	
	Humanities Elective		3
	Social/Behavioral Science Elective		3
		<u>16</u>	<u>16</u>

<b>Sophomore</b>			
CS 197	Spreadsheet Software Applications		3
FM 201	Financial Management	3	
MATH 1510	Statistics I	3	
MG 134	Supervision and Human Relations		3
MG 154	Marketing	3	
MG 224	Entrepreneurship		3
MG 235	Merchandising and Inventory Control		3
MG 254	*Salesmanship		3
MG 264	Human Resources Management	3	
	Business & Information Systems Electives	3	3
	Unrestricted Elective	<u>3</u>	
		<u>18</u>	<u>18</u>
Total Hours: 68			

\*Satisfies Oral Communication requirement.

## Word Processing Certificate

Technical Certificate

This two-semester certificate provides students with entry-level word processing skills.

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
OF 113,114	Keyboarding/Document Processing I, II	3	3
OF 125,126	Word Processing I, II	3	3
OF 127	*Desktop Publishing		3
OF 195	General Office Procedures	<u>3</u>	
		<u>9</u>	<u>9</u>
Total Hours: 18			

\*Prerequisite: CS 101 or equivalent.

## Engineering, Environmental & Emergency Technologies

Chattanooga State offers both two-year degrees in Engineering Technology and a Pre-Engineering transfer program. Students interested in these fields need to know the difference between Engineering and Engineering Technology.

- Engineering uses mathematics, science, experience, and judgment to benefit humanity.
- Engineering Technology supports engineering through knowledge, methods, and technical skills. It is between the craftsman and the engineer, closer to the engineer.

Engineering Technology courses (those with prefixes CI, MD, EE, etc.) are not generally accepted at four-year institutions offering degrees in Engineering, but are accepted at many four-year Engineering Technology programs. Pre-Engineering students should follow the articulation agreement for the senior institution to which they plan to transfer.

### Automated Controls Concentration Electrical/Electronic Engineering Technology

Associate of Applied Science Degree

Accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology

The Electrical/Electronic Engineering Technology major gives students a broad education in AC and DC circuits, electronic circuits, logic circuits, advanced electronic circuits, digital computer systems, and integrated circuits through practical laboratory experiences and classroom instruction. The Automated Controls Concentration provides in-depth study in robotics, process control with feedback control loops, programmable logic controllers, transducers, and factory cell automation.

### Career Opportunities

Engineering technician, electronics technician, industrial electronics technician, industrial electrician, instrumentation technician, manufacturing technician, plant technician, robotics technician, service technician, systems application technician

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours		
		FALL	SPR	SUM
Freshman				
DD 116	CAD for Electronics		3	
EE 110	Electrical Circuits I	5		
EE 121	Electronics I		4	
EE 140	Digital Circuits	4		
EE 141	Microcomputer Circuits		4	
ENGL 1010	Composition I		3	
ET 107	Introduction to Engineering Technology	1		
ET 115	Computers in Engineering Technology	3		
MATH 1740,1750	Algebra and Trigonometry for Technologies I, II	4	4	
PHYS 2010	Physics I			4
	Unrestricted Elective			1
		17	18	5

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Sophomore				
EE 212	Electrical Circuits II	4		
EE 221	Electronics II		4	
EE 260	Programmable Logic Controllers	4		
EE 261	Automation Control Systems		4	
EE 271	Robotic Systems		4	
ENGL 2710	Technical Reports	3		
MATH 1910	Calculus I w/Analytic Geometry	4		
	Humanities Elective			3
	Social/Behavioral Science Elective	3		
		18		15
Total Hours: 73				

## CAD Technology

Technical Certificate

This program prepares students to work as CAD Drafters and Designers and provides skills enhancement for working architects, engineers, drafters, and designers. It includes advanced CAD drafting and design using AutoCAD and specialty software in electronics, graphics programming, or mechanical, architectural or civil design. A minimum grade of "C" is required in each course.

### Admission Information

Additional admission procedures are required for this program. For specific information on admission requirements and application procedures, contact the Division of Engineering, Environmental & Emergency Technologies, 697-4434.

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
Freshman			
DD 114,124	*CAD Engineering Drawing I, II	3	3
MATH 1740,1750	Algebra and Trigonometry for Technologies I, II	4	4
		7	7
Sophomore			
DD 204	CAD Engineering Drawing III	3	
	**Directed Elective		3
		3	3
Total Hours: 20			

\*DD 101 may be substituted for DD 114.

\*\*Directed Elective must be selected from:

DD 116	CAD for Electronics	3
DD 118	Introduction to Intergraph Microstation	3
DD 210	AutoLISP Programming	3
DD 214	Mechanical Desktop	3
DD 216	Architectural Desktop	3
DD 218	Land Development Desktop	3

## CAD/CAM Engineering Technology

Associate of Applied Science Degree

The CAD/CAM (Computer Aided Drafting/Computer Aided Manufacturing) program gives students a broad education in mechanical design, manufacturing processes, jig and fixture design, creation and utilization of electrical and mechanical power, metals and special materials, numerical control machine tools, automated manufacturing systems, and computer-aided drafting and design practice and principles. Graduates are eligible for certification by the Society of Manufacturing Engineers.

### Career Opportunities

Applications programmer, engineering designer, computer-aided design drafter, engineering technician,  
Continued on next page

Continued from previous page

material handling technician, CNC programmer, computer-aided manufacturing technician, engineering aide/assistant

SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours		
		FALL	SPR	SUM
<b>Freshman</b>				
DD 114,124	CAD Engineering Drawing I, II	3	3	
DD 118	Introduction to Intergraph Microstation		3	
ENGL 1010	Composition I	3		
ENGL 2710	Technical Reports		3	
ET 107	Introduction to Engineering Technology	1		
ET 115	Computers in Engineering Technology	3		
MATH 1530	Introductory Statistics			3
MATH 1740,1750	Algebra and Trigonometry for Technologies I, II	4	4	
MD 184	Manufacturing Processes	3		
MD 254	Elements of Material Science		3	
PHYS 2010	Physics I			4
		<u>17</u>	<u>16</u>	<u>7</u>
<b>Sophomore</b>				
DD 204	CAD Engineering Drawing III	3		
DD 210	AutoLISP Programming		3	
DD 214	Mechanical Desktop		3	
EE 284	Electrical Technology for Mechanical Engineering Technology	3		
MD 134	Statics and Strength of Materials I	3		
MD 207,208	Numerical Control I, II	3	3	
MD 226	Fluid Power		3	
MD 294	Automated Manufacturing	3		
	Humanities Elective	3		
	Social/Behavioral Science Elective		3	
	Unrestricted Elective			1
		<u>18</u>	<u>16</u>	<u>1</u>
Total Hours: 74				

**Civil Engineering Technology**

Associate of Applied Science Degree

Accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology

This program gives students the knowledge, methods, and skills to work as engineering technicians in support of such civil engineering activities as designing bridges, highways and industrial complexes, monitoring structure construction, maintaining material quality used in structure construction, surveying and mapping, construction estimating, and hydraulics.

**Career Opportunities**

Civil engineering technician, construction estimator, construction inspector, land surveyor, hydraulics technician, structural design technician, construction materials lab technician

SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours		
		FALL	SPR	SUM
<b>Freshman</b>				
CI 164	Construction Methods & Estimating	3		
CI 174	Surveying I		4	
DD 114,124	CAD Engineering Drawing I, II	3	3	
ENGL 1010	Composition I	3		
ENGL 2710	Technical Reports		3	
ET 107	Introduction to Engineering Technology	1		
ET 115	Computers in Engineering Technology	3		
MATH 1740,1750	Algebra and Trigonometry for Technologies I, II	4	4	
PHYS 2010	Physics I			4
	Social/Behavioral Science Elective		3	
	Unrestricted Elective			1
		<u>17</u>	<u>17</u>	<u>5</u>

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<b>Sophomore</b>				
CI 224	Hydraulics			3
CI 231	Construction Materials Testing			3
CI 242	Structures I			3
CI 243	Structures II			3
CI 274	Surveying II			4
MATH 1910	Calculus I w/Analytic Geometry			4
MD 134,242	Statics & Strength of Materials I, II			3
PHYS 2020	Physics II			4
	Humanities Elective			3
				<u>17</u>
				<u>16</u>
Total Hours: 72				

**Computer Systems Concentration  
Electrical/Electronic Engineering Technology**

Associate of Applied Science Degree

Accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology

The Electrical/Electronic Engineering Technology major gives students a broad education in AC and DC circuits, electronic circuits, logic circuits, advanced electronic circuits, digital computer systems, and integrated circuits through practical laboratory experiences and classroom instruction. The Computer Systems Concentration provides in-depth study in microcomputer peripherals, bus standards, communication protocols, and the latest in microprocessor technology.

**Career Opportunities**

Associate engineering technician, computer technician, communications technician, electronics technician, industrial electronics technician, instrumentation technician, networking technician, plant technician, service technician, systems application technician

SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours		
		FALL	SPR	SUM
<b>Freshman</b>				
DD 116	CAD for Electronics			3
EE 110	Electrical Circuits I	5		
EE 121	Electronics I			4
EE 140	Digital Circuits	4		
EE 141	Microcomputer Circuits			4
ENGL 1010	Composition I			3
ET 107	Introduction to Engineering Technology	1		
ET 115	Computers in Engineering Technology	3		
MATH 1740,1750	Algebra and Trigonometry for Technologies I, II	4	4	
PHYS 2010	Physics I			4
	Unrestricted Elective			1
		<u>17</u>	<u>18</u>	<u>5</u>
<b>Sophomore</b>				
EE 212	Electrical Circuits II	4		
EE 221	Electronics II			4
EE 250	Microcomputer Systems	4		
EE 251	Microcontrollers Applications			4
ENGL 2710	Technical Reports	3		
MATH 1910	Calculus I w/Analytic Geometry	4		
	*Computer Elective			3
	Humanities Elective			3
	Social/Behavioral Science Elective		3	
		<u>18</u>	<u>14</u>	
Total Hours: 72				

\*CS 124 or 185.

**Construction**  
See "Civil Engineering Technology"

**Electrical/Electronic Engineering  
Technology**

Associate of Applied Science Degree

There are three concentrations within the  
Electrical/Electronic Engineering Technology major:

- Automated Controls
- Computer Systems
- Networking Technology

Please see those listings.

**Emergency Service Supervision and  
Administration Concentration**

**Emergency Services Technology**  
Associate of Applied Science Degree

This concentration is for experienced emergency services personnel who desire additional education for improved job performance and/or advancement. Students may be given credit for advanced state/national certification, Federal courses, and National Fire Academy courses related to emergency services. Distance Education courses meet emergency service workers' unique work schedules.

**Career Opportunities**

Company officer to chief officer level positions with fire departments, emergency medical service coordinator, supervisor with emergency ambulance/air medical transport service, fire marshal with local or state government, fire brigade leader with industrial response organizations

**Emergency Medical Care Concentration**

**Emergency Services Technology**  
Associate of Applied Science Degree

This program prepares students to work in emergency services.

**Career Opportunities**

Private and municipal ambulance companies, industrial fire and medical response teams, fire departments which employ combination fire fighters/paramedics, hospital emergency rooms, hazardous material team member (emergency medical emphasis)

SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours		
		FALL	SPR	SUM
	*Advanced Placement	25		
ENGL 1010	Composition I	3		
FI 111	Introduction to Emergency Services	3		
FI 140	Emergency Laws, Standards, & SOP's	3		
FI 142	Emergency Services Community Relations	3		
FI 146	Emergency Service Stress	1		
FI 235	Fundamentals of Emergency Service Safety		3	
FI 280	Emergency Services Practicum			3
PO 110 or PO 219	Introduction to American Government or State and Local Government		3	
PY 101 or PY 251	General Psychology or Psychology of Personal Adjustment		3	
SP 110	Fundamentals of Public Speaking		3	
	Computer Elective(s)	3		
	Humanities Elective		3	
	Mathematics Elective	3		
	Natural Science Elective		4	
	Unrestricted Elective			1
Total Hours: 67		44	19	4

\*Advanced Placement hours will be awarded for completion of the Paramedic Training Program or current state or national paramedic certification/licensure.

For information on Chattanooga State's Paramedic Training Program, contact the Division of Allied Health, 697-4450.

SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
Freshman			
ENGL 1010	Composition I	3	
FI 111	Introduction to Emergency Services	3	
FI 140	Emergency, Laws, Standards, and SOP's	3	
FI 212	Emergency Service Supervision/Leadership		3
PO 110 or PO 219	Introduction to American Government or State and Local Government		3
SP 110	Fundamentals of Public Speaking		3
	Computer Elective(s)	3	
	Humanities Electives		3
	Mathematics Elective	3	
	*Technical Electives	3	4
		18	16
Sophomore			
FI 142	Emergency Service Community Relations	3	
FI 146	Emergency Service Stress	1	
FI 235	Fundamentals of Emergency Service Safety	3	
FI 265	Emergency Service Administration/Management	3	
FI 270	Emergency Service Strategic Planning & Innovation		3
FI 280	Emergency Services Practicum		3
PY 101 or PY 251	General Psychology or Psychology of Personal Adjustment		3
	Natural Science Elective	4	
	*Technical Electives	3	6
	Unrestricted Elective	1	
		18	15

Total Hours: 67

\*Technical Electives totaling sixteen (16) hours must be selected from courses with the following prefixes: EA, FI, HZ, IH, MG, OS. Alternatively, students who plan to transfer to a four year program may, with adviser approval, use their Technical Elective hours to take additional General Education courses needed to satisfy requirements for the baccalaureate degree.

**Emergency Services Technology**

Associate of Applied Science Degree

There are three concentrations within the  
Emergency Services Technology major:  
Emergency Medical Care  
Emergency Service Supervision and Administration  
Fire Suppression

Please see those listings.

## Environmental Protection and Safety Technology

Associate of Applied Science Degree

There are two concentrations within the Environmental Protection and Safety Technology major:

- Environmental Protection Technology
- Environmental Safety and Health Technology

Please see those listings.

## Environmental Protection Technology Concentration

### Environmental Protection and Safety Technology

Associate of Applied Science Degree

This program prepares students to conduct environmental sampling, audit, and compliance activities. Students are trained in state and federal environmental regulatory system and steps necessary to ensure compliance. Extensive hands-on training with survey and monitoring instrumentation is also provided.

### Career Opportunities

Hazardous waste technician, environmental compliance technician, environmental technician, air pollution control technician, hazardous materials technician, water quality technician

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
<b>Freshman</b>			
CHEM 1110	General Chemistry I		4
CS 101	Computer Literacy	3	
ENGL 1010	Composition I	3	
ENGL 2710	Technical Reports		3
HZ 101	Introduction to Environmental Technology	3	
HZ 125	Pollutant Migration		3
MATH 1530	Introductory Statistics	3	
MATH 1710	College Algebra		3
OS 110	Fundamentals of Occupational Safety and Health	3	
	Humanities Elective		3
	Unrestricted Elective	1	
		16	16
<b>Sophomore</b>			
HZ 120	Hazardous Materials Regulations	3	
HZ 220	Environmental Systems Management		3
HZ 225	Environmental Sampling	4	
HZ 230	Chemistry of Hazardous Materials		4
HZ 235	Hazardous Waste Operations & Emergency Response	4	
IH 104	Essentials of Industrial Hygiene		4
OS 120	Industrial Safety Compliance	3	
	*Directed Electives	3	3
	Social/Behavioral Science Elective		3
		17	17
Total Hours: 66			

\*Directed Electives totaling six (6) hours must be selected from the following:

HZ 170	Equipment Operations and Management	3
HZ 200	Hazardous Materials Technician Certification	2
HZ 201	Special Topics in Hazardous Materials and Waste Management	1-4
HZ 234	Hazardous Waste Worker and Emergency Responder Certification	2
HZ 240	Hazardous Waste Management	3
HZ 245	Hazardous Materials Practicum	2
NU 204	Introduction to Health Physics and Industrial Hygiene	4

## Environmental Safety and Health Technology Concentration

### Environmental Protection and Safety Technology

Associate of Applied Science Degree

This concentration provides practical, interdisciplinary training in safety, industrial hygiene, and environmental technology, including hazard recognition, evaluation and control, accident investigation, workers' compensation, regulations and program management.

### Career Opportunities

Industrial safety technician, safety manager, compliance officer, safety specialist, industrial hygienist, risk manager, regulatory specialist, industrial hygiene associate, research assistant

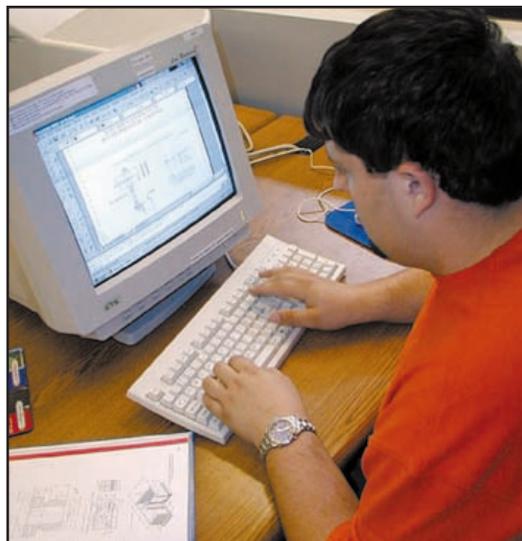
#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
<b>Freshman</b>			
CHEM 1110	General Chemistry I		4
CS 101	Computer Literacy	3	
ENGL 1010	Composition I	3	
ENGL 2710	Technical Reports		3
HZ 101	Introduction to Environmental Technology	3	
MATH 1530	Introductory Statistics	3	
MATH 1710	College Algebra		3
OS 110	Fundamentals of Occupational Safety and Health	3	
	Humanities Elective		3
	Social/Behavioral Science Elective		3
	Unrestricted Elective	1	
		16	16
<b>Sophomore</b>			
HZ 120	Hazardous Materials Regulations	3	
HZ 235	Hazardous Waste Operations & Emergency Response		4
IH 104	Essentials of Industrial Hygiene	4	
IH 204	Industrial Hygiene Sampling and Monitoring		4
IH 214	Industrial Hygiene Control Technology		4
NU 204	Introduction to Health Physics and Industrial Hygiene	4	
OS 120	Industrial Safety Compliance	3	
OS 240	Occupational Safety & Health Program Management		3
	*Directed Electives	3	3
		17	18
Total Hours: 67			

\*Directed Electives totaling six (6) hours must be selected from the following:

NU 104	Radiation Protection and Radiological Health Administration	4
NU 264	Health Physics	4
OS 190	Special Topics in Occupational Safety	1-4
OS 210	Motor Carrier Safety	3
OS 220	**Ergonomics and Human Factors	3
OS 230	Occupational Safety & Health Systems	3

\*\*Additional prerequisite: OS 125.



## Fire Suppression Concentration

### Emergency Services Technology

Associate of Applied Science Degree

The Fire Suppression Concentration prepares students to work in emergency response.

### Career Opportunities

Fire suppression, rescue and hazardous materials organizations (public and private), fire prevention and investigation for city, county, insurance and industrial organizations, fire protection system installation/inspection and fire extinguisher companies, industrial fire protection (fire brigades and fire marshals)

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
<b>Freshman</b>			
ENGL 1010	Composition I	3	
FI 111	Introduction to Emergency Services	3	
FI 114	Building Construction for Fire Science		3
FI 140	Emergency Laws, Standards, and SOP's	3	
PO 110 or PO 219	Introduction to American Government or State and Local Government		3
SP 110	Fundamentals of Public Speaking		3
	Computer Elective(s)	3	
	Humanities Elective		3
	Mathematics Elective	3	
	*Technical Electives	3	4
		18	16
<b>Sophomore</b>			
FI 115	Fire Apparatus and Equipment	3	
FI 116	Fire Fighting Tactics and Strategy I		3
FI 142	Emergency Services Community Relations	3	
FI 146	Emergency Service Stress	1	
FI 235	Fundamentals of Emergency Service Safety	3	
FI 280	Emergency Services Practicum		3
PY 101 or PY 251	General Psychology or Psychology of Personal Adjustment		3
	Natural Science Elective	4	
	*Technical Electives	3	6
	Unrestricted Elective	1	
		18	15

Total Hours: 67

\*Technical Electives totaling sixteen (16) hours must be selected from courses with the following prefixes: EA, FI, HZ, IH, MG, OS. Alternatively, students who plan to transfer to a four year program may, with adviser approval, use their Technical Elective hours to take additional General Education courses needed to satisfy requirements for the baccalaureate degree.

## Health Physics and Industrial Hygiene

See "Environmental Safety and Health Technology Concentration"



## Industrial Maintenance Technology

Associate of Applied Science Degree

The Industrial Maintenance Technology program helps manufacturing personnel develop technical and interpersonal skills by studying communications, mathematics, science, computers, electrical, mechanical, and environmental fundamentals.

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
<b>Freshman</b>			
CS 101	Computer Literacy	3	
ENGL 1010	Composition I	3	
MATH 1530	Introductory Statistics		3
MATH 1740	Algebra & Trigonometry for Technologies I	4	
MD 104	Blueprint Reading and Analysis	3	
MN 102,112	Electrical Fundamentals I, II	3	3
MN 103,113	Mechanical Fundamentals I, II	3	3
OS 116	Industrial Maintenance Safety		3
PHYS 1030	Concepts of Physics		4
SP 110	Fundamentals of Public Speaking		3
		19	19
<b>Sophomore</b>			
HZ 115	Environmental Management for Maintenance Activities	3	
MN 210	Building and Structural Maintenance	3	
MN 215	Maintenance Management & Organization		3
MN 218	Hydraulics, Pneumatics, and Fluid Systems	3	
	Humanities Elective	3	
	Social/Behavioral Science Elective		3
	*Technical Electives	6	6
	Unrestricted Elective	18	13

Total Hours: 69

\*Technical Electives totaling twelve (12) hours must be selected from courses with the following prefixes: CI, EE, EZ, HZ, MD, MN, MZ, OS, QA, SA.

## Mechanical Engineering Technology

Associate of Applied Science Degree

Accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology

This program gives students a broad education in mechanical design, manufacturing processes, creation and utilization of mechanical power, thermosciences, heating, ventilation and air conditioning (HVAC) design, metals and special materials, and computer-aided drafting and design.

### Career Opportunities

Customer support technician, draftsman/designer, engineering assistant, HVAC technician, computer-aided draftsman/designer, industrial mechanics technician, metallurgical laboratory technician, mechanical engineering technician

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours		
		FALL	SPR	SUM
<b>Freshman</b>				
CHEM 1010	Introduction to Chemistry I		4	
DD 114,124	CAD Engineering Drawing I, II	3	3	
ENGL 1010	Composition I	3		
ET 107	Introduction to Engineering Technology	1		
ET 115	Computers in Engineering Technology	3		
MATH 1740,1750	Algebra and Trigonometry for Technologies I, II	4	4	
MD 184	Manufacturing Processes	3		
MD 254	Elements of Material Science		3	
PHYS 2010	Physics I			4
	Humanities Elective			3
	Social/Behavioral Science Elective		3	
		17	17	7

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Sophomore			
DD 204	CAD Engineering Drawing III	3	
EE 284	Electrical Technology for Mechanical Engineering Technology	3	
ENGL 2710	Technical Reports		3
MATH 1910	Calculus I w/Analytic Geometry	4	
MD 134,242	Statics and Strength of Materials I, II	3	3
MD 226	Fluid Power		3
MD 264,265	Thermodynamics I, II	3	3
MD 274	Machine Design		3
	Unrestricted Elective		1
		16	16
Total Hours: 73			

## Networking Technology Concentration

### Electrical/Electronic Engineering Technology

Associate of Applied Science Degree

This program trains students to work in data/telecommunications by providing a broad knowledge of computer operating systems protocol as well as techniques for establishing physical connections between various computer platforms. Graduates will be able to work with stand-alone local area networks, distributed workgroups linked directly to a host computer, and interconnecting computers with different platforms.

### Career Opportunities

Management information system technician, management information system coordinator, computer network installer, network repair (maintenance) technician, computer technician

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
<b>Freshman</b>			
CS 101	Computer Literacy	3	
CS 114	Concepts of Programming	3	
EE 110	Electrical Circuits I	5	
EE 121	Electronics I		4
EE 140	Digital Circuits	4	
EE 141	Microcomputer Circuits		4
ENGL 1010	Composition I		3
ET 115	Computers in Engineering Technology		3
MATH 1740	Algebra & Trigonometry for Technologies I	4	
	Social/Behavioral Science Elective		3
		19	17
<b>Sophomore</b>			
CS 185	C++ Programming Language		3
CS 205	*Computer Networks	3	
CS 215	Local Area Network Management		3
EE 200,201	Networking Technology I, II	4	4
EE 250	Microcomputer Systems	4	
ENGL 2710	Technical Reports	3	
	Computer Elective		3
	Humanities Elective	3	
	Natural Science Elective		4
	Unrestricted Elective		1
		18	17
Total Hours: 71			

\*Prerequisite: CS 176. Corequisite: CS 204.

## Mathematics & Sciences

### Pharmacy Technician Certificate

Technical Certificate

This program prepares students for certification by the Pharmacy Technician Certification Board (PTCB). Pharmacy technicians assist licensed pharmacists to provide health care and medications to patients. Pharmacy Technicians must perform precise work where details can be a matter of life or death. They must have a broad knowledge of pharmacy practice and the techniques required to fill prescriptions, constitute IV solutions, and prepare medications. Good communication and interpersonal skills are essential to interact with patients and other health care professionals on a daily basis.

The Pharmacy Technician courses are designed in accordance with American Society of Health-System Pharmacists (ASHP) guidelines. They are not designed for college transfer credit. A minimum grade of "C" is required in each course.

A class will be accepted each fall semester.

### Career Opportunities

Community pharmacies, drug manufacturing companies, drug wholesale companies, home health care, hospital pharmacies, nuclear medicine pharmacies, nursing homes

### Admission Information

Additional admission procedures are required for this program. The deadline for priority consideration is **May 31**. Applications received after the deadline will be accepted if space permits.

**For specific information on admission requirements and application procedures, contact the program director at 697-2568.**

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours		
		FALL	SPR	SUM
<b>Freshman</b>				
PC 101	Introduction to Pharmacy Practice	3		
PC 104	*Chemistry for Pharmacy Technicians	4		
PC 105	Pharmacy Law and Ethics	3		
PC 110	Pharmaceutical Calculations		4	
PC 115	**Introduction to Human Biology	4		
PC 201	Pharmacology and Therapeutics		4	
PC 205	Pharmacy Practice		5	
PC 220	Pharmacy Practice Clinical Rotations			5
		14	13	5
Total Hours: 32				

\*Prerequisites: DSPM 0800, DSPR 0800, DSPW 0800.

\*\*May substitute BIOL 1050, 1051; or BIOL 2020.

# Nursing/Allied Health

## Admission/Retention Policies

A student must be admitted to the specific Nursing/Allied Health program beyond general admission to Chattanooga State Technical Community College. Selection into health programs is based on a comparative evaluation of all applicants' test scores, transcripts and other application information. Students must have successfully completed, or be scheduled to complete during the summer, **all transitional studies courses and other required prerequisite courses.**

Students are encouraged to take additional science and general education courses. **HOWEVER**, completion of the application process and any/all science and general education courses **does not guarantee acceptance** into a health program. Composition of a class will reflect diversity based on age, gender and race.

The goal of all Chattanooga State's health programs is to prepare practitioners who can function in the health care arena to ensure the safety of patients. Program standards are in place to assure that students have the potential to perform as entry level practitioners. These program standards are available in the Nursing/Allied Health Division office. Acceptance into a health program is contingent upon the student's demonstrated ability to meet these standards. Prior convictions (excluding traffic violations) may affect licensure eligibility.

**For specific information on admission requirements and application procedures, contact the Division of Nursing/Allied Health, 697-4450.**



## Dental Hygiene

Associate of Applied Science Degree

Accredited by the Commission on Dental Accreditation of the American Dental Association

The Dental Hygiene program provides a background in basic studies as well as directed dental hygiene experience, acquired in an on-campus dental facility as well as in community facilities. The student will develop judgment and skills needed for providing oral health care to the public under the supervision of a dentist and within the limits of the Code of Ethics of the American Dental Hygienists Association and the laws of the state in which he/she practices. A minimum grade of "C" (or "S") is required in all DH and science courses. Graduates are prepared to take the National Dental Hygiene board examination and the state or regional clinical examination.

## Career Opportunities

Private practice—general, group, specialty; health departments or associated institutions; teaching—dental hygiene or dental assisting schools; pediatric, geriatric or special needs centers; health maintenance organizations, hospitals, nursing homes; dental claims departments of insurance companies; sales representative of preventive dental products

## Admission Information

Additional admission procedures are required for this program. Contact the Allied Health Division office (697-4450) for application materials and other pertinent information. The application deadline is **April 1**. However, applications will be processed until the class is full.

### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours		
		FALL	SPR	SUM
<b>Freshman</b>				
BIOL 1430	Nutrition			3
BIOL 2010,2020	Human Anatomy and Physiology I, II	4	4	
CHEM 1010	Introduction to Chemistry I	4		
DH 132,135	Dental Hygiene I, II	9	9	
DH 142,145	Dental Hygiene Applications I, II	4	4	
ENGL 1010	Composition I		3	
PY 101	General Psychology			3
SP 110	Fundamentals of Public Speaking			3
	Computer Elective			3
		21	20	12
<b>Sophomore</b>				
BIOL 2230	Microbiology	4		
DH 238,239	Dental Hygiene III, IV	5	3	
DH 248,249	Dental Hygiene Applications III, IV	4	4	
SO 110	Introduction to Sociology		3	
	Humanities Elective	3		
	*Mathematics Elective			3
	Unrestricted Elective			1
		16	14	
Total Hours: 83				

\*MATH 1530 recommended.

MATH 1410 not acceptable for Nursing/Allied Health programs.

## Diagnostic Medical Sonography Certificate

Technical Certificate

Accredited by the Commission on Accreditation of Allied Health Education Programs in cooperation with the Joint Review Committee on Education in Diagnostic Medical Sonography

The Diagnostic Medical Sonography program is a 12-month advanced certificate program providing specialty education for registered radiographers and preparation for certification by the American Registry of Diagnostic Medical Sonographers (ARDMS) in the specialty categories of Abdomen & Small Parts, Obstetrics & Gynecology, and the physics portion of the exam. Classes are conducted two or three days every other week, with clinical experience obtained at approved clinic affiliates within the region. A minimum grade of "C" is required in each course. Full-time status is required for those who have no previous work experience in sonography. Applicants who have worked as diagnostic medical sonographers for a minimum of two (2) years may qualify for the program.

A class will be accepted each year for fall admission.

### Admission Information

Additional admission procedures are required for this program. Contact the Allied Health Division office (697-4450) for application materials and other pertinent information. The application deadline for priority consideration is **March 15**.

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours		
		FALL	SPR	SUM
US 200	Introduction to Diagnostic Medical Sonography	1		
US 201,211	Ultrasound Physics I, II	2	2	
US 202,212,222	Obstetrics and Gynecology I, II, III	3	2	2
US 203,213,223	Abdominal and Small Parts I, II, III	3	2	2
US 205,215,225	Clinic I, II, III	7	1	1
US 210	Departmental Management		1	
US 220	Ultrasound Seminar			1
US 221	Physical Instrumentation Applications			2
		16	8	8
Total Hours: 32				

## Health Information Management

Associate of Applied Science Degree

Accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) in cooperation with the American Health Information Management Association

The Health Information Management program prepares students to become Health Information Technicians (HIT); it does not serve as the first two years of a baccalaureate HIM program.

The HIT must be proficient in information analysis, information storage and retrieval, health information statistics, coding and indexing of diseases and operations, assignment of DRGs, medical transcription, release of medical information, and assistance in quality assurance and research activities. Most responsibilities are primarily performed as office work with minimal contact with patients.

The Health Information Management curriculum consists of a combination of classroom, laboratory, and clinical practice. A minimum grade of "C" is required in all HE and science courses. Graduates are eligible to

take the accreditation exam administered by the American Health Information Management Association and receive recognition as an Accredited Record Technician (ART) upon passing the examination.

The program is conducted on an alternate-year cycle. A first-year class is accepted for the Fall of each odd-numbered year. First-year and second-year courses are not offered concurrently.

### Admission Information

Additional admission procedures, including prerequisite college level courses and competencies, are required for this program. Contact the Allied Health Division office (697-4450) for application materials and other pertinent information. On odd numbered years, a completed application must be submitted by **April 15** for priority consideration. Applications will be considered after that date on a space available basis.

### Early Program Acceptance

- Provisional Admission** is designed for the student who successfully completes admission requirements early and wishes to proceed with support courses.
- Conditional Admission** is designed for the student who has completed admission requirements but must improve test scores or grades in prerequisite courses in order to be eligible for admission.

### Prospective Employers

Hospitals, ambulatory health care facilities, government health agencies, mental health facilities, skilled nursing facilities, insurance companies, hospices, home health agencies, physician's office, group practices

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours		
		FALL	SPR	SUM
Freshman				
CS 197	Spreadsheet Software Applications			3
CS 198	Database Software Applications			3
ENGL 1010	Composition I			3
HE 102	Laboratory Procedures	1		
HE 103	Medical Terminology	3		
HE 111	History and Physical Examination	1		
HE 112,221	Pharmacology I, II	2	1	
HE 115	Records Management and Healthcare	3		
HE 122	Introduction to Medical Coding and Reimbursement	1		
HE 202	Imaging and Diagnostic Procedures			1
HE 213	Human Diseases and Surgical Procedures			3
HE 222	Medicolegal and Professional Concepts	2		
HE 226	Health Information Management Internship I			2
HE 245,255	Medical Coding and Classification I, II			3 3
HE 248	Reimbursement Methodologies			1
HE 249	Practice Management, Billing, and Compliance			3
MATH 1530	Introductory Statistics	3		
NW 205	Introduction to Windows NT		2	
	<sup>1</sup> Social/Behavioral Science Elective			3
	Unrestricted Elective			1
		16	16	16

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Sophomore			
CS 296	Principles of Database Management Systems	3	
HE 225	Health Data Content, Standards, and Computer-based Patient Record	3	
HE 242	Medicolegal, Ethical and Confidentiality Concepts	1	
HE 244	Health Statistics	3	
HE 247	Healthcare Quality, Utilization & Risk Management	3	
HE 251	Electronic Patient Information, Security & Internet	1	
HE 252	Health Information Systems and Knowledge-based Applications	1	
HE 256	Health Information Management Internship II	2	
HE 277,278	Speech Recognition Technology and Laboratory	3	
MG 134	Supervision and Human Relations	3	
	<sup>1</sup> Directed Elective	3	
	<sup>2</sup> Humanities Elective	3	
	<sup>3</sup> Oral Communication Elective	3	
		<hr/>	
		16	16
	Total Hours: 80		

\*Directed Electives totaling three (3) hours must be selected from the following:

CS 124	Visual Basic I	3
MG 101	Professional Ethics in the Workplace: Business and Commerce	1
NW 204	†Microcomputer Architecture	3
NW 206	††NT Design and Management	3
OM 105	Medical Office Accounting	2

†Prerequisite: CS 104.

††Prerequisites: CS 204, 205.

<sup>1</sup>PY 251 recommended.

<sup>2</sup>HUM 2550 recommended.

<sup>3</sup>ENGL 2710 recommended.

### Medical Record Technology

See "Health Information Management"



### Nuclear Medicine Technology Certificate

Technical Certificate

Accredited by the Joint Review Committee on Educational Programs in Nuclear Medicine Technology

The Nuclear Medicine Technology certificate provides specialty education for registered radiographers and preparation for the ARRT and/or NMTCB certification exams in nuclear medicine technology. This 12 month program begins each fall semester. Classes are conducted every other week on Monday and Tuesday with clinical experience obtained at affiliated clinical sites. A minimum grade of "C" is required in each course. Full-time status is required for those who have no previous work experience in nuclear medicine.

Applicants who have worked as nuclear medicine technologists for a minimum of two years may qualify for the Non-Traditional program. Contact the program for more information.

#### Admission Information

Additional admission procedures are required for this program. Contact the Allied Health Division office (697-4450) for application materials and other pertinent information. The application deadline for priority consideration for fall admission is **April 15**. Applications received after the deadline will be accepted if space permits.

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours		
		FALL	SPR	SUM
NM 200	Introduction to Nuclear Medicine	2		
NM 201	Instrumentation and Statistics	3		
NM 205,215,225	Clinical Procedures I, II, III	2	4	4
NM 207,217,227	Practicum in Nuclear Medicine I, II, III	9	1	2
NM 208	Radiopharmacology	2		
NM 212	Physics and Radiation Biology of Nuclear Medicine			
		<hr/>	<hr/>	<hr/>
	Total Hours: 32	18	8	6

Total Hours: 32

### Nursing

Associate of Applied Science Degree

Accredited by the National League for Nursing Accrediting Commission

Approved by the Tennessee Board of Nursing

The Nursing Program, located on the Erlanger Medical Center campus (East 3rd St.), prepares individuals to be providers and managers of nursing care and members of the nursing profession. Graduates use critical thinking and the nursing process to provide care to culturally diverse individuals across the life span.

The nursing curriculum includes a sequence of four clinical nursing courses. The day program may be full- or part-time. The night program is part-time only, with fall nursing courses beginning in August and ending in February and spring courses beginning in February and ending in June. A new class is accepted each fall for the day program and in the fall of even years for the night program. A minimum grade of "C" is required in all NS and science courses. Contact the Nursing Program office for detailed information on program policies (Nursing Program Handbook) or for informa-

tion about readmission, transfer from an accredited nursing program, and articulation with baccalaureate programs.

**Prospective Employers**

Hospitals, physician’s offices, home health care agencies, nursing homes

**Admission Information**

Additional admission procedures are required for this program and may include college level prerequisite courses, e.g. *CHEM 1010* or equivalent. Contact the Nursing Program office (778-8080) for application materials and other pertinent information. Priority application deadline is **March 15**; applications are accepted through **June 15**.

SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours		
		FALL	SPR	SUM
<b>Freshman</b>				
BIOL 1430	Nutrition	3		
BIOL 2010,2020	Human Anatomy and Physiology I, II	4	4	
ENGL 1010	Composition I			3
NS 119,128	Nursing I, II	9	8	
PY 101	General Psychology		3	
PY 217	Human Growth and Development *Mathematics Elective	3		
		<u>19</u>	<u>15</u>	<u>3</u> 6
<b>Sophomore</b>				
BIOL 2230	Microbiology	4		
NS 238,249	Nursing III, IV	8	9	
SP 110	Fundamentals of Public Speaking	3		
	Computer Elective		3	
	Humanities Elective		3	
	Unrestricted Elective	<u>1</u>	<u>1</u>	
	Total Hours: 71	<u>16</u>	<u>15</u>	

\*Recommended: *MATH 1010* or *MATH 1530*.

*MATH 1410* not acceptable for Nursing/Allied Health programs.

**LPN Transition Program**

The LPN Transition Program offers an accelerated curriculum track for LPNs to pursue the Associate of Applied Science Degree in Nursing and RN licensure. The associate degree nursing curriculum is adapted to recognize the knowledge and skills of the licensed practical nurse. All first year general education and support courses must have been completed prior to enrollment in NS 024 (Nursing Transition). Upon successful completion of NS 024, credit will be awarded for NS 119 and NS 128. LPNs will complete the AAS degree by taking NS 238 and NS 249.

**Admission Requirements**

Admission into the LPN Transition Program is a competitive process and specific prerequisites must be met. Priority application deadline is **January 15**; applications are accepted through **March 15**. Contact the Nursing Program office (778-8080) for information on admission, selection, policies, etc.

**Physical Therapist Assistant**

Associate of Applied Science Degree

Accredited by the Commission on Accreditation in Physical Therapy Education

Physical Therapist Assistants (PTAs) work under the direction and supervision of a Physical Therapist. PTAs perform physical therapy treatment interventions delegated by the supervising Physical Therapist. The PTA Program is a combination of classroom, laboratory and clinical practice designed to prepare the student in the use of exercise, physical therapy modalities, clinical communication skills, and special treatment procedures. Program content is based on recommended guidelines as established by the American Physical Therapy Association and the Commission on Accreditation of Physical Therapy Education. The program prepares students to take the board examination for Physical Therapist Assistants administered by the state. A minimum grade of “C” is required in all PTA and science courses.

**Places of Employment**

Hospital, rehabilitation center, extended care facility, home health agency, private practice, school system

**Admission Information**

Additional admission procedures are required for this program. Contact the Allied Health Division office (697-4450) for application materials and other pertinent information. The application deadline is **the first Monday in March** of the year in which fall admission is sought. (Applications would be accepted after this deadline only if there were not enough qualified applicants to fill the 20 spaces in the class.)

SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
<b>Freshman</b>			
BIOL 2010,2020	Human Anatomy and Physiology I, II	4	4
ENGL 1010	Composition I		3
PHYS 1030	Concepts of Physics	4	
PT 104	Introduction to Physical Therapy	2	
PT 111	Clinical Practice I		2
PT 112	Pathological Conditions		3
PT 115,125	Physical Therapy Procedures I, II	5	4
PT 123	Functional Anatomy	4	
	Social/Behavioral Science Elective		3
		<u>19</u>	<u>19</u>
<b>Sophomore</b>			
PT 201	Physical Therapy Seminar		2
PT 205	Therapeutic Exercise	5	
PT 210,221	Clinical Practice II, III	4	10
SP 110	Fundamentals of Public Speaking	3	
	Computer Elective	3	
	Humanities Elective		3
	*Mathematics Elective	3	
	Unrestricted Elective	<u>1</u>	<u>1</u>
	Total Hours: 72	<u>19</u>	<u>15</u>

\**MATH 1410* not acceptable for Nursing/Allied Health programs.

## Radiation Therapy Technology Certificate

Technical Certificate

Accredited by the Joint Review Committee on  
Education in Radiologic Technology

The Radiation Therapy Technology certificate is a 12 month program of specialty education for registered radiographers and prepares them to take the ARRT certification exam in radiation therapy technology. Classes are conducted every other week on Thursday and Friday with clinical experience obtained at affiliated clinical sites throughout the Southeast. A minimum grade of "C" is required in each course. Full-time status is required for those who have no previous work experience in radiation therapy.

Applicants who have worked as radiation therapy technologists for a minimum of two (2) years may qualify for the advanced standing program. Contact the division for further information.

A class will be accepted each fall semester.

### Admission Information

Additional admission procedures are required for this program. Contact the Allied Health Division office (697-4450) for application materials and other pertinent information.

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours		
		FALL	SPR	SUM
HS 123	Introduction to Radiation Oncology	3		
HS 172	Anatomy and Imaging	2		
HS 214,224	Radiation Physics I, II	4	4	
HS 220,230,240	Clinic I, II, III	8	1	1
HS 223,233	Radiation Oncology I, II		3	3
HS 243	Radiation Biology and Hyperthermia			3
		17	8	7
Total Hours: 32				

## Radiologic Technology

Associate of Applied Science Degree

Accredited by the Joint Review Committee on  
Education in Radiologic Technology

The Radiologic Technology Program begins fall semester and is a 24-month program. Full-time student status is required. A minimum grade of "C" is required in all RT courses, BIOL 2010, 2020, HS 145, 155, 184, MATH 1710, NU 104, and the computer elective. Clinical assignments totaling approximately 2,000 clock hours are required and may include semester breaks. Graduates may apply as candidates for certification by the American Registry of Radiologic Technologists.

### Clinical Affiliates

Bradley Memorial Hospital, Chattanooga Imaging Inc., Columbia East Ridge Hospital, Columbia Parkridge Medical Center, Diagnostic Imaging Inc., Erlanger Medical Center, Hutcheson Medical Center, Memorial Hospital, Memorial Atrium (outpatient), Memorial North Park Hospital, Rhea Medical Center

### Admission Information

Additional admission procedures and progression criteria are required for this program. Contact the Allied Health Division office (697-4450) for application materials and other pertinent information. The deadline for priority consideration is **April 15**. After this date, applications will be processed as they are received.

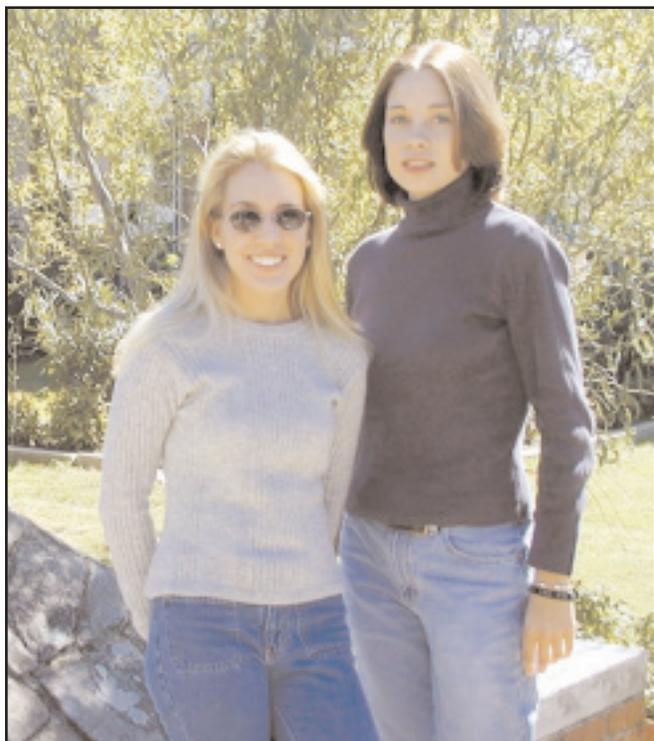
#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours		
		FALL	SPR	SUM
Freshman				
BIOL 2010,2020	Human Anatomy and Physiology I, II	4	4	
HS 145,155	X-Ray Physics I, II	4	4	
MATH 1710	College Algebra	3		
RT 110	Introduction to Radiologic Technology	3		
RT 112,114	Clinic I, II		2	4
RT 115	Medical Terminology		3	
RT 124,125	Radiographic Exposure I, II	3	3	
RT 134,135	Radiographic Positioning—Film Critique I, II	3	3	
		20	19	4
Sophomore				
ENGL 1010	Composition I		3	
HS 184	Radiation Biology		3	
NU 104	Radiation Protection and Radiological Health Administration	4		
RT 143	Radiographic Positioning—Film Critique III	3		
RT 172	Radiologic Pathology		3	
RT 202,212,224	Clinic III, IV, V	2	2	3
RT 223	Special Procedure Radiography—Nursing	3		
RT 232	Introduction to Pararadiologic Imaging Modalities and Radiation Therapy	3		
RT 234,235	Radiology Seminar I, II	4	4	
SP 110	Fundamentals of Public Speaking			3
	Computer Elective		3	
	Humanities Elective			3
	Social/Behavioral Science Elective		3	
	Unrestricted Elective			1
		19	21	10
Total Hours: 93				

### Advanced Standing Program

Certified RT's may receive up to 61 semester hours of college credit for previous certified instruction and/or experience. Students who qualify for "advanced standing" need only complete the core curriculum outlined below. Contact the program office for more information.

Continued on next page





Continued from previous page

SUMMARY OF REQUIRED HOURS		
Course No.	Course Title	Semester Hours
ENGL 1010	Composition I	3
HS 184	Radiation Biology	3
MATH 1710	College Algebra	3
NU 104	Radiation Protection and Radiological Health Administration	4
RT 172	Radiologic Pathology	3
RT 232	Introduction to Pararadiologic Imaging Modalities and Radiation Therapy	3
SP 110	Fundamentals of Public Speaking	3
	Computer Elective	3
	Humanities Elective	3
	Social/Behavioral Science Elective	3
	Unrestricted Elective	1
Total Hours: 32		

### Respiratory Care

Associate of Applied Science Degree

Accredited by the Committee on Accreditation for Respiratory Care

The Respiratory Care Program is six semesters and qualifies graduates to take the Entry Level Examination to become a Certified Respiratory Therapist (CRT) and the written and simulation portions of the Registry Examination to become a Registered Respiratory Therapist (RRT). Through a combination of classroom and laboratory instruction and clinical practice, students gain knowledge and skills in cardiopulmonary testing and therapy. A minimum grade of "C" is required in all RT and science courses. Graduates will meet the requirements to practice as a respiratory therapist as defined in the Tennessee Respiratory Care Practitioner's Act.

### Admission Information

Additional admission procedures are required for

this program. Contact the Allied Health Division office 697-4450 for application materials and other pertinent information. The deadline for priority consideration is **May 15**.

SUMMARY OF REQUIRED HOURS			Semester Hours		
Course No.	Course Title		FALL	SPR	SUM
Freshman					
BIOL 2010,2020	Human Anatomy and Physiology I, II		4	4	
BIOL 2230	Microbiology				4
ENGL 1010	Composition I		3		
RC 111,112,113	Principles of Respiratory Care Procedures I, II, III		3	3	4
RC 141,142,143	Technical Foundations of Respiratory Care I, II, III		3	3	3
	Chemistry Elective			4	
	Computer Elective		3		
	*Mathematics Elective			3	
			16	17	11
Sophomore					
RC 210,212,213	Fundamentals of Respiratory Care I, II, III		3	3	3
RC 221,222,223	Clinical Practicum I, II, III		6	6	7
RC 241,242	Clinical Pathophysiology I, II		3	3	
RC 243	Pediatric/Perinatal Respiratory Care			3	
SP 110	Fundamentals of Public Speaking			3	
	Humanities Elective		3		
	Social/Behavioral Science Elective		3		
	Unrestricted Elective				1
			18	18	11
Total Hours: 91					

\*MATH 1410 not acceptable for Nursing/Allied Health programs.

### Ultrasound

See "Diagnostic Medical Sonography"

### X-Ray Technology

See "Radiologic Technology"

# Social & Behavioral Sciences

Career Programs  
SOCIAL & BEHAVIORAL SCIENCES

## American Sign Language Studies

Associate of Applied Science Degree

This program provides two years of intensive ASL study for transfer to a four-year university. Graduates will be able to communicate effectively both expressively and receptively with deaf persons.

This degree program does not lead directly to work as an interpreter. Students planning to work with disabled persons will enhance their communication skills and satisfy ADA compliance requirements.

### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
<b>Freshman</b>			
ENGL 1010,1020	Composition I, II	3	3
HIST 1010,1020	Western Civilization I, II	3	3
HP 120,121	American Sign Language I, II	3	3
HP 130	Orientation to Deafness	3	
HP 132	Psychology of Deaf People and Their Culture		3
PY 101	General Psychology	3	
SP 110	Fundamentals of Public Speaking		3
	Mathematics Elective	3	
		18	15
<b>Sophomore</b>			
HP 220,221	American Sign Language III, IV	3	3
HP 222	Fingerspelling		2
PY 241	Psychology of Individual Differences		3
	Computer Elective		3
	Humanities Elective	3	
	Natural Science Electives	4	4
	*Social Science Electives	3	3
	Unrestricted Elective	3	
		16	18

Total Hours: 67

\*For list of approved Social Science Electives, see American Sign Language Studies Adviser.

## Criminal Justice Consortium with Cleveland State

Associate of Science Degree

Degree offered by Cleveland State Community College

Courses offered on Chattanooga State Campus

This program is for students who want to work in criminal justice who plan to transfer to a four-year institution.

The requirements listed below are based on Cleveland State's 2000-01 catalog. For information about possible changes for 2001-02, contact the Criminal Justice adviser.

### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
<b>Freshman</b>			
CJP 1010	*Overview of Criminal Justice Systems	3	
CJP 1050	*Administration in Criminal Justice		3
CJP 1070	*Criminal Law	3	
CJP 1110	*Procedures and Evidence in Criminal Justice		3
CS 101	Computer Literacy		3
ENGL 1010,1020	Composition I, II	3	3
SO 110	Introduction to Sociology	3	
	Mathematics Elective		3
	Natural Science Sequence	4	4
	Physical Education Activity		1
		19	17
<b>Sophomore</b>			
CJP 1210	*Correctional Issues and Alternatives		3
CJP 2110	*Legal Issues in Criminal Justice Investigations	3	
CJP 2210	*Issues in Juvenile Justice	3	
CJP 2310	*Community and Public Relations		3
CJP 2410	*Externship in Criminal or Juvenile Justice		6
SO 120	Social Problems		3
SP 110	Fundamentals of Public Speaking	3	
	**History Sequence	3	3
	Humanities Elective	3	
	†Literature Elective	3	
	Physical Education Activity	1	
		19	18

Total Hours: 73

\*Cleveland State courses taught at Chattanooga State.

\*\*Take the history sequence required by the senior institution.

†Must be selected from ENGL 2110, 2120, 2210, 2220, 2410 or 2420. Take the course required by the senior institution.

**For information telephone  
(423) 472-7141**



## Early Childhood Education

Associate of Applied Science Degree

This program trains students to work in early childhood education (ages birth through eight). It includes theoretical and practical elements and features 150 hours of supervised classroom practice teaching.

### Career Opportunities

Child care teacher, \*child care director, family/group child care owner, school age care teacher/assistant director, aide (Pre K-4), substitute teacher (public/private), entry level position in child and family welfare agencies

*\*This job also requires some successful job experience.*

Course No.	Course Title	Semester Hours	
		FALL	SPR
<b>Freshman</b>			
ECED 1010	Introduction to Early Childhood Education	2	
ECED 1020	Foundations of Early Childhood Education		3
ECED 2010	Safe, Healthy Learning Environments	3	
ECED 2020	Infant, Toddler, Child Growth & Development		3
ECED 2030	Infant & Toddler Care		3
ECED 2050	Psychomotor Development		3
ECED 2130	Clinical Practicum I	3	
ENGL 1010	Composition I	3	
SP 110	Fundamentals of Public Speaking		3
	Natural Science Elective	4	
		<u>15</u>	<u>15</u>
<b>Sophomore</b>			
ECED 2040	Family Dynamics & Community Involvement	3	
ECED 2060	Development of Exceptional Children		3
ECED 2070	Developmental Assessment	3	
ECED 2120	Administration of Child Care Programs		3
ECED 2140	Clinical Practicum II		3
ENGL 2630	Literature for Children	3	
	*Computer Elective	3	
	Humanities Elective		3
	Mathematics Elective	3	
	Social/Behavioral Science Elective		3
		<u>15</u>	<u>15</u>
	<b>Total Hours: 60</b>		

*\*Any course with CS prefix. CS 101 recommended.*

## Human Services Specialist

Associate of Applied Science Degree

The Human Services Specialist Program prepares the individual to begin a career as a human services paraprofessional. The curriculum covers the knowledge and skills necessary to work with many human service agencies in the areas of drug abuse counseling, aging, child care and mental health.

### Career Opportunities

Drug abuse counselor, child care specialist, youth worker, mental health technician, geriatric technician, psychiatric technician, adolescent counseling assistant, activity therapist, social services delivery worker, crisis companions

Course No.	Course Title	Semester Hours	
		FALL	SPR
<b>Freshman</b>			
BIOL 1110	General Biology I or Natural Science Elective		4
CS 101	Computer Literacy	3	
ENGL 1010	Composition I	3	
HR 101	Introduction to the Field of Social Welfare	4	
HR 125	Community Social Services		3
HR 130	Substance Abuse Theories		3
PY 101	General Psychology	3	
PY 251	Psychology of Personal Adjustment		3
SO 110	Introduction to Sociology	3	
	*Psychology or Sociology Elective		3
		<u>16</u>	<u>16</u>
<b>Sophomore</b>			
EC 211	Principles of Economics I		3
HR 205	Human Relations and Explorations	3	
HR 210	Methods of Human Service Practice	3	
HR 219	Family Dysfunction	3	
HR 220	Human Services Practicum		6
HR 245	Introduction to Counseling		3
MATH 1530	Introductory Statistics or Mathematics Elective		3
PO 110	Introduction to American Government	3	
SP 110	Fundamentals of Public Speaking	3	
	Humanities Elective	3	
	Unrestricted Elective		3
		<u>18</u>	<u>18</u>
	<b>Total Hours: 68</b>		

*\*May be any course with a PY or SO prefix not specifically required in the program.*



## Certificates of Advancement

Chattanooga State offers a number of short training programs for which a Certificate of Advancement is awarded. Many employers recognize these certificates as appropriate documentation for employment or for professional development credit. Certificates of Advancement, however, must not be confused with other credentials awarded by the College—Associate Degrees, Technical Certificates and Industrial Technology Certificates. Because Certificates of Advancement are not part of Chattanooga State's official academic inventory, no notation of the certificate will appear on the student's transcript. However, the transcript will show all courses taken, including those used for the certificate. In many cases, courses required for a Certificate of Advancement can be applied toward an Associate Degree or Technical Certificate.

Certificates of Advancement are awarded by the division offering the program. The student should contact the division prior to beginning the program for specific program brochures.

### Grade Point Average

The cumulative GPA in coursework required for the certificate must be 2.0 or higher.

### Residency Requirement

At least one-third of the credit hours required for the certificate must be completed at Chattanooga State. (Credits earned through Chattanooga State's Distance Education Program are considered to be "in residence.")

### Admission Procedures

Follow the admission procedures for Special Students. (See "Admission" section.)

**Note: Some certificate programs may have additional requirements for admission and/or require testing or documentation of prerequisite competencies.**

### Business & Information Systems

AS/400 Specialist  
 Computer Network Support  
 Customer Service  
 E-Commerce  
 General Office Clerk/Receptionist  
 Highway Transportation  
 Advanced Highway Transportation  
 Legal Office Clerk/Receptionist  
 Medical Office Clerk/Receptionist  
 Network Management  
 Purchasing  
 Quality Management  
 Small Business  
 Supervisory Management  
 Web Developer

**Call 697-4441 for information.**

### Engineering, Environmental & Emergency Technologies

Automated Controls  
 Chemical Technology  
 Computer-Aided Manufacturing (CAM)  
 Computer Systems Technology  
 Construction and Inspection  
 Electricity/Electronics Technology  
 Environmental Technician  
 Fire & Emergency Service  
 General Manufacturing  
 Hazardous Materials Technology  
 HVAC Technology  
 Hydraulics/Pneumatics Technology  
 Industrial Hygiene  
 Occupational Safety  
 Quality Technology  
 Structural Engineering Technology  
 Surveying

**Call 697-4434 for information.**

### Humanities

Theatre Arts

**Call 697-4440 for information.**

### Mathematics & Sciences

Dietary Manager Program  
 Sustainability

**Call 697-4442 for information.**

### Nursing/Allied Health

Advanced Patient Care and Management  
 Computed Tomography  
 Dental Assisting  
 Emergency Medical Services  
 EMT/EMT-IV Program  
 Paramedic Training Program  
 Magnetic Resonance Imaging  
 Advanced Magnetic Resonance Imaging  
 Mammography  
 Medical Reimbursement Specialist  
 Medical Transcription  
 Supportive Care Specialist

**Call 697-4450 for information and application.**

### Social & Behavioral Sciences

American Sign Language

**Call 697-3127 for information.**

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# Transform Your Life!

## Associate of Arts Associate of Science

Degree Requirements	Credit Hours
General Education	
CS 101	3
ENGL 1010, 1020	6
SP 110	3
Fine Arts	3
Humanities	3
Literature	3
Mathematics	3
Natural Science	8
Physical Education (two different activities)	2
Social Science (Approved History Sequence)	6
Foreign Language*	6-8
Total General Education	40-48 hours
Area of Emphasis/Electives	12-20 hours
Total	60 hours

\*A student earning an Associate of Arts degree must demonstrate proficiency in a foreign language equivalent to one year of college-level work.

Because baccalaureate degree program requirements vary at four-year institutions, the Associate of Arts and Associate of Science degrees do not list specific majors. Students should consult articulation agreements, the catalogs of the school to which they intend to transfer, and their advisers for information on requirements specific to the senior institution of their choice. Chattanooga State students are able to complete the first two years of a baccalaureate degree in a wide range of majors, including those listed here:

Accounting	Music
Art	Nutrition
Art Education	Philosophy
Biology	Physics
Broadcasting	Political Science
Business Administration	Pre-Cytotechnology
Chemistry	Pre-Dentistry
Early Childhood Education	Pre-Engineering
Economics	Pre-Law
Elementary Education	Pre-Medical Technology
English	Pre-Medicine
Environmental Science	Pre-Occupational Therapy
Forestry, Fisheries, or Wildlife	Pre-Optometry
French	Pre-Pharmacy
Geography	Pre-Physical Therapy
German	Pre-Veterinary Medicine
Graphic Design	Psychology
Health & Physical Education	Religion
History	Secondary Education
Humanities	Social Work
Information Systems	Sociology
Journalism	Spanish
Management	Surveying
Marketing	Theatre Arts
Mathematics	Wellness/Fitness Leadership

**NOTE: Students should consult articulation agreements, the catalogs of the school to which they intend to transfer, and their advisers for information on requirements specific to the senior institution of their choice.**

### Tennessee Board of Regents Minimum Degree Requirements and Transferability of Courses That Fulfill Minimum Degree Requirements

All universities and community colleges in the Tennessee Board of Regents System (TBR) share a common set of Minimum Requirements for baccalaureate degrees or associate degrees designed for transfer. The Minimum Degree Requirements specify 32 semester credit hours in the following subject areas:

Subject Area	Semester Credit Hours Required
<b>English Composition</b>	6
<b>Humanities</b> , including at least 3 semester credit hours in literature	9
<b>History</b> TBR universities require American History, except in a limited number of majors exempted from the requirement. (See specific university catalogs concerning majors that are exempt.) Community colleges may specify American History, Western Civilization, World Civilization, or World History in accordance with the requirements of institutions to which students plan to transfer.	6
At either universities or community colleges, students may substitute 3 semester credit hours of Tennessee History for the American History required.	
<b>Natural/Physical Sciences and Mathematics</b> , to include one year of science and at least one course in mathematics	9
<b>Physical Education Activities Courses</b> (to be taken as two one-semester credit hour courses) Institutions may substitute satisfactory participation in ROTC, marching band, or armed forces experiences for physical education activity courses.	2
Total	32

Every TBR institution incorporates the thirty-two semester hours listed above into its degree program requirements and accepts all courses designated as meeting these requirements at other TBR institutions. By ensuring the transferability of courses fulfilling the Minimum Degree Requirements, the TBR has eliminated unnecessary repetition of these courses by students transferring to institutions within the TBR system. Because each TBR institution has a unique mission and its own distinctive curriculum, an institution may require students to complete additional courses in the Minimum Degree subject areas and in other areas that may comprise an institutional General Education Program. Students planning to receive a Bachelor of Arts or Associate of Arts degree must demonstrate proficiency in a foreign language as prescribed in the institutional degree requirements.

### Identifying Courses Satisfying the Minimum Degree Requirements

Although the courses fulfilling the minimum degree requirements may vary in actual design among institutions, many contain similar content. These courses are identified by common course rubrics (prefixes) and numbers in all TBR institutions to facilitate transferability. In the General Education requirements listed below, courses which satisfy TBR minimum degree requirements, including courses that may not be a part of the common course prefix and numbering pattern, are listed under headings denoted by the ♦ symbol. A complete matrix of courses that satisfy the Minimum Degree Requirements at all TBR institutions and an explanation of the common course rubric and numbering system are available on the TBR web page ([www.tbr.state.tn.us](http://www.tbr.state.tn.us)).

### General Education

The goal of general education is to provide students with a common set of learning experiences which will develop the attitudes, knowledge, and skills to enable them to function effectively in society and enjoy

enriched personal lives. The general education component of the curriculum focuses on a broad understanding of the past and present and includes course work from Written and Oral Communication, Computers, Mathematics, Natural Science, Humanities, and Social and Behavioral Science.

#### Approved General Education Courses

The lists below indicate courses which have been approved for use in the various General Education categories. Care should be taken to select courses which are appropriate for the student's major at the four-year college to which he/she intends to transfer.

**Note: If the student selects a course carrying more credit hours than the minimum specified to satisfy that requirement, the excess hour(s) will count as elective credit toward graduation.**

#### Written Communication (6 hours) ◆

ENGL 1010 Composition I  
ENGL 1020 Composition II

#### Oral Communication (3 hours)

SP 110 Fundamentals of Public Speaking

#### Computer Elective (3 hours)

CS 101 Computer Literacy

**Note: If the intended major at the senior institution to which the student plans to transfer requires a different computer course, the student may request approval to substitute that course for CS 101 to satisfy the computer requirement for the AA or AS degree. See your adviser to initiate a course substitution.**

#### Foreign Language (6-8 hours)

*The Associate of Arts degree requires proficiency in a foreign language equivalent to one year of college-level work. Students who have completed two or more years of the same foreign language in high school may be able to skip one or both of the elementary level courses. No credit is granted for the course(s) the student is able to skip.*

FREN 1010, 1020 Elementary French I, II  
FREN 2010, 2020 Intermediate French I, II  
GERM 1010, 1020 Elementary German I, II  
GERM 2010, 2020 Intermediate German I, II  
SPAN 1010, 1020 Elementary Spanish I, II  
SPAN 2010, 2020 Intermediate Spanish I, II

#### Humanities (9 hours) ◆

*Must include 3 hours from Fine Arts, 3 hours from Literature, and 3 additional hours from Fine Arts, Literature, or Other Humanities.*

#### Fine Arts (3-6 hours)

ART 1030 Art Appreciation  
ART 2030 Art Structure  
MUS 1030 Music Appreciation  
THEA 1030 Introduction to the Theatre

#### Literature (3-6 hours)

ENGL 2110 American Masterpieces I  
ENGL 2120 American Masterpieces II  
ENGL 2140 African-American Literature  
ENGL 2210 English Masterpieces I  
ENGL 2220 English Masterpieces II  
ENGL 2240 Shakespeare: An Introduction  
ENGL 2410 Literature of the Western World I  
ENGL 2420 Literature of the Western World II  
ENGL 2540 Literature by Women

#### Other Humanities (0-3 hours)

HUM 1010 Introduction to the Humanities I  
HUM 1020 Introduction to the Humanities II  
HUM 1230 Philosophy of Science and Technology  
HUM 2030 Religions of the World  
HUM 2040 Religion in America  
HUM 2130 Mythology  
HUM 2140 Folklore and Native Culture  
HUM 2330 Contemporary Women Artists and Writers  
PHIL 1030 Introduction to Western Philosophy  
PHIL 2410 Philosophy of Religion: Old Testament  
PHIL 2420 Philosophy of Religion: New Testament  
PHIL 2430 Philosophy of Religion

#### Mathematics (3 hours) ◆

MATH 1010 Contemporary Mathematics  
MATH 1410 Structure of Number Systems I  
MATH 1420 Structure of Number Systems II  
MATH 1510 Statistics I  
MATH 1520 Statistics II  
MATH 1530 Introductory Statistics  
MATH 1710 College Algebra  
MATH 1720 Pre-Calculus  
MATH 1830 Calculus for Management, Life, and Social Sciences  
MATH 1910 Calculus I with Analytic Geometry  
MATH 1920 Calculus II with Analytic Geometry

#### Math Placement

Students pursuing majors for which the math requirement would normally be calculus or pre-calculus may begin their college math at a higher level than College Algebra if they meet the criteria listed below. All degrees at Chattanooga State require at least one college level math course. Meeting the criteria to place into a higher level course does not exempt the student from this requirement, nor is any credit granted for the course(s) the student is able to skip.

Criteria	Advanced Placement Course
1. Three (3) high school math credits above the Algebra I level <b>and</b> a Math subscore of 25 on the ACT or corresponding SAT score.	Calculus I with Analytic Geometry, MATH 1910
2. Two (2) high school math credits above the Algebra I level <b>and</b> a Math subscore of 21 on the ACT or corresponding SAT score.	Pre-Calculus, MATH 1720 or Calculus for Management, Life, and Social Sciences, MATH 1830

#### Natural Science (8 hours) ◆

ASTR 1030 Astronomy  
BIOL 1110 General Biology I  
BIOL 1120 General Biology II  
BIOL 2050 Plant Morphology  
CHEM 1010 Introduction to Chemistry I  
CHEM 1110 General Chemistry I  
CHEM 1120 General Chemistry II  
ESC 1110 Environmental Science I  
ESC 1120 Environmental Science II  
GEOL 1040 Physical Geology  
GEOL 1050 Historical Geology  
PHYS 1030 Concepts of Physics  
PHYS 2010 Non-Calculus-Based Physics I  
PHYS 2020 Non-Calculus-Based Physics II

- PHYS 2110 Calculus-Based Physics I
- PHYS 2120 Calculus-Based Physics II
- PSCI 1030 The Physical Environment

Physical Education Activities (2 hours) ♦

Any two different Physical Education Activity courses (1000 level PHED prefix).

**Note: A single 2-hour course will NOT satisfy this requirement.**

Social Science (6 hours) ♦

*The Social Science requirement must be met by completing a History Sequence.*

- HIST 1010, 1020 Western Civilization I, II
  - HIST 1110, 1120 History of World Civilizations I, II
  - \* HIST 2010, 2020 United States History I, II
- \*HIST 2030 (Tennessee History) may be substituted for either HIST 2010 or 2020. This is the only substitution that is allowed in any of the History Sequences.*

Removal of Entrance Deficiencies

Students who do not meet the entrance requirements for regular admission listed under “Admission” in the “General Information” section must remove the deficiencies before receiving an associate degree. Credit hours earned in college-level courses taken to remove entrance deficiencies may count as electives toward the 60 hours required for graduation, but may not be used to satisfy general education or major requirements. [Example: If a student takes THEA 1030 to remove a Visual/Performing Arts Deficiency, he/she would need to take ART 1030, ART 2030, or MUS 1030 to satisfy the Fine Arts requirement.] Entrance deficiencies must be removed prior to completion of 30 semester hours of college-level work. A grade of “C” or higher is required.

Requirement	Course	Exam
English	*	*
Algebra I and II	*	*
Geometry	MATH 0900	No
Natural/Physical Science I	BIOL 1110, CHEM 1010, CHEM 1110, ESC 1110, PHYS 1030, PHYS 2010, or PSCI 1030	CLEP
Natural/Physical Science II	BIOL 1120, CHEM 1120, ESC 1120, or PHYS 2020	CLEP
Social Studies**	HIST 1010, HIST 1020, HIST 1110, HIST 1120, or GO 103	CLEP
U.S. History	HIST 2010 or HIST 2020	CLEP
Foreign Language I	FREN 1010, GERM 1010, or SPAN 1010	CLEP
Foreign Language II	FREN 1020, GERM 1020, or SPAN 1020	CLEP
Visual/Performing Arts †	ART 1110, MUS 1130, THEA 1030, or THEA 1110	No

*\*Entrance deficiencies in English, Algebra I and Algebra II are handled through the mandatory COMPASS assessment, placement, and removal of deficiency at the remedial or developmental level.*

*\*\*The following courses are acceptable for removal of a Social Studies deficiency only if the student graduated from high school prior to Spring 1993: EC 211, PO 120, PY 101, SO 110, SO 216.*

*†Not required for students who graduated from high school prior to Spring 1993.*

American History Requirement

Students who plan to transfer to one of Tennessee’s state-supported institutions should be aware of the following:

- Effective July 1, 1978 and afterwards, all students receiving bachelor’s degrees from any of Tennessee’s state-supported colleges or universities must have completed one unit of American History on the high school level or 6 semester hours (9 quarter hours) of college-level American history as required by the General Assembly of the State of Tennessee (Tennessee Code Annotated 49-7-110).
- The law allows one course in Tennessee History to be substituted for one of the required American history courses.
- Students who hold a GED Certificate are not considered to have satisfied this requirement automatically. Unless American History was completed in high school prior to receiving the GED, the student has a deficiency which must be removed in order to receive a baccalaureate degree from a Tennessee state-supported college or university.
- Although college-level American History may be used to remove a high school History deficiency, the reverse is not true. High school American History cannot substitute for college-level history required as part of an associate or baccalaureate degree program. A student who has taken American History in high school may be required to take American History in college as well.

Students who have not completed a full year of American History in high school are strongly encouraged to remove this deficiency before transferring to a senior institution. For students not subject to the 1989 Admission Requirements, completion of 6 hours from HIST 2010, HIST 2020, HIST 2030 (in any combination) will remove this deficiency and also count as the approved History sequence required for the AA or AS degree or, if the student prefers to take a non-U.S. history for the History sequence, as elective credit toward graduation. For students subject to the 1989 Admission Requirements, all 3 courses (9 hours) must be completed in order to satisfy the AA/AS requirement for a History sequence because one of the U.S. History courses must be used to remove the high school unit deficiency and can only count as an elective toward graduation.

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36	Attendance Policy
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37	Air Conditioning and Refrigeration
37	Auto Body Repair
37	Automotive Technology
37	Commercial Truck Driving
	Computer Repair, see "Industrial Electronics"
38	Cosmetology
38	Diesel Equipment Mechanics
	Drafting, see "Technical Drafting"
	Electrician, see "Industrial Electricity"
	Greenhouse, see "Landscaping and Turf Management"
	Horticulture, see "Landscaping and Turf Management"
	HVAC, see "Air Conditioning and Refrigeration"
38	Industrial Electricity
38	Industrial Electronics
38	Industrial Maintenance Mechanics
39	Landscaping and Turf Management
39	Machine Tool Technology
39	Marine Engine Technology
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39	Medical Office Assisting
	Ornamental Horticulture, see "Landscaping and Turf Management"
39-40	Practical Nursing
40	Surgical Technology
40	Technical Drafting
	Truck Driving, see "Commercial Truck Driving"
40	Welding

## Transform Your Life!

## General Information

Unless noted otherwise, Industrial Technology programs are designed to be completed in one year (1290 clock hours). However, some students may need more than 1290 clock hours to achieve the level of competency required for the certificate.

### Academic Retention Policy

Grading Policy: S = Satisfactory  
U = Unsatisfactory

Grades are awarded monthly. A student receiving a "U" is placed on academic probation for one month. If the student receives an "S" in the subsequent month, probation is removed; if the student receives a "U," he or she will be suspended for a minimum of one enrollment period. Students suspended within an enrollment period must wait until the end of the subsequent enrollment period to re-enter. Readmission must be approved by the Industrial Technology Division Dean. The student is readmitted on probation. Continued unsatisfactory progress may result in permanent expulsion.

### Attendance Policy

- Students are expected to attend class every day and to be on time.
- Three unexcused tardies in one month will result in a 30-day probation.
- Any student missing more than nine unexcused hours in any 30-day period will be placed on 30-day probation.
- Any student who receives three unexcused tardies while on probation will be suspended.
- Any student missing over nine unexcused hours while on probation will be suspended.
- Any student missing 60 unexcused hours or more during the entire program will be suspended.
- Students who miss because of illness may be required to have a written doctor's excuse.
- Suspensions due to attendance will be reviewed by instructors and staff.
- Absences/tardies may be excused for:
  - Personal illness
  - Disability due to accident
  - Exposure to a contagious disease
  - Emergencies beyond control of student
  - Illness or death of spouse, children, parents, or other family members who reside in the home of the student.
  - Death of brothers/sisters, grandparents, grandchildren, daughters-in-law, sons-in-law, mother-in-law, father-in-law, sisters-in-law, brothers-in-law, or foster brothers/sisters.
  - Medical and dental appointments
  - Job interviews approved or scheduled by instructor
  - Required appearances in court
  - Military duty (copy of orders required)
- Unacceptable attendance will result in a one-term suspension. Re-entry is on probationary status and a subsequent violation will result in a 3-semester suspension.

## Industrial Technology Certificate/ AAS Degree Articulation

Industrial Technology students who have successfully completed a certificate in one of the Industrial Technology Programs listed below may receive 32 semester hours of advanced standing credit toward an Associate of Applied Science degree with a major in Applied Technology. These hours do not carry quality points, do not count in calculation of the grade point average, and cannot be used toward satisfying the graduation residency requirement.

### First Year:

Complete one of the following Industrial Technology programs, which are approved as concentrations under the Applied Technology major:

Air Conditioning and Refrigeration  
Auto Body Repair  
Automotive Technology  
Cosmetology  
Diesel Equipment Mechanics  
Industrial Electricity  
Industrial Electronics  
Industrial Maintenance Mechanics  
Landscaping and Turf Management  
Machine Tool Technology  
Marine Engine Technology  
Medical Office Assisting  
Practical Nursing  
Surgical Technology  
Technical Drafting  
Welding

### Second Year:

After receiving the industrial technology certificate, the student must:

- request a change in status from industrial technology to degree-seeking student at the Records Office.
  - meet all admission requirements for degree-seeking status:
    - official high school transcript or GED;
    - ACT and/or COMPASS tests;
    - official college transcripts, if any.
  - provide the following documentation:
    - an industrial technology certificate from Chattanooga State's Industrial Technology Division, granted after January 1, 1983; or
    - if the certificate was granted prior to 1983 or if the certificate is from another industrial technology/technical school, document competency by scoring no less than one standard deviation below the national mean on the Student Occupational Competency Achievement Test (SOCAT) for the areas in which credit is requested.
- Note: Students who must take the SOCAT examination to receive advanced standing credit may be admitted conditionally for one term while they complete competency documentation.**
- remove Transitional Studies deficiencies, if any;
  - complete the courses required for the Applied Technology Major (see "Career Programs" section of the catalog). **Note: The last 20 hours must be completed at Chattanooga State.**

## Air Conditioning and Refrigeration

Certificate

This program covers the theory, application, operation, and maintenance of basic and advanced air conditioning/refrigeration systems.

### Career Opportunities

Air conditioning/refrigeration technician, air conditioning/refrigeration installation/maintenance/service, sales—retail and wholesale

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Clock Hours		
		FALL	SPR	SUM
AC 000	Air Conditioning/Refrigeration Technology	450	450	390
Total Clock Hours: 1290				

*Note: Students register for AC 000 each term until all competencies are mastered.*

## Auto Body Repair

Certificate

This course prepares students to work in automotive body repair and refinishing. The program focuses on automobile construction and repair and emphasizes hands-on activities. The course provides instruction on diagnosing damages and estimating repair costs, while covering the subjects included in the National Institute for Automotive Service Excellence (NIASE) certification tests “Body Repair” and “Painting and Refinishing.”

### Career Opportunities

Auto body metal straightener, insurance adjuster, painter, repair cost estimator

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Clock Hours		
		FALL	SPR	SUM
AB 000	Auto Body Repair Technology	450	450	390
Total Clock Hours: 1290				

*Note: Students register for AB 000 each term until all competencies are mastered.*

## Automotive Technology

Certificate

This ASE certified training program covers automotive electronics, engine performance, steering and suspension, manual transmissions and drive trains, automatic transmissions and transaxles, heating, ventilation and air conditioning, brakes, and engine repair and rebuilding. Specialized electronics are taught throughout as well as the proper use of tools and equipment.

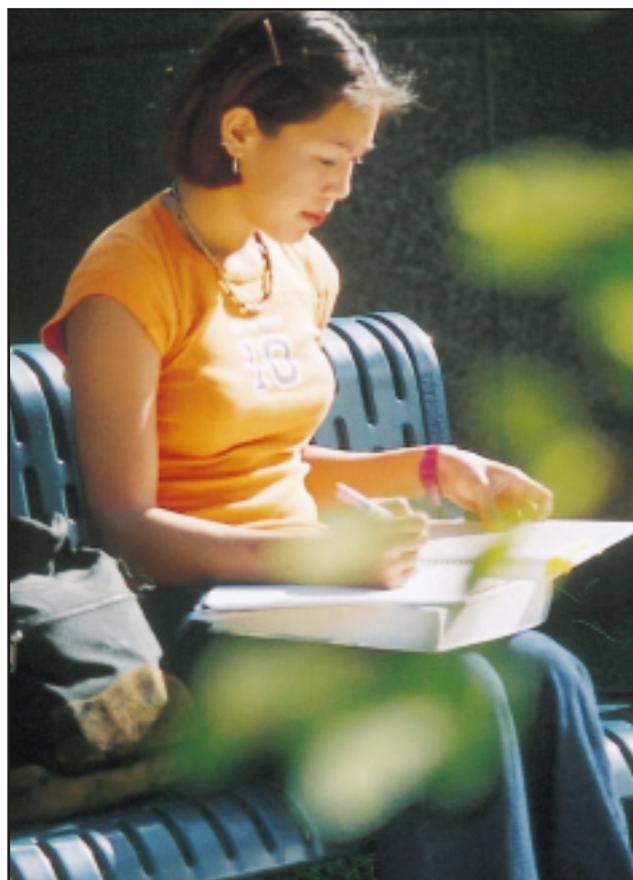
### Career Opportunities

Technician, shop foreman, service adviser, service manager

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Clock Hours		
		FALL	SPR	SUM
AM 000	Automotive Technology	450	450	390
Total Clock Hours: 1290				

*Note: Students register for AM 000 each term until all competencies are mastered.*



## Commercial Truck Driving

Certificate

This 11 week program trains students to drive commercial trucks, focusing on driving skills, safe operating practices, and proper record keeping.

### Additional Admission Requirements

Applicants must be at least 23 years of age.

### Career Opportunities

Truck driver, dispatcher, operations manager, safety supervisor, terminal

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Clock Hours	
		FALL	SPR
CD 000	Commercial Truck Driving		330
Total Clock Hours: 330			

## Computer Repair

See “Industrial Electronics”

## Cosmetology

Certificate

This program prepares students to take the State Board of Cosmetology's practical and written examinations.

### Additional Admission Requirements

Applicants must have completed at least two years of high school (8 credits) or score 38 or higher on the GED.

### Career Opportunities

Color technician, esthetician, hair stylist, manicurist, make-up artist, shop manager

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Clock Hours			
		FALL	SPR	SUM	FALL
CY 000	Cosmetology	450	450	390	*

Total Clock Hours: 1500\*

\*1500 clock hours required for State Board licensure

## Diesel Equipment Mechanics

Certificate

This program trains students in diesel engine mechanics.

### Career Opportunities

Diesel mechanic, heavy diesel equipment repair, mechanic helper, truck mechanic

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Clock Hours		
		FALL	SPR	SUM
DM 000	Diesel Mechanics	450	450	390

Total Clock Hours: 1290

Note: Students register for DM 000 each term until all competencies are mastered.

## Drafting

See "Technical Drafting"

## Electrician

See "Industrial Electricity"

## Greenhouse

See "Landscaping and Turf Management"

## Horticulture

See "Landscaping and Turf Management"

## HVAC

See "Air Conditioning and Refrigeration"

## Industrial Electricity

Certificate

This program prepares students to install, maintain, and repair electrical systems and equipment.

### Career Opportunities

Apprentice electrician, cable TV installer, electrician's helper, electric motor repairer, electrical technician, journeyman electrician, satellite antenna installer

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Clock Hours		
		FALL	SPR	SUM
IE 000	Industrial Electricity	450	450	390

Total Clock Hours: 1290

Note: Students register for IE 000 each term until all competencies are mastered.

## Industrial Electronics

Certificate

This program prepares students to repair and maintain "state of technology" electronic equipment.

### Career Opportunities

Computer maintenance, industrial controls system specialist, radio and television repair, industrial instrumentation specialist, telecommunications technician

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Clock Hours		
		FALL	SPR	SUM
ER 000	Industrial Electronics	450	450	390

Total Clock Hours: 1290

Note: Students register for ER 000 each term until all competencies are mastered.

## Industrial Maintenance Mechanics

Certificate

This program prepares maintenance personnel for industry. Students learn skills in electricity, welding, machine shop, hydraulics, pneumatics, air conditioning, general building maintenance, and robotics.

### Career Opportunities

Electrical equipment maintenance technician, repair welder, robotics maintenance technician, maintenance foreman assistant, maintenance machinist, maintenance technician

#### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Clock Hours		
		FALL	SPR	SUM
ID 000	Industrial Maintenance Technology	450	450	390

Total Clock Hours: 1290

Note: Students register for ID 000 each term until all competencies are mastered.

## Landscaping and Turf Management

Certificate

This program trains students for work with greenhouses, golf courses, public grounds, and residential landscaping.

### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Clock Hours		
		FALL	SPR	SUM
LM 000	Landscaping and Turf Management	450	450	390
Total Clock Hours: 1290				

Note: Students register for LM 000 each term until all competencies are mastered.

## Machine Tool Technology

Certificate

This program gives students experience in machine tools, such as engine lathes, vertical and horizontal milling machines, pedestal and surface grinders, shapers, CNC Machining Centers, and Turning Centers.

### Career Opportunities

CNC operator, CNC programmer, machine tool operator, maintenance machinist, manufacturing machinist, tool and die maker apprentice

### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Clock Hours		
		FALL	SPR	SUM
MT 000	Machine Tool Technology	450	450	390
Total Clock Hours: 1290				

Note: Students register for MT 000 each term until all competencies are mastered.

## Marine Engine Technology

Certificate

This program prepares students for employment in the field of marine engine repair.

### Career Opportunities

Marine mechanic, parts salesman, service manager, shop foreman

### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Clock Hours		
		FALL	SPR	SUM
SE 000	Marine Engine Technology	450	450	390
Total Clock Hours: 1290				

Note: Students register for SE 000 each term until all competencies are mastered.

## Mechanic

See "Automotive Technology"  
See "Diesel Equipment Mechanics"  
See "Marine Engine Technology"

## Medical Office Assisting

Certificate

Accredited by the Commission on Accreditation of Allied Health Education Programs on recommendation of the Committee of Accreditation for Medical Assistant Education

This program develops the administrative knowledge and clinical skills needed to work in a physician's office. Graduates are eligible to write the National Certification Examination for Medical Assistants. Individuals convicted of a felony are not eligible to take the certification examination.

### Career Opportunities

Hospital clinics, private physician offices, private medical clinics

### Additional Admission Procedures

Additional admission procedures are required for this program. Please contact the program office at 697-4433.

### SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Clock Hours		
		FALL	SPR	SUM
MO 000	Medical Office Assistant	450	450	390
Total Clock Hours: 1290				

## Ornamental Horticulture

See "Landscaping and Turf Management"

## Practical Nursing

Certificate

This three-semester program provides theoretical knowledge and clinical experiences needed for practical nursing. The graduate is eligible to write the National Council Licensure Examination for Practical Nursing (NCLEX-PN). Individuals who have been convicted of a crime other than a minor traffic violation could be ineligible for licensure in the State of Tennessee, even though they have successfully completed a nursing program.

A class of 35 students is admitted in the fall and spring semesters.

### Additional Admission Procedures

Additional admission procedures are required for this program. Applications are available twice each year on a first-requested basis. Please contact the program office at 697-4447.

### Expenses

Additional expenses include nursing textbooks, liability insurance, student uniform, achievement tests, school pin, state board examination and other supplies, and average approximately \$2,450.

### Progression

A student will not earn clock hours toward graduation when an unsatisfactory grade occurs.

Continued on next page

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**Career Opportunities**

Doctor’s office, home health care agencies, hospital, long-term care facility, nursing home

SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Clock Hours		
		FALL	SPR	SUM
LP 000	Practical Nursing	487	487	383
Total Clock Hours: 1357				

**Surgical Technology**

Certificate

Accredited by the Commission on Accreditation of Allied Health Education Programs

The Surgical Technologist maintains a sterile environment and makes instruments and equipment available to the surgeon during surgery. Graduates of this three-semester training program are eligible to write the National Certification Examination for Surgical Technologists.

A class of 18 students is admitted in the fall semester.

**Additional Admission Procedures**

Additional admission procedures are required for this program. Please contact the program office at 697-4447.

**Expenses**

Additional expenses include textbooks, certification exam and other supplies, and average approximately \$1,925.

**Progression**

A student will not earn clock hours toward graduation when an unsatisfactory grade occurs.

**Career Opportunities**

Doctor’s office, hospital

SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Clock Hours		
		FALL	SPR	SUM
OR 000	Surgical Technology	487	487	383
Total Clock Hours: 1357				

**Technical Drafting**

(Architectural, Civil & Mechanical)

Certificate

This program teaches drafting and design technology, including computer-aided design (CAD). The first two semesters cover basic drafting procedures and mathematics. In the third semester, the student pursues an area of specialization.

**Career Opportunities**

Architectural draftsman, checker, civil draftsman, machine design draftsman, senior draftsman

Continued on next column

Continued from previous column

SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Clock Hours		
		FALL	SPR	SUM
DF 000	Technical Drafting	450	450	390
Total Clock Hours: 1290				

*Note: Students register for DF 000 each term until all competencies are mastered.*

**Truck Driving**

See “Commercial Truck Driving”

**Welding**

Certificate

This program teaches combination welding, basic oxyacetylene cutting and welding, shielded metal arc welding, metal inert gas welding, tungsten inert gas welding, and blueprint reading for welding.

**Career Opportunities**

Combination welder, maintenance welder, mig welder, pipe welder, structural steel welder, tig welder

SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Clock Hours		
		FALL	SPR	SUM
WD 000	Welding Technology	450	450	390
Total Clock Hours:1290				

*Note: Students register for WD 000 each term until all competencies are mastered.*



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## Telephone Numbers

Chattanooga State <b>Main Campus,</b> <b>4501 Amnicola Highway</b> .....	697-4400	Distance Education Program .....	697-4408
Chattanooga State <b>Downtown,</b> <b>535 Chestnut St., Suite 112</b> .....	697-3100	Financial Aid .....	697-4402
Chattanooga State <b>East, 7158 Lee Highway</b> .....	697-4797	Records .....	697-4401
Chattanooga State <b>North, Dayton</b> .....	365-5010	Library Services .....	697-4448
Chattanooga State <b>West, Kimball</b> .....	837-1327	Orientation, Advisement and Retention .....	697-4483
Chattanooga State <b>Grundy County High School</b> .....	837-1327	Small Business Development and Resource Center .....	752-1774
Chattanooga State <b>Sequatchie Valley Technical</b> <b>Center</b> .....	554-4027	<b>Academic Departments</b>	
Admissions .....	697-4401	Allied Health .....	697-4450
Adult Education (GED) .....	697-2529	Business & Information Systems .....	697-4441
Business and Community Development Center .....	697-3100	Engineering, Environmental & Emergency Technologies .....	697-4434
Career Planning .....	697-4421	Humanities .....	697-4440
Child Development Center .....	697-4412	Industrial Technology .....	697-4433
Counseling Services .....	697-4421	Licensed Practical Nursing/Surgical Technology .....	697-4447
Disabilities Support Services .....	697-4452	Mathematics & Sciences .....	697-4442
		Nursing Program/Erlanger .....	778-8080
		Social & Behavioral Sciences .....	697-3127

Transform Your Life!

## History

Chattanooga State Technical Community College's history shows its commitment to the community and its ability to adapt.

When it opened in September 1965 on Fourth and Chestnut Streets, the College was known as Chattanooga State Technical Institute, a two-year, co-educational, college level institution. It was the state's first technical college, and Southeast Tennessee's first public institution of higher education. In 1967, the College moved to its present location; since then, it has grown into a multi-million dollar complex.

Chattanooga State Technical Institute's goal was to prepare students with marketable technical skills that would bridge the gap between the engineer and the craftsman. The technical programs offered AS and AE degrees and certificate programs, while remaining flexible to students and industry needs.

In 1973, Chattanooga State Technical Institute turned into Chattanooga State Technical Community College. Senate Bill 1010 assured the College would:

- provide comprehensive one and two-year occupational, college parallel, continuing education, and community service programs;
- provide quality technical and scientific occupational programs;
- serve as a regional technical school to train engineering technicians or technical workers in the fields of production, distribution, or service.

Chattanooga State's mission expanded to include vocational education on July 1, 1981, when the State Area Vocational-Technical School merged with the College. That merger was made permanent by the Tennessee legislature effective July 1, 1983.

Today, Chattanooga State Technical Community College continues to emphasize two-year technical programs and the expanded dimension of the comprehensive community college. Thus, the College is committed to meeting the needs of Chattanooga and Hamilton, Rhea, Sequatchie, Marion, Bledsoe, and Grundy counties.

## Statement of Mission

Chattanooga State Technical Community College is nationally recognized for curricular innovation, use of technology in instruction, care for students and responsiveness to its community.

Chattanooga State is a comprehensive, regionally accredited community college in the State University and Community College System of Tennessee. Founded in 1965, Chattanooga State offers a wide array of programs and services including the following:

- Degree and certificate study for career preparation and advancement
- Transfer study leading to the associate degree
- Non-credit coursework (including CEU study)
- Transitional studies (reading, writing and basic math)
- Adult education/GED preparation
- Technological and vocational training



### Career orientation

- Cultural diversity training and awareness
- Environmental education

Chattanooga State graduates have workplace knowledge and written and oral communication, computational, critical thinking, listening, teamwork and computer competence; and they have been taught the qualities of good character and citizenship.

Chattanooga State serves a six-county area of Southeast Tennessee and bordering counties of north Georgia and Alabama as an open-entry postsecondary institution offering over 50 majors of study toward these degrees and certificates:

- Associate of Arts
- Associate of Science
- Associate of Applied Science
- Technical Certificates
- Institutional Certificates

Chattanooga State is committed to area economic and community development, the use of advanced technologies in instruction, life-transforming support services based on a culture of care for all students and employees, and maintaining an environment of learning where high academic standards and personal integrity are prized.

Chattanooga State affords equal opportunity to all eligible persons regardless of age, race, religion, sex, veteran status, national origin or disability.

Chattanooga State is also committed to these important objectives:

- Selecting and supporting faculty and staff members known for the following: superior teaching, applied research and professional service; the integration of technology into instruction and service; and the



encouragement of all employees to practice their professions, grow personally and professionally and create community awareness of their capabilities.

- Assisting the community by providing educational programs and services that are of high quality, timely, created through scholarly program design and based on citizen and student surveys and studies.
- Instilling a desire for lifelong learning and a love of knowledge in all members of the College family.
- Offering caring support for all students through counseling, support groups, financial aid, career planning and advisement, library facilities, laboratories, tutoring, co-curricular activities and sports and recreation.
- Ensuring that all of these mission elements are accomplished through the careful utilization of resources—utilizing strategic planning, financial controls, employee professional development, public-private partnerships and alternative funding.

Chattanooga State delivers its programs and services at many sites in its Service Area as well as worldwide via distance learning technologies which include internet, video and electronic interactive instruction.

Every eligible instructional program of the College is nationally accredited. The institution as a whole is accredited by the Southern Association of Colleges and Schools.

## Notice to Students

The College's course offerings and requirements are continually scrutinized and revised. This catalog shows the offerings and requirements in effect at the time of publication but is no guarantee that they will not be changed or revoked. However, adequate and reasonable notice will be given to students affected by any changes. This catalog is not intended to state contractual terms and does not constitute a contract between the student and the institution.

The institution reserves the right to make changes as required in course offerings, curricula, academic policies and other rules and regulations affecting students to be effective whenever determined by the institution. These changes will govern current and formerly enrolled students. Enrollment of all students is subject to these conditions.

Current information may be obtained from the following sources:

- |                               |  |
|-------------------------------|--|
| <b>Admission Requirements</b> | – Admissions Office                      |
| <b>Course Offerings</b>       | – Department or Division Offering Course |
| <b>Degree Requirements</b>    | – Academic Affairs                       |
| <b>Fees and Tuition</b>       | – Bursar's Office                        |

## Academic Programs

Degree	Major	Concentration
Associate of Arts Associate of Science Associate of Applied Science	General General Accounting Technology Advertising Arts American Sign Language Studies Applied Technology	Financial Planning
	CAD/CAM Engineering Technology Civil Engineering Technology Dental Hygiene Early Childhood Education Electrical/Electronic Engineering Technology	Air Conditioning and Refrigeration Auto Body Repair Automotive Technology Cosmetology Diesel Equipment Mechanics Industrial Electricity Industrial Electronics Industrial Maintenance Mechanics Landscaping and Turf Management Machine Tool Technology Marine Engine Technology Medical Office Assisting Surgical Technology Technical Drafting Welding
	Emergency Services Technology	Automated Controls Computer Systems Networking Technology Emergency Medical Care Emergency Service Supervision & Administration Fire Suppression Environmental Protection Technology Environmental Safety and Health Technology
	Environmental Protection & Safety Technology	
	Health Information Management Human Services Specialist Industrial Maintenance Technology Information Systems Technology	End User Support Network Management Programming
	Legal Assisting Technology Management	Aviation Management Banking and Financial Management General Management Health Services Management Hospitality Management Industrial Management Insurance Management Marketing Retail Management Small Business Management
	Mechanical Engineering Technology Nursing Office Systems Technology Physical Therapist Assistant Radiologic Technology Respiratory Care	Court Reporting

Technical Certificate
CAD Technology Diagnostic Medical Sonography Information Systems Technology Nuclear Medicine Technology Pharmacy Technician Radiation Therapy Technology Word Processing

Certificate	
(Non-credit Industrial Technology Certificate) Air Conditioning and Refrigeration Auto Body Repair Automotive Technology Commercial Truck Driving Cosmetology	Diesel Equipment Mechanics Industrial Electricity Industrial Electronics Industrial Maintenance Mechanics Landscaping and Turf Management Machine Tool Technology Marine Engine Technology Medical Office Assisting Practical Nursing Surgical Technology Technical Drafting Welding

## Admissions

### General Admissions Requirements

Chattanooga State has an open door admission policy. The College is open to all persons, regardless of race, color, religion, sex, age, national origin, veteran status, or physical, mental or educational disability.

Admissions requirements and procedures vary, depending on the student's goals and classification. Each category has its own requirements and procedures. However, the following apply to all applicants:

- Applicants should meet physical standards appropriate to their occupational choices.
- An admission application is not complete until the Admissions Office has received all required documents. An applicant may be denied admission until all are received.
- Males between 18 and 26 must certify registration with Selective Service before they can register for classes.
- Effective July 1, 1998, all entering students born after 1956 may be asked to prove they have been immunized with two MMR (measles, mumps, rubella) vaccines unless contraindicated because of pregnancy, allergy to a vaccine component, or other documented medical reason. Contact the Admissions Office for additional information.

In addition to the admission requirements/procedures listed below, some programs have extra requirements, procedures, and deadlines. See the specific program in the "Career Programs" section of this catalog for more information.

### Admissions Procedures - *How To Apply*

#### Regular Admission

A regularly admitted student is one who is pursuing an associate degree or Industrial Technology certificate from Chattanooga State.

#### Associate Degree Programs

##### First Time Freshmen

- Submit an application to the Admissions Office (\$10 non-refundable fee).
- Submit an official high school transcript or GED transcript.

An official transcript has the granting institution's seal and is either mailed directly to the Admissions Office or hand delivered in a sealed envelope.

A regular high school diploma or General Education Development (GED) Certificate is required for admission as a degree student. The GED score must be a minimum of 45 with no subscore lower than 40. (Subscores of 35 are still acceptable for students who completed the GED prior to 1997.) High school transcripts must show the student's graduation date and, for Tennessee high school graduates, must include a transcript entry that indicates the student passed the required proficiency test battery.

#### • Test Requirements

For applicants under 21: Submit ACT (American College Testing Program) or SAT (Scholastic Aptitude Test) test scores. Scores are valid if taken within three years of the first semester of attendance. These scores are used for advising and placement purposes. Additional assessment may be required.

**Note: Students without the ACT (or SAT) may take the ACT residual test available in the Testing Center (valid for admission only at Chattanooga State); fee required.**

For applicants 21 or older: Take the COMPASS exam. This assessment battery is used for advising and placement purposes. See "Mandatory Placement Requirements" for additional information.

#### Transfer Students

- Submit an application to the Admissions Office (\$10 non-refundable fee).
- Submit official transcript(s) from all colleges previously attended.

An official transcript has the granting institution's seal and is either mailed directly to the Admissions Office or is hand delivered in a sealed envelope. After all transcripts are received and the student declares a major, transcripts will be evaluated and credit may be given for courses completed at regionally accredited institutions if all other admission requirements have been met. Transfer credits will not be used in computing the student's GPA at Chattanooga State.

Students transferring from non-regionally accredited institutions follow the same procedures as first time freshmen. Credits from non-regionally accredited institutions may be evaluated on an individual basis or may be validated by examination. See "Alternative Sources of Credit" for information on procedures and fees.

#### • Testing and Placement

If transferring from a Tennessee Board of Regents (TBR) school: Submit assessment scores and ACT or SAT scores (where appropriate) to the Admissions Office. Chattanooga State accepts assessment and placement, as well as equivalent Transitional Studies courses, from all TBR institutions.

If transferring from a non-TBR school: Take tests required under "Mandatory Placement Requirements."

Exceptions:

- (1) Chattanooga State will accept UTC's assessment and placement in lieu of the COMPASS exam, as well as equivalent UTC Developmental Studies courses.
- (2) Assessment and placement from other non-TBR institutions, as well as Transitional Studies course credits, may be approved by Chattanooga State's Transitional Studies director.

Testing is not required for students who have any of the following from a regionally accredited college:

- credit for college level courses in both English and math (grade of "D" or higher)
- successful completion of 60 hours of college level courses
- associate degree
- baccalaureate degree
- successful completion of a college level course at any TBR school before Fall 1985.

Transfer students are held to the same standards as other Chattanooga State students. Transfer students deficient in a Basic Academic Competency cannot continue in a related college-level course until they have satisfactorily met the exit criteria of the appropriate Transitional Studies course(s).

- Transfer students pursuing an AA or AS must also submit official high school transcripts or GED scores. This is waived for students who:
  - graduated from high school (or GED) before 1989, or
  - transferred 60+ hours of college level work, or
  - have a baccalaureate or associate degree
- Grade Point Average  
Transfer students must be eligible to return to the institution they transferred from and meet the academic retention standards of Chattanooga State. Students not meeting these criteria may be admitted to Chattanooga State after not attending any college for at least one term (not including summer). Such students are admitted on probation their first term and can be suspended at the end of the term if they do not meet Chattanooga State's academic retention standards. (See "Academic Retention Standards" in the "Academic Regulations" section.)

#### International Students

The Records Office handles international student admissions, including Immigration Service policies. International students must:

- meet all requirements for admission as a degree-seeking student
- have a TOEFL score of 500
- provide evidence of financial capability
- provide a medical certificate verifying freedom from tuberculosis
- have Medical and Hospitalization Insurance

#### Mandatory Placement Requirements

- Students under 21 are required to take the COMPASS exam if their ACT (or corresponding SAT) scores fall below the cut-off points listed below:
  - If the composite score is below 19, the Reading Comprehension test is required.
  - If the English score is below 19, the Writing Sample is required.
  - If the Math score is below 19, the student must take the appropriate Math tests as determined by the level of high school preparation in math.

Students with an ACT composite score of 26 or higher (or equivalent SAT score) do not take the COMPASS exam, regardless of subscores.

- Students 21 or older must take all parts of the COMPASS exam. (ACT or SAT scores may be used for screening if less than three years old. In such cases, students may be required to take all or part of the COMPASS exam, based on the above cut-off scores.)
- Students under 21 who (1) received their GED in 1989 or thereafter and (2) are enrolled in an Associate of Arts or Associate of Science degree program must take all parts of the COMPASS exam regardless of ACT/SAT scores. (Students with GED's who are in career programs, who are over 21, or who received their GED prior to 1989 are subject to the same testing policies as students with high school diplomas.)

- Students with high school unit deficiencies in English and/or algebra must take the appropriate portions of the COMPASS exam to determine how to remove these deficiencies. (See "High School Unit Requirements.")
- If a student enrolls in a college level course and is later found to be deficient in a Basic Academic Competency at the Transitional Studies I level, he/she shall be withdrawn from the class(es) with a grade of "W" and may not re-enroll until the exit criteria of the appropriate Transitional Studies course(s) have been satisfactorily met. (This applies even if the student was initially exempt from the COMPASS exam.)
- Technical certificate program students are admitted as Special Students. Assessment requirements are determined by the content of the program.

#### High School Unit Requirements (1989 Admission Requirements)

Beginning fall semester 1989, it is recommended that any student entering a Chattanooga State program designed for transfer to a four-year institution have the following high school credits:

- 4 units English
- 2 units Algebra
- 1 unit Advanced Math
- 2 units Natural/Physical Science (1 unit must have a lab)
- 1 unit Social Studies
- 1 unit United States History
- 2 units A single Foreign Language
- 1 unit Visual/Performing Art (effective Fall 1993)

Students without the entrance requirements listed above will be admitted, but cannot receive an Associate of Arts or Associate of Science until all deficiencies are removed.

Students with deficiencies in English and/or Algebra must take the appropriate portions of the COMPASS exam to determine how to remove these deficiencies. Students with other deficiencies may remove the deficiencies with specified college courses, taken as electives. See "Removal of Entrance Deficiencies" in "Transfer Programs."

#### Notes:

- Applicants who graduated from high school or received a GED before 1989 are not subject to the 1989 Admission Requirements.
- Applicants who graduated from high school and have an ACT composite score of 26 or higher will have met all high school unit requirements except for foreign language and visual/performing arts.
- Applicants who received a General Education Development (GED) Certificate or an American Council on Education (ACE) External Diploma in 1989 or thereafter are considered to have met all high school unit requirements except those in foreign language and visual/performing arts. (However, such students are not exempt from the "American History Requirement" mandated by the Tennessee General Assembly as a condition of receiving a bachelor's degree from one of Tennessee's state-supported colleges or universities.)

- For applicants holding a baccalaureate degree or an associate degree designed for transfer, all high school deficiencies will be waived upon presentation of a transcript verifying completion of the degree.
- The qualifications and needs of applicants who volunteer information about a handicapping condition will be assessed on an individual basis. Assessment will include an evaluation of the applicant's potential for success in college and the determination of any exceptions which may be warranted.
- Out-of-State Applicants—Applicants who are non-Tennessee residents are subject to the same admission requirements as Tennessee applicants.
- The 1989 Admission Requirements do not apply to students enrolled in career programs (Associate of Applied Science degrees or Technical Certificates).

#### Industrial Technology Programs

- Submit an application to the Admissions Office (\$10 non-refundable fee).
- Applicants must be at least 18 or have a high school diploma or GED to be admitted to an Industrial Technology program.
- Testing
  - Practical Nursing and Surgical Technology applicants must take the California Achievement Test (CAT).
  - Other applicants must take the Industrial Technology Division's standard entrance examination. (This is waived for applicants with a baccalaureate or associate degree.) Students with math or reading deficiencies must successfully complete appropriate transitional studies courses before enrolling in the program.
- If applying for financial aid, submit:
  - Official high school transcript or GED transcript, or
  - Official transcript(s) from each college or university attended, or
  - A passing score on the Ability to Benefit Test (given by the Testing Center by appointment only).

#### Technical Certificate Programs

- Submit an application to the Admissions Office (\$10 non-refundable fee).
- Be admitted as a Special Student (see below).
- Testing requirements, if any, are determined by the program's content.

If a student enrolled in a technical certificate program later seeks regular admission, he/she will be assessed and placed using the COMPASS exam and must meet all other requirements for regular admission. Likewise, a regularly admitted student pursuing an associate degree may concurrently pursue a technical certificate, but this provision does not alter any requirements for regular admission.

#### Additional Admission Requirements

Some technical certificate programs have additional requirements, procedures, and deadlines which must be met. See the specific program in the "Career Programs" section of this catalog for information.

#### Special Students

A Special Student is one who takes credit courses without working toward a degree. Special Students must:

- Submit an application to the Admissions Office (\$10 non-refundable fee).
- Be 21, or (if under 21) have a regular high school diploma or GED.
- Testing

Some technical certificate programs require testing before admission. Testing may also be required in order to take certain courses (see below). Though Special Students are not required to complete normal assessment procedures, they are responsible for having the requisite knowledge and skills to succeed in their course(s).

#### Limitations:

- Special Students cannot enroll in a college level English or math course or in a course with an English or math prerequisite until they (1) satisfy the course's Mandatory Assessment Requirements, or (2) show successful completion of an appropriate college level English and/or math course.
- Special Students are not eligible for financial aid unless enrolled in an approved technical certificate program.
- There is no limit on the number of credits Special Students may carry per term other than those stated in the Academic Load policy.
- Special Students are not restricted in how many credits they can earn. But, if the student changes to degree-seeking status, credit hours accumulated as a Special Student do not apply to the final twenty-four (24) semester hours required for the associate degree.

If Special Students change to degree-seeking status later, they must meet ALL regular admission requirements (regardless of the number of credit hours earned as a Special Student).

#### Transient Students

A transient student is regularly enrolled in another college, who is admitted here briefly. A transient student who later wishes to become a degree-seeking student must complete all regular admission requirements. To be admitted, a transient student must:

- Submit an application to the Admissions Office (\$10 non-refundable fee).
- For each semester attending, submit a letter of good standing from their regular college. The letter of good standing must be dated after the end of the last term attended.

#### Limitations:

- Transient students cannot enroll in a college level English or math course or a course with an English or math prerequisite until they (1) satisfy the course's Mandatory Assessment Requirements, or (2) show successful completion of an appropriate college level course in English and/or math.
- Transient students must meet any other prerequisite requirements for courses attempted at Chattanooga State.
- Transient students are not eligible for financial aid through Chattanooga State.

## Early Admission

1. Early admission is available to high school students who have:
  - completed the 9th, 10th, and 11th grades with a 3.2+ GPA on a 4.0 scale or the equivalent.
  - an Enhanced ACT composite score of at least 22.
  - a written statement from their high school principal specifying the college courses that will be substituted for the remaining high school courses needed for high school graduation.
  - written endorsements from their high school counselors and from their parents or guardians.

The student will leave the high school at the end of the junior year and matriculate into Chattanooga State. The Chattanooga State courses will substitute for courses needed for graduation from high school. The high school principal, or designee, will determine appropriateness of the courses before the student's matriculation.

The student is awarded senior credit after successfully completing the college freshman year. Since 4 units of English is required for high school graduation, each student will enroll in freshman English. (Each participating student will enroll in American History and Economics if the student has not already completed them in high school.)

2. Dual Enrollment—The Dual Enrollment Program provides college courses for qualified high school honor students. Students receive college and high school credit simultaneously. These courses are offered during the school day on the high school campus, or students may attend one of Chattanooga State's sites with the parent's and principal's permission. All courses are instructed by properly certified and appropriately endorsed local board of education employees or by credentialed Chattanooga State instructors. All courses are part of the school program, with content and instruction subject to the supervision of the school's principal and the local board of education. Prospective dual enrollment students: sophomore (by exception), junior, or senior high school students with a minimum of 3.0 GPA and a composite ACT score of 19 or above. Additionally:
  - For English—ACT English score of 19 required; open to seniors only
  - For Math—required ACT math scores: 21 for Pre-Calculus (MATH 1720); 25 for Calculus (MATH 1910)
3. Technical Preparation Education (Tech Prep)—Chattanooga State may grant credits to high school students through the national Technical Preparation Education (Tech Prep) program. Depending upon their type, Tech Prep credits may be used in placement in the College's Industrial Technology programs or as academic credit for selected technical courses. High school students interested in earning Tech Prep credits should contact either the high school guidance counselor or the Tech Prep Coordinator at Chattanooga State.

4. Academically talented/gifted students enrolled in grades 9-12 in Tennessee may, with the high school principal and appropriate personnel's approval, take college courses from a Tennessee college if the student presents an official high school transcript showing a 3.2 GPA on a 4.0 scale, if such placement is a part of the student's Individual Education Program (IEP) as established by the multi-disciplinary team process.

## Audit

A student may audit any college level or Industrial Technology course. Payment of the regular course fee is required. The student participates in class, but is not required to do assignments or take tests. Auditing may be denied, based on available space. Audit hours may not be converted to credit later or used to replace an earlier grade.

Students may enroll in any combination of audit and credit courses.

Students cannot audit transitional studies courses.

## Senior Citizens and Persons With Disabilities

Senior citizens and persons who are totally and permanently disabled may take courses at Chattanooga State for a reduced rate. First time students must apply for admission and pay the \$10 non-refundable application fee. Former students must apply for readmission.

Audit—To receive a maintenance fee waiver for auditing, a person must:

- be 60+ or permanently disabled
- meet Tennessee residency requirements
- provide proof of age or disability before registering
- register for AUDIT after regular registration
- pay all other applicable fees

Credit—To receive discounted maintenance fees (maximum charge: \$45) on credit courses, a person must:

- be 65+ or permanently disabled
- meet Tennessee residency requirements
- provide proof of age or disability before registering
- have satisfied all prerequisites or other criteria required for the course(s)
- pay all other applicable fees

## Non-Residents

Non-residents are admitted the same way as residents. Additional requirements for international students are listed above.

## Readmission

A student who did not attend the preceding term (summer excluded) must:

- Reapply for admission (no fee)
- Submit official transcripts from any college attended since leaving Chattanooga State (if applying for regular admission status)
- Complete any remaining admission requirements

## Alternative Sources of Credit

College credit for prior learning may be given to students who demonstrate satisfactory achievement and proficiency by:

### Credit by National Examination

Chattanooga State awards credit for successful completion of the following nationally recognized college-level examinations offered by the College Entrance Examination Board (CEEB):

#### Advanced Placement (AP)

AP tests are given to 11th and 12th grade students. Scores must be three or higher to receive credit.

#### College Level Examination Program (CLEP)

CLEP scores must be at the 50th percentile to get credit. Chattanooga State's Testing Center arranges the tests. Students who have taken CLEP exams elsewhere should have official scores sent to the Records Office for evaluation.

Credits earned by testing appear on the student's transcript with a grade of "CE," which carries no quality points and is not included in the student's GPA.

No limit is set on the number of hours that can be earned by AP or CLEP other than the restrictions imposed by the Graduation Residency Requirement.

Transfer program students should talk to their intended college or university about accepting AP and/or CLEP credit.

### Credit By Departmental Examination

With the approval of an instructor, dean, and the Vice President for Academic Affairs, a student can earn full credit for some college-level courses by passing a special departmental examination(s). See division offices for details.

#### Conditions and Restrictions:

- The student must be currently enrolled in credit work at Chattanooga State and have 2.5 cumulative GPA.
- The student must show the academic department he/she has the knowledge, skills, and/or competencies covered by the course. Permission to take a proficiency exam may be denied if the department decides the student's request is invalid. The department's decision is final.
- Proficiency examinations may validate credits taken at unaccredited institutions. Students must show by official transcript that the credits were previously earned.
- The regular course fee is charged for each test, in addition to maintenance fees paid for courses in which the student is actually registered (even if the student is full-time).
- Credits earned by testing appear on the student's transcript with a grade of "CE," which carries no quality points and is not used in computing the student's GPA.
- Proficiency tests may not be used to repeat coursework or to remove a grade of "I" or "F."
- A student may take the proficiency test for a specific course only once.
- Credits earned by testing do not satisfy the Graduation Residency Requirement.

- No limit is set on the total number of credits that can be earned by examination other than the restrictions imposed by the Graduation Residency Requirement.
- Proficiency examinations are not available for all courses.

Students planning to transfer should talk to their intended college or university about accepting proficiency test credit.

### Credit for Life Experience

Credit for Life Experience is reserved for knowledge and competencies that do not fit elsewhere. Life Experience credit may not be requested by a student who has taken the course(s), but earned less than a "C."

Option 1: Credit for Courses offered by Chattanooga State

Credit for Life Experience may be granted by:

- Verification of College Credit Recommendation in the *Directory of the National Program on Noncollegiate Sponsored Instruction* (published by the University of the State of New York and the State Education Department of New York).

-OR-

- Up to nine (9) semester hours may be granted upon submission of a portfolio documenting professional experience that directly relates to the content of specific courses offered by Chattanooga State AND approval of this portfolio by a Faculty Committee. The nine hours are not considered part of the College's Graduation Residency Requirement.

Option 2: Elective Credit

- Up to six (6) semester hours of ELECTIVE CREDIT may be granted upon submission of a portfolio documenting work or other experience that is worthy of college credit but does not match existing credit courses at Chattanooga State AND approval of this portfolio by a Faculty Committee. These six hours are not considered part of the College's Graduation Residency Requirement.

### Application Procedure for Credit for Life Experience

Interested students must contact the appropriate department head at least two terms before graduating. The department head assigns faculty to meet with the student to determine that the student has suitable credentials. The faculty will then submit the Request Form to the appropriate dean.

Upon approval, one to three appropriate faculty members will guide the student in gathering and preparing evidence. This faculty committee assesses the portfolio, interviews the student, and forwards the portfolio and recommendation to the dean. With the dean's approval, the portfolio is sent to the Credit for Life Experience Committee, which confirms the process and forwards the recommendation to the Vice President for Academic Affairs for final approval and credit recommendation to the Records Office.

**Credit for Life Experience Fee**—A non-refundable assessment fee is required. An additional fee is charged for credit awarded above three hours.

### Military Service Credit

Chattanooga State policy permits granting credit for appropriate educational experience in the armed services in accordance with evaluation in the American Council on Education *Guide to the Evaluation of Education Experience in the Armed Services*. Veterans should apply to the Records Office with supporting documents of their previous training.

Students with honorable service and a valid DD 214 form may receive physical education activity credit. One credit is allowed for each six months of continuous active duty to a maximum of two credits.

### American Council on Education (ACE)

Chattanooga State may give credit for appropriate educational experience listed in *The National Guide to Educational Credit for Training Programs* sponsored by the American Council on Education. The program is national in scope, and the Tennessee Higher Education Commission is a participating agency. Each request will be considered on its own merit and must have the approval from the appropriate division.

### Orientation

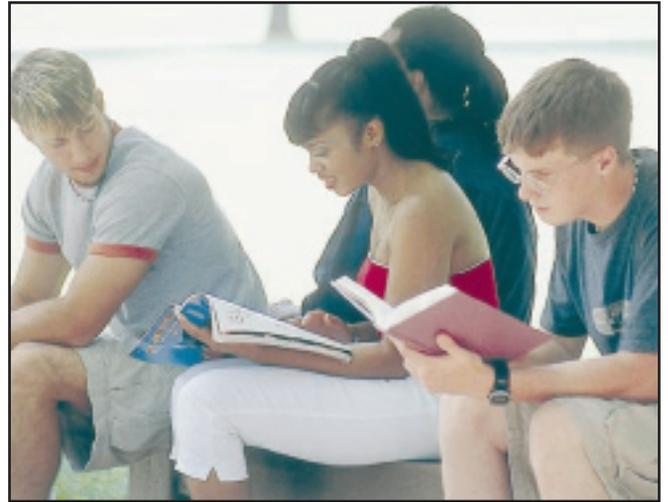
Summer orientation is required for all first-time degree-seeking students.

### Residency Classification

The following determines in-state and out-of-state status for fees and tuition purposes as defined by the State University and Community College System of Tennessee:

- Everyone domiciled\* in Tennessee is classified in-state for fee, tuition, and admission purposes.
- Everyone not domiciled in Tennessee is classified out-of-state for said purposes.
- The domicile of an “unemancipated person”\*\* is that of his or her parent, i.e., a person’s father or mother. If an unemancipated person has a non-parental guardian or legal custodian, then “parent” means such guardian or legal custodian, so long as the guardianship or custodianship was not created primarily to create in-state student status for the unemancipated person.
- Unemancipated students of divorced parents are in-state when one parent, regardless of custodial status, is domiciled in Tennessee.
- A graduate of any out-of-state high school must show Tennessee residency before receiving in-state tuition status.
- An in-state student’s spouse is also in-state.
- International students will pay out-of-state tuition.
- Students classified by Immigrations as a Permanent Resident, Resident Alien, Refugee, or Immigrant may be charged in-state fees if domiciled in Tennessee.
- Part-time students who are not domiciled in Tennessee but who are employed full-time in Tennessee, are classified out-of-state but are not required to pay out-of-state tuition. The student must provide proper documentation each semester.

\*Domicile—a person’s true, fixed, and permanent home and place of habitation; it is the place where he or she intends to remain, and to which he or she expects to



return when he or she leaves without intending to establish a new domicile elsewhere.

\*\*Emancipated person—a person who is eighteen years old, and whose parents have entirely surrendered the right to the care, custody, and earnings of such person and who no longer are under any legal obligation to support or maintain such deemed “emancipated person.”

### Veterans

The Veterans Affairs clerk is located in Financial Aid.

To receive benefits, eligible students must:

- Apply to the Department of Veterans Affairs for educational benefits.
- Be enrolled in an associate degree program or in an Industrial Technology certificate program.
- Submit a copy of DD 214 and DD 2384, if applicable.
- Register for classes.

### Qualifying Courses

A student receiving veteran benefits can only be paid for courses listed in the catalog as required for his/her designated major.

### Industrial Technology Programs

Students receiving veteran benefits who are enrolled in Industrial Technology programs are certified for clock-hour certificates. Credit may be given for previous education or training as determined by the instructor and approved by the Vice President for Academic Affairs at initial enrollment.

### Full-time Status

The Department of Veterans Affairs accepts, as full-time, students who meet either of the following criteria:

- degree-seeking students taking 12 or more credit hours per semester.
- Industrial Technology students enrolled in clock hour programs meeting at least 22 hours per week.

### Academic Fresh Start

Veterans are not eligible for Academic Fresh Start.

### Veterans Brochure

Brochures with more information are available in Veterans Affairs.

## Academic Regulations

Any exceptions to the following Academic Regulations must have the Vice President for Academic Affairs' recommendation and the President's approval.

### General Expectations

The College can change the calendars, curricula, degree requirements, course offerings, and all academic regulations any time the faculty, the President, or the Tennessee Board of Regents believes such changes are in the best interests of the students and the College.

By registering, a student accepts all published academic regulations, including those here and in any other official announcement.

A student can get a degree under the requirements set out in the catalog in force when he/she entered the College or under a later catalog in effect while a student. (A student, however, can only choose one catalog, and there is a time limitation. See "Graduation Requirements" for details.)

**Right of Petition.** A student who feels entitled to relief from, or any deviation in, the College's academic regulations can petition the Appeals and Review Committee. Petition forms are available in the Vice President for Student Affairs' office.

### Academic Fresh Start

Academic Fresh Start is a forgiveness plan for students who did not do well their first time at college and are getting a second chance without penalty. Academic Fresh Start disregards all prior courses when calculating the student's current statistics. Although the courses are not removed from the student's transcript, they are not used in calculating the GPA and do not apply toward fulfilling any college requirement.

#### Eligibility Requirements for Academic Fresh Start

To be eligible, the student must:

- Not have been enrolled in a postsecondary school for at least four (4) years.
- Be readmitted (or admitted) to Chattanooga State as a degree-seeking student. Only students pursuing an associate degree are eligible.
- Complete at least fifteen (15) semester hours of college-level coursework with a minimum 2.5 GPA for all work attempted.
- Submit an Academic Fresh Start application and an Academic Plan form (available in the Records Office) to the Records Office for processing and committee approval.

#### Terms of the Academic Fresh Start

- Academic Fresh Start is granted only once and is irrevocable.
- The student's permanent record remains a record of all work; however, for degree purposes, the student forfeits all college credit earned before the four-year separation.
- Previously satisfied transitional studies requirements are not forfeited. Students who did not com-

plete their transitional studies requirements during their previous enrollment must meet current requirements and these courses do not count toward the 15 hours of coursework required to be eligible for Academic Fresh Start.

- The student's transcript will note the Academic Fresh Start and state that the grade point average and credit totals are based only on the work beginning with the Academic Fresh Start.
- A student transferring to another institution should contact that institution to see what impact an Academic Fresh Start will have prior to implementing the program at Chattanooga State.

For more information, contact the Records Office.  
**Note: Veterans are not eligible for benefits as Academic Fresh Start participants.**

### Academic Honors

#### Commencement Honors

Chattanooga State recognizes exceptional degree-seeking students by granting honors at graduation as follows:

Summa cum laude	4.0 GPA
Magna cum laude	3.75–3.99 GPA
Cum laude	3.50–3.74 GPA

Honors recognition at commencement is based on the college-level GPA at the end of the fall term before graduation. If grades in courses completed during the final term(s) cause the student to qualify for a higher honors designation, it will be noted on the diploma.

#### Dean's List

Students completing 12 or more hours of college level work with a GPA of 3.5 or higher will make the Dean's List for that semester. (Dean's list recognition is based on calculations at the end of the semester and cannot be updated later to reflect grade changes, such as removal of Incompletes.)

#### Honors Program

The Chattanooga State Honors Program provides an enriched curriculum and related informal educational experiences for able and highly motivated students. Honors Program students who complete at least 12 hours of honors courses and maintain a 3.5 GPA or higher receive special recognition at graduation.

The Honors Program is open to the following new and currently enrolled students:

- New students with a minimum composite ACT score of 25 or a high school GPA of 3.5 with sufficient high school course work in the honors subject area.
- Enrolled students with 15 completed semester hours of college-level work, a 3.5 GPA, and a faculty member's nomination.

For more information, contact the Honors Program coordinator.

#### Phi Theta Kappa

Phi Theta Kappa is the international two-year college honor society to recognize outstanding academic achievement and provide opportunities for developing

leadership, service, fellowship and continued academic excellence.

All full-time and part-time students with 15 completed credit hours toward an associate degree with an overall minimum GPA of 3.5 are eligible for membership. Invitations are made in fall and spring semesters. Members must enjoy full rights of citizenship, pay a one-time induction fee, and maintain a 3.5 or higher GPA.

#### Psi Beta

Psi Beta, the National Honor Society for Psychology in Community and Junior Colleges, recognizes academic excellence and provides members with opportunities to acquire leadership skills, learn more about professional and educational choices, and interact with professionals. Eligibility criteria: (1) 3.5 overall GPA and (2) completion of two college-level psychology courses with a 3.5 or one psychology course with a 4.0 and enrollment in a second course.

#### Merit Awards

The Student Merit Award is for the student who is not only exceptional in academic areas, but also in community and campus service.

#### Who's Who Among Students In American Junior Colleges

Full-time students with 30 completed hours and a GPA of 3.3 or higher may apply for Who's Who. Applicants are screened by a committee and reviewed by faculty members before the final selection is made.

#### Academic Load

Definition: The total semester hours of credit for all courses taken during the semester. Also referred to as "credit load," "course load," or "class load."

#### Full-time Students

**Recommended credit load:** 16–18 hours.

**Minimum credit load:** 12 hours.

**Maximum credit load:** 19 hours.

**Overload:** 19–22 hours. Enrollment in more than 19 credit hours must be approved in advance by the Vice President for Academic Affairs. A student requesting an overload should have a cumulative 3.0 GPA. The maximum number of hours permitted is 22.

#### Part-time Students

A student who carries an academic load of less than 12 hours is considered part-time.

#### Industrial Technology Students

A full-time load for an Industrial Technology student is 30 or more clock hours per week.

Industrial Technology students who wish to take credit courses while enrolled in an Industrial Technology program may do so subject to the following restrictions:

- All course prerequisites, including any mandatory testing, must be met and appropriate course fees paid.
- Credit load limitations: Six (6) credit hours per semester if the student is enrolled in an Industrial

Technology program on a full-time basis; three (3) credit hours per semester if part-time.

#### Academic Retention Standards

The minimum college-level GPA required to graduate is 2.0.

To stay enrolled in good standing and moving toward graduation, a student must earn the minimum cumulative combined GPA below for the total number of semester credit hours attempted.

*Semester Quality Hours Attempted	Required Cumulative GPA
0.0 – 14.0	No Minimum
14.1 – 26.0	1.0
26.1 – 40.0	1.4
40.1 – 48.0	1.7
48.1 – 56.0	1.9
above 56	2.0

\*Quality hours attempted are shown on the transcript under QHRS.

**Note: The following grades are shown under Attempted Hours (AHRS) but not used in calculating GPA for probation/suspension purposes: W(withdrawal), WP(withdrawal/passing), WD(withdrawal/developmental), E(extension), S(satisfactory), N(no credit), and AU(audit).**

#### Academic Probation

A student who fails to attain the progression standards listed above will be placed on academic probation for the next enrolled semester.

#### Academic Suspension

A student on academic probation who fails to attain either the above cumulative standard or a 2.0 GPA for the current semester will be suspended for the next semester. The summer semester cannot be counted as the semester of suspension, nor can a suspended student enroll in summer school.

A student who re-enrolls at Chattanooga State after an academic suspension will be placed on post-suspension probation. If the student earns:

1. the cumulative standard, he/she will be in good standing.
2. a 2.0 GPA for that semester but is still below the cumulative standard, he/she will remain on probation.
3. less than a 2.0 GPA for that semester and is still below the cumulative standard, he/she will be placed on a twelve month suspension.

#### Appeal of Academic Suspension

A student may appeal his/her suspension due to a low GPA. Suspension appeal forms, which include the procedures for an appeal, are available in the Career Planning and Counseling Center. Appeals hearings are usually held the first day of registration each semester; other appeals hearings may or may not be scheduled. Students should ask about suspension appeals as early as possible.

If an appeal is granted, the student will be enrolled that semester on a probationary status and must meet the conditions set by the appeals committee. If the conditions are not met, the student will be suspended for one full year.

#### Transitional Studies Suspension (Two-Attempt Rule)

Students who have twice previously attempted a

transitional studies course and failed to meet the minimum standards for progression will be suspended from the College for one semester. (Summer term cannot count as the term of suspension.) Grades of I, E, and WD are considered legitimate exceptions to the Two-Attempt Rule and, thus, do not count as attempts. Students who fail to meet course exit criteria (i.e., grade of A, B, or C) after a third attempt will be suspended for one full year.

#### Appeal of Transitional Studies Suspension

Students suspended from the College because of the Two-Attempt Rule may appeal that decision by meeting with the Chairperson of the Appeals Committee. A letter asking for a hearing and detailing reasons why the suspension should be lifted, along with two letters of recommendation from faculty members and a copy of the student's transcript, should be submitted promptly before the hearing.

#### Industrial Technology Probation/Suspension

Information on Industrial Technology probation/suspension can be found in the "Industrial Technology Programs" section of this catalog.

#### Change of Registration (Drop/Add)

A "Registration and Drop/Add" form is used to add or drop a course, change from one course section to another, or change course registration from credit to audit or from audit to credit. Forms must be submitted to the Admissions and Registration Office for processing. Proper approval is required, as indicated on the back of the form. Students may not withdraw from transitional studies courses except for extraordinary reasons and with special permission from the Director or his/her representative. The Registration and Drop/Add form may not be used to completely withdraw from school. (See "Withdrawal From College.")

#### Deadlines

The student calendar published by the Records Office each semester indicates the deadlines for making various registration changes. The following policies apply:

- Courses dropped during the first two weeks of classes will not appear on the student's transcript.
- A grade of W shall be recorded for course(s) dropped prior to the Drop Deadline, which is not later than two-thirds into the semester.
- If a course is dropped after the Drop Deadline, the student will receive a W in the course(s) passing at the time of withdrawal. However, the student will receive an F in the course(s) failing unless it can be clearly demonstrated that an unusual condition or hardship exists.
- A grade of W shall be recorded for Industrial Technology courses dropped at any point in the semester.
- If a student stops attending class and does not officially withdraw, he/she will receive a failing grade (F) for that course.

#### Change of Status

It is the student's obligation to notify the Records Office of any change in name, address, or major. Failure

to do so can cause serious delay in handling student records and in notification of emergencies at home. Change of Status Forms are in the Records Office. **Note: If mail is returned indicating insufficient address, a registration hold is placed on the student's records until the address is corrected with the Records Office.**

#### Class Attendance

When a student enrolls in a course, he/she obligates him/herself for all the work that may be assigned. Punctual and regular attendance is vital to this obligation. The student is responsible for all assigned work in the course, and absences, excused or unexcused, do not absolve him/her of this responsibility.

The instructor sets the attendance requirements for a class. At the beginning of the term, the instructor will distribute the class attendance policy, including an explanation of grade penalties that result from failure to comply with the policy. An unsatisfactory attendance record may negatively affect the final grade. It is each student's responsibility to know the attendance policy in each of his/her classes.

Unsatisfactory attendance may result in a repayment of any financial aid received. Financial Aid students must attend all classes for which they register. **Note: If a student withdraws on or after the first day of class, but never attends the class, that class will not count when calculating financial aid eligibility and the student's financial aid will be adjusted accordingly.**

All veterans will be reported to Veterans Affairs when they have been excessively absent.

#### Class Cancellation

The College can cancel any class with fewer than the minimum number of students enrolled as set by the institutional guidelines; however, all courses are given the opportunity to make.

#### Classification

A student is a freshman until he/she completes 33 semester hours in college level courses. Transfer credits may be combined with credits earned at Chattanooga State for classification purposes.

#### Co-op Credit

College credit may be earned through Chattanooga State's Cooperative Education program and applied toward graduation, with the following restrictions:

1. Co-op courses may be used as Unrestricted Elective credit in career programs (Associate of Applied Science degree).
2. A course substitution approved by the appropriate dean is required for co-op credit to be used to satisfy degree requirements other than "Unrestricted Elective."
3. Co-op credit may not be used to satisfy General Education requirements.
4. Co-op credit may not be used as elective credit in transfer programs (Associate of Arts or Associate of Science degrees).

## Course Substitutions

Only under unavoidable and exceptional circumstances will the College permit deviation from the prescribed curricula. When needed, the student must complete the appropriate form in consultation with his/her adviser, clearly stating in writing the desired substitution and reason for the request. Course substitutions must be approved by the student's adviser, the appropriate department head and dean, and the Vice President for Academic Affairs.

## Diplomas

Unclaimed diplomas will be held in the Records Office for one (1) academic year after each graduation.

## Grading Policy

Chattanooga State uses a grading system designed to show the level of mastery the student has achieved in a course. Minimum acceptable achievement is what is deemed necessary to enter the next level course or, at the program level, to enter a four-year college, or to be qualified to work in a specific career. The letter grades below are based on documented mastery of a set of specific instructional competencies. The competencies and objectives for each course are listed in the course syllabus.

Letter Grade	Quality Points per semester hour	
A	4.0	Indicates consistently superior performance. Mastery level should be at least 70 for each competency with an average of 90.
B	3.0	Indicates consistently above-average performance. Mastery level should be at least 70 for each competency with an average of 80.
C	2.0	Indicates satisfactory performance. Mastery level should be at least 70 for each competency with an average of 70.
D	1.0	Indicates less than mastery level performance with a minimum of 65 achievement on each competency with an average of 65. A student receiving a grade of D in a particular course is urged to repeat that course if it is a prerequisite for another course in the student's program. <small>Note: Some programs require a grade of C or higher in specified courses.</small>
F	0.0	Indicates failure to achieve minimum standards.
I	0.0	Incomplete. Given at the instructor's discretion to students who have not fulfilled all course requirements at the end of the grading period. The "I" grade counts as an "F", both in computing the GPA and for purposes of satisfying course prerequisites. The deadline for removing an Incomplete is determined by the instructor, but must be no later than two weeks before the end of the next semester. Exception: Candidates for graduation who receive an "I" grade during the semester prior to their final term must remove the Incomplete within the first two weeks of their final semester. <small>Note: If course requirements are not satisfied by the deadline, the "I" grade is changed to "IF" on the student's transcript.</small>

IF	0.0	Incomplete/Failure. Indicates student failed to complete the requirements of a course in which he/she had received an "I" (Incomplete) grade.
W		Withdrawal. Indicates the student has withdrawn from the course. The W grade will not be counted in the GPA.
WD		Withdrawal/Developmental. Indicates the student has been granted special permission to withdraw from a transitional studies course. Such permission is granted by the Director of Transitional Studies, only under extenuating circumstances. The WD grade will not count in the grade point average (GPA) and does not count as an attempt for purposes of the Transitional Studies Two-Attempt Rule.
WP/WF		These grades were used prior to Fall 2001 for students who dropped after the deadline. The WP grade indicates that the student was passing the course at the time of withdrawal and does not count in the GPA. The WF grade indicates the student was failing at the time of withdrawal and is treated as an F in computing the GPA.
E		Extension. Available only for transitional studies courses, the grade of E is given when the course work has not been completed, but the quality of work done has been satisfactory. A maximum of 10 hours of E grades is allowed in any term. An overall maximum of 17 hours of E's is allowed. The grade of E will not be counted in the GPA. A student receiving a grade of E in a particular course is not entitled to use that course as a prerequisite for any course. A maximum of one E will be given in any particular course unless recommended by the appropriate dean. A student repeating a course for which he/she has received a grade of E must register for the course again and pay the regular maintenance fee. Out-of-state students must pay tuition for a repeated course for which they have received an E grade.
AU		Audit. Indicates that the student elected to enroll in the course for no grade or credit. Audits do not replace grades previously issued.
CE		Credit by Examination. This designation is used for both institutional and national examinations, such as AP and CLEP.
CL		Credit for Life Experience. The CL is not counted in the grade point average (GPA).
S/N		Satisfactory/No Credit. The institution may offer selected courses on a competency based grading system. If the student satisfactorily meets the minimum competencies, credit (S) will be awarded. Students not meeting minimum competencies will not receive credit (N).

### Calculation of Grade Point Average (GPA)

Chattanooga State transcripts indicate two grade point averages—a “college only” average and a “combined” average. The college only GPA includes hours taken in college level courses. The combined GPA includes hours taken in college level and transitional studies courses. The college only GPA is used to calculate the GPA required for graduation and to determine honors. The combined GPA is used to determine suspension, probation, eligibility for financial aid, and athletic eligibility.

**Note:** Grades of W, WP, and E are shown on the transcript under the heading of Attempted Hours (AHRS) but are not used in calculating GPA. But, they may affect a student’s financial aid eligibility. They are also considered as attempts under the Transitional Studies Two-Attempt Rule.

### Repeating a Course

For increasing mastery or GPA (and only for these purposes), students may repeat courses in which their final grades are C or lower.

Students may only repeat a course with a B or higher with the approval of the Vice President for Academic Affairs.

When a course is repeated, only the last grade received is calculated in the cumulative GPA. However, if a course is repeated more than twice, the third and all later grades are included in computing the cumulative GPA.

### Appeal of a Grade

Grades assigned by faculty members are final unless there is evidence that the grade was influenced by consideration of race, color, religion, sex, marital status, handicap or national origin, arbitrary or capricious action or other reasons not related to the academic performance of the student. In all cases the complaining student shall assume the burden of proof with respect to the allegations.

### Steps For Appeal of a Grade:

1. The student has thirty (30) calendar days from the day grades were due in the Records Office of the term in which the grade was earned to talk with the instructor and resolve the complaint. If the student cannot meet with the instructor, the student may contact the instructor’s supervisor, who will schedule a meeting between the instructor and the student, unless the instructor is no longer working for the College or is unavailable.
2. If the complaint is not resolved in Step 1, the student may obtain a Student Grade Appeal Form from the Vice President for Student Affairs’ office. The student must present the completed Student Grade Appeal Form to the division dean in which the course was offered within forty-five (45) calendar days from the end of the term during which the grade was received. The division dean will try to resolve the appeal with the instructor and the student within fifteen (15) calendar days of the formal presentation of the Student Grade Appeal Form.
3. If the complaint is not resolved at Step 2, the student has five (5) calendar days to appeal to the Vice President for Academic Affairs, by sending a copy of

the Student Grade Appeal Form and explanation for the appeal, the evidence for the appeal, and any supporting data. The division dean must also forward a copy of all correspondence and records to the Vice President for Academic Affairs. The Vice President for Academic Affairs may use any resources available to resolve the grade conflict within a 21 calendar day period. If the Vice President for Academic Affairs finds the request without merit, he/she will notify the student, the instructor, and the division dean. If the Vice President for Academic Affairs determines the student’s request has merit, he/she will refer the student to the Academic Appeals Committee.

4. The written request for a hearing before the Academic Appeals Committee shall state the facts of the appeal. The committee shall notify the student, the instructor, the Vice President for Academic Affairs, and the President of Chattanooga State of the time and location of the hearing. The Academic Appeals Committee shall function as a review board. Acting on behalf of the President, and after thorough review of the case, the Committee shall make the final decision. It shall have the power to allow the assigned grade to stand, be raised, or lowered. Its decision must be formally announced to all parties. The time schedule allowed for completion of the action by the Committee shall be 21 calendar days.

Pending resolution of the appeal, the grade stands.

## Graduation Requirements

### Application and Fee

A student must submit an application for degree or certificate (technical or Industrial Technology) and pay the application fee by the designated deadline before he/she can be considered as a candidate for a degree or certificate. The graduation application fee is charged for each degree or certificate.

Students who complete graduation requirements during the summer semester may participate in the commencement exercises during the spring of that year. The same application for graduation deadline applies.

### Applicable Catalog

A student may obtain a degree or certificate based on the requirements in the catalog in force when he/she entered the College or under a later catalog in effect for any term he/she is enrolled. However, a student can only use one catalog.

**Time Limitation.** Counting from the first term covered by the catalog, requirements for associate degrees and technical certificates remain in effect for a period of five years and Industrial Technology certificates for two years.

### Double Degree

A student may earn, simultaneously or consecutively, multiple degrees only when the majors completed lead to different degrees, e.g., one leads to the AAS and the other to the AS. All requirements for both degrees must be met, and the student must complete at least 20



semester hours not included for the first degree. The cumulative grade point average (GPA) for all college-level work must be 2.0 or higher.

#### Double Major

A double major is the completion of two or more majors leading to the same degree. (At Chattanooga State, double majors are available only in AAS degree programs.) All requirements for each major must be met. The second major must include at least 20 hours not applied to the first major. The cumulative grade point average (GPA) for all college level work must be 2.0 or higher.

**Note:** Graduation with two or more concentrations in the same major is not considered a double major (see below).

#### Double Concentration

Students may complete more than one concentration in the same major; however, both concentrations must be completed at the same time to be listed on the diploma or transcript. Students with a degree in one concentration can take courses for an additional concentration, but that concentration will not be formally recognized on the transcript nor will a new diploma be issued. However, the courses themselves will appear on the transcript and the department offering the program may issue a letter verifying that the student has completed the requirements for the extra concentrations(s).

#### Degree/Technical Certificate

Students may receive both a degree and a Technical Certificate by completing all requirements listed in the SUMMARY OF REQUIRED HOURS for each. A cumulative college level grade point average is required for both the degree (all credits attempted) and in the courses required for the certificate.

#### Double Certificate

All requirements for both Technical Certificates must have been met and at least one-third of the hours required for the second certificate must not have been required for the first certificate. The cumulative grade point average (GPA) in courses required for each certificate must be 2.0 or higher.

#### Grade Point Average

**Associate Degree**—The cumulative grade point average (GPA) for all college level work must be 2.0 or higher.

**Technical Certificate**—The cumulative grade point average (GPA) in courses required for the certificate must be 2.0 or higher.

#### Graduation Residency Requirements

**Associate Degree**—The final twenty (20) semester credit hours before graduation must be completed at Chattanooga State. (Only credits earned in college level courses apply toward satisfying this requirement.)

**Note:** Credit hours accumulated as a Special Student are not applicable to the final twenty-four (24) semester hours required for an associate degree.

**Technical Certificate**—All required hours for a technical certificate must be completed at Chattanooga State with the exception that a maximum of three (3) semester hours transferred from another institution of higher education or three (3) semester hours of Credit for Life Experience may be applied toward the certificate.

**Industrial Technology Certificate**—Credit for students in Industrial Technology programs may be given for previous education or training as determined by the instructor and approved by the Vice President for Academic Affairs at the time of the student's initial enrollment.

## Exit Testing

All degree candidates are required to test for general achievement. Major testing may also be required in selected fields. These tests are used to evaluate Chattanooga State's academic programs. Exit testing must be completed before the Records Office can post the degree or issue a diploma. Until the degree is posted, a student is not considered to have graduated.

## Indebtedness

Students should pay off any debts to the College as soon as possible. No diploma, certificate, or academic transcript will be issued to a student who has not settled outstanding College debts with the Vice President for Business and Finance. A student may be prohibited from attending classes or taking final examinations after the due date of any unpaid obligation.

## Industrial Technology Certificate/AAS Degree Articulation

See the "Industrial Technology Programs" section for details.

## Privacy Rights of Students

### A. Definitions

*Educational Records.* Those records, files, documents, and other materials which (1) contain information directly related to a student, and (2) are maintained by Chattanooga State or by a person acting for the College. Educational records do not include (1) personal notes, (2) records available only to law enforcement personnel, (3) employment records.

*Student.* Any person who is or has been enrolled at Chattanooga State. Wherever "student" is used in reference to personal rights, an eligible parent of a dependent student has similar rights. This "eligible" parent is one who has satisfied Section 152 of the Internal Revenue Code of 1954, and who presents proof of such to the Records Office. Normally, this will be a written affirmation by the student and the parent declaring that the student is a dependent for Federal Income Tax purposes.

*Directory Information.* The student's name, address, telephone listing, e-mail address, photograph, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student. At the time the student registers for courses, the student may notify the Records Office, in writing, that directory information for that student may not be released. This notification must be received within ten (10) days of registration.

*Access.* To have access to an educational record is to be allowed to see the original record. It also implies the right to obtain copies of that record.

### B. Release of personally identifiable student educational records

Chattanooga State shall not permit access to, or the

release of any information in the educational records of any student that is personally identifiable, other than directory information, without the written consent of the student, to any party other than the following:

1. Chattanooga State officials and staff who have legitimate educational interests, including the support of honor societies and academic excellence.
2. Officials of schools in which the student seeks admission.
3. Appropriate persons in connection with a student's application for, or receipt of, financial aid.
4. Federal or State officials as defined in paragraph 99.31 of the regulations concerning this law.
5. State and local officials authorized by state statutes.
6. Organizations or persons conducting studies for, or on behalf of Chattanooga State for the purpose of assisting in accomplishing the College's stated goals, when such information will be used by such organizations or persons and subsequently destroyed when no longer needed for the intended purpose.
7. Accrediting organizations, to carry out their functions.
8. Parents of a student as defined in section 152 of the Internal Revenue Code of 1954 (written consent may be allowed from either of these separated or divorced parents subject to any agreement between the parents or court order). In the case of a student whose legal guardian is an institution, a party representing that institution may have access to the records.
9. In compliance with judicial order or subpoena, providing that student is notified in advance of the compliance.
10. Appropriate persons in connection with an emergency if such knowledge is necessary to protect the health and safety of a student or other persons.

**Note:** With the exception of Chattanooga State officials and staff who have been determined by the College to have legitimate educational interests, all individuals and agencies who have requested or obtained access to a student's record will be noted in a record which is kept with each student's educational record. A request must be in writing stating the purpose of the request. This record will also indicate specifically the legitimate interest that the person or agency had in obtaining the information.

### C. Procedure for Accessing Educational Records

The student requests the custodian to allow him/her to pursue the educational record. The student may ask for an explanation and/or a copy of the given educational record. After consultation with the custodian, errors may be corrected at that time by that custodian. Thereafter, if the student believes the record to be accurate in content, he/she should acknowledge with his signature and the date; if the student believes the record content to be inaccurate, he/she then may submit a request for an informal hearing before the Appeals Committee. The request, and the challenge, must be presented in writing to

the Records Office which will request a meeting of the Appeals Committee. The Appeals Committee Chairperson will acknowledge receipt of the challenge and notify the student of time and place for the first meeting convenient to the student. The Appeals Committee will convene with the student within forty-five (45) days from the date of the request allowing the student to present relevant evidence, and allowing the student to be represented by an individual of his/her choice at his/her own expense, including an attorney if so desired. The student will be afforded all of his/her rights under Due Process as delineated in the Student Handbook. The decision rendered by the Appeals Committee shall be based solely upon the evidence presented at the hearing. The decision must include a summary of the evidence and the reasons for the decision.

**Note:** This procedure does not provide for a hearing to contest an academic grade.

#### **D. Right of Access Does Not Include:**

1. Financial records of parents or any information therein.
2. Confidential letters and statements of recommendation which were placed in the educational records prior to January 1, 1975.
3. Records to which access has been waived by the student. (This applies only if a student, upon request, is notified of the names of all persons making confidential recommendations and, if such recommendations are used solely for the purpose they were intended.)

**E. Educational Records** may be destroyed except that a student shall be granted access prior to destruction if such is requested.

#### **F. Complaints**

Students have the right to file a complaint with the U.S. Department of Education concerning alleged failures by Chattanooga State to comply with the requirements of FERPA. The name and address of the Office that administers FERPA are:

Family Policy Compliance Office  
U.S. Department of Education  
600 Independence Avenue, SW  
Washington, DC 20202-4605

#### **Probation/Suspension**

See “Academic Retention Standards” in this section.

#### **Retention of Records**

The Records Office is required to maintain certain student records permanently. However, Registration and Drop/Add forms and Transcript requests will be maintained for only one year.

#### **Transcripts**

An official Chattanooga State transcript will be sent to another institution or organization upon a student's written request. Unofficial transcripts are available in the Records Office with proper identification. There is no fee for this service.



#### **Transcript Evaluations**

The College accepts transfer credits from other colleges. Transcripts are evaluated after official copies are received from EACH institution a student attended. A grade of “D” or higher is required. Transfer credits are not used in computing a student's GPA at Chattanooga State, but are counted in Earned Hours.

Credits from non-regionally accredited institutions may be evaluated on an individual basis (contact the Records Office for a “Petition of Transfer Credit” form) or may be validated by examination (See “Alternative Sources of Credit” for information on credit by exam).

Official evaluation for degree-seeking students will be completed prior to the end of the first semester of enrollment if all admission requirements are complete. **Note:** A maximum of three (3) semester hours of transfer credit may be applied toward a technical certificate.

#### **Withdrawal from College**

A release from enrollment from all classes becomes official only after completing an official withdrawal form in the Records Office. Failure to attend class or discontinued attendance is NOT considered an official withdrawal. Not withdrawing officially will cause a student to fail and could jeopardize later re-enrollment.

The consequences of completely withdrawing from school depend on when the student withdraws. For more information, see “Change of Registration (Drop/Add).” For specific deadlines, see the Records Office's student calendar.

## Financial Information

### Fee Policy

All fees are due when the student registers or pre-registers. Registration is not complete until fees are paid or when the initial minimum payment under the deferred payment plan has been paid. The Tennessee Board of Regents can change fees. Fees for 2000-01 were as follows.

### Fee Schedule

Estimated fee schedule per academic semester for credit students:

	In-State	Out-of-state*
<b>Cost Per Semester Hour</b>		
Maintenance Fee	\$ 56.00	\$ 56.00
Tuition		168.00
<b>Total Per Semester Hour</b>	<b>\$ 56.00</b>	<b>\$ 224.00</b>
<b>Maximum Charge</b>		
Maintenance Fee	\$647.00	\$ 647.00
Tuition		1,938.00
<b>Maximum Maintenance &amp; Tuition Per Student</b>	<b>\$647.00</b>	<b>\$2,585.00</b>

\*Out-of-state residents who work full-time in Tennessee may attend classes part-time at in-state fee rates, upon completion of an out-of-state employment form. **This form must be completed for each term of enrollment before registering for classes.**

Note: The regular maintenance fee and tuition, not to exceed the maximum, will be charged for repeating a course for which a grade of "E" has been received in a previous term.

Estimated fee schedule per academic semester for Industrial Technology Division students:

Full-time—\$357 Part-time—\$213

### Fees Charged in Addition to Maintenance and Tuition

**Application Fee**—\$10. Paid one-time.

**Changes of Course or Section Fee**—\$5 per form.

**Credit by Examination Fee**—The regular course fee is charged for each special examination before the test.

### Credit for Life Experience Fees

- Assessment Fee—\$45
- \$15 per credit hour in excess of 3.0 credit hours. \$90 maximum.

**Graduation Fee**—\$25.

**Placement Test Fees**—ACT - \$19.

**Handicapped Parking Violation**—\$100.

**Parking Violations**—\$10.

**Campus Access Fee**—\$6.

**Student Activity Fee**—\$12.

**Special Course Fees**—If the College must pay for special facilities, those costs will be assessed as a laboratory fee.

**Private Music Fee**—\$55 per semester hour.

**Technology Access Fee:**

- For credit courses: \$5 per credit hour or a maximum of \$62.50 per semester.
- For Industrial Technology courses: \$42 for fall semester; \$41 per semester for spring and summer.

**VIP Fee**—\$5 per video class.

**Late Registration Fee**—\$10.

**ID Card Replacement Fee**—\$2.

**GED Testing Fee**—\$25.

### Refund Policies

Students who officially withdraw from school entirely, full-time students who drop to part-time, or part-time students who drop one or more classes may get a refund.

100% of fees are refunded for (1) drops or withdrawals before the first day of class, (2) cancelled classes, and (3) the death of a student during the term.

75% of fees are refunded for drops or withdrawals during the first 14 calendar days of a term or within an equivalent period for a short term course.

25% of fees are refunded for 25% of a term following the 75% period. No refunds will be made beyond the 25% period.

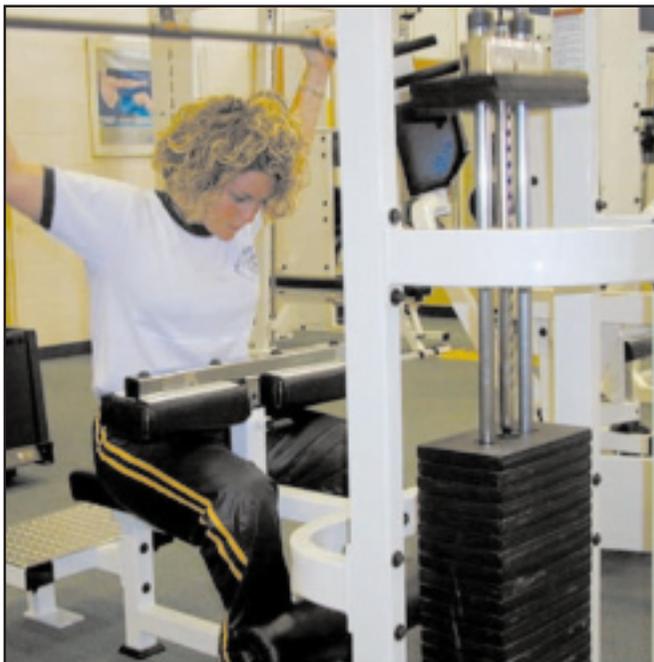
The Vice President for Academic Affairs may make an exception to these policies. Requests for exceptions should be submitted in writing, along with supporting documentation, directly to the Vice President for Academic Affairs or his/her designee.

**STOPPING PAYMENT ON A CHECK DOES NOT CONSTITUTE PROPER WITHDRAWAL**

### Dishonored Checks

Checks tendered in payment of fees are normally deposited immediately by the College and should be drawn only against accounts with sufficient balances. Every effort will be made to collect on checks dishonored for any reason. A \$20 fee will be charged for dishonored checks.

**A STUDENT IS NOT REGISTERED UNTIL ALL FEES ARE PAID**



## Financial Aid

The Financial Aid Office helps students pay for college. Eligibility for financial aid is based on financial need, availability of funds and the ability to maintain satisfactory academic progress. To qualify a student must:

- Have a high school diploma, a GED, a certificate of completion of a home study program recognized by the state of Tennessee, or, for Industrial Technology students, pass an ability to benefit test;
- Be a U.S. Citizen or permanent resident;
- Submit the Free Application for Federal Student Aid (FAFSA) to determine financial need;
- Be accepted for admission or currently attending Chattanooga State;
- Be enrolled in an approved degree or certificate program;
- Submit all verification documents as requested by the Financial Aid Office;
- Meet Chattanooga State's satisfactory academic progress standards for financial aid recipients;
- Not be in default on a Federal Student Loan or owe a repayment on a Federal Pell Grant;
- If male and born after 1959, be registered with Selective Service;
- Have a valid Social Security Number.

Students may be eligible for financial aid through any or all of the following sources:

- Chattanooga State Academic Performance Scholarships are for entering in-state full-time freshmen who graduated in the upper 25% of their senior class with at least a 2.9 GPA. Some continuing students are also eligible.



- Chattanooga State Foundation Scholarships are available in various academic areas. For specific information, obtain an application for Chattanooga State Foundation Scholarships from the Financial Aid Office.
- Minority Grants are for first-time African American and Native American freshmen with at least a 2.0 high school GPA. Currently enrolled, continuing, and transfer students may also be eligible.
- Other scholarships are available for students based on academic excellence, leadership, and other outstanding qualities.
- Federal Pell Grants are for students with financial need who are enrolled in an eligible program and who do not have a bachelor's degree.
- Federal Supplemental Educational Opportunity Grants (FSEOG) are for students with exceptional financial need who are enrolled in an eligible program and who do not have a bachelor's degree.
- Tennessee Student Assistance Awards (TSAA) are for Tennessee students with demonstrated need who are enrolled or accepted as a student at an eligible Tennessee institution.
- Federal Work Study Programs are for at least half-time students who are eligible to work on campus.
- Federal Subsidized Stafford Loans are for at least half-time students who are maintaining satisfactory progress.
- Federal Unsubsidized Stafford Loans are for middle-income borrowers who do not qualify for federal interest subsidies under the Federal Stafford Loan program.
- Federal Plus Loans are for the parents of at least half-time students.
- Institutional Work Programs are for students who work on campus, but not through the Federal Work Study Program.
- Veterans Benefits are for students who have served on active duty and for the children and/or spouses of disabled or deceased veterans whose disability or death was service-connected.
- Military Assistance is for students serving in the Armed Forces.
- Vocational Rehabilitation is for eligible students with occupational handicaps.
- Employment Benefits are for students who get financial assistance or tuition reimbursement from their employers.

## Financial Aid Refund and Repayment Policies

Chattanooga State and the Title IV Financial Aid Programs consider 6–8 credit hours as half-time, 9–11 credit hours as three-quarter time and 12 credit hours or more as full-time. Financial aid monies will be adjusted through the 7th calendar day of the term. If a student drops a class during this time, he/she may be required to repay Federal Pell grant awards given for the dropped class. If a student adds a class during this time, Financial Aid may adjust Pell grant awards for this class. After this time period, adjustments will not be made.

### Return of Federal Title IV Funds

All students receiving Title IV Funds may be required to repay a portion of their financial aid funds based on the federal repayment formula should they withdraw from classes.

### Satisfactory Academic Progress Standards

Federal regulations require a policy measuring the qualitative standards, quantitative standards, and time frame of degree completion for all Title IV financial aid recipients. Satisfactory progress is reviewed and monitored when grades are posted each semester. Satisfactory academic progress standards are outlined below.

#### Degree Seeking Students

##### Qualitative Standards

Financial aid recipients must maintain the following cumulative grade point average:

Cumulative Quality Hours	Required Quality GPA
0.0 – 14.0	No Minimum
14.1 – 26.0	1.4
26.1 – 33.9	1.7
34.0 and above	2.0

If the student's Quality GPA is below the minimum, then the student will be ineligible for financial aid until his/her GPA is raised to this level.

##### Quantitative Standards

Students must successfully complete at least 67% of all credit hours attempted, based on passing grades. A student who is unsuccessful in completing 67% of the semester credit hours attempted will be reviewed for cumulative percentage. If a student's cumulative percentage of completed courses is below 67%, the student will be ineligible for financial aid until the 67% completion rate is obtained.

##### Time Frame

Students may ATTEMPT 1.5 times the number of credit hours needed to complete their degree, excluding transitional studies, and still be eligible for financial aid. Attempted hours include I's, E's, F's, W's, WP's, WF's, and audits. This is a combined total of all credit hours attempted.

Time frame for transfer students will be evaluated according to the hours transferred into the institution, as well as credit hours attempted at Chattanooga State.

Time frame for students seeking a second associate degree is determined by the 1.5 times the number of credit hours rule. Hours from the first degree will be counted as attempted hours in the second degree program.

Students reaching the maximum time frame in a semester will receive financial aid for hours enrolled in that semester only. They will need to complete the appeals process to receive financial aid in any future semesters.

#### Industrial Technology Students

Industrial Technology Division students seeking Financial Aid must have a high school diploma, a GED, or pass the Ability to Benefit Test.

### Qualitative Standards

The student must receive an S (satisfactory) in programs graded on progress. Students in programs with letter grades must receive passing grades. A grade of U (unsatisfactory), W (complete withdrawal), or F (failing) makes a student ineligible. Students must be enrolled for at least 30 clock hours per week to get financial aid.

### Quantitative Standards

Chattanooga State Industrial Technology programs count as one academic year in length (except Cosmetology).

Industrial Technology students must complete 91% of the enrolled hours to remain eligible for later financial aid payments. Unexcused absences exceeding 9% must be made up before the student can receive future financial aid.

### Time Frame

The maximum time frame for an Industrial Technology student to receive financial aid is 1.5 times the number of clock hours needed to complete a certificate.

### Appeals

Financial aid termination can be appealed in writing to the Financial Aid Appeals Committee, which meets before classes begin and throughout the semester as needed. Students are encouraged to submit, in writing, any significant circumstances that would effect their ability to make satisfactory academic progress. Consideration will be given to a student's illness or hospitalization, death in family, or other exceptional circumstances. The student should receive written notification of a decision within two weeks.

Any approved appeal is good for one semester. The Financial Aid Appeals Committee's decisions can be appealed to the Vice President for Student Affairs.



## Adult Education/GED

Chattanooga State conducts day and evening Adult Education/GED classes on the main campus and throughout the community for anyone 17 or older. All classes have individualized instruction.

The program includes:

- Adult Education/GED computerized instructional lab.
- English as a Second Language (ESL) classes.
- GED practice tests.

## Business and Community Development Center

The Business and Community Development Center offers a wide range of services, including personal interest continuing education classes, short-courses, teleconferences, certification classes, and customized skills training delivered on-site to business and industry. It also provides job profiling and analysis, skill assessment, and WorkKeys skill development training for area employers. WorkKeys helps employers match employee skills to those required for satisfactory performance in specific jobs. Once skills gaps are identified, Chattanooga State can deliver training programs to help bridge them.

## Career Planning and Counseling Center

Confidential personal, career, and academic counseling is available to help students define and achieve their goals and succeed in college. Services include individual and group counseling, crisis intervention, tutoring, issue-related workshops, support groups, "How to Learn" workshops, transitional studies advising, drug awareness activities and information about self-help groups. Career counseling resources include group and individual career counseling, career inventories and interpretations, a career library, workshops for people returning to college or enrolling for the first time; and support groups for various types of students.

## Chattanooga State Magazine

- The finest laboratory in America for students pursuing careers in journalism, graphic arts, advertising, public relations and related fields!
- A bold, informative, exciting and unique publication of Chattanooga State
- The first city magazine of a college or university anywhere
- A launchpad for college and community initiatives



*Rick Owens Photography*

## Child Development Center

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The Child Development Center serves Chattanooga State employees and students on a space-available basis. The Center also serves as a demonstration/observation area for Early Childhood Education, Psychology, Nursing, and Allied Health programs. Monthly fees are charged for participation.

## Disabilities Support Services

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Disabilities Support Services (DSS) serves as a liaison and an advocate for students with disabilities. Students must self-identify and provide appropriate documentation of a disability. DSS staff work individually with the student to discuss accommodations and/or modifications in the classroom or for college-sponsored activities. Students with disabilities **may** receive a wide range of support including adaptive computer equipment, notetakers, use of tape recorders, test modifications, interpreters, readers and scribes. In general, these services are provided at no cost to the student.

## Distance Education Program

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The Distance Education Program offers many courses needed for degrees and certificates. Students can take the courses by Internet, video, or traditional correspondence. These courses have the same content and transferability as on-campus courses. The Distance Education Internet address is <http://de.cstcc.cc.tn.us>.

Not-for-credit distance education courses are also available.

## Library Services

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The Augusta R. Kolwyck Library is on the Instructional Materials Center's first floor, with a branch at Chattanooga State East. Chattanooga State West students use the Jasper Public Library, while Chattanooga State North students use Bryan College's Library.

Holdings include 73,500 books, 520 magazine subscriptions, 5,200 videotapes, and 1,000 recordings. The staff provides individualized and classroom instruction on research for students, faculty, and staff.

Students can print or download from any of the library's magazine and journal databases, the catalog, and the Internet. The library's catalog and other resources can be searched through the Internet site at <http://library.cstcc.cc.tn.us/> or <http://cstcc.library.chattanooga.org/library/>.

The library is open to everyone. Students use their Chattanooga State picture I.D. cards to check out books. Residents of Tennessee, North Georgia, or Northeast Alabama with a current driver's license may apply for a Chattanooga State library card.

## Orientation, Advisement and Retention

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The Orientation, Advisement and Retention (OAR) office helps students adjust to college, provides professional advisers to assist in developing an educational plan and registering for classes, and implements retention strategies.

## Placement and Cooperative Education

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The Placement and Cooperative Education Center links students and alumni with employers through job placement services and the Cooperative Education program. Cooperative Education allows students to obtain work experience while attending college by combining on-campus study with a planned, supervised and paying work experience related to the student's field of study. Information on resumé writing, interviewing skills, job search techniques and placement assistance is available for current students and alumni.

## Small Business Development and Resource Center

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Chattanooga State, with area partners, operates a Small Business Development and Resource Center. The Center promotes entrepreneurial education, supports small business start-ups, and provides access to capital. It enhances small businesses through counseling, planning assistance, the First Tennessee Small Business Computing Center, a comprehensive resource library, the TVA Small Business Video Center, seminars, and courses.

## Testing Center

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The Testing Center offers regularly scheduled tests, tests by special appointment, and unscheduled tests.

### Regularly Scheduled Tests

- ACT Residual Test
- Career Abilities Placement Survey (CAPS)

### Tests by Special Appointment

- California Achievement Test for LPN Program
- College Level Examination Program (CLEP)
- COMPASS
- Dental Assisting National Board
- General Educational Development (GED)
- National League for Nursing (LPN Mobility)
- National League for Nursing (RN Program)

### Unscheduled Exams

- Make-up Exams
- Exams for Distance Education Courses
- COPS Career Inventory
- Myers Briggs
- 16 PF Personality Profile
- Strong Interest Inventory

## Transitional Studies

The Transitional Studies Program offers foundation courses in English, mathematics, reading and Psychology of Learning for students who need additional preparation for college level courses.

Transitional Studies Policies and Procedures:

- COMPASS testing is required in order to take a transitional studies course. This applies to special, transfer and transient students, to students with revised placement from a college-level to a transitional studies course, to students who elect to take a transitional studies course, as well as to students who are required to take the COMPASS exam as part of the admission process. Students who have taken the COMPASS exam at another TBR institution must have their test scores and transcript sent to the College.
- Students with transitional studies requirements must enroll in transitional studies courses until all transitional studies requirements are completed. Students carrying a full course load must include at least two of their required transitional studies courses. Part-time students taking as many as eight credit hours must take at least one course of their transitional studies requirement.
- Students may not withdraw from a transitional studies course except for extraordinary reasons and with special permission from the Transitional Studies Director. If permission is granted, the student will receive a grade of WD and the course will not count

as an attempt under the Two-Attempt Rule. Students denied permission to withdraw may appeal.

- Two-Attempt Rule—Students who have tried a Transitional Studies course twice and received a W or F will be suspended from the College for one semester. (Summer term cannot count as the term of suspension.) Grades of E, I, and WD are considered legitimate exceptions to the Two-Attempt Rule and do not count as attempts. Students who do not earn an A, B, or C after a third attempt will be suspended for one full year. A student may appeal.
- If a student has made progress in a particular course but has not completed all competencies by the end of the semester, he/she may qualify for an E (Extension) grade.
- Instructional labs provide tutoring and supplementary materials.
- Credit hours earned for transitional studies courses do not satisfy the requirements for an associate degree.
- Students receive mid-semester reports showing their progress in transitional studies courses.
- DSPS 0800, Psychology of Learning, is mandatory for students who place into two subjects at the remedial level or three subjects at the remedial and/or developmental level. It is optional for students who place into two subjects at the developmental level or one subject at each level. Students placing into only one transitional studies subject (any level) need permission from the program director to take DSPS 0800.



## Course Listing By Subject Abbreviation

The following is a list in alphabetical order of Chattanooga State courses by subject abbreviation code. For example, ENGL=English, FI=Fire Science and WD=Welding.

In the following section, courses taught by Chattanooga State are listed in alphabetical order by subject name, not alphabetically by their abbreviation code. For example, the course titled "AA 109 Production Art" is listed under the subject area of "Advertising Arts," not under AA.

If you know the course number, but not the name of the subject area in which it is taught, use the chart below to locate the subject name.

Courses numbered 000 or 0000 are Industrial Technology (vocational) courses and carry clock-hour credit.

Course numbers beginning with 0 (e.g. 0700) are transitional studies or other remedial-type courses.

Course numbers beginning with 1 (e.g. 101, 1010) are freshman level.

Course numbers beginning with 2 (e.g. 201, 2010) are sophomore level.

AA	Advertising Arts	ET	Engineering Technology	MT	Machine Tool Technology
AB	Auto Body Repair	EZ	Electrical/Electronic Engineering	MUS	Music
AC	Air Conditioning and Refrigeration		Technology (DuPont)	MY	Mammography
AM	Automotive Technology	FC	Freshman Orientation	MZ	Mechanical Engineering Technology (DuPont)
ART	Art	FI	Fire Science	ND	Dietary Manager
ASTR	Astronomy	FM	Financial Management	NM	Nuclear Medicine Technology
AV	Aviation	FP	Financial Planning	NS	Nursing (RN)
BIOL	Biology	FREN	French	NU	Health Physics
BK	Banking	GEOL	Geology	NW	Network Management
BU	Accounting	GERM	German	OF	Office Systems Court Reporting
CD	Commercial Truck Driving	GO	Geography	OM	Medical Office Management
CHEM	Chemistry	HE	Health Information Management	OP	Opticianry Management
CI	Civil Engineering Technology		Medical Transcription	OR	Surgical Technology
CO	Mass Communications	HIST	History	OS	Occupational Safety
CP	Cooperative Education	HM	Hospitality Management	PC	Pharmacy Technician
CS	Information Systems	HP	American Sign Language Studies	PE	Physical Education (General Courses)
CT	Chemical Technology	HR	Human Services	PHED	Physical Education (Activity Courses)
CY	Cosmetology	HS	Health Science	PHIL	Philosophy
DA	Dental Assisting	HUM	Humanities	PHYS	Physics
DD	Computer-Aided Design Technology	HZ	Hazardous Materials	PO	Political Science
DF	Technical Drafting	ID	Industrial Maintenance Mechanics	PSCI	Physical Science
DH	Dental Hygiene	IE	Industrial Electricity	PT	Physical Therapist Assistant
DM	Diesel Equipment Mechanics	IH	Industrial Hygiene	PY	Psychology
DSPM	See "Mathematics"	IM	Industrial Management	QA	Quality Technology
DSPR	Reading	IS	Insurance	RC	Respiratory Care
DSPS	See "Psychology"	IY	Interdisciplinary Studies	RI	Renaissance Institute
DSPW	See "English"	JS	Job Skills Development	RS	Real Estate
EA	Emergency Medical Services	LA	Legal Assisting	RT	Radiologic Technology
EC	Economics	LM	Landscaping and Turf Management	SA	Plant Systems Administration (BOMA)
ECED	Early Childhood Education	LP	Practical Nursing (LPN)	SE	Marine Engine Technology
ED	Education	MATH	Mathematics	SO	Sociology
EE	Electrical/Electronic Engineering Technology	MD	Mechanical Engineering Technology	SP	Speech
EG	Engineering Transfer (Pre-Engineering)	MG	Management	SPAN	Spanish
ENGL	English	MN	Maintenance Technology	THEA	Theatre
EP	Electric Lineman	MO	Medical Office Assisting	TM	Tomography
ER	Industrial Electronics			US	Diagnostic Medical Sonography
ESC	Environmental Science			WD	Welding



**Accounting****BU 110 Business Tax Reporting (3) (S)**

Surveys local, state, and federal tax regulations for proprietorships, partnerships, corporations and nonprofit organizations; includes payroll, business, excise, and sales taxes. Prereq: BU 115, 185; or instructor's consent.

**BU 114 Principles of Accounting I (4) (F,S,Su)**

Intro to the principles, practices and techniques of accounting; emphasis on basic functions for proprietorship and partnership.

**BU 115 Principles of Accounting II (4) (F,S,Su)**

Continuation of BU 114; emphasis on partnership, corporation and managerial accounting and analysis of financial statements. Prereq: BU 114.

**BU 173 Business Law I (3) (F,S,Su)**

Intro to business law; emphasis on principles of law governing contracts, sales and agency.

**BU 175 Business Law II (3) (F,S,Su)**

Continuation of BU 173; emphasis on business organizations, property laws, commercial paper, secured transactions, and business legal environment. Prereq: BU 173.

**BU 185 Federal Taxes I (3) (F)**

Study of individual income tax; includes issues in form preparation such as tax credits, tax rates, capital gains and losses, and personal deductions.

**BU 186 Federal Taxes II (3) (S)**

Continuation of BU 185; studies corporations, partnerships, estates, trusts, withholdings and estimated taxes. Prereq: BU 185. Coreq: BU 115.

**BU 201 Accounting Internship (3) (S)**

Work experience in career specialties related to accounting technology; 9 hours/week at approved local business without compensation.

**BU 204 Intermediate Accounting I (3) (F)**

Study of theory and structure of financial statements; emphasizes generally accepted accounting principles. Prereq: BU 115.

**BU 205 Intermediate Accounting II (3) (S)**

Continuation of BU 204. Prereq: BU 204.

**BU 224 Cost & Budgeting (3) (F)**

Study of cost accounting principles and procedures using accounting as managerial tool; emphasis on cost determination methods. Prereq: BU 115.

**BU 233 Auditing (3) (S)**

Intro to independent and internal auditing; auditing philosophy and objectives, generally accepted auditing standards and procedures, and independent auditors' professional code of ethics. Prereq: BU 204.

**BU 240 Practical Accounting Applications (3) (F)**

Practical and technical emphasis; exposure to specialized areas including special management reports, not-for-profit accounting, calculator use and applications, overview of practical statistical application, and management techniques. Prereq: BU 115.

**BU 250 Accounting Information Systems I (3) (F)**

Core concepts in using commercial application software in accounting information systems; integrates software application projects with course topics; experience with computer applications required. Prereq: BU 115.

**BU 251 Accounting Information Systems II (3) (S)**

Continuation of BU 250; internal controls as they relate to EDP; systems for managerial planning decision-making; integrates software application projects with course topics. Prereq: BU 250.

**BU 255 Professional Review in Accounting and Taxation (3) (S)**

Condensed professional review of financial/managerial accounting and income taxation topics. Prereq: BU 114, 115, 185, 204, 224. Coreq: BU 205.

**BU 297 Special Topics in Accounting I (1) (on demand)**

Study of selected accounting and related topics of current and special interest. Prereq: BU 115 and/or faculty consent.

**BU 298 Special Topics in Accounting II (2) (on demand)**

Study of selected accounting and related topics of current and special interest. Prereq: BU 115 and/or faculty consent.

**BU 299 Special Topics in Accounting III (3) (on demand)**

Study of selected accounting and related topics of current and special interest. Prereq: BU 115 and/or faculty consent.

**Advertising Arts****AA 106 Design (4) (F)**

Intro to visual elements and principles of 2-dimensional design; space, balance, line, shape, texture, value, color, contrast, emphasis and rhythm, geometric and organic form.

**AA 107 Illustration I (3) (S)**

Advanced drawing dealing with rendering 3-D forms within the advertising context; study of linear perspective, isometric and human figure indication drawing systems for advertising; line art, black and white, and color media. Prereq: Instructor's consent.

**AA 108 Advertising Concepts (3) (F)**

Intro to creative problem solving; study of verbal and graphic communication; methods of idea/concept and content generation; focus on strong visuals, basic copy writing and presentation skills. Prereq: Instructor's consent.

**AA 109 Production Art (4) (F)**

Intro to the basic skills of production artists through simulated on-the-job work projects; study of the tools of the trade, craftsmanship, history; covers both traditional and digital production methods.

**AA 116 Typography (4) (S)**

Intro to terminology, technology and design aspects of typography and visual communication; topics include typographical anatomy, type characteristics, basic digital textual layout. Prereq: AA 106, 109; or instructor's consent.

**AA 190 Photography for Designers I (3) (F)**

Intro to basic equipment, techniques, processes and terminology/nomenclature of still photography as applied to advertising; emphasis on imagery for advertising design and layout. Prereq: AA 106, 108; or instructor's consent.

**AA 209 Graphic Design I (4) (F)**

Intermediate creative problem solving; application of design principles and techniques to

poster, logo/trademark and ad design. Prereq: AA 106, 108, 116. Coreq: AA 245 or instructor's consent.

**AA 210 Graphic Design II (4) (S)**

Advanced creative problem solving; basic identity design, collateral design, typography as a major design element; audience, deadlines, and production addressed. Prereq: AA 209, 245. Coreq: AA 246 or instructor's consent.

**AA 215 Advertising Design I (3) (F)**

Intro to advertising design; study of basic tools, terms and kinds of advertising art; design process from conception to prepress production; incorporation of design tools for clients' specific needs. Prereq: Instructor's consent.

**AA 217 Advertising Design II (3) (S)**

Advanced problems in ad design; creation of ad campaigns incorporating the mass media; individual projects for portfolios to include computer and layout techniques. Prereq: Instructor's consent.

**AA 218 Airbrush Illustration (3) (S)**

Intro to the airbrush as important medium in illustration and photo retouching; covers preparation, frisket and shield use, maintenance and handling techniques.

**AA 219 Illustration II (4) (F)**

Study of illustration concepts as self-expression; mastery of variety of techniques; all illustration forms discussed; professional orientation with industry-related problems and deadlines. Prereq: Instructor's consent.

**AA 221 Design Internship (3) (F,S,Su)**

On-the-job training in ad design, graphic design, illustration or related commercial art with area business or industrial firm; lab 9 hours. Prereq: Faculty adviser's approval.

**AA 222 Portfolio (2) (S)**

Visual presentation techniques; editing, formatting, organizing, presenting the professional design portfolio; oral exit exam with select panel of design professionals; preparation for entry into job market.

**AA 245 Computer Applications for Graphic Design (3) (F)**

Intro to computer (digital) image generation basics, digital page layout and electronic mechanicals. Prereq: AA 106, 108, 109, 116, CS 190; or instructor's consent.

**AA 246 Computer Illustration (3) (S)**

In-depth intro to digital imagery creation; design and illustration projects created for personal portfolio. Prereq: AA 245 or instructor's consent.

**AA 249 Special Topics in Advertising Arts (1-3) (on demand)**

Intro to selected issues and/or problems in advertising arts; repeatable for credit on different topics. Prereq: Instructor's consent.

**Air Conditioning/Refrigeration****AC 000 Air Conditioning/Refrigeration Technology (F,S,Su)**

Theory, application, operation and maintenance of air conditioning and refrigeration systems; 30 clock hours/week.

## 2001-02 Course Descriptions

American Sign Language Studies

HP 120 American Sign Language I (3) (F)  
Study of the manual alphabet and language of “signs” with basic level skill development; sentence structure, question forms, verb usage, classifiers, negatives, locational relationships, plurals, and time measurements stressing ASL and Deaf Community.

HP 121 American Sign Language II (3) (S)  
Intense study of manual communication; continued development of vocabulary, language concepts, sign language idioms, and expressive/receptive skills; intro to ASL conversational regulators. Prereq: HP 120 or equivalent.

HP 125 ASL Sign Choir (1) (F,S)  
Activity course in performance of choral music into American Sign Language; selections from varied musical styles; required performance at scheduled concerts; open to all ASL students; repeatable; maximum of 3 hours applicable toward a degree.

HP 130 Orientation to Deafness (3) (F)  
Audiometer use, audiogram interpretation and types of hearing losses; treatment of the Deaf; social and educational aspects from past to present, civil rights of the Deaf, telecommunication devices, and oral and manual communication modes for the Deaf.

HP 132 Psychology of Deaf People and Their Culture (3) (S)  
Study of psychological processes, behavior, emotional and social maturity, handicap adjustments of deafness, social patterns, family status, socialization in groups and in the Deaf Community, and economic status of Deaf persons.

HP 135 Special Topics in American Sign Language (1-3) (on demand)  
Special topics in American Sign Language; focuses on use of ASL in the workplace; repeatable for credit on different topics.

HP 220 American Sign Language III (3) (F)  
Continuation of intense ASL study; emphasis on communication of day to day experiences and activities, spatial agreement, storytelling, and general conversation regulators. Prereq: HP 120, 121; or equivalent.

HP 221 American Sign Language IV (3) (S)  
Continuation of ASL study with emphasis on language concepts and syntax, vocabulary review, conversational patterns, numbers, fingerspelling, songs, poetry, and storytelling techniques. Prereq: HP 120, 121, 220.

HP 222 Fingerspelling (2) (S)  
Comprehensive study of fingerspelling, using drills to enable reading of full-speed fingerspelling and fluent expression in fingerspelling. Prereq: HP 120, 121; or equivalent.

HP 236 English Sign Systems (3) (on demand)  
Sign systems used in educational programs, different systems' rationale and criterion for teaching English to Deaf students; detailed study of SEE2 system with instruction of “signs” unique to the system.

HP 246 Oral Interpreting Techniques (3) (on demand)  
Intense study of expressive oral interpreting techniques; voicing, support mechanisms, facial expression, natural gestures, speech sound visibility, speechreading, ethical issues; problem solving and role play activity techniques used. Prereq: HP 130.

Art (Fine Art and Graphic Design)

ART 1030 Art Appreciation (3) (F,S,Su)  
Study of significant works of art throughout history to heighten perception and enjoyment of the visual arts; consideration of formal elements in representative works of various styles, forms, and periods. Formerly AR 112.

ART 1110 Life Drawing I (4) (F,S)  
Beginning to advanced studies from figure and still life objects; line and value studies emphasizing observation and accurate spatial and proportionate rendering; intro to composition. Formerly AR 103.

ART 1120 Life Drawing II (4) (F,S)  
Continuation of ART 1110; focus on sustained studies, composition, value modeling, and detail rendering; practice with live models and still life; in-depth study of drawing media; intro to personal imagery and contemporary concepts. Formerly AR 105. Prereq: ART 1110.

ART 1210 Three Dimensional Design (4) (F,S)  
Design elements as they operate in 3-D; projects deal with real space and 3-D materials, may involve both relief and free-standing forms. Formerly AR 107.

ART 1400 Beginning Photography (1) (F,S)  
Beginning photography course; intro to the darkroom, photography as art, and significant historical and contemporary photographs; emphasizes camera work and aesthetics of an image; must provide own 35 mm camera. Formerly AR 104.

ART 2030 Art Structure (4) (F,S)  
Broad spectrum course using various techniques to develop art appreciation across a range of cultures and periods; emphasis on the contemporary; intro to a variety of materials, methods, and concepts employed by artists. Formerly AR 212.

ART 2160 Art Education (4) (S)  
Emphasizes understanding of child art as basic to good teaching and parenting; range of materials and procedures appropriate to preschoolers and 1st–6th graders; teaching art appreciation at elementary level. Formerly AR 216.

ART 2310 Painting and Composition I (4) (F,S)  
Oil and/or acrylic techniques; focus on developing color relationships and spatial and composition skills; may include topics such as abstraction, still life, landscape, and figurative. Formerly AR 231. Prereq: ART 1110. (ART 1120 recommended.)

ART 2320 Painting and Composition II (4) (F,S)  
Continuation of ART 2310; stresses technical skills in sustained personal image composition; some assigned problems but focus on student's choice between non-objective, abstract, surreal, pop, or realistic direction. Formerly AR 232. Prereq: ART 2310.

ART 2410 Photography and Darkroom I (4) (F,S)  
Fine art and historical approach to black and white photography/printing; image, personal symbolism, avant garde composition, content, and photograph creations as art statements; darkroom work and oral critiques; must provide own 35 mm camera. Formerly AR 240.

ART 2420 Photography and Darkroom II (4) (F,S)  
Photography as expressive communication and art; creative approach to lighting methods, camera and paper use, film type, developing, enlarging, and mounting; focus on personal imagery and content; darkroom work and oral critiques; must provide own 35 mm camera. Formerly AR 241. Prereq: ART 2410.

ART 2430 Color Photography (4) (F,S)  
Intro to techniques and theory of color photographic process; processing slides, negative film, and color printing; design, composition and perceptual aspects of color; focus on creative expression. Formerly AR 242. Prereq: ART 2410.

ART 2610 Ceramics I (4) (F,S)  
Studio class in beginning techniques of ceramic skills; focus on design and creative handbuilding with intro to glazing and wheel-throwing. Formerly AR 260.

ART 2620 Ceramics II (4) (F,S)  
Intermediate studio in ceramics; focus on basic wheel-throwing techniques to produce variety of forms on a potter's wheel; continued work on glazes and decoration. Formerly AR 261. Prereq: ART 2610. Coreq: ART 1110.

ART 2790 Intermediate Studio (4) (F,S)  
Continued practice in technical expertise while expanding compositional and expressive components in chosen studio area; repeatable. Formerly AR 220. Prereq: Advanced standing in emphasized media and instructor's consent.

ART 2990 Special Topics in Art History or Theory (1-3) (F,S,Su)  
Art history/theory; topics change each term and include African-American art, photographic media history, experimental art surveys, art criticism or aesthetics, museum site learning via art travel in U.S. or abroad; repeatable for credit on different topics. Formerly AR 238.

ART 2991 Special Topics in Studio Art (1-4) (F,S,Su)  
Media processes/studio techniques; topics change each term and include assemblage, stone-carving, watercolor, conceptual art, or workshops in clay, photography, drawing, wood-working, painting, matting, framing, or slide making; repeatable. Formerly AR 235.

Astronomy

ASTR 1030 Astronomy (4) (F)  
Intro to astronomy; explores what is known about the universe and how it is known; history and methods of astronomy, formation of the solar system, and physical characteristics of the sun, planets, moons, and minor members of the solar system (asteroids, meteoroids, and comets); class 3 hours, lab 3 hours. Formerly PH 154.

## Auto Body Repair

AB 000 Auto Body Repair Technology (F,S,Su)  
Current auto body repair procedures; collision repair and refinishing of each part; auto welding, sheet metal repair, body and frame straightening; painting car body and interior/exterior parts; preparing written damage estimates; running successful body shop; hands-on activities emphasized; 30 clock hours/week.

## Automotive Technology

AM 000 Automotive Technology (F,S,Su)  
ASE certified training in Automotive Electronics; Engine Performance; Steering and Suspension; Manual Transmission & Drive Train; Automatic Transmission & Transaxles; Heating, Ventilation & Air Conditioning; Brakes; Engine Repair & Rebuilding; 30 clock hours/week.

## Aviation

AV 101 General Aeronautics (3) (on demand)  
Aviation and aerospace history; Federal Aviation Regulations, Airman's Information Manual, flight theory basics, physiology of flight, meteorology, navigation; open to all desiring general/practical aviation knowledge, especially on private pilot level.

AV 111 Flight Theory (3) (F)  
Aeronautics, aerodynamics and flight basics, airplane components and functions, flight control systems, forces acting on aircraft in flight, aircraft construction materials, powerplants, stability, performance, and instruments.

AV 112 Navigation (3) (F)  
Pilotage principles, dead reckoning, and radio-electronic methods of navigation applied to cross-country flight planning.

AV 113 FAA Regulations (3) (F)  
Federal and international laws governing aviation operation and their source, enforcement and purpose; laws or regulations concerning airman, aircraft, air agencies, air operation, air traffic control, and flying safety stressed; Airman's Information Manual and its application included.

AV 123 Meteorology (3) (S)  
Weather and its influence on aerospace operations; basic understanding of the atmosphere, meteorological elements measurement and effects of these on air operations in the lower atmosphere.

AV 141 Flight Instruction I (3) (F,S)  
Flight instruction and discussion providing opportunity to become familiar with the airplane and its systems and apply material covered in other AV courses; class 1 hour, lab 4 hours.

AV 142 Flight Instruction II (3) (F,S)  
Continuation of AV 141; emphasis on more advanced flight and technical instruction in precision flight techniques; class 1 hour, lab 4 hours. Prereq: AV 141 or instructor's consent.

AV 143 Flight Instruction III (3) (F,S)  
Continuation of AV 142; class 1 hour, lab 4 hours. Prereq: AV 142 or instructor's consent.

AV 144 Flight Instruction IV (3) (F,S)  
Continuation of AV 143; emphasis on instrument flight operations and weather flying; class 1 hour, lab 4 hours. Prereq: AV 143 or instructor's consent.

AV 201 Aerospace Internship (3) (F,S)  
Field work in acceptable fixed base operator, airline, airport director, or aerospace industry; job training in various aerospace industry segments; focus on educational experiences, not salaried employment; credit for actual work with employer; lab 9 hours.

AV 221 Aviation Management (3) (S)  
Principles of aviation management; topics include aviation needs, economics, finance, public relations, maintenance, insurance, and general operating procedures.

AV 231 Instrument Flight (3) (S)  
Instruments, FAA regulations, ATC procedures, radio navigation, meteorology, physiology, and aircraft operation and performance applied to flying and flight planning. Prereq: AV 112 or instructor's consent.

## Banking

BK 109 Product Knowledge (1) (on demand)  
Intro to selling basics and cross-selling concepts; outlines most important products in the primary areas of commercial banking: consumer, corporate, and trust.

BK 110 Principles of Banking (3) (F,S)  
Comprehensive intro to the banking industry's diversified services and operations; presents bank function basics in broad perspective needed to assist bank personnel in career advancement.

BK 112 Money and Banking (3) (F)  
Basic but scholarly treatment of money and its functions in U.S. and world economies; intro to the concept of money supply and role of banks as money creators and participants in the nation's payments mechanism.

BK 118 Commercial Lending (3) (F)  
Commercial lending function within the banking industry and within the total economy; gives commercial lending officers and trainees the skills needed to serve corporate clients in competitive environment.

BK 120 Selling Bank Services (1) (on demand)  
Provides customer-contact personnel skills to sell bank services and meet customer needs; cultivates positive selling attitude; selling techniques such as active listening, presenting benefits, and successful closing.

BK 122 Economics for Bankers (3) (S)  
Intro to the basic principles of economics; emphasis on economic theory applied to banking.

BK 130 Consumer Lending (3) (F)  
Thorough presentation of consumer credit function and the role of consumer credit in overall banking operations; emphasis on evaluating credit risks, structuring, servicing, and collecting loans.

BK 211 Marketing for Bankers (3) (S)  
Thorough grounding in marketing theory and principles applied to banking industry; focus on consumer motivation, buying behaviors, public relations and communications, and marketing research and analysis.

BK 212 Analyzing Financial Statements (3) (F)  
Basic and advanced financial statement analysis techniques to assist bank lenders and bank credit analysts in their job functions. Prereq: BU 114.

BK 219 Law and Banking Principles (3) (S)  
Intro to banking law and legal issues; emphasis on Uniform Commercial Code, contracts, bankruptcy, and implications of consumer lending.

BK 229 Law and Banking Applications (2) (S)  
Intro to laws related to secured transactions, letters of credit, and bank collection process; case studies illustrate important laws related to perfection, collateral, default, and other banking legal points.

## Biology

BIOL 1050 Introduction to Human Biology (3) (F,S)  
Human anatomy and physiology related to body systems; relationship between structural and functional roles of system components; special focus on disease and homeostasis; basic histology, and terminology; not intended for transfer. Formerly BI 115.

BIOL 1051 Introduction to Human Biology Laboratory (1) (F,S)  
Lab for BIOL 1050; elementary biological chemistry, clinical tests, biological models, creative projects and written examinations integral part of course; not intended for transfer; lab 3 hours. Formerly BI 116. Coreq: BIOL 1050.

BIOL 1110 General Biology I (4) (F,S,Su)  
Basic chemical concepts related to biology: cell structure and function, photosynthesis and cellular respiration and control, cell division, molecular and Mendelian genetics, ecosystems, human impact on the biosphere, and population ecology; class 3 hours, lab 3 hours. Formerly BI 134.

BIOL 1120 General Biology II (4) (F,S,Su)  
Continuation of BIOL 1110; covers basic evolutionary principles; survey of the Kingdoms: Monera, Protista, Fungi, Plantae, and Animalia; thorough study of plant and animal biological systems; class 3 hours, lab 3 hours. Formerly BI 135. Prereq: BIOL 1110.

BIOL 1430 Nutrition (3) (F,S,Su)  
Nutrients and their relation to human growth, development and maintenance; role of foods and their nutrients on sociological, physiological, and psychological well-being; food records analysis and nutritional knowledge application. Formerly BI 143.

BIOL 2010 Human Anatomy and Physiology I (4) (F,S,Su)  
Biochemical, cytological and histological studies which integrate dissection, experimentation, 3-D visualization, and computer applications are utilized in study of interrelationships of body organ systems, homeostasis, and complementarity of structure and function; critical thinking and clinical application are stressed in the study of integumentary, skeletal, muscular, and nervous systems; class 3 hours, lab 3 hours. Formerly BI 174.

BIOL 2020 Human Anatomy and Physiology II (4) (F,S,Su)  
Continuation of BIOL 2010. Study of interrela-

## 2001-02 Course Descriptions

tionships, homeostasis and clinical application of lymphatic, respiratory, digestive, urinary, and reproductive systems; includes essential physiological concepts of immunity, metabolism, fluid-electrolyte dynamics and genetics; class 3 hours, lab 3 hours. Formerly BI 175. Prereq: BIOL 2010.

**BIOL 2050 Plant Morphology (4) (F)**  
Analysis of the structure, reproductive processes, and evolutionary relationships of the main non-vascular and vascular plant groups; class 3 hours, lab 3 hours. Formerly BI 205. Prereq: BIOL 1110 or equivalent.

**BIOL 2230 Microbiology (4) (F,S,Su)**  
Microbial morphology and physiology; focus on energy relationships, genetics, microbial control, immune responses and human pathogens using portal of entry approach; class 3 hours, lab 3 hours. Formerly BI 234. Prereq: BIOL 1110 or 2010.

**BIOL 2990 Special Topics in Biology (1-4) (on demand)**  
Detailed study of a specific topic in biological sciences; repeatable for credit on different topics. Prereq: Department head and instructor's consent. Formerly BI 299.

Broadcasting, See "Mass Communications"

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Business Accounting, See "Accounting"

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Business Law, See "Accounting"

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Business Management, See "Management"

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Cardiopulmonary Resuscitation (CPR), See "Emergency Medical Services"

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### Chemical Technology

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**CT 101 Foundational Studies for Chemical Process Operator (4) (on demand)**  
Intro to terms and basic concepts used in food and chemical process industries; helpful to prospective and existing employees in the industry and provides base for follow-up studies in chemical and food processing; class 3 hours, lab 3.5 hours.

**CT 102 Fundamentals of Process Operations (4) (on demand)**  
Intro to chemical process operation basics; overview of basic process equipment characteristics involved in chemical manufacturing—heat exchangers, steam traps, pumps, valves, piping, and sensors; class 3 hours, lab 3.5 hours.

**CT 111 Introduction to Process Technology (3) (F)**  
Overview of process technology ranging from safety to process utilities; includes a plant visit. Prereq: DSPM 0800, DSPR 0800, DSPW 0800.

**CT 112 Industrial Mathematics (3) (F)**  
Basic mathematical operations, systems of measure, problem solving, geometry, right angle

trigonometry, and their industrial applications. Prereq: DSPM 0800, DSPR 0800, DSPW 0800.

**CT 113 Industrial Chemistry (4) (F)**  
Intro of inorganic and organic chemical theories and their industrial applications; includes case studies, safety, and communication skills; class 3 hours, lab 2 hours. Prereq: DSPM 0800, DSPR 0800, DSPW 0800.

**CT 121 Industrial Process Equipment (4) (S)**  
Intro to operation and utilization of industrial process equipment; includes preventative maintenance, safety, troubleshooting; and communication skills; class 3 hours, lab 3 hours. Prereq: CT 111.

**CT 122 Introduction to Quality Control (3) (S)**  
Intro to quality concepts and applications used in process industries; includes a study of the statistical methods of quality control, quality tools, control charts, team skills and communication skills. Prereq: CT 111, 112.

**CT 123 Introduction to Process Operations (4) (S)**  
Intro to theory, equipment, and application of common industrial processes such as distillation and evaporation; includes case studies, safety, troubleshooting, and communication skills; class 3 hours, lab 3 hours. Prereq: CT 111, 113.

**CT 124 Introduction to Process Control and Instrumentation (3) (S)**  
Intro to the principles of process control and the functions of instruments used to monitor and control chemical processes; includes the use of process control diagrams, case studies, troubleshooting and communication skills. Prereq: CT 111.

**CT 150 Unit Operations I (4) (on demand)**  
Chemical plant materials handling and storage systems' characteristics, operations, checks, and maintenance requirements; mixing operations, tanks, pumps, conveyors, and piping; class 3 hours, lab 3 hours.

**CT 211 Instrumental Analysis I (4) (on demand)**  
Spectroscopy applications and basic theory; standard lab experiments and chemical analysis methods using UV-Visible, fluorescence, atomic absorbance and emission, total organic carbon, and fourier transform infrared spectrometers; class 2 hours, lab 6 hours.

**CT 220 Unit Operations II (4) (on demand)**  
Continuation of CT 150; covers most common processes and equipment used to convert raw materials into chemical products; different types of reactors, energy input/output, and reactor control methods; class 3 hours, lab 3 hours. Prereq: CT 150.

**CT 235 Process Control Systems (3) (on demand)**  
Most common hardware and software used in process control at chemical manufacturing facilities; control systems discussed regarding applicability, operation, and maintenance.

### Chemistry

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**CHEM 1010 Introduction to Chemistry I (4) (F,S,Su)**  
Intro to chemistry; atomic and molecular structure, bonding, equation writing and stoichiometry, compound classification, gas, liquid and solid states, solutions, acids/bases; not for

chemistry majors; class 3 hours, lab 3 hours. Formerly CH 104. Coreq: DSPM 0850.

**CHEM 1020 Introduction to Chemistry II (4) (on demand)**  
Second semester of chemistry principles; basics of organic and analytical chemistry; organic compound families, their preparation and reactions; qualitative/quantitative analytical methods; class 3 hours, lab 3 hours. Formerly CH 105. Prereq: CHEM 1010 or equivalent.

**CHEM 1060 Survey of Organic and Analytical Chemistry (3) (on demand)**  
Second semester of chemistry principles; organic and biochemistry basics; organic compound families, their preparation and reactions and biological compounds and their functions; greater understanding of biochemical principles from biological and health courses; credit not given for both CHEM 1020 and CHEM 1060; CHEM 1020 substitutes for CHEM 1060, but not vice versa. Formerly CH 106. Prereq: CHEM 1010 or equivalent.

**CHEM 1110 General Chemistry I (4) (F,S,Su)**  
Designed for science, medicine or engineering students; properties of matter related to atomic and molecular structure; element and compound reactions and equations, stoichiometry, kinetics, and measurement techniques and calculations; class 3 hours, lab 3 hours. Formerly CH 134. Prereq: CHEM 1010 or equivalent. Coreq: MATH 1710 or 1740.

**CHEM 1120 General Chemistry II (4) (F,S,Su)**  
Continuation of CHEM 1110; lab includes qualitative analysis; class 3 hours, lab 3 hours. Formerly CH 135. Prereq: CHEM 1110, MATH 1710.

**CHEM 2010 Organic Chemistry I (4) (F)**  
Designed for science and pre-professional majors; aliphatic and aromatic hydrocarbons, stereochemistry, monofunctional and some polyfunctional compounds; basic separation, purification, synthesis and identification techniques emphasized in lab; class 3 hours, lab 3 hours. Formerly CH 210. Prereq: CHEM 1120.

**CHEM 2020 Organic Chemistry II (4) (S)**  
Continuation of CHEM 2010; class 3 hours, lab 3 hours. Formerly CH 211. Prereq: CHEM 2010.

**CHEM 2170 Quantitative Analysis (4) (S)**  
Study of analytical chemistry covering gravimetric and volumetric analysis, chemical and ionic equilibria, complex ion formation and intro to electrochemistry; class 3 hours, lab 3 hours. Formerly CH 217. Prereq: CHEM 1120.

**CHEM 2990 Special Topics in Chemistry (1-5) (on demand)**  
Detailed study of a specific chemistry topic; repeatable for credit on different topics. Formerly CH 299. Prereq: Department head and instructor's consent.

### Civil Engineering Technology

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**CI 101 Construction Business Management (2) (on demand)**  
Basic concepts and practices in construction; emphasis on project contracts, elementary blueprint reading, scheduling, field operations, construction law, purchasing and cost control; Satisfactory/No Credit grading.

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### CI 110 Construction Safety (3) (F,S)

Knowledge for efficiency in the workplace; safety professionals and typical workplace accidents and injuries; preventive measures and developing, initiating, and evaluating safety training programs; credit not given for both CI 110 and OS 125.

### CI 116 Construction Planning and Scheduling (3) (on demand)

Provides a working knowledge for planning and scheduling of construction projects; C.P.M., Precedence Method, PERT, Bar Charts, arrow diagrams, and computer applications.

### CI 164 Construction Methods & Estimating (3) (F)

Construction estimating techniques/applications related to technical aspects required for quantity takeoffs in construction estimate preparation; the Construction Specifications Institute Master Format System's numbering sequence; computer applications may be covered. Coreq: DSPM 0850.

### CI 174 Surveying I (4) (S)

Fundamental concepts and practices of surveying; theory of measurements and field notes; methods of obtaining horizontal and vertical distances, angles and directions; use of levels, transits, theodolites, and total stations; construction surveying, curves and volumes; class 2 hours, lab 4 hours. Coreq: MATH 1750.

### CI 201 Construction Blueprint Reading, Estimating, and Proposal Writing (2) (on demand)

Basics of proposal writing in construction industry based on sound estimates and takeoffs from budget grade project prints; numbering sequence of the Construction Specifications Institute Master Format System. Prereq: CI 101 or instructor's consent.

### CI 202 Construction Financial and Cost Analysis (2) (on demand)

In-depth study of financial and cost accounting means and methods related to small and medium sized construction companies, general contractors, and subcontractors. Prereq: CI 101 or instructor's consent.

### CI 224 Hydraulics (3) (F)

Intro to fluid statics and dynamics principles; incompressible ideal fluid and real fluid flow in pipes, multiple pipe-line systems, open channels; fluid measurements; lab work parallels class work; class 2 hours, lab 2 hours. Coreq: MD 134.

### CI 231 Construction Materials Testing (3) (F)

Intro to lab practices in measuring construction material properties like soil, concrete, steel, wood, timber, asphalt; tests based on ASTM standards; class 2 hours, lab 2 hours. Coreq: MD 134.

### CI 233 Contracts and Specifications (3) (F,S)

Study of engineering contracts and specifications; business and legal issues, engineering ethics, competitive bidding, contracting procedures, general and technical specifications, and inspection procedures for contract enforcement.

### CI 242 Structures I (3) (S)

In-depth study of analysis, design, and detailing of elementary steel structures; emphasis on structural components rather than entire structures. Prereq: MATH 1750. Coreq: MD 242.

### CI 243 Structures II (3) (S)

In-depth study of the analysis, design, and detailing of elementary concrete structures;

emphasis on structural components rather than entire structures. Prereq: MATH 1750. Coreq: MD 242.

### CI 274 Surveying II (4) (F)

Continuation of CI 174; E.D.M. use and theory, traversing practice, adjusting methods, plotting a plat, computing the area and making topographic maps; State Plane coordinates, Public Land surveys, Photogrammetry and satellite surveying; class 2 hours, lab 4 hours. Prereq: CI 174, MATH 1750; or instructor's consent.

### CI 298 Special Topics in Civil Engineering Technology (1-4) (on demand)

Specialized topics and/or problems in civil engineering technology; repeatable for credit on different topics. Prereq: Instructor's consent.

### CI 299 Special Topics in Civil Engineering Technology with Lab (1-4) (on demand)

Specialized topics and/or problems in civil engineering technology; repeatable for credit on different topics. Prereq: Instructor's consent.

## Commercial Truck Driving

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### CD 000 Commercial Truck Driving (F,S,Su)

Basic commercial truck operation principles and skills; safe operation, vehicle documentation, and proper load; all federal, state and local law compliance; minimum age of 23 required for program admission; 11 week course; 30 clock hours/week.

Communications, See "Mass Communications"

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## Computer-Aided Design Technology

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### DD 100 Introduction to CAD (1) (on demand)

Intro to a PC based Computer-Aided Design (CAD) system; Satisfactory/No Credit grading.

### DD 101 Microcomputer Drafting (3) (F,S)

Intense overview of AutoCAD's microcomputer based drafting software; geometric construction and editing concepts; focus on AutoCAD language and syntax; class 2 hours, lab 2 hours. Prereq: Drafting experience or instructor's consent.

### DD 114 CAD Engineering Drawing I (3) (F)

Intro to CAD engineering drawing using AutoCAD software; includes scales, sketching of multi-view and pictorial drawings, AutoCAD geometry construction and editing techniques, dimensioning, and plotting; class 2 hours, lab 3 hours.

### DD 116 CAD for Electronics (3) (S)

Intro to mechanical and electrical/electronic drafting practices and procedures; focus on pictorial and electronic drawings using CAD; class 2 hours, lab 2 hours. Prereq: EE 110, ET 115 or instructor's consent. Coreq: EE 121.

### DD 118 Introduction to Intergraph Microstation (3) (S)

Intense intro to Intergraph Microstation drafting and design software; concepts of geometric construction and editing; focus on the Microstation language and syntax; class 2 hours, lab 2 hours. Prereq: Drafting experience or instructor's consent.

### DD 124 CAD Engineering Drawing II (3) (S,Su)

Intermediate CAD engineering drawing using

AutoCAD software; includes electrical, piping, fasteners, welding, power transmission, property plats, elevations, and structural steel designing; design project required; class 2 hours, lab 3 hours. Prereq: DD 101 or 114. Coreq: MATH 1740.

### DD 204 CAD Engineering Drawing III (3) (F)

Advanced CAD engineering drawing using AutoCAD software; includes developments and intersections, limits and tolerances, GD&T, detail and assembly drawings, cams, scripts and slides, menu customization, and intro to 3-D wireframe, surfaces, and solids modeling drawings; class 2 hours, lab 2 hours. Prereq: DD 124. Coreq: MATH 1750.

### DD 210 AutoLISP Programming (3) (S)

Extension of AutoCAD flexibility and functionality through programming interface language AutoLISP; AutoLISP functions and applications; parametric programming; class 2 hours, lab 2 hours. Prereq: DD 204, ET 115; or instructor's consent.

### DD 214 Mechanical Desktop (3) (S)

Intro to Mechanical Desktop software; includes surface modeling, parametric design, assembly modeling, and part modeling; class 2 hours, lab 3 hours. Prereq: DD 204, MATH 1750.

### DD 216 Architectural Desktop (3) (on demand)

Intro to Architectural Desktop software; class 2 hours, lab 3 hours. Prereq: DD 204, MATH 1750.

### DD 218 Land Development Desktop (3) (on demand)

Intro to Land Development software; class 2 hours, lab 3 hours. Prereq: DD 204, MATH 1750.

### DD 226 Advance Intergraph Microstation (3) (on demand)

Intense study of advanced features in Intergraph Microstation; concepts of customization, 3-D modeling and rendering; class 2 hours, lab 2 hours. Prereq: DD 118 or instructor's consent.

### DD 298 Special Topics in CAD (1-4) (on demand)

Selected specialized topics and/or problems in Computer-Aided Design (CAD); repeatable for credit on different topics. Prereq: Instructor's consent.

### DD 299 Special Topics in CAD with Lab (1-4) (on demand)

Selected specialized topics and/or problems in Computer-Aided Design (CAD); repeatable for credit on different topics. Prereq: Instructor's consent.

Computed Tomography, See "Tomography"

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Computer Programming, See "Information Systems"

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Computer Repair, See "Industrial Electronics"

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Computer Science, See "Information Systems"

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Construction, See "Civil Engineering Technology"

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Cooperative Education

## CP 101 Cooperative Education Work Experience I (1-3)

Allows students to explore a career, work in structured environment, gain marketable job skills, and develop self-confidence/interpersonal skills; fuses off-campus work with on-campus study; credit based on hours worked; approved for unrestricted elective credit in career programs (AAS).

## CP 102 Cooperative Education Work Experience II (1-3)

Continuation of CP 101; lectures, guest speakers, discussion of work experiences, and written report; credit based on hours worked; approved for unrestricted elective credit in career programs (AAS).

## CP 103 Cooperative Education Work Experience III (1-3)

Continuation of CP 102.

## CP 104 Cooperative Education Work Experience IV (1-3)

Continuation of CP 103.

## CP 105 Cooperative Education Work Experience V (1-3)

Continuation of CP 104.

## CP 106 Cooperative Education Work Experience VI (1-3)

Continuation of CP 105; final work experience.

Cosmetology

## CY 000 Cosmetology (F,S,Su)

Personal and shop safety, sanitation/sterilization; salon equipment/implements, scalp and hair care, hair styling, permanent/thermal waves, relaxers, color, straightening, manicures, facials; electricity and electrical safety practices; intro to anatomy/physiology and organic/inorganic chemistry; salesmanship; 30 clock hours/week. Note: 1500 clock hours required for State Board licensure.

Court Reporting

OF 175 Medical and Technical Dictation (3) (Su) Terminology encountered in medical malpractice, chemical, construction, patent, and other complex litigation; focus on the use of special reference materials. Prereq: OF 230.

## OF 210 Court Reporting I (5) (F)

Intro to principles and theory of reading and writing machine shorthand; focus on machine operation and phonetics; class 5 hours, lab 5 hours. Prereq: DSPR 0700, DSPW 0700.

## OF 220 Court Reporting II (4) (S)

Continuation of machine shorthand; focus on brief forms, phrases, and development of ability to take dictation; 100 wpm required for course completion; class 4 hours, lab 4 hours. Prereq: OF 210.

## OF 230 Court Reporting III (4) (Su)

Continuation of machine shorthand; focus on speedbuilding; 130 wpm required for course completion; class 4 hours, lab 4 hours. Prereq: OF 220.

## OF 240 Court Reporting IV (4) (F)

Continuation of OF 230; 170 wpm required for course completion; class 4 hours, lab 4 hours. Prereq: OF 230.

## OF 250 Court Reporting V (4) (S)

Continuation of OF 240; focus on speedbuilding, dictation of various legal proceedings and accuracy; must pass two 5-minute timed writings in keyboarding from unfamiliar material at specified speed and accuracy level; 200 wpm machine shorthand speed required for course completion; class 4 hours, lab 4 hours. Prereq: OF 240.

## OF 255 Court Reporting VI (4) (F,Su)

Continuation of OF 250; focus on speedbuilding and all court reporting areas using machine shorthand; must pass one 5-minute test at 96% accuracy and two 5-minute tests at 95% accuracy at each of the following speeds: 225 wpm two voice testimony; 200 wpm jury charge; and 180 wpm literacy; class 4 hours, lab 4 hours. Prereq: OF 250.

## OF 260 Court Reporting Procedures I (4) (F)

Methods and procedures for transcript production of legal proceedings; emphasis on format, punctuation, and dictation of machine shorthand notes, general use of reference materials, computer transcription of notes including real-time reporting. Prereq: OF 210.

## OF 270 Court Reporting Procedures II (4) (S)

Freelance field procedures; taking and transcribing depositions, arbitrations, sworn statements, and official procedures; internship of at least 50 verified hours with practicing court reporter, 40 hour minimum in actual writing time. Prereq: OF 260.

Creative Writing. See "English"

Dental Assisting

## DA 120 Basic Sciences I (2) (F)

Basic sciences for dental assisting; anatomy and physiology, microbiology, oral anatomy, histology, and embryology. Prereq: Acceptance into Dental Assisting Program.

## DA 121 Basic Sciences II (1) (S)

Basic sciences for dental assisting; oral pathology, nutrition, pain control and pharmacology. Prereq: DA 120, 124, 125, 130.

## DA 124 Dental Materials (3) (F)

Laboratory skills, including material manipulation, fabrication of models and other devices and lab equipment operation; lab/material safety complying with OSHA guidelines. Prereq: Acceptance into Dental Assisting Program.

## DA 125 Dental Radiology (3) (F)

Dental radiology theory and practice; emphasis on the technical aspects of x-ray production, exposure techniques, film processing, preliminary interpretation, and radiation biology and safety. Prereq: Acceptance into Dental Assisting Program.

## DA 128 Dental Office Management (3) (S)

Preparation to serve as dental receptionist/dental office manager. Prereq: DA 120, 124, 125, 130.

## DA 130 Clinical Skills I (5) (F)

Prepares Dental Assistants to assist in all clinical

procedures, performing tasks specified by Tennessee State Dental Practice Act; work in on-campus clinic and 2 or more off-campus clinical sites; must provide transportation and submit valid CPR card before externship rotation. Prereq: Acceptance into Dental Assisting Program.

## DA 131 Clinical Skills II (9) (S)

Continuation of DA 130; includes in-depth study of dental specialties, ethics and jurisprudence, preparation for State and National Board Exams, and professional organizations. Prereq: DA 120, 124, 125, 130.

## DA 134 Communications for Dental Assistants (2) (S)

Written and oral communication skills; applied psychology relative to the dental profession. Prereq: DA 120, 124, 125, 130.

Dental Hygiene

## DH 132 Dental Hygiene I (9) (F)

First in a series integrating didactic knowledge of dental hygiene with affective behavior and psychomotor skills; tooth morphology, head, neck and oral anatomy, oral embryology and histology, oral pathology, radiology, periodontology, pain management, dental materials, oral health education and preventive counseling, health promotion, patient management, clinical dental hygiene, provision of services for and management of patients with special needs, community dental/oral health, medical and dental emergencies including basic life support, legal and ethical aspects of dental hygiene practice, infection and hazard control management and provision of oral health care services to patients with bloodborne infectious diseases; focus on procedures necessary to safely practice in clinical settings and promotion of critical thinking and decision making by students through multidisciplinary associations and case studies. Prereq: Acceptance into Dental Hygiene Program. Coreq: DH 142.

## DH 135 Dental Hygiene II (9) (S)

Continuation of DH 132; focus on recognition of conditions requiring treatment modification evident during medical and dental history review, radiographic interpretation, and clinical examination; conditions include developmental abnormalities, drug therapies, and existing medical conditions; role of research in the dental hygiene profession. Prereq: DH 132. Coreq: DH 145.

## DH 142 Dental Hygiene Applications I (4) (F)

Dental hygiene theory applied through supervised dental hygiene service provision on a partner, lab manikin or client; determination of services through accurate decision making stressed; lab 11 hours. Prereq: Acceptance into Dental Hygiene Program. Coreq: DH 132.

## DH 145 Dental Hygiene Applications II (4) (S)

Continuation of DH 142; integration of preventive, educational and therapeutic concepts when treating clients; lab 12 hours; Satisfactory/No Credit grading. Prereq: DH 142. Coreq: DH 135 or instructor's consent.

## DH 238 Dental Hygiene III (5) (F)

Continuation of DH 135; focus on treatment modifications necessitated by clinical findings. Prereq: DH 135. Coreq: DH 248.

**DH 239 Dental Hygiene IV (3) (S)**

Continuation of DH 238; focus on preparing students to be successful lifelong learners by developing appreciation for literature review; students collaborate with community agencies to plan, develop, and conduct outreach projects. Prereq: DH 135 and program director's consent.

**DH 248 Dental Hygiene Applications III (4) (F)**

Continuation of DH 145; preventive, educational and therapeutic concepts for treating clients with gingivitis and slight to moderate periodontal conditions; lab 14 hours; Satisfactory/No Credit grading. Prereq: DH 145 or instructor's consent.

**DH 249 Dental Hygiene Applications IV (4) (S)**

Continuation of DH 248; treating clients with moderate to severe periodontal conditions and severe gingivitis; lab 14 hours. Prereq: DH 248 or instructor's consent.

**DH 255 Dental Hygiene Clinical Enhancement (2) (on demand)**

Refines clinical skills for practicing dental hygienists or students; individual attention given to participants; focus on scaling and curettage techniques; lab 7 hours; Satisfactory/No Credit grading. Prereq: Instructor's consent.

**Diagnostic Medical Sonography****US 200 Introduction to Diagnostic Medical Sonography (1) (F)**

Basic ultrasound instrumentation and clinical terms; cross-sectional/sagittal anatomy review; rules, regulations, clinical affiliates, diagnostic ultrasound history and student-instructor responsibilities in clinical settings; liability insurance fee required. Prereq: Admission to Program.

**US 201 Ultrasound Physics I (2) (F)**

Intro to diagnostic medical sonography physical principles related to ultrasound creation and instrumentation procedures from US 200; basic sound wave characteristics, matter-ultrasound interaction; and pulse-echo imaging; class 2 hours, lab 1 hour. Prereq: Admission to Program. Coreq: US 200, 203, 205.

**US 202 Obstetrics and Gynecology I (3) (F)**

First of 3-course series; focus on ultrasound role in female pelvic exam, and physiological processes affecting imaging; also covers pathological processes and sonographic appearances; class 3 hours, lab 1 hour. Prereq: Admission to Program. Coreq: US 200, 201, 203, 205.

**US 203 Abdominal and Small Parts I (3) (F)**

Abdominal cross-sectional and sagittal anatomy, muscular system and abdominal vascular structures; intro to abdomen organs, their relation and normal sonographic presentation and physiologic process; metabolic functions, lab data importance; class 3 hours, lab 1 hour. Prereq: Admission to Program. Coreq: US 201, 202, 205.

**US 205 Clinic I (7) (F)**

Intro to sonographic imaging process; clinical settings, ultrasound instrumentation operation, indications, and sonography exam protocol; case studies and imaging critiques performed as group study with clinical instructor(s); performance evaluated through clinical competency in related categories by instructor and sonographer; 540 clinic hours. Prereq: Admission to Program. Coreq: US 200, 201, 202, 203.

**US 210 Departmental Management (1) (S)**

Assists with placement in department with no existing ultrasound or with little or no emphasis on proper Quality Control or Accreditation Standards; research paper and oral report required. Prereq: Fall US courses. Coreq: US 211, 212, 213, 215.

**US 211 Ultrasound Physics II (2) (S)**

Continuation of US 201; real-time ultrasound transducer characteristics, image processing and display, spectral analysis, Doppler ultrasound physics; lab involves theoretical concept application; class 2 hours, lab 1 hour. Prereq: US 201. Coreq: US 210, 212, 213, 215.

**US 212 Obstetrics and Gynecology II (2) (S)**

Second of 3-course series; focus on ultrasound fetal anatomy evaluation; gestational age estimation through fetal biometry techniques; fetal anomaly detection and intrauterine growth retardation and their management; transabdominal and transvaginal techniques for assessing early intrauterine and ectopic pregnancies; class 2 hours, lab 1 hour. Prereq: US 202. Coreq: US 210, 211, 213, 215.

**US 213 Abdominal and Small Parts II (2) (S)**

Continuation of US 203; pathologic patterns of various organs and their relation to sonographic appearance, physiologic changes, and lab findings; organ anatomic variations; intro to Doppler and color-flow technique roles in vascular anatomy evaluation. Prereq: US 203. Coreq: US 210, 211, 212, 215.

**US 215 Clinic II (1) (S)**

Continuation of US 205; increased knowledge and skills in sonographic exams and normal anatomy or pathology; pathologic processes build on understanding of abnormal physiological processes; practice/performance of sonographic exams; weekly case studies and imaging critiques with clinical instructor; performance evaluated by sonographer and instructor; cooperation in clinical setting for research relating to the paper required in US 210 necessary; 520 clinic hours. Prereq: US 205. Coreq: US 210, 211, 212, 213.

**US 220 Ultrasound Seminar (1) (Su)**

Integrated coverage of ultrasound topics related to image production/evaluation, ultrasound procedures, and patient care and management; focus on needed skills, attitudes and knowledge for judgment and discretion in ultrasound imaging. Prereq: Spring US courses. Coreq: US 221, 222, 223, 225.

**US 221 Physical Instrumentation Applications (2) (Su)**

Continuation of US 211, with clinical environment and instrumentation applications expanded; intro to image analysis, quality control measurements and observations, and ultrasound's biological effects; physical principles reviewed; class 2 hours, lab 1 hour. Prereq: US 211. Coreq: US 220, 222, 223, 225.

**US 222 Obstetrics and Gynecology III (2) (Su)**

Last of 3-course series; advanced fetal and pelvic sonograph techniques; multiple gestations, antenatal syndromes, placental, umbilical cord and membrane evaluation techniques and management; fetal and maternal disorders; intro to infertility studies; recognizing/evaluating uncommon pathological processes in nonpregnant pelvis; class 2 hours, lab 1 hour. Prereq: US 212. Coreq: US 220, 221, 223, 225.

**US 223 Abdominal and Small Parts III (2) (Su)**

Continuation of US 213; neonatal encephalography and demonstration of anatomy and pathology of superficial structures (small parts); class 2 hours, lab 1 hour. Prereq: US 213. Coreq: US 220, 221, 222, 225.

**US 225 Clinic III (1) (Su)**

Continuation of US 215; increases sonographic knowledge and skills; performance of sonographic exams; weekly case studies and imaging critiques; focus on final category evaluations and completion of all clinical objectives in Abdominal & Small Parts, Obstetrics & Gynecology, and Ultrasound Physics & Instrumentation; performance assessment by instructor and sonographer; 420 clinic hours. Prereq: US 215. Coreq: US 220, 221, 222, 223.

**US 231 Vascular Physics (3) (F,S)**

Review and extension of general ultrasound physics; principles of vascular physiology and hemodynamics; other physics principles related to vascular physics. Prereq: Successful completion of a CAAHEP-accredited general sonography program or a physics examination administered by ARDMDS

**Diesel Equipment Mechanics****DM 000 Diesel Mechanics (F,S,Su)**

Diesel engine mechanics; diesel assembly and disassembly; safety regulations, and shop equipment operation; cylinder block, camshaft, crankcase and oil pan; cylinder head/valves; timing and valve mechanism, air intake, starting and fuel systems; trouble shooting and tune-ups; 30 clock hours/week.

**Dietary Manager****ND 110 Practical Diet Therapy (3) (S)**

Normal nutrition and therapy principles related to health and disease; role of food and its nutrients regarding diet modifications; practical diet planning, identifying dietary needs patients, development of nutritional care plans and clinical services quality assurance. Prereq: BIOL 1430. Coreq: ND 111.

**ND 111 Practical Diet Therapy Practicum (1) (S)**

Series of area non-commercial food service agency visits and/or study of diet therapy in student's work facility; diet therapy principles applied in work settings; extension of topics in ND 110; clinic 4 hours. Prereq: BIOL 1430. Coreq: ND 110.

**ND 120 Food Service Sanitation (2) (F,S)**

Food service and equipment sanitation/safety principles; planning of food service safety systems, inventory control procedures, sanitation inspection sheets, food protection in preparation and service; Hazard Analysis Critical Control Point (HACCP) food safety systems, foodborne illness emerging pathogens, equipment safety, sanitation and cleaning; Hazard Communication Standard (HCS) required by Occupational Safety and Health Administration (OSHA); Natural Restaurant Association's SERVSAFE Certification Examination given at course end. Prereq: BIOL 1430. Coreq: ND 121.

**ND 121 Food Service Sanitation Practicum (1) (F,S)**

Series of area non-commercial food service agency visits and/or study of food service sanitation and

## 2001-02 Course Descriptions

safety principles in student's work facility; principles of food service sanitation applied, extension of topics studied in ND 120; lab 3 hours. Prereq: BIOL 1430. Coreq: ND 120.

ND 125 HACCP Training & Certification (1) (F) Recipes, flowcharts and written Hazard Analysis Critical Control Point (HACCP) system; develop and implement a HACCP food safety system for food service operation. Coreq: ND 120, 121; or proof of current ServeSafe certification.

ND 130 Food Service Management (2) (Su) Food procurement, production and service principles; methods for organization/department planning, menu planning with computer applications, food production/productivity, work simplification, inventory control, equipment procurement, and continuous quality improvement methods. Prereq: BIOL 1430. Coreq: ND 131.

ND 131 Food Service Management Practicum (1) (Su) Series of area non-commercial food service agency visits and/or study of diet therapy in student's work facility; principles of food service management applied, extension of topics studied in ND 130; clinic 4 hours. Prereq: BIOL 1430. Coreq: ND 130.

ND 140 Food Service Administration (3) (F) Principles of food service administration/personnel management; focus on human relations, institutional development and operations management; problem solving, systems analysis, dietary policies and procedures, interpersonal skills, departmental budgeting, marketing and computer applications. Prereq: BIOL 1430. Coreq: ND 141.

ND 141 Food Service Administration Practicum (1) (F) Series of area non-commercial food service agency visits and/or study of diet therapy in student's work facility; principles of food service administration applied; extension of topics studied in ND 140; clinic 4 hours. Prereq: BIOL 1430. Coreq: ND 140.

Drafting, See "Technical Drafting"

Drama, See "Theatre"

### Early Childhood Education

ECED 1010 Introduction to Early Childhood Education (2) (F) Orientation to the profession; family relationships, diversity, child development, age-appropriate practices, observation and assessment, learning environments, health and safety, and guidance.

ECED 1020 Foundations of Early Childhood Education (3) (S) Pragmatic intro to Early Childhood Education; preparation for student teaching; focus on physical, emotional, cognitive, creative and social aspects of young children; includes field component. Formerly ED 117.

ECED 2010 Safe, Healthy Learning Environments (3) (F) Basic principles of children's health in family,

child care program, and community; nutrition, hygiene, growth, disease, accident prevention, and safety; includes field component. Formerly PE 213.

ECED 2020 Infant, Toddler, Child Growth and Development (3) (F,S) Physical, cognitive, social and emotional development of young children; application to child care, guidance and development; includes field component.

ECED 2030 Infant & Toddler Care (3) (S) Procedures for stimulating intellectual and physical development of infants and toddlers as well as basic caregiving skills; includes field component. Formerly ED 240.

ECED 2040 Family Dynamics & Community Involvement (3) (F) Role of family and community in the physical, cognitive, social, and emotional growth of the child in a diverse society; includes field component. Formerly ED 219. Prereq: ECED 1020 or departmental consent.

ECED 2050 Psychomotor Development (3) (S) Theories and application of psychomotor development; focus on motor skills; includes field component. Prereq: ECED 2020.

ECED 2060 Development of Exceptional Children (3) (S) Physical, intellectual, and sensory impairments; community resources for diagnosis and treatment services; includes field component. Formerly ED 220. Prereq: ECED 1020, 2070; or departmental consent.

ECED 2070 Developmental Assessment (3) (F) Developing competency in screening children for developmental problems; community support programs and referral procedures; includes field component. Prereq: ECED 1020, 2020; or departmental consent.

ECED 2090 Creative Expression (3) (on demand) Theories, teaching techniques, and basic program components of early childhood art instruction; use of art media and creative play activities. Formerly ED 126.

ECED 2100 The Mentoring Teacher (3) (on demand) Philosophy, principles, and methods of mentoring; focus on role of mentors as facilitators of adult learning.

ECED 2120 Administration of Child Care Programs (3) (S) Organization and administration practices; staff-management relations, state and local licensing standards, national accreditation, CDA standards, tax laws, legal liabilities; laboratory observation and interaction. Formerly ED 221. Prereq: ECED 1010, 1020, 2020, 2030.

ECED 2130 Clinical Practicum I (3) (F) Concepts and techniques for providing age-appropriate child care, including development and implementation of lesson plans; supervised practicum (minimum of 45 hours). Formerly ED 298.

ECED 2140 Clinical Practicum II (3) (S) Supervised practicum; minimum of 90 clock hours in approved agency. Formerly ED 299. Prereq: ECED 1010, 1020, 2010, 2020, 2030, 2050, 2070, 2130; or departmental consent.

ECED 2150 Educating the Culturally Different (3) (on demand) Special problems and needs of children with an ethnic, religious, or cultural heritage different from the majority culture group; affect on student's expectations and performance in classroom and society. Formerly ED 222.

ECED 2160 Language Arts for Young Children (3) (on demand) Techniques and methods for development of language skills in young children. Formerly ED 223.

Ecolonomics, See "Environmental Science"

### Economics

EC 113 Consumer Economics (3) (on demand) Provides knowledge to make rational decisions when purchasing clothing, food, housing, consumer durables and insurance, using credit, saving and investing, and preparing for retirement and property distribution.

EC 211 Principles of Economics I—Macro (3) (F,S) Study of national income and its determination, fiscal and monetary policy, money and banking, economic growth, and international economics.

EC 212 Principles of Economics II—Micro (3) (F,S) Study of the market system; covers the price system, labor and the distribution of income, government and business, and forms of business organization.

EC 235 Special Topics in Economics (1-3) (on demand) Specific topics of current economic interest; repeatable for credit on different topics. Prereq: Instructor's consent.

### Education

ED 201 Foundations of Education (3) (F,S) Intro to the history, philosophies, and present practices of elementary and secondary education in America; includes field component.

ED 207 Educational Psychology (3) (F) Theories of learning and instruction applied to the classroom as psychological environment, cognitive processes and motivation, use of tests and measures, and approach to guidance; field component required.

ED 235 Special Topics in Education (1-3) (on demand) Specific topics of traditional and current interest, including social developments and issues; repeatable for credit on different topics.

ED 245 Principles of Effective Teaching (3) (on demand) How to make the best use of classroom time, procedures and suggestions for planning, management, and instruction based on current and past research and practice in teaching and learning. Pre/Coreq: ED 201.

Electric Lineman

EP 102 Electrical Circuits for Lineman (3) (F)  
Intro to Ohm's Law, power, and AC/DC series and parallel circuits, capacitance, inductance, single-phase and 3-phase circuits, and transformers; lab experiments reinforce the basic theory covered in lectures; class 2 hours, lab 2 hours. Coreq: EP 130.

EP 116 Electrical Distribution Principles (3) (S)  
Electrical transmission and distribution theory from generation of electrical power to consumer; transmission lines, substations, transformers, electrical services, and protective devices; overhead and underground systems covered. Prereq: EP 102.

EP 125 Commercial Drivers Licensure (2) (S)  
Preparation for the General Knowledge Test, Air Brakes Test, Combinational Vehicle Test, and Hazardous Materials Test; topics include CDL laws, tests, qualifications, driving and cargo safety, vehicle operation and inspection, air brake operations and components, and hazardous materials.

EP 130 Problem Solving for Electrical Lineman (3) (F)  
Applied math related to electrical distribution; focus on applied algebra, geometry, and trigonometry. Prereq: DSPM 0800.

EP 144 Applied Electrical Distribution I (4) (F)  
Intro to electrical lineman field work; climbing techniques and safety; proper use of lineman rigging; setting and guying electrical poles and pole rigging; focus on hands-on fieldwork; class 2 hours, lab 4 hours.

EP 145 Applied Electrical Distribution II (4) (S)  
Continuation of EP 144; hanging single and double cross arms, hand lines use, pole hardware installation, and string and sag conductors; focus on hands-on field work; class 2 hours, lab 4 hours. Prereq: EP 144.

EP 151 Electrical Safety (1) (S)  
Intro to electrical safety; cause and prevention of shock, electrocution, and voltage creep and gradient, how to deal with live downed wires, how to rescue someone caught in a live electrical field.

Electrical/Electronic Engineering Technology

EE 110 Electrical Circuits I (5) (F,S)  
Current, voltage, resistance, and power for direct current circuits relationships; capacitance, magnetism, DC transients and inductance; sinusoidal alternating waveform series, parallel AC circuits, series, parallel and circuits analysis; lab experiments support circuit and component concepts; class 4 hours, lab 3 hours. Coreq: MATH 1740.

EE 121 Electronics I (4) (S,Su)  
Semiconductor device characteristics and parameters; bipolar and field effect transistors, optoelectronic devices and diodes; basic physics of these devices, biasing methods and diode application in elementary rectifier/filter circuits; small signal and power amplifier characteristics using bipolar and field effect transistors; class 3 hours, lab 3 hours. Prereq: EE 110.

EE 140 Digital Circuits (4) (F,S)  
Intro to digital circuitry basics; systems, codes,

Boolean algebra, logic circuit design, types and analysis, logic storage devices, counters, registers, arithmetic and MSI (medium-scale integration) logic circuits; lab experiments enforce logic circuits design and analysis; class 3 hours, lab 3 hours. Coreq: DSPM 0850.

EE 141 Microcomputer Circuits (4) (S,Su)  
Intense study of computer systems, permanent storage devices, registers, input-output control and programming typical computer system; lab analysis of computer circuitry; microprocessors internal architecture to microcomputers interfacing to real world systems; emphasis on design, analysis and testing of basic microcomputers consisting of MPU, RAM, EPROM, clock, control circuits, standard input/output interface devices, and micro-processor device applications; class 3 hours, lab 3 hours. Prereq: EE 140.

EE 200 Networking Technology I (4) (F)  
Emphasis on wiring, cables, telephone networks, modems, cable modems, protocol and local area networks; class 3 hours, lab 3 hours.

EE 201 Networking Technology II (4) (S)  
Continuation of EE 200, moving from cable specifications and 1-server LAN's to larger LAN's and their connections and operations; network architectures and standards, TCP/IP, Ethernet, 10 Base T, Novell, Macintosh servers, ISDN and multimedia technology; class 3 hours, lab 3 hours. Prereq: EE 200 or instructor's consent.

EE 212 Electrical Circuits II (4) (F)  
Sinusoidal currents, voltages, phasors and impedances; AC power, series, parallel circuits analysis; resistance, impedance networks and circuit theorems applied to AC/DC circuits studied; resonance, transformers and 3-phase circuit analysis; advanced practices with lab instruments in lecture and lab sessions; lab experiments support component and circuit concepts; class 3 hours, lab 3 hours. Prereq: EE 110, MATH 1750.

EE 221 Electronics II (4) (S)  
Continuation of EE 121; focus on linear integrated circuit technology; intro to decibels and frequency effects proceeding to voltage regulators, operational and differential amplifiers and application of operation amplifiers; comparators, summers, integrators, differentiators, oscillators; class 3 hours, lab 3 hours. Prereq: EE 121.

EE 250 Microcomputer Systems (4) (F)  
Thorough study of DOS, DOS EDIT, DOSHELL, DOSKEY, RAMDRIVES and Batch files; hard drive formatting, reconfiguring, and re-partitioning; advanced Turbo Basic methods including data/objects graphical display, basic object motion, and interrupts use; parallel data output to external devices like indicator lights, relays, electronic devices, and parallel data input from switches, keyboards, and various electronic devices illustrate interface techniques applied to computer control and equipment and electro-mechanical device supervision; serial communication (RS-232) to terminals and other computers illustrates ways to interconnect equipment with minimum conductors to transmit quantities data. Prereq: EE 110, 141, ET 115.

EE 251 Microcontrollers Applications (4) (S)  
Microcontroller interfacing and applications; single chip microcontrollers and single board computers in stand-alone applications; assembly level programming, program downloading, debugging; interfaces to various I/O devices and appropriate

control software development; timing waveforms generated by microcontroller using programmable interrupts to control servos, stepper motors, and DC motors; on-chip analog-to-digital convertor and multiplexer to acquire, store, and process analog signals; class 3 hours, lab 3 hours. Prereq: EE 110, 141, and ET 115 or EE 250.

EE 260 Programmable Logic Controllers (4) (F)  
PLC system and components description; program functions including sequential on-off operations, timers, counters and data comparisons; PLC instructions use to perform numerical, logic and move functions on single element and multi-element files, forcing input/output instructions; program control, sequencer, and block transfer instructions application; class 3 hours, lab 3 hours. Prereq: EE 110, 140.

EE 261 Automation Control Systems (4) (S)  
Discrete and continuous automation control systems; principle motors used as actuators in these systems; motor control devices and circuits studied; proportional, integral, and derivative control of 3-control loop model factory analyzed with theoretical discussion and lab investigation; mechanical/thermal transducers analyzed; PLC used for automatic control of factory cell; class 3 hours, lab 3 hours. Prereq: EE 121, 212, 260. Coreq: EE 221 or instructor's consent.

EE 271 Robotic Systems (4) (S)  
Basic robotics and computer-aided manufacturing systems concepts and applications; robot classification, drive methods, arm geometry, path control, controller, end of arm tooling and sensors; lab includes programming of robots, interfacing sensors to the robots, trouble-shooting basic hardware/software problems, and designing project using robots, computers, sensors, and supporting devices; robot safety stressed; class 3 hours, lab 3 hours. Prereq: EE 121, 140, MATH 1740.

EE 284 Electrical Technology for Mechanical Engineering Technology (3) (F)  
Basic electrical/electronics theory/practice for mechanical engineering technology; intro to electric and electronic devices; AC/DC circuits reviewed; emphasis on electrical power; transformers, generators, motors studied for single and 3-phase operations; electrical machinery controls studied; lectures enforced by lab experiments, videos, and tours of local companies; class 2 hours, lab 3 hours. Prereq: ET 115, MATH 1750.

EE 298 Special Topics in Electronics (1-4) (on demand)  
Special topics and/or problems in electronics; repeatable for credit on different topics. Prereq: Instructor's consent.

EE 299 Special Topics in Electronics with Lab (1-4) (on demand)  
Special topics and/or problems in electronics; repeatable for credit on different topics. Prereq: Instructor's consent.

Electrical/Electronic Engineering Technology (DuPont)

EZ 110 DC Circuits (4) (DuPont)  
Direct current electronics basics; analysis of current flow and conductors physics; study of voltage, resistance, Ohm's Law, Kirchoff's Laws, theory and use of meters, power, magnetism, inductance and capacitance; series, parallel, and

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series-parallel DC circuits analyzed using Ohm's and Kirchhoff's Laws; complex DC circuits analyzed using loop equations and Thevenin's and Norton's theorems; class 3 hours, lab 2 hours.

**EZ 111 AC Circuits (3) (DuPont)**

Alternating current electronic basics; sine waves and alternating current values analysis; waveform measurement with AC meters and oscilloscopes, inductance theory and circuits, transformer theory and applications, capacitance theory and circuits, series and parallel resonance theory and circuits, bandwidth, and -C filters; class 2 hours, lab 2 hours.

**EZ 115 Active Devices (3) (DuPont)**

Semiconductor devices theory and application; description of semiconductor materials, doping methods, and conduction; conventional/special purpose diodes, bipolar junction transistor characteristics and circuits, unipolar junction field effect transistors, and FET and MOSFET circuits, thyristors, integrated circuits, and optoelectronic devices; class 2 hours, lab 2 hours.

**EZ 116 Electronic Circuits (2) (DuPont)**

Applications of electronics theory and devices in the following analog electronic circuit configurations: Power Supplies, IC Voltage Regulators, Audio Amplifiers, Operational Amplifiers, and Oscillators; class 1 hour, lab 3 hours.

**EZ 120 Electrical Theory (3) (DuPont)**

Basic concepts and skills needed for technically competent Control Equipment Craftsman in electrical plant maintenance areas; National Electrical Code, AC/DC basics and motors, 3-phase systems, transformers, over-current protection, fuses, circuit breakers, electrical test equipment, grounding, and wiring techniques; class 2 hours, lab 2 hours.

**EZ 122 Applied Electricity (3) (DuPont)**

Electrical components common to industrial power distribution and motor control systems; electrical symbols, drawings, diagrams, and ladder logic diagrams instruction, focus on 2- and 3-wire motor control circuits and motor control devices; class 2 hours, lab 2 hours.

**EZ 124 Motor Control (3) (DuPont)**

Motor control centers circuit construction, operation, and troubleshooting applied by GE-7700 Motor Control Venter and a Rowan controller system trainer use; GE-7700 and Rowan controller analysis and troubleshooting by system level drawings, schematic diagrams, and electrical test equipment use; GE-7700 represents a manual motor control center and Rowan trainer simulates a plant installed nylon yarn wind-up system that simultaneously employs several motors; class 2 hours, lab 2 hours.

**EZ 130 Advanced Electronic Circuits (5) (DuPont)**

Advanced applications of semiconductor diodes, transistors, thyristors, digital and linear integrated circuits and optoelectronic devices; circuits devices employed in include audio, operational, and DC amplifiers, logic gates, active filters, single and 3-phase rectifiers, thyristor control and triggering circuits, waveform generation and shaping circuits, and optoelectronic circuits; class 3 hours, lab 7.7 hours.

**EZ 131 Digital Electronics (3) (DuPont)**

Theory and application of digital electronics techniques and devices; uses and physical/electronic characteristics of a wide range of integrated circuits; working knowledge of number systems,

Boolean algebra, binary codes, logic circuits, memory devices, data conversion, and digital troubleshooting also gained; class 2 hours, lab 2 hours.

**EZ 134 Basic Programmable Controls (3) (DuPont)**

Entry level programmable logic controllers (PLC) theory, operation and maintenance; generic PLC basics; PLC system component identification, ladder logic diagrams, and programming basics; lab training situations on Gould-Modicon 484 and Allen Bradley SLC-100/150 PLC systems support course and include Gould-Modicon P-180/190 and Allen Bradley T-50 programming terminals operation; class 2 hours, lab 2 hours.

**EZ 136 Operational Amplifiers (4) (DuPont)**

Operational amplifier terms, electrical characteristics, and circuits; emphasizes design, construction, and analysis of operational amplifier circuits in industrial electronics equipment; class 2 hours, lab 6 hours.

**EZ 138 DC/AC Drives (4) (DuPont)**

DC/AC drive basics; basic DC/AC motors electronic variable speed control concepts; overview of drive hardware, operation, maintenance, and troubleshooting procedures; prepares trainees for more advanced "area specific" training in maintenance shop assignment; class 2 hours, lab 6 hours.

**EZ 201 Instrumentation Theory (4) (DuPont)**

Intro to process control systems equipment and basic physics used in their operation; includes equipment instrumentation demonstrations and instruction on skills used in performing basic instrumentation practices and procedures; class 3 hours, lab 2 hours.

**EZ 203 Instrumentation Transmitters (5) (DuPont)**

Electronic and pneumatic process transmitters construction, calibration, installation, maintenance, and application; installation/removal precautions and procedures for temperature/pressure sensing elements like RTDs, diaphragm seals and thermocouples; class 3 hours, lab 7.7 hours.

**EZ 205 Valve Operations (4) (DuPont)**

Control valve construction, calibration, disassembly, reassembly, installation/removal, and maintenance presented with a hands-on approach; different types and applications of other valves; class 2 hours, lab 6 hours.

**EZ 207 Flow Control (4) (DuPont)**

Basic flow physics and theory review; flow transmitter and element construction, calibration, installation/removal, disassembly, reassembly, and repair presented with hands-on training; characteristics of tuning a single loop controller in a flow loop; class 2 hours, lab 6 hours.

**EZ 209 Instrumentation Controllers (6) (DuPont)**

Automatic and manual process controls and theory review; controller and recorder construction, calibration, installation, and maintenance presented with hands-on training; tuning a single loop controller to control various process loops; class 3 hours, lab 10.3 hours.

**EZ 210 Plant Safety (3) (DuPont)**

Prepares Control Equipment Craftsmen to recognize electrical safety hazards, plan and execute electrical jobs from a safety perspective, and follow general safety practices and protective measures as stated in EZ DuPont Engineering

Standards, the Chattanooga Plant Works Engineering Safety Handbook, and the Chattanooga Plant Lock-Tag-Clear-Try-Release Procedures; class 2 hours, lab 2 hours.

**EZ 214 Advanced Programmable Controls (5) (DuPont)**

Allen-Bradley PLC-5 family of programmable controllers as applied to manufacturing processes and advanced computer integrated manufacturing systems; hardware components, addressing modes, input/output control, ICOM software instruction set, memory organization, adapter mode communications, and troubleshooting methods; class 3 hours, lab 7.7 hours.

**EZ 215 Batch Process Controls (6) (DuPont)**

Process construction, operation, and troubleshooting applied by batch process simulator use; pressure, flow, and temperature interactions demonstrated in single and cascade process loops; process analysis and troubleshooting on a system level accomplished by the use of drawings, instrumentation test equipment and schematic diagrams; class 3 hours, lab 10.3 hours.

**EZ 216 Distributive Control Systems (6) (DuPont)**

Foxboro Intelligent Automation (I/A) Distributive Control System; focus on I/A series personal workstation functions, process control, equipment configuration, software instruction set, system maintenance, and on-line problem analysis and diagnostic procedures; class 3 hours, lab 10.3 hours.

**EZ 299 DuPont Plant Experience (6) (DuPont)**

Shop specific curriculum to enforce on-the-job training received as part of the Control Equipment Training Program; different equipment, processes, job procedures, and safety requirements in all 12 plant control equipment shops; individual shop needs and specific instruction modules met by separate course maps continue development while assigned to Control Equipment Supervisors; class 3 hours, lab 10.3 hours.

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Electrician, See "Industrial Electricity"

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Electronics, Industrial, See "Industrial Electronics"

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**Emergency Medical Services****EA 104 Emergency First Responder (3) (F,S)**

Basic knowledge of emergency pre-hospital and related skills including basic life support (CPR) and initial patient stabilization.

**EA 106 Emergency Medical Technician I (8) (F)**

First of 2 courses that can lead to eligibility for the National Registry written and practical exams for State of Tennessee licensure as an EMT-Basic; provides knowledge of emergency care of the injured or extremely ill patient; Prereq: Proof of current CPR training (American Heart Association or American Red Cross) on the "BLS (Basic Life Support) Healthcare Provider" level; must be current throughout the 2-semester course of study.

**EA 116 Emergency Medical Technician II (8) (S)**

Continuation of EA 106; enables students to take the National Registry written and practical exams for State of Tennessee licensure as an EMT-Basic; required to perform skills during

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clinical rotations at various emergency departments and ambulance services. Prereq: EA 106.

**EA 205 IV Administration (2) (S)**  
Knowledge and skills for IV administration, maintenance, and discontinuance; review of EMT–Basic content and in-depth study of pathophysiology of shock as applied to IV administration; successful completion of the course and satisfactory demonstration of required venipunctures in a clinical setting renders students eligible to take the State of Tennessee IV Therapy licensure exam and students may be eligible to take the National Registry–Intermediate written and practical exams; class 2 hours, lab 10 hours. Prereq: EA 106 or proof of current licensure as an EMT–Basic in the State of Tennessee. Coreq: EA 116.

**EA 226 Paramedic Theories I (14) (F)**  
First course in EMT–Paramedic program based on 1998 Department of Transportation EMT–Paramedic curriculum; covers preparatory subjects, airway management & ventilation and patient assessment. Prereq: EA 106, 116, 205; or equivalent. Coreq: EA 240.

**EA 227 Paramedic Theories II (14) (S)**  
Continuation of EA 226; covers medical emergencies and traumatic injuries. Prereq: EA 226, 240. Coreq: EA 241.

**EA 228 Paramedic Theories III (7) (Su)**  
Continuation of EA 227; covers Special Patient Populations, Assessment Based Management and Ambulance operations. Prereq: EA 227, 241. Coreq: EA 242.

**EA 240 Paramedic Clinical Practice I (2) (F)**  
Clinical rotations cover Ambulance observation, EMS Communications, Aeromedical services, Rescue, Labor & Delivery, Burn Unit, Operating Room and Forensic Center. Prereq: EA 106, 116, 205; or equivalent. Coreq: EA 226.

**EA 241 Paramedic Clinical Practice II (3) (S)**  
Clinical rotations cover Emergency Department and Pediatric Emergency Department. Prereq: EA 226, 240. Coreq: EA 227.

**EA 242 Paramedic Clinical Practice III (4) (Su)**  
Clinical rotation covers precepted prehospital paramedic field internship. Prereq: EA 227, 241. Coreq: EA 228.

### Engineering Technology

**ET 107 Introduction to Engineering Technology (1) (F,S)**  
Introductory course for beginning engineering technology students; topics include careers for the technician, developing good study habits, hand calculator use in engineering technology, engineering design process, and problem analysis.

**ET 112 Introduction to Space (3) (on demand)**  
History of space flight, how to achieve and maintain orbits, satellites, living and working in space, and the effects of space exploration on our daily lives.

**ET 115 Computers in Engineering Technology (3) (F,S)**  
Intro to computers for engineering technology students; Visual BASIC programming, word processing, and spreadsheets; use of computer as a

tool for subsequent courses in engineering technology. Coreq: MATH 1740.

**ET 116 Microcomputer Upgrade and Troubleshooting (2) (on demand)**  
Intro to repair, assembly and updating of PC computers; focus on hardware, but some software troubleshooting covered.

**ET 117 A+ Certification Preparation (2) (on demand)**  
Preparation for Computer Technology Industry Association A+ Certification exams; core (computer basics) and DOS/Windows exams covered; requires computer literacy and familiarity with computer hardware; Satisfactory/No Credit grading. Prereq: ET 116 or instructor's consent.

**ET 130 Preparation for the HAM Radio License (1) (on demand)**  
Prepares students for the Technician Class Amateur Radio (HAM) Licensing Examination; combination of lecture and computer-aided study software utilized; Satisfactory/No Credit grading.

**ET 180 Our World of Technology (3) (F,S)**  
Intro to the technologies of everyday living; how technology impacts communications, medicine, manufacturing, engineering and design, space, energy, and the environment; includes Internet use.

**ET 298 Special Topics in Engineering Technology (1-4) (on demand)**  
Specialized topics and/or problems in engineering technology; repeatable for credit on different topics. Prereq: Instructor's consent.

**ET 299 Special Topics in Engineering Technology with Lab (1-4) (on demand)**  
Specialized topics and/or problems in engineering technology; repeatable for credit on different topics. Prereq: Instructor's consent.

### Engineering Transfer

**EG 274 Engineering Mechanics (3), (S, day/every year), (F, night/odd years)**  
Forces and their effect on rigid bodies at rest; free body diagrams, equilibrium in 2 and 3 dimensions, moments of inertia, and truss analysis. Coreq: MATH 1920.

**EG 284 Mechanics of Solids (3), (F, day/every year), (S, night/even years)**  
Stress-strain relationships under plane and 3-D deformations; Hooke's Law, extension, bending, shear, torsion, and beam deflections; Castigliano's theorem, column design and buckling, combined stresses, stress concentrations, and failure theories. Prereq: EG 274. Coreq: MATH 2110.

**EG 285 Mechanics of Materials Laboratory (2), (F, day/every year), (S, night/even years)**  
Experiments demonstrating material mechanics theory and engineering materials characteristics; labs include measurement and accuracy, hardness, impact strength, elasticity modulus, torsion, beam bending, and column buckling; individualized design project involving analysis, design and test of a structure required; class 1 hour, lab 3 hours. Coreq: EG 284.

**EG 294 Dynamics (3), (S, day/every year), (F, night/even years)**  
Rectilinear, curvilinear, and rotary motion; work

and energy, impulse and momentum principles; emphasis on machine motions; 3-D problems. Prereq: EG 274.

**EG 298 Special Topics in Engineering (1-4) (on demand)**  
Specialized topics and/or problems in engineering; repeatable for credit on different topics. Prereq: Instructor's consent.

**EG 299 Special Topics in Engineering with Lab (1-4) (on demand)**  
Specialized topics and/or problems in engineering; repeatable for credit on different topics. Prereq: Instructor's consent.

### English

**DSPW 0690 Individualized Instruction in Writing Skills (2) (F,S,Su)**  
Individualized course for students with significant weakness in general or specific writing skills, needing individual instruction and guided practice; may be taken before or after DSPW 0700 and/or DSPW 0800; repeatable for credit; lab 4 hours. Formerly EN 069. Prereq: Assessment test recommendation or Department Head's consent.\*\*

**DSPW 0700 Basic/Developmental Writing (4) (F,S,Su)**  
Basic writing skills and grammar review; stresses applying basic mechanical skills to writing paragraphs and sentences; primary emphasis on writing coherent, well-developed, unified paragraphs; advancement to DSPW 0800 upon completion. Formerly EN 070. Prereq: COMPASS Placement.\*\*

**DSPW 0800 Developmental Writing (3) (F,S,Su)**  
Continued study and application to achieve writing skills needed for college; student will write unified, coherent paragraphs and essays in acceptable, standard form; will also produce a research essay. Formerly EN 081. Prereq: DSPW 0700 or COMPASS placement.\*\*

**ENGL 1000 Tutoring Writing (1) (on demand)**  
In-depth view of writing and tutoring process, and current writing center theory; focus on professionalism, interpersonal skills, and collaborative learning; repeatable for credit. Formerly EN 119. Prereq: ENGL 1010 and English Department Head's and Writing Center Manager's consent.

**ENGL 1010 Composition I (3) (F,S,Su)**  
Writing course focusing on exposition and argument; process and development using various rhetorical patterns. Formerly EN 110. Prereq: Placement as required by TBR specifications or DSPW 0800.

**ENGL 1020 Composition II (3) (F,S,Su)**  
Writing course based on reading and responding to short fiction, poetry, drama, and/or non-fiction prose; research paper required. Formerly EN 111. Prereq: ENGL 1010.

**ENGL 2000 Advanced Grammar and Syntax (3) (on demand)**  
Advanced English grammar and syntax concepts and specific means of their application in written/oral communication for business, industry, journalism, and general use; focus on  
*\*\*Transitional studies course (not generally transferable; not applicable to credit hours required for a degree or certificate)*

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working vocabulary, syntactical fluency, and creative editing skills for correctness, clarity, and effective style. Formerly EN 200. Prereq: ENGL 1010.

**ENGL 2050 Teaching English and Reading with the Internet (3) (F,S,Su)**

Intro to Internet resources for teaching English and reading (pre-K through 12); students visit Web sites and develop materials relevant to their own teaching needs; appropriate for students with interests in English, reading, library science, or creative writing. Formerly EN 205. Prereq: ENGL 1020.

**ENGL 2110 American Masterpieces I (3) (F)**

Framework and major movements, writers, and works of American literature from its beginning to 1865; focus on tracing the development of a national literature and literature's role in recording American cultural heritage; research project required. Formerly EN 213. Prereq: ENGL 1020.

**ENGL 2120 American Masterpieces II (3) (S)**

Framework and major movements, writers, and works of American literature from 1865 to the present; focus on the various attempts to portray the American response to the complexity of life in the 20th century; research project required. Formerly EN 214. Prereq: ENGL 1020.

**ENGL 2140 African-American Literature (3) (F)**

Literature by African-American writers from the Colonial Period to the Modern Era; readings include written versions of traditional oral forms. Formerly EN 261. Prereq: ENGL 1020.

**ENGL 2210 English Masterpieces I (3) (F)**

Literary, cultural, and historical aspects of British literature from its beginnings to 1798; focus on major genres of literature that illustrate important trends in form and thought for each historic period; research project required. Formerly EN 218. Prereq: ENGL 1020.

**ENGL 2220 English Masterpieces II (3) (S)**

Literary, cultural, and historical aspects of British literature from 1798 to the present; examines major and minor works that illustrate the important literary trends of the 2 centuries; research project required. Formerly EN 219. Prereq: ENGL 1020.

**ENGL 2240 Shakespeare: An Introduction (3) (F,S)**

Study of representative plays by William Shakespeare selected from among the comedies, tragedies, and histories; research project required. Formerly EN 207. Prereq: ENGL 1020.

**ENGL 2410 Literature of the Western World I (3) (F,S)**

Literary, cultural, and historical contributions of classical, medieval, and Renaissance periods to the value systems and world view of contemporary society; focus on development of aesthetic awareness and appreciation of literary art; research project required. Formerly EN 210. Prereq: ENGL 1020.

**ENGL 2420 Literature of the Western World II (3) (S)**

Selected readings from the 17th, 18th, 19th, and 20th centuries; focus on cultural and aesthetic values presented by the writers, their relationship to earlier literature, and their influence on contemporary literature; research project required. Formerly EN 211. Prereq: ENGL 1020.

**ENGL 2540 Literature by Women (3) (on demand)**

Historical overview of women's literary accomplishments in English; from the Middle Ages to the contemporary period; genres surveyed include the novel, autobiography, short story, feminist expository prose, drama, and poetry. Formerly EN 237. Prereq: ENGL 1020.

**ENGL 2630 Literature for Children (3) (F,S)**

Survey of children's literature with special attention to preschool and elementary; genres include folk tales, myth, fantasy, fiction, poetry, biography, and non-fiction. Formerly EN 209. Prereq: ENGL 1010.

**ENGL 2640 Children's Literature: Contemporary Issues (3) (F,Su)**

Explores changes in children's literature of the last 25 years; current literature that addresses real-life issues confronting today's child and considered both helpful and controversial; includes novels, picture books, poetry, and non-fiction for children from preschool age to junior high; how to deal with sensitive issues and censorship. Formerly EN 208. Prereq: ENGL 1010.

**ENGL 2650 Literature for the Adolescent (3) (on demand)**

Literature for the young adult with emphasis on stages of development and their relationship to the reading experience. Formerly EN 229. Prereq: ENGL 1010.

**ENGL 2710 Technical Reports (3) (F,S,Su)**

Logical organization, formatting, and stylistic conventions applied to communication in business/industry; focus on collaborative planning and presentation of research-based data and reader/listener-oriented communication; word processing assignments. Formerly EN 227. Prereq: ENGL 1010.

**ENGL 2720 Technical/Copy Editing (3) (on demand)**

Trains students in adapting technical and scientific documents to specific audiences' needs; focus on critical analysis of information and collaboration with subject matter experts, writers, other editors, and production specialists. Formerly EN 242. Prereq: ENGL 2000, 2710, OF 125.

**ENGL 2730 Writing, Layout, and Design on the Computer (3) (on demand)**

Experience in developing and producing writing projects using the computer in a variety of software applications; focus on critical nature of deadlines, collaborative effort, organization, and ethical standards required of communication professionals. Formerly EN 245. Prereq: ENGL 2710, OF 127.

**ENGL 2740 Technical Writing/Special Projects (3) (on demand)**

Creation, editing, and production of business, technical, and journalistic documents; assignments requiring both individual and collaborative effort in the completion of a variety of projects. Formerly EN 240. Prereq: ENGL 2710.

**ENGL 2750 Journalism: News Writing and Editing (3) (on demand)**

Intro to journalism principles and the practice of news reporting, writing, and editing. Formerly EN 225. Prereq: ENGL 1010.

**ENGL 2830 Creative Writing (3) (F,S)**

Instruction and practice in writing poetry and/or short fiction; students read and discuss their own

works as well as representative works by contemporary writers; repeatable. Formerly EN 238. Prereq: ENGL 1010.

**ENGL 2990 Special Studies in English (3) (F,S)**

Topics of contemporary interest in language and literature; repeatable for credit on different topics. Formerly EN 235. Prereq: ENGL 1010.

## Environmental Science

**ESC 1110 Environmental Science I (4) (F,S,Su)**

Intro to current environmental problems at global, national, and local levels; ecosystems, geochemical cycles, domestic and industrial wastes, pest control, resources, energy sources, land use, and population dynamics; lab integrates scientific approach applied to environmental problems like population growth and energy alternatives and provides hands-on experience in identification of abiotic and biotic factors affecting environment quality; class 3 hours, lab 3 hours. Formerly ES 150.

**ESC 1120 Environmental Science II (4) (F,S,Su)**

Continues examination from ESC 1110; environmental impact assessments, risk analysis and environmental health, environmental legislation overview, and selected high risk ecosystems like wetlands and bottomland hardwood forests; class 3 hours, lab 3 hours. Formerly ES 151.

**ESC 2430 Introduction to Soil Resources (4) (on demand)**

Soil genesis and formation, composition and classification, physical and chemical properties and how they relate to soil capabilities and limitations, and soil planning and management; field lab excursions and exercises reinforce lecture topics; class 3 hours, lab 3 hours. Formerly ES 240.

**ESC 2530 Introduction to Ecolonomics (3) (F)**

Principles of sustainability; application to business and community organizations; impact on economic development and corporate profitability. Formerly ES 250.

**ESC 2540 Sustainable Design (3) (S)**

Incorporates sustainability principles and basic engineering design into practical applications such as product and process design, facility design, material selection, construction and renovation, energy efficiency, community planning, and related subjects. Formerly ES 251.

**ESC 2550 Sustainable Process (3) (S)**

Public and corporate decision making and implementation processes that minimize reinvestment and foster organizations and environments which endure and prosper; techniques and tools that support sustainable decision-making. Formerly ES 252.

**ESC 2610 Organic Gardening I (2) (F)**

Scientific basis of soils and plants and their relationships as they relate to gardening without additives. Formerly ES 260.

**ESC 2650 Gardening with Native Plants (3) (F)**

Intro to using native vegetation in the landscape; appropriate for the home gardener or commercial designer; advantages of native plants, general plant ecology, plant identification, soils, landscape design, species selection, and plant propagation techniques. Formerly ES 255.

**ESC 2990 Special Topics in Environmental Science (1-4) (on demand)**

Detailed study of specific topic in environmental science; repeatable for credit on different topics. Formerly ES 299. Prereq: Instructor and department head's consent.

Environmental Technology, See "Hazardous Materials"

**Financial Management****FM 201 Financial Management (3) (F,S)**

Designed to improve decision skills related to financial resources of the firm; financial analysis techniques, time value of money, valuation, and risk; nature and scope of financial markets and investment opportunities. Prereq: BU 115, MG 103, 165.

**Financial Planning****FP 101 Fundamentals of Financial Planning (3) (F)**

Intro to financial planning principles; focus on communication with the client; basic areas of financial planning surveyed, i.e., tax planning, risk and insurance, investments, retirement benefit, and estate planning; may be used to prepare for the HS 320 exam from the American College or the CFP I exam from the International Board of Certified Financial Planners.

**FP 105 Personal/Household Financial Planning (3) (F)**

Basic course covering entire area of managing household funds; divided into "decision" areas to assist students and their counselees to apply cost/benefit analysis to all areas of spending and to manage the overall budget; monetary and advisory assistance in the community.

**FP 201 Estate Planning (4) (F)**

Thorough coverage of estate planning process particularly suited for financial planners involved in estate planning function; good preparation for HS 330 and HS 336 exams from the American College or estate planning exam from the International Board of Certified Financial planners; difficult and comprehensive course, students should have necessary prerequisites. Prereq: BU 185, FP 101, LA 110. Coreq: IS 104.

**FP 219 Computerized Financial Planning (3) (S)**  
Applications course teaching simple household budgeting and money management software and more extensive programs which track investments; students use spreadsheet software to develop their own applications; experience with computer applications required. Prereq: BU 185, FP 101, 201.

**FP 220 Comprehensive Financial Planning (3) (S)**  
Capstone course; use of material from previous financial planning courses to solve problems by case method; good preparation for HS 332 exam from the American College. Prereq: BU 185, 186, FP 101, 201.

**Fire Science****FI 111 Introduction to Emergency Services (3) (on demand)**

Emergency/non-emergency operations typically provided by municipal, volunteer and industrial emergency service organizations; historical perspectives, relevant statistics, current and future challenges, services and operations, and external agencies that regulate or impact the emergency response field.

**FI 113 Fire Alarm and Extinguishing Systems (3) (on demand)**

Function, classification, and operating principles of fixed extinguishing systems, detection systems, alarm systems, signaling systems and portable extinguishing equipment installed for fire protection and prevention purposes.

**FI 114 Building Construction for Fire Science (3) (on demand)**

Intro to fire problems relating to building construction; analysis of building construction, materials, and constructional design methods; focus on needs and requirements of institutional, mercantile, and industrial structures before, during, and after construction periods.

**FI 115 Fire Apparatus and Equipment (3) (on demand)**

Care, maintenance, and operation of fire apparatus and pumps; pump construction, accessories, and techniques, power development and transmission, troubleshooting, safe driving techniques, and fire stream development and hydraulic calculations; NFPA standards stressed.

**FI 116 Fire Fighting Tactics and Strategy I (3) (on demand)**

General fire control techniques and their application to residential fires; fire apparatus and equipment, forcible entry, ladder use, hose and hose stream application, extinguishing agents, ventilation, overhaul and salvage, and attack strategy methods. Prereq: FI 148 or instructor's consent.

**FI 119 Emergency Service Stress & Physical Fitness (3) (F,S)**

Stress and physical fitness applied to emergency service personnel; unique emergency service stresses, excessive stress identification, survival skills, and management, and critical incident stress debriefing (CISD); nutrition, exercise, strength and stamina, physical agility testing and preparation.

**FI 124 Fire Fighting Tactics and Strategy II (3) (on demand)**

Continuation of FI 116; focus on nonresidential fires; personnel and equipment distribution and use at nonresidential, commercial, industrial fires; attack strategy and methods to control hazards.

**FI 140 Emergency Laws, Standards, and SOP's (3) (on demand)**

Federal, state, and local laws that regulate emergency services; national standards influencing emergency services, and Standard Operating Procedures (SOP's) role and development. Prereq: FI 111 or instructor's consent.

**FI 142 Emergency Services Community Relations (3) (on demand)**

Community relations for emergency service field; community services, presenting a positive image,

public information management, working with the media and developing a public relations program.

**FI 146 Emergency Service Stress (1) (on demand)**

Stress and its impact on emergency service personnel; unique emergency service field stresses, excessive stress identification, survival skills, and management; critical incident stress debriefing (CISD).

**FI 148 Essentials of Firefighting (3) (F,S)**

Basic emergency service activities of municipal and volunteer fire departments; fire behavior, tactics, strategy, tools/equipment, fire ground procedures, and standard operating procedures; covers many NFPA 1001 Firefighter I topics; credit for course given for state or national certification to NFPA 1001 Firefighter I.

**FI 150 Fundamentals of Emergency Service Safety (1) (F,S)**

Intro to basic emergency service safety; focus on emergency operations safety, emergency medical safety and special hazard safety.

**FI 212 Emergency Service Supervision/Leadership (3) (on demand)**

Supervision techniques, leadership concepts, supervisory challenges, and general responsibilities.

**FI 214 Industrial and Electrical Hazards (3) (on demand)**

Special industry fire hazard identification/analysis and intro to their control; fire fighting/prevention methods related to dusts, chemicals, and explosives; radioactive materials, heating and refrigeration equipment, and static, heating and power electricity.

**FI 215 Principles of Fire Protection Chemistry (4) (on demand)**

Chemical characteristics and reactions related to hazardous materials, i.e., oxidizers, combustible solids, flammable liquids, corrosive materials and radioactive compounds; focus on identification labeling, storage, handling, disposal and fire fighting.

**FI 217 Fire Hydraulics (3) (on demand)**

Basic math and hydraulic formulas for fluid flow, friction loss and forces; internal and external fire protection water distribution and supply; fluid flow in hoses; nozzle discharge and fire streams; and application of principles to fire department operations.

**FI 225 Specialized Rescue Techniques I (3) (on demand)**

Basic techniques related to emergency service response to accidents needing specialized rescue applications; basic understanding of hazards and procedures for specialized rescue scenarios; confined space and trench or excavation accidents; protective clothing, rescue equipment, OSHA and related regulations governing confined space entry and trench operations, incident command, and rescue systems.

**FI 230 Certified Fire Fighter II (3) (on demand)**

Credit given for completion of standards set for state or national advanced Certified Fire Fighter II.

**FI 235 Fundamentals of Emergency Service Safety (3) (on demand)**

Application of safety during emergency and non-emergency operations; basic understanding of

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causes of injuries and death and how to apply that understanding to emergency and non-emergency operations; emergency operations, emergency medical, equipment and vehicle, facility, hazardous materials, wildland, and general safety, protective clothing and safety equipment.

#### FI 240 Emergency Service Instructor (3) (on demand)

Technical education instructional techniques; measurable instructional objectives, lesson plans, evaluations and class organization; production of instructional aids (slides, overheads, handouts). Credit given for national or state certification to NFPA 1041 Instructor Level I.

#### FI 255 Industrial Fire Prevention and Protection (3) (on demand)

Current management practices of reducing industry fire losses; hazard identification, risk analysis, fire prevention techniques, and protection principles reviewed using case studies; engineering controls, like detection and suppression systems; fire prevention programs, like house-keeping, flammable liquids, and hot works; emergency response programs, including public fire departments and brigades.

#### FI 260 Fire Inspection Principles (3) (on demand)

Intro to fire prevention and inspection program objectives and techniques; in-depth study of building and electrical and fire prevention codes, zoning controls, and other fire protection standards; survey of municipal fire inspector responsibilities and authority, basic blueprint reading, sketching and mapping.

#### FI 262 Fire Causes and Investigation (3) (on demand)

Analysis of fire causes; relationship of fire characteristics and causes; recognition of equipment failure responsible for fires, incendiary fires; collection, preservation, and documentation of evidence substantiating fire causes.

**FI 265 Emergency Service Administration/Management (3) (on demand)**  
Basic administration and management principles related to emergency services; review of emergency service evolution, public organization theories and principles and management approaches form basis for discussing current administration and emergency service organization management and programs. Prereq: Instructor's consent.

#### FI 266 Basic Rope Rescue (3) (F,S)

Basic rope rescue skills; safety knots, rope strengths, anchor systems, basic rigging, belays, lowering and raising systems, rappels, mechanical advantages, self-rescue, and medical packaging; must be able to perform rope rescue work and provide personal rappelling equipment and transportation to state parks and other rappelling sites; class 2 hours, lab 2 hours. Prereq: Instructor's consent.

#### FI 270 Emergency Service Strategic Planning & Innovation (3) (on demand)

Basic concepts strategic planning and innovation for emergency services; community emergency service planning issues, budgeting/cost containment, and evaluation review; alternative delivery systems, innovation management and emergency service future. Prereq: Instructor's consent.

#### FI 275 Emergency Response to Hazardous Materials (4) (on demand)

Basic principles and techniques regarding emergency response to hazardous materials incidents; recognition information, analysis and mitigation of hazardous materials incidents by emergency response personnel; regulatory considerations, detection and personal protective equipment, decontamination, and facility and transportation containers; class 3 hours, lab 3 hours.

#### FI 280 Emergency Services Practicum (3) (on demand)

Research project on real-life issues/problems within emergency service field; research findings may be applied in work environment; students identify and research contemporary emergency service problem and/or issue, prepare written report on findings, and make presentation to peer, faculty and guest evaluators. Prereq: FI 142 or instructor's consent.

#### FI 282 Information Management for Emergency Services (3) (on demand)

Tools/techniques for managing information required in day-to-day emergency service operations; gathering, manipulating, storing, retrieving, and dispersing data; capabilities and limitations of information management systems; designing an effective data management system; basic computer knowledge and use required. Prereq: Instructor's consent.

#### FI 299 Special Topics in Emergency Services (1-3) (on demand)

Topics of traditional and current interest in emergency service field; repeatable for credit on different topics. Prereq: Instructor's consent.

Foreign Language, see "French," "German," "Japanese, see 'Humanities,' " "Spanish"

### French

**FREN 1010 Elementary French I (4) (F)**  
Beginning course for students with little or no prior instruction in French; basic grammar and elementary reading; focus on idiomatic conversation and French culture; class 2 hours, lab 3 hours. Formerly FR 110.

**FREN 1020 Elementary French II (4) (S)**  
Continuation of FREN 1010; grammar, reading, and writing; focus on idiomatic conversation, listening and writing skills, and vocabulary building; class 2 hours, lab 3 hours. Formerly FR 111. Prereq: FREN 1010.

**FREN 2010 Intermediate French I (3) (F)**  
Intermediate French conversation and reading. Formerly FR 210. Prereq: FREN 1020 or 2 years of high school French.

**FREN 2020 Intermediate French II (3) (S)**  
Continuation of FREN 2010; focus on conversation, oral drills, and pronunciation. Formerly FR 211. Prereq: FREN 2010.

**FREN 2990 Special Topics in French (1-3) (F,S,Su)**  
Specific topics in French language and culture; repeatable for credit on different topics. Formerly FR 235. Prereq: FREN 1010 and instructor's consent.

### Freshman Orientation

**FC 101 College Success Seminar (1)**  
Intro to college life and expectations, career options, and skills necessary for academic success.

### Geography

**GO 101 Physical Geography (3) (S)**  
The Earth's physical environment; processes that determine Earth's climate, water, soil, landforms, vegetation, and distribution patterns of each.

**GO 103 World Geography (3) (F,S)**  
Study of selected world regions; focus on each region's characteristics, problems and global interrelationships.

### Geology

**GEOL 1040 Physical Geology (4) (F)**  
Intro to geology; Earth's age and origin; Earth materials, processes, and resultant structures; class 3 hours, lab 2 hours. Formerly GE 111.

**GEOL 1050 Historical Geology (4) (S)**  
Earth's origin and geologic history; concept of geologic time and the fossil record; class 3 hours, lab 2 hours. Formerly GE 112. Prereq: GEOL 1040.

### German

**GERM 1010 Elementary German I (3) (F)**  
Intro to the German language; basic grammar and vocabulary, cultural studies, and conversational practice; class 2 hours, lab 3 hours. Formerly GR 110.

**GERM 1020 Elementary German II (3) (S)**  
Continuation of GERM 1010; grammar, writing German, conversational drills and intro to translation; class 2 hours, lab 3 hours. Formerly GR 111. Prereq: GERM 1010.

**GERM 2010 Intermediate German I (3) (F)**  
Intermediate German grammar and reading with oral drills and conversation in German. Formerly GR 210. Prereq: GERM 1020 or 2 years of high school German.

**GERM 2020 Intermediate German II (3) (S)**  
Continuation of GERM 2010; continued emphasis on conversation. Formerly GR 211. Prereq: GERM 2010.

Graphic Design, See "Art (Fine Art and Graphic Design)"

Greenhouse, See "Landscaping and Turf Management"

### Hazardous Materials

**HZ 101 Introduction to Environmental Technology (3) (F,S)**  
Overview of environmental, safety, health, and industrial hygiene problems common to industrial, manufacturing, and construction business sectors;

environmental issues and legislative regulations; pollution types, sources, and business prevention strategies; environmental enforcement organizations and trends in business, education programs, and federal/state enforcement; hazardous chemical management; worker protection and safety programs. Prereq: DSPR 0800.

#### HZ 115 Environmental Management for Maintenance Activities (3) (F,S)

Identification of maintenance activities likely to have environmental consequences; hazards of PCB's, asbestos, lead, hazardous waste, and controlling of air emissions; discussion of activities possibly subject to regulation, necessary restrictions, and approved/appropriate work practices; class 2 hours, lab 3 hours.

#### HZ 120 Hazardous Materials Regulations (3) (F,S)

Overview of federal, state, and local regulations applying to environmental protection and chemical-use regulations; in-depth study of Environmental Protection Agency, including Resource Conservation and Recovery Act (RCRA), Comprehensive Environmental Response, Toxic Substance Control Act (TSCA), Clean Water Act (CWA), Clean Air Act (CAA), and Emergency Planning and Community Right-to-Know Act (EPCRA). Prereq: HZ 101 or instructor's consent.

#### HZ 125 Pollutant Migration (3) (S)

Methods of predicting ultimate fate and concentration and principles of meteorology and geology pertaining to migration and dispersion of hazardous materials in the environment. Prereq: HZ 101.

#### HZ 165 Maps and Mapping (3) (on demand)

Intro to types of maps, map construction, aerial photographs, remote sensing, digital image processing, computerized cartography, computerized map applications, and geographic information systems; class 2 hours, lab 2 hours.

#### HZ 170 Equipment Operations and Management (3) (F,S)

Common types of construction equipment, its operation, maintenance, and scheduling; students operate earth-moving equipment, forklifts, air-powered tools, and other equipment common to remediation projects; focus on logistical aspects of operation; class 2 hours, lab 2 hours.

#### HZ 200 Hazardous Materials Technician Certification (2) (on demand)

Critical competencies required by hazardous materials, environmental and safety technicians; 4 certificates of training upon completion: OSHA 8-hour annual update training for hazardous waste operations and emergency response; basic first aid and CPR; Department of Transportation hazardous materials employee general awareness and safety training certification; OSHA confined space operations certification; repeatable for credit and certification; Satisfactory/No Credit grading; class 1 hour, lab 2 hours. Prereq: Instructor's consent.

#### HZ 201 Special Topics in Hazardous Materials and Waste Management (1-4) (on demand)

Study of hazardous materials and waste management topics of current industrial and business interests; repeatable for credit on different topics. Prereq: Instructor's consent.

#### HZ 220 Environmental Systems Management (3) (on demand)

Review of environmental management system

requirements for general industries; intro to current business approaches to environmental compliance, PCB and asbestos management, air and water pollution compliance, oil and hazardous substance reporting and record keeping requirements, pollution prevention programs, and environmental management systems. Prereq: CS 101 (or equivalent), HZ 120; or instructor's consent.

#### HZ 225 Environmental Sampling (4) (F)

Systematic review of considerations essential to design and implementation of environmental sampling schemes for all media; focus on sampling protocols established by EPA; class 3 hours, lab 3 hours. Prereq: HZ 125, MATH 1530.

#### HZ 226 Air Monitoring and Instrumentation (3) (on demand)

Concentrated study of air monitoring and sampling methods, instrument use, analysis, and interpretation of results; focus on air monitoring uses for facility permit monitoring, toxic release reporting, and evaluation of airborne hazardous materials at hazardous waste sites; air monitoring and sampling programs and techniques, equipment use and instrument calibration, exposure guidelines, health and safety considerations, and air dispersion modeling; operating procedures for specific air monitoring and sampling equipment, and strategies for air monitoring and sampling at facilities and for accidental releases of hazardous chemicals; class 2 hours, lab 2 hours. Prereq: HZ 225 or instructor's consent.

#### HZ 227 Water Monitoring and Instrumentation (3) (on demand)

Concentrated study of water monitoring and sampling methods, instrument use, analysis, and interpretation of results; focus on standard water quality determination and wastewater monitoring uses for facility permit monitoring and toxic release reporting; prepares students to perform surface and groundwater sampling standards, prepare samples for packaging and shipping, and use various analytical instruments/devices for water sampling; class 2 hours, lab 2 hours. Prereq: HZ 225 or instructor's consent.

#### HZ 230 Chemistry of Hazardous Materials (4) (F,S)

Hazardous materials' chemical and physical properties; concepts of matter, chemical reactions, compatibility and classification, field analysis; focus on chemistry of corrosive, reactive, toxic, explosive, and oxidizing materials; intro to chemical analysis and services provided by environmental analytical labs; class 3 hours, lab 3 hours. Prereq: CHEM 1110, HZ 120.

#### HZ 234 Hazardous Waste Worker and Emergency Responder Certification (2) (on demand)

Training on competencies for hazardous materials response technicians and hazardous waste operations workers required under 29 CFR 1910 120; review of 29 CFR 1910 120 regulatory requirements; safety and emergency planning, medical surveillance, confined space procedures, respiratory protection selection/use and personal protective equipment, decontamination, drum handling, employer and employee rights and responsibilities under applicable OSHA and EPA laws; OSHA certification for routine hazardous waste site worker upon course completion; class 1 hour, lab 2 hours; Satisfactory/No Credit grading. Prereq: Instructor's consent.

#### HZ 235 Hazardous Waste Operations and Emergency Response (4) (F,S,Su)

Intro to effective principles/techniques for protecting workers against health/safety hazards at hazardous waste sites and emergency scenes involving hazardous materials; through simulated emergencies, students assess incidents, respond to emergencies, supervise simulated clean-up and response operations, and provide public relations information; class 3 hours, lab 3 hours. Recommended prereq: HZ 120.

#### HZ 240 Hazardous Waste Management (3) (S)

Hazardous waste management requirements and Department of Transportation shipping process; topics include contracting qualified disposal organizations, obtaining permits, ensuring regulatory compliance of hazardous materials, and transporting and storing hazardous materials and wastes. Prereq: CHEM 1110, HZ 120.

#### HZ 245 Hazardous Materials Practicum (2) (F,S,Su)

Consists of real-life situations in which students audit industrial facility for overall hazardous materials management and present a report to plant management, faculty, class, and guest evaluators on findings; lectures and labs aid in gathering information, developing format of presentations, and presenting high quality products; class 1 hour, lab 2 hours. Prereq: Instructor's consent.

Health and Physical Education, See "Physical Education"

## Health Information

### HEALTH INFORMATION MANAGEMENT

#### HE 101 Introduction to Medical Terminology (1) (F,S,Su)

General medical terms, common prefixes, suffixes and root words needed to build a working medical vocabulary.

#### HE 102 Laboratory Procedures (1) (F)

Common lab tests and procedures covered by body system and exams done by pathology; normal ranges and abnormal findings related to diagnoses and pathophysiology. Coreq: BIOL 1050 or BIOL 2010 or HE 103 or HS 104; or instructor's consent.

#### HE 103 Medical Terminology (3) (F,S)

Prefixes, suffixes, root words, combining forms, Latin and Greek forms, spelling, and pronunciation; focus on building working medical vocabulary based on all body systems; commonly used terms related to body disorders, medical and surgical procedures, abbreviations, charting symbols, and diagnostic terms; class 3 hours, lab 1 hour.

#### HE 110 Introduction to Health Information Management (1) (F)

Health information management (HIM) and documentation, electronic charting, role of the HIM professional, patient confidentiality, HIM ethics, and the healthcare environment.

#### HE 111 History and Physical Examination (1) (F)

Intro to all the history and physical exam elements: chief complaint, medical, family, and social history, review of systems vital signs, system specific exams and general appearance; patho-

## 2001-02 Course Descriptions

physiology history and physical elements and diagnostic work-up. Coreq: BIOL 1050 or BIOL 2010 or HE 103 or HS 104; or instructor's consent.

## HE 112 Pharmacology I (2) (F)

Intro to principles, classifications and commonly used drugs by body system; drug actions, drug sources, routes of administration, indications, adverse reactions, drug forms, and reference material utilization. Coreq: BIOL 1050 or BIOL 2010 or HE 103 or HS 104; or instructor's consent.

## HE 115 Records Management and Healthcare (3) (F)

Intro to healthcare environment, settings, medical staff organization, records management, and role of HIM (health information management); deficiency analysis, patient record format, records control, document imaging, storage, forms management, and numbering, filing and indexing systems; focus on ethical conduct of HIM professionals, understanding patient records, and using electronic charting software to create electronic medical records; class 2 hours, lab 3 hours. Prereq: Acceptance into HIM Program or instructor's consent.

## HE 122 Introduction to Medical Coding and Reimbursement (1) (F,S)

Intro to coding principles and conventions for ICD and CPT classification systems; overview of Medicare, insurance, reimbursement, accounts receivable, and collections; class 1 hour, lab 1 hour.

## HE 202 Imaging and Diagnostic Procedures (1) (S)

Radiological and imaging procedures, other diagnostic and therapeutic procedures, indications, views and positions, and other specific tests by body system; abnormal results related to pathophysiology and diagnoses. Recommended prereq: HE 103 or equivalent.

## HE 213 Human Diseases and Surgical Procedures (3) (S)

Disease processes, causes, symptoms, and treatments; focus on specialty areas; instruments, operative procedures, and surgical techniques. Prereq: BIOL 1050, HE 103; or instructor's consent.

## HE 221 Pharmacology II (1) (S)

Continuation of HE 112; generic and trade name drugs by specified body system including contrast media, radioisotopes, chemotherapy drugs, and blood products; common adverse reactions, side effects, therapeutic levels, indications, and actions. Prereq: HE 112 or instructor's consent.

## HE 222 Medicolegal and Professional Concepts (2) (F,S)

Professional standards of conduct and patient information confidentiality; focus on problems from misuse of patient information; legislative process, court system, legal vocabulary, medicolegal liability, release of information, informed consent, patient rights, risk and ergonomic management, job procurement, interviewing techniques, resumé preparation, and stress management.

## HE 225 Health Data Content, Standards, and Computer-based Patient Record (3) (F)

JCAHO, NCQA, Medicare and state licensure requirements; credentialing; data sets such as UHDDS, UACDS, MDS, HEDIS and NPBD; registries, secondary versus primary records, data dictionaries, forms and screen design; CPR

(computer-based patient record) using ASTM guidelines and HL7; class 2 hours, lab 3 hours. Prereq: HE 115 or instructor's consent.

## HE 226 Health Information Management Internship I (2) (S)

Supervised learning experience in basics of an HIM (health information management) department in hospitals accredited by JCAHO; focus on HIM procedures, computer applications including registration and master patient index, computer troubleshooting, data collection, analysis and presentation, productivity assessment and data integrity, patient confidentiality, professional conduct and ethical behavior.

## HE 242 Medicolegal, Ethical, and Confidentiality Concepts (1) (F)

Impact of legal and ethical issues on health information management; record retention, authentication, patient advocacy, subpoenaed information, release of information, security, confidentiality training, advance directives and organ donation. Prereq: HE 222 or instructor's consent.

## HE 244 Health Statistics (3) (F)

Covers common health statistics; includes converting data into information; class 2 hours, lab 3 hours. Prereq: CS 197, MATH 1530; or instructor's consent. Coreq: HE 225.

## HE 245 Medical Coding and Classification I (3) (S)

Foundation in classification and coding systems for most health care settings; focus on accurate ICD coding as major anti-fraud measure and substantiation of diagnoses and services by documentation; accurate and thorough coding as legitimate reimbursement optimizer; conventions, quality control, principal diagnosis identification, coding references, groupers, encoders, severity, sequencing and methodology; intro to other pertinent classifications; class 2 hours, lab 3 hours. Prereq: BIOL 1050, HE 122; or instructor's consent.

## HE 247 Healthcare Quality, Utilization, and Risk Management (3) (S)

Quality and risk management, utilization review, and performance improvement healthcare principles; quality improvement philosophy, data collection, analysis, and presentation, data vs. information, reporting, committee functions, critical pathways, tools, and peer review organizations; associated accreditation, credentialing, and regulatory issues; admission, care level criteria, risk management indicators, and data quality stressed; class 2 hours, lab 3 hours. Prereq: HE 225 or instructor's consent.

## HE 248 Reimbursement Methodologies (1) (S)

Prospective payment system (PPS), DRG assignment, groupers, and case mix computation; APCs, RBRVS, MDS driven PPS, other pertinent PPS systems, capitation, severity, third party payers and peer review organizations; class 1 hour, lab 1 hour. Prereq: HE 122 or instructor's consent. Coreq: HE 245 or instructor's consent.

## HE 249 Practice Management, Billing, and Compliance (3) (S)

Practice management, personnel issues, scheduling and referrals, billing/insurance, patient accounting overview, anti-fraud measures, compliance and documentation, chargemaster, EOBs, check and balance procedures, comprehensive claims tracking/reporting, financial statements, management reporting, managed

care contracts, credentialing, OSHA, CLIA, Medicare, safety and other regulatory requirements; class 2 hours, lab 3 hours. Prereq: HE 122 or healthcare environment work experience or instructor's consent.

## HE 251 Electronic Patient Information, Security, and Internet (1) (S)

Storage, transmission, and security of electronic patient information (EPI) issues; legislation, technological environment, personal identifiers and linkage, remote access security, Internet utilization, data integrity, types of integrity breaches, sanctions, encryption, non-repudiation, digital signatures, and certificate authorities; class 1 hour, lab 1 hour. Prereq: HE 242 or instructor's consent.

## HE 252 Health Information Systems and Knowledge-based Applications (1) (S)

Health information systems (HIS) and knowledge-based systems; use of HIS in healthcare facilities and library research techniques; transcription, dictation, and voice recognition, biometrics, arden-syntax, auto-identification technologies, MEDLINE, CINAHL, Index Medicus, and Internet resources pertinent to HIM practice; class 1 hour, lab 1 hour. Coreq: HE 247 or instructor's consent.

## HE 255 Medical Coding and Classification II (3) (Su)

CPT; coding and documentation; relationship of coding to managed care, compliance, and chargemasters; APCs, groupers, encoders, and coding references; class 2 hours, lab 3 hours. Prereq: HE 122, 213, 245; or instructor's consent.

## HE 256 Health Information Management Internship II (2) (S)

Continuation of HE 226 with addition of solving personnel problems, budgeting, ergonomic planning, promoting HIM services, transcribing, and gaining experience in health information management (HIM) in non-acute healthcare facilities; focus on coding skills and quality management. Prereq: HE 245, 249; or instructor's consent.

## HE 277 Speech Recognition Technology (2) (F,S)

All speech recognition competencies covered; history, current products, hardware compatibility, dictating and editing into a word processor, creating, developing, and manipulating special vocabularies, designing customized templates, and downloading digital voice files from a handheld recorder. Prereq: Computer competence.

## HE 278 Speech Recognition Technology Laboratory (1) (F,S)

Application of principles from HE 277 within context of medical applications; if taken by distance education purchase of software and minimum computer system specifications required; lab 3 hours. Coreq: HE 277.

## MEDICAL TRANSCRIPTION

HE 116 Medical Transcription Practice I (6) (F) Provides basic knowledge and skills to accurately transcribe medical dictation from physicians and allied health professionals; proper content of medical reports, reference material use, transcription equipment, and professional and ethical conduct; upon successful completion, students possess skills to interpret and transcribe routine medical reports. Prereq: Acceptance into Medical Transcription Certificate program or instructor's consent.

## 2001-02 Course Descriptions

HE 229 Medical Transcription Practice II (6) (S)  
Continuation of HE 116; transcription skills for cardiology, orthopedics, pathology, radiology, gastroenterology, and all major report categories including history, consultations, physicals, discharge summaries, emergency room records, and operative reports. Prereq: HE 116 or instructor's consent.

HE 234 Medical Transcription Internship (4) (Su)  
Opportunity for extensive experience through "live" transcription within healthcare facility's transcription unit or at a medical transcription company; student gains familiarity with policies, procedures, and management techniques within professional setting while under supervision of skilled medical transcriptionist; transcription performed at work site for 180 hours. Prereq: HE 229.

### Health Physics

NU 101 Health Physics and Industrial Hygiene Seminar (1) (F)

Intro to disciplines of health physics and industrial hygiene; lectures and video presentations provide overview of basic features of both fields.

NU 104 Radiation Protection and Radiological Health Administration (4) (F,S)

Radiation dosimetry, biological effects of ionizing radiation, radiation protection standards for general public, occupationally exposed, and special groups; theory and application of basic radiation detection instrumentation used in radiation protection; class 3 hours, lab 3 hours. Coreq: HS 155 or NU 204.

NU 154 Atomic and Nuclear Physics (4) (S)

Atomic and electrical nature of matter and the elementary theory of the nucleus, fundamental particles, natural and artificial radioactivity and nuclear reactions; class 3 hours, lab 3 hours. Coreq: MATH 1910.

NU 204 Introduction to Health Physics and Industrial Hygiene (4) (F,S)

Radiation-induced ionization concept, measurement methods, and basic radiation safety elements; atomic and nuclear structure, types of ionizing radiation, radioactive decay, intro to gamma ray physics, shielding, distance/intensity relationships, dosimetry and instrumentation, health effects, waste disposal, fission/fusion, and occupational health issues; class 3 hours, lab 3 hours. Prereq: DSPM 0850.

NU 264 Health Physics (4) (S)

Concentrated study of practical radiation protection principles; problems in radiation physics/biology, radioactive decay, interactions, counting statistics, radiation units, regulations, personnel monitoring, instrumentation, dosimetry, waste disposal, air and water sampling, shielding, x-ray safety, and radiography and laboratory facility design; class 3 hours, lab 3 hours. Coreq: NU 104, 204.

### Health Science

HS 104 General Medical Terminology I (3) (F,S)  
A 2 semester sequence for those actively engaged, or who plan to be engaged, in any health related work phase; improves medical vocabulary; class 3 hours, lab 1 hour.

HS 111 Health Care Overview (1) (on demand)  
Overview of current health care milieu; broad topics include health care environment, careers, and dynamics; appropriate for anyone interested in health care career or higher understanding of health care system.

HS 114 General Medical Terminology II (3) (F,S)  
Continuation of HS 104; class 3 hours, lab 1 hour. Prereq: HS 104.

HS 119 Caregiver Skills (9) (on demand)  
Basic theoretical principles and application of skills necessary to provide care to developmentally challenged individuals; opportunity for supervised demonstration of skill competency. Prereq: Acceptance into Supportive Care Specialist program.

HS 123 Introduction to Radiation Oncology (3) (F)

Overview of radiation therapy; medical terminology, ethics and the law, patient care, cancer management, radiation therapy rationale, usage, and physics, and basic machine usage. Prereq: Acceptance into Radiation Therapy Technology Program. Coreq: HS 172, 214, 220.

HS 145 X-Ray Physics I (4) (F)

First of 2-course series in basic x-ray physics; physical phenomena associated with x-ray production, quantity, quality, measurement method, dose and exposure units, and basic theory of photographic image formation by x-rays; basic physics of DF/DR, CT, MR, and ultrasound, and basic radiobiology principles; focus on math and basic electrostatics and mechanics needed for complete understanding of x-ray physics principles; x-ray production, interaction with matter, factors that control quantity and quality of x-ray emission, and methods of controlling scatter radiation; class 3 hours, lab 3 hours. Prereq: Admission to Radiologic Technology Program.

HS 155 X-Ray Physics II (4) (S)

Continuation of HS 145; latent and manifest image formation principles, DF/DR, CT, US, and MR basic physics, factors that influence radiographic image quality, and general tomography, image intensified fluoroscopy, stereoradiography and mammography principles; x-ray facility design, radiobiology, radiation effects and protection, and health physics; class 3 hours, lab 3 hours. Prereq: HS 145.

HS 172 Anatomy and Imaging (2) (F)

In-depth study of transverse, longitudinal, sagittal and coronal cross sections of the total body; use of computerized tomography, magnetic resonance, ultrasonography and nuclear medicine images in the localization and follow-up of tumors after radiation treatment. Prereq: Acceptance into Radiation Therapy Technology Program, college level Anatomy and Physiology course. Coreq: HS 123, 214, 220.

HS 184 Radiation Biology (3) (S)

Unified coverage of ionizing radiation effects in biological systems; radiation effects on developing embryonic systems in plants and animals; acute radiation effects in whole animals and prokaryotic cells; class 3 hours, lab 2 hours. Prereq: Admission to Radiologic Technology Program.

HS 200 Clinical Education Methodology (3) (on demand)

Aids instructors or future instructors in allied health and nursing programs to develop knowledge, skills and attitudes needed for ef-

fective teaching, supervision, and evaluation of students in clinical settings; focus on presenting real-world experience by providing students the opportunity to design, develop, implement and evaluate instruments and strategies transferable to clinical settings. Prereq: Instructor's consent.

HS 214 Radiation Physics I (4) (F)

Basic classical and modern physics concepts needed for thorough knowledge of physics related to radiation therapy; math concepts needed for physics principles. Prereq: Acceptance into Radiation Therapy Technology Program. Coreq: HS 123, 172, 220.

HS 220 Clinic I (8) (F)

Intro to radiation oncology, basic radiation therapy treatment procedures, and care/management of cancer patients; administrative structure, key personnel, operational protocol, and radiation therapy technology profession as a whole; 520 clinic hours. Prereq: Acceptance into Radiation Therapy Technology Program. Coreq: HS 123, 172, 214.

HS 223 Radiation Oncology I (3) (S)

Intro to disease, types of growths, causative factors and biologic behavior of neoplastic disease concepts; intro to staging procedures and specific malignant disease entities by site of occurrence; disease processes and treatment planning philosophy and inter-relating of treatment planning with clinical radiation therapy. Prereq: HS 123.

HS 224 Radiation Physics II (4) (S)

Continuation of HS 214; enhanced understanding of basic classical and modern physics concepts needed for thorough knowledge of physics involved in radiation therapy. Prereq: HS 214.

HS 230 Clinic II (1) (S)

Second in 3-course series in radiation therapy clinical methodology; work done with clinical personnel in a team approach to radiation therapy treatment; series offers the opportunity to develop skills and gain knowledge in radiation protection and quality assurance, simulation and treatment planning, treatment procedures using multiple megavoltage machines, and patient care and management; 520 clinic hours. Prereq: HS 220. Coreq: HS 223, 224.

HS 233 Radiation Oncology II (3) (Su)

Continuation of HS 223; concepts of disease, types of growths, causative factors and biologic behavior of neoplastic disease; intro to specific malignant disease entities by site of occurrence; disease processes, staging, and treatment planning philosophy and inter-relating of treatment planning with clinical radiation therapy. Prereq: HS 123, 223.

HS 240 Clinic III (1) (Su)

Continuation of HS 230; students work with clinical personnel in team approach to radiation therapy treatment; 450 clinic hours. Prereq: HS 230. Coreq: HS 233, 243.

HS 243 Radiation Biology and Hyperthermia (3) (Su)

Intro to medical aspects of radiobiology, including cellular, systemic, and total body responses; somatic and genetic effects of radiation; use of radiobiology in the clinical practice of Radiation Therapy; concept of hyperthermia. Prereq: Successful completion of all previous courses in Radiation Therapy Technology Program. Coreq: HS 233, 240.

## 2001-02 Course Descriptions

HS 299 Special Topics in Allied Health (1-3) (on demand)  
Selected topics of interest in allied health; repeatable for credit on different topics. Prereq: Instructor's consent.

History

HIST 1010 Western Civilization I (3) (F)  
General survey of political, economic, social, cultural, and intellectual history of mankind from the Paleolithic period through the Scientific Revolution that has influenced Western Civilization. Formerly HI 205.

HIST 1020 Western Civilization II (3) (S)  
General survey of political, economic, social, cultural, and intellectual history of mankind since the Scientific Revolution that has influenced Western Civilization. Formerly HI 206.

HIST 1110 History of World Civilizations I (3) (F)  
Civilizations/cultures of India, China, the Greeks and Romans, Africa, the World of Islam, Japan, Western and Southeast Asia, Western Europe and the New World to 1500; unique factors in history, art, literature, religion, philosophy, and economics. Formerly HI 207.

HIST 1120 History of World Civilizations II (3) (S)  
New world patterns in Africa, China, Japan, Europe, the Middle East, Soviet Union, Muslim Empires, and Western Hemisphere, 1500–present; religious and cultural reforms, wars, revolutions, communism, and growth of independent countries within global perspectives. Formerly HI 208.

HIST 1180 Heroes and Villains (3) (F)  
Biographical approach to world history; personalities and their roles in shaping the modern world selected from a variety of fields of human activity: politics, science, philosophy, religion, economics, war, etc.; focus on interpretations of individuals' roles in history. Formerly HI 118.

HIST 2010 United States History I (3) (F,S,Su)  
Survey of United States history to Reconstruction; focus on political, diplomatic, economic, social, cultural and intellectual phases of American life in its regional, national, and international aspects. Formerly HI 203. Prereq: ENGL 1010.

HIST 2020 United States History II (3) (F,S,Su)  
Survey of United States history since the Civil War; focus on political, diplomatic, economic, social, cultural, and intellectual phases of American life in its regional, national, and international aspects. Formerly HI 204. Prereq: ENGL 1010.

HIST 2030 Tennessee History (3) (F)  
Survey of the state's history from its beginnings to the present; consideration of its social development, population, economy, political life, and geography. Formerly HI 271.

HIST 2130 Afro-American History (3) (S)  
Study of black people in America from their African origins to the present; highlights and unique nature of the Black Experience in America; the structure, problems, and potential of the Black Community; intro to thoughts and contributions of Black leaders. Formerly HI 261.

HIST 2530 The Holocaust and Jewish Civilization (3) (F)  
Chronicles the origins, progression, and culmination of the Holocaust and grapples with questions and issues surrounding this human catastrophe; endeavors to understand the rich European Jewish heritage and civilization virtually destroyed and to analyze the continuing impact of modern racial nationalism in the world today. Formerly HI 251.

HIST 2990 Special Topics in History (1-3) (on demand)  
Specific topics of traditional and current historical interest; includes relevant political and social developments and issues; repeatable for credit on different topics. Formerly HI 235.

Horticulture, See "Landscaping and Turf Management"

Hospitality Management

HM 101 Hospitality Internship I (3) (F,S)  
Work experience in variety of career specialties related to hospitality management; student will work at an approved local hospitality business a total of 135 hours during the semester. Prereq: HM 103.

HM 103 Introduction to Hospitality Management (3) (F,S)  
Past and present objectives of the hospitality industry; focus on ownership and management, organization, front and back office operations, guest services, food and beverage operations, housekeeping, engineering, security, marketing and sales, and trends/innovations; field trips and guest speakers.

HM 201 Hospitality Internship II (3) (F,S)  
Work experience in a variety of career specialties related to hospitality management; student will work at an approved local hospitality business a total of 135 hours during the semester. Prereq: HM 101, 103.

HM 213 Hotel/Motel Management: Front Office Operations and Administration (3) (F)  
Hotel/motel front office operations and administration; rooms, bedding and rates, reservations, check-in, check-out, statistics, reports, and guest relations; computer simulations in reservations availability, retrieving and updating reservations, check-in, guest accounts, charges, credits, and check-out.

HM 223 Management of Food and Beverage Operations (3) (F)  
Food and beverage organization and operations; focus on food and beverage service methods, accounting, and cost controls; banquet sales and services; human resource management, entrepreneurship, insurance and legal issues.

HM 233 Hospitality Sales and Marketing (3) (S)  
Hospitality marketing in lodging, food and beverage, and tourism organizations; focus on transactions between buyer and seller, client behavior, pricing strategies, marketing research, planning, organization, and communication; personal selling and marketing to organizations.

HM 243 Lodging Management (3) (S)  
Basic elements of lodging operations; business

office organization, rooms division operations, basic hotel accounting, financial planning; human resource issues; practical applications to the successful daily management of inns, hotels, motels, resorts, and specialty lodging facilities.

HM 255 Tourism and Travel (3) (F)  
Economic and social forces affecting tourism and travel industry; domestic and international markets, services and functions of retail and wholesale establishments that attract travelers/tourists; motivations for travel, economic impact of tourism and tourism marketing and research essentials; presentations by local tourism officials and professionals.

HM 265 Conference/Convention Management (3) (S)  
Methods and techniques of providing world class service in conference/convention management; food procurement, production and service; hotel/motel selection; facility arrangement; and other necessary requirements to meet specific individual needs.

HM 274 Regional Tourist Attractions (3) (S)  
Students research history/development of area and regional tourist attractions including importance of each in attracting tourists; area hotels/motels, restaurants and shopping opportunities examined; field trips and guest speakers.

HM 280 Introduction to Culinary Preparation (3) (F)  
Lecture and demonstration of culinary preparation basics and principles; menus, recipes, and temperature application and seasonings, stocks and sauces covered to provide students with theoretical and practical basis for understanding food preparation.

HM 281 Hot and Cold Food Preparation (3) (S)  
Lecture and instructional demonstration of edible foodstuffs, their groups, hot and cold preparation techniques, classical foods, and food combinations for individual dishes and entire meals.

HM 282 Introduction to Professional Baking Methods (3) (S)  
Lecture and instructional demonstration of various components of baking, encompassing sweet and savory bread, cakes, pies and pastries, their preparation and decorative presentation.

HM 299 Special Topics in Hospitality (1-6) (F)  
Selected hospitality-related topics of current and special interest; repeatable for credit on different topics; maximum of 6 hours applicable toward a degree.

Human Services

HR 101 Introduction to the Field of Social Welfare (4) (F,S)  
Intro and orientation to social welfare; focus on professional values/ethics and the diversity of groups served; historical development and present structure; minimum of 45 observation hours and supervised volunteer service in appropriate settings required.

HR 113 Introduction to Individuals with Developmental Disabilities (3) (F,S)  
Intro to the atmosphere in which developmentally disabled individuals live and their relationship to family, the community, caregivers, ethics and normal development.

**HR 123 Requisite Skills for Direct Caregivers (3) (F,S)**

Intro to knowledge, skills and abilities needed for valid and reliable quality care of the developmentally disabled; aids in development of knowledge, skills and abilities necessary for minimum standard of care. Prereq: HR 113.

**HR 125 Community Social Services (3) (S)**

Survey of community social services to consider as resources in making effective referrals for human services in the Chattanooga Metropolitan area. Pre/Coreq: HR 101 or instructor's consent.

**HR 130 Substance Abuse Theories (3) (S)**

Social, political, physiological, and behavioral implications of alcohol/drug abuse; theories of drug-alcohol addiction stages, dynamics and nature of psychoactive substances, and theories/methods of substance abuse prevention; focus on family dynamic models, co-dependency, and disease concept.

**HR 135 Special Topics in Human Services (1-3) (on demand)**

Specific topics of interest in human services and social welfare; repeatable for credit on different topics.

**HR 205 Human Relations and Explorations (3) (F)**

Intro to social and psychological concepts and problems of communication in interpersonal transactions; affective behaviors, relations with others, and communication process dynamics. Pre/Coreq: HR 101.

**HR 210 Methods of Human Service Practice (3) (F)**

Multi-disciplinary approach to development of understanding of the roles, treatment modalities, and practice settings in which human services specialists may be involved. Prereq: HR 101.

**HR 219 Family Dysfunction (3) (F)**

Examination of interpersonal interaction patterns in dysfunctional families and their problems in contemporary American society; focus on examining emotional and physical abuse, drug addiction, alternative life styles, and changing sex roles.

**HR 220 Human Services Practicum (6) (S)**

Minimum of 200 hours supervised field instruction in social agencies dealing directly with human problems; student applies and demonstrates appropriate mastery of necessary knowledge/skills required for beginning practice; in-class activities include on-campus seminars. Prereq: HR 101, 210.

**HR 240 Group Dynamics (3) (on demand)**

Intro to interpersonal concepts and problems of communication in interpersonal transactions; focus on understanding group processes, developing ability to facilitate communication between others in group settings and specific group process competencies.

**HR 245 Introduction to Counseling (3) (S)**

Comparative analysis of major theoretical approaches to counseling and psychotherapy practice; psychodynamic, behavioral, cognitive behavioral, gestalt, transactional analysis, rational-emotive therapy and systems theory.

**Humanities****HUM 1000 Seeking Spirituality for the Twenty-first Century (1) (F,S)**

Intro to religious issues from the end of the 20th and beginning of the 21st century; organized religious movement in the American experience and speculation on religion's direction in the near future. Formerly HU 100.

**HUM 1010 Introduction to the Humanities I (3) (F,S,Su)**

Historical approach to pivotal ideas, systems of thought, and creations of the Western world from antiquity to AD 1600; survey of the creative activities of man (e.g. music, drama, painting, sculpture, architecture, and literature) as reflections of the culture that produced them. Formerly HU 110. Coreq: ENGL 1010.

**HUM 1020 Introduction to the Humanities II (3) (F,S)**

Historical approach to pivotal ideas, systems of thought, and creations of the Western world from approximately AD 1600 to the present; survey of the creative activities of man (e.g. music, drama, painting, sculpture, architecture, and literature) as reflections of the culture that produced them. Formerly HU 112. Coreq: ENGL 1010.

**HUM 1230 Philosophy of Science and Technology (3) (F,S,Su)**

History of major scientific and technological achievements in the modern age and their relevance to the world view of Western civilization. Formerly HU 120.

**HUM 1530 Elementary Japanese Language and Culture (3) (on demand)**

Beginning course in Japanese language and culture; focus on acquiring skills to communicate in basic Japanese and on a comprehensive understanding of traditional and modern Japanese culture and society. Formerly HU 115.

**HUM 1550 Introduction to Service-Learning (3) (F,S)**

Nature of philanthropy, call for community service, and the role of the individual in societal transformation through service. Formerly HU 150.

**HUM 2030 Religions of the World (3) (F,S,Su)**

Main tenets of the world's great religions, including Christianity, Judaism, Confucianism, Shintoism, Hinduism, Buddhism, and Islam; focus on the teachings common among these religions and their influence on thought and action. Formerly HU 210. Prereq: ENGL 1010.

**HUM 2040 Religion in America (3) (on demand)**

Survey of religion's historical development in the American experience; major movements, divisions, theological issues, and personalities woven into the mosaic of religion in America from the Puritan heritage to modern secularism and cultural pluralism. Formerly HU 220. Prereq: ENGL 1010.

**HUM 2130 Mythology (3) (F,S)**

Cross-cultural survey of the creation, hero, and fertility myths of diverse cultures including Middle Eastern, European, African, Oriental, and North and South American; study of Classical Greek Mythology. Formerly HU 213.

**HUM 2140 Folklore and Native Culture (3) (on demand)**

Basic theory and working vocabulary of folklore

related to the individual student's geographical origin and personal experience; special focus on family, community, and regional cultures. Formerly HU 238. Prereq: ENGL 1010.

**HUM 2330 Contemporary Women Artists and Writers (3) (on demand)**

A course focused on a diversity of multicultural selections; critical reviews of the way women perceive themselves as expressed in 20th century imagery and the impact of this vision. Formerly HU 230. Prereq: ENGL 1010.

**HUM 2550 Leadership Development (3) (F,S)**

Leadership philosophy, practices and skills; focus on learning and application of basic leadership concepts; decision making, empowerment, trust, goal-setting and conflict resolution; selected readings in the humanities and exposure to and critical analysis of media including art, literature, film, and music explore leadership styles. (Same as PY 250; credit not allowed for both courses.) Formerly HU 240. Prereq: ENGL 1010.

**HUM 2990 Special Topics in Humanities (3) (on demand)**

Specific topics of traditional and current relevance in Humanities disciplines; repeatable for credit on different topics. Formerly HU 235. Prereq: ENGL 1010.

HVAC, See "Air Conditioning/Refrigeration"

**Industrial Electricity****IE 000 Industrial Electricity (F,S,Su)**

Basic electricity, National Electric Code, AC/DC motors, generators, alternators, programmable logic controllers, hydraulics, symbols, pneumatics, line diagrams, manual contactors and manual motor starters; installation and repair of TVRO satellite systems; hands-on experience in residential wiring and conduit bending; 30 clock hours/week.

**Industrial Electronics****ER 000 Industrial Electronics (F,S,Su)**

Theory and practical application in electronic equipment repair and maintenance, including communications and video equipment, computers, programmable logic controllers, and other solid state, digital, and computer-oriented electronics; provides preparation for the National Electronics Certification Test (leading to Certified Electronics Technician designation) and Federal Communications Commission Test; 30 clock hours/week.

**Industrial Hygiene****IH 104 Essentials of Industrial Hygiene (4) (F,S)**

Basic industrial hygiene practice; recognition, evaluation, environmental health hazards control; overexposure health effects, exposure limits, health hazards recognition, monitoring, and sampling methods, instrumentation, and hazard control techniques; on-site industrial hygiene surveys at 2 industrial plants; class 3 hours, lab 3 hours. Prereq: DSPM 0850. Coreq: CHEM 1110.

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IH 190 Special Topics in Industrial Hygiene and Occupational Health (1-4) (on demand)  
Specific topics of current importance or interest to business and industry in occupational health or industrial hygiene; repeatable for credit on different topics. Prereq: Instructor's consent.

IH 204 Industrial Hygiene Sampling and Monitoring (4) (F,S)  
Intro to principles and procedures to assess human exposure to hazardous agents in the environment; focus on occupational hazards; environmental and personal exposure monitoring for chemical and physical agents; survey planning, calibration, data analysis, dosimetry, and record-keeping; on-site industrial hygiene surveys at 2 production plants; class 3 hours, lab 3 hours. Prereq: IH 104.

IH 214 Industrial Hygiene Control Technology (4) (S)  
Methods to prevent/reduce hazardous environmental agents exposure; focus on occupational hazards; safety engineering design, process containment of chemicals, substitution of safer materials, enclosure, automation, mechanical ventilation, administrative controls, shielding, and personal protective devices; on-site industrial hygiene surveys at 2 production plants; class 3 hours, lab 3 hours. Coreq: IH 104.

### Industrial Maintenance Mechanics

ID 000 Industrial Maintenance Technology (F,S,Su)  
Theory and practical applications in industrial maintenance; blueprint reading, welding, machine shop, electricity, hydraulics, pneumatics, HVAC, general building maintenance; 30 clock hours/week.

### Industrial Management

IM 204 Production and Inventory Control (3) (S)  
Concepts and techniques of production and operations management; quantitative methods used to solve service and production-oriented problems; written communication skills also developed. Prereq: Instructor's consent.

IM 225 Statistical Quality Control (3) (S)  
Statistical methods for process capability and output variability analysis as required in a total quality management environment; application of acceptance sampling plans as specified in published industrial standards. Prereq: MATH 1510. Coreq: MATH 1520.

IM 230 Work Design and Measurement (3) (F)  
Basic principles of motion and time study applied to design and measurement of work; skills for increasing productivity, improving equipment utilization, reducing human effort, conserving materials and energy, and advancing the goals of the organization. Prereq: DD 114, MD 184; or instructor's consent.

### Information Systems

CS 101 Computer Literacy (3) (F,S,Su)  
Information about the nature of a computer applied to the roles that computers play in society; intro to the use and operation of microcomputers and commercial applications software

packages; basic components of a computer, computer applications, data processing careers, electronic spreadsheets, databases, intro to word processing, and issues in computing.

CS 102 Introduction to Computer Software (3) (F,S,Su)  
Basic components of microcomputers; use of commercial applications including word processing, electronic spreadsheets and presentation graphics. Not designed for transfer.

CS 104 Fundamentals of Information Systems (3) (F,S,Su)  
Overview of the information systems discipline; base number systems, computer, data, and file organization, career opportunities, and current technology concepts.

CS 114 Concepts of Programming (3) (F,S,Su)  
Basic concepts of traditional computer program design, design tools, and an intro to object technology.

CS 124 Visual BASIC I (3) (F,S)  
Intro to the concepts of computer program design through the Visual BASIC language; use of controls, forms, code modules, functions and procedures to create Windows applications. Coreq: CS 114 or department head's consent.

CS 133 Control Language, Operations, and Utilities (3) (on demand)  
Training in operation skills; coding and use of commands, utilities, procedures, print spools, and job queues. Prereq: Instructor's consent.

CS 134 RPG Programming Language (4) (F,S)  
Intro to RPG (Report Program Generator) language concepts; essential topics for business data processing; programming assignments include problems common to payroll, sales analysis, accounts payable, accounts receivable, and inventory control systems; class 3 hours, lab 2 hours. Prereq: CS 104, 154; or instructor's consent.

CS 150 Principles of Web Site Design (3) (on demand)  
Design concepts and principles for designing web sites; intro to tools for creating, enhancing, and publishing a web site. Prereq: CS 101 or instructor's consent.

CS 151 Building Web Sites (3) (on demand)  
Use of current web authoring tools to create web sites; focus on web page construction and use of themes, templates, and forms. Prereq: CS 150 or instructor's consent.

CS 154 COBOL Programming Language I (3) (F,S)  
Intro to using COBOL language to solve typical business problems; primarily for Information Systems or Accounting Technology majors; programming assignments include payroll, sales analysis, accounts payable, accounts receivable, and inventory control; class 3 hours, lab 2 hours. Prereq: CS 114 or instructor's consent.

CS 160 Java Programming I (3) (on demand)  
Intro to the Java programming language; includes object-oriented techniques and development of simple applications and applets. Prereq: CS 114 or instructor's consent.

CS 161 Java Programming II (3) (on demand)  
Continuation of CS 160; covers advanced features of the Java programming language. Prereq: CS 160 or instructor's consent.

CS 176 Microcomputer Operating Systems (3) (S)  
Microcomputers, operating systems, system commands, and machine codes; data representation and elementary machine instructions studied in detail; survey of communication codes and terminology. Prereq: CS 104 or instructor's consent.

CS 185 C++ Programming Language (3) (S)  
Intro to computer program design concepts and development using the C++ programming language; orientation towards syntax, usage, modularity of program design, and development of program libraries. Prereq: CS 114; or experience with a block structure language or instructor's consent.

CS 190 Introduction to Macintosh (3) (F)  
Intro to Macintosh computers, system maintenance, software installation, use of peripherals, efficiency enhancement; survey of mainstream advertising and graphic arts software. Prereq: Instructor's consent.

CS 197 Spreadsheet Software Applications (3) (F,S)  
Designed for students who have been introduced to microcomputer use and operation, have basic knowledge of Windows environment, and wish to learn to use electronic spreadsheet software package.

CS 198 Database Software Applications (3) (F,S)  
Designed for students who have been introduced to microcomputer use and operation, have basic knowledge of Windows environment, and wish to learn to use commercial database software package.

CS 204 Microcomputer Architecture (3) (F)  
Provides background for using the microcomputer as a business tool; microcomputer basics with focus on hardware components and configurations, security, and networking. Prereq: CS 104 or instructor's consent. (Same as NW 204; credit not allowed for both courses.)

CS 205 Computer Networks (3) (F)  
Basic data communications and networks; data communication concepts, standards, local area networks OSI model, and network hardware and software. Prereq: CS 176 or instructor's consent. Coreq: CS 204.

CS 215 Local Area Network Management (3) (S)  
Management of computer local area networks; server and workstation installation, network performance management, managing client services, print services, and security. Prereq: CS 205 and experience with microcomputers or instructor's consent.

CS 225 Visual BASIC II (3) (S)  
Intro to the advanced features of Visual BASIC programming language; file processing, data access, and communicating with other Windows applications (including object linking and embedding). Prereq: CS 124.

CS 231 Numerical Methods (3) (on demand)  
Foundation for basic numerical methods; higher order equations, systems of equations, interpolation and curve fitting, numerical integration, and differential equations; problem solution using the computer and elementary discussion of error control. Prereq: CS 185. Coreq: MATH 1920.

**CS 233 Interactive RPG Programming (3) (on demand)**

Intro to menus, screen design, and interactive processing as included on IBM midrange systems; essential on-line business data processing topics covered; examples and assignments include problems common to payroll, sales analysis, accounts payable, accounts receivable, and inventory control systems. Prereq: CS 134 or instructor's consent.

**CS 235 Systems Implementation and Documentation (3) (on demand)**

Trains students in skills required of programmers; advanced features of operating commands, utilities, procedures, help screens, and documentation, and implementation, modification, and documentation of a business system. Prereq: CS 133, 233.

**CS 244 Systems Analysis and Design (3) (S)**

Integration of manual and data processing techniques applied to business and science; complex application areas studied with view toward development and analysis of systems and procedural improvements; focus on case study approach. Prereq: Advanced standing or instructor's consent.

**CS 248 Survey of Computer Topics (1-4) (on demand)**

Specialized topics and/or problems in information data processing selected and studied at an introductory level; repeatable for credit on different topics. Prereq: Instructor's consent.

**CS 249 Topics in Computer Applications (3) (on demand)**

Specialized topics and/or problems in computer data processing selected and studied in detail; repeatable for credit on different topics. Prereq: Instructor's consent.

**CS 250 Advanced Web Page and Site Design (3) (S)**

Development of web sites driven by underlying databases; Active Server Page (ASP) technology; client-side and server-side scripting. Prereq: CS 124, 151, 296; or instructor's consent.

**CS 280 COBOL Programming Language II (3) (F,S)**

Continuation of CS 154; advanced features of the COBOL language used to solve typical problems encountered in a business environment. Prereq: CS 154 or instructor's consent.

**CS 293 Microcomputer Software Applications (4) (F,S)**

Designed for those who will use a suite of commercial software applications in the office setting; must have working knowledge of word processing software applications and excellent keyboarding/document formatting skills. Prereq: OF 114, 126; or instructor's consent.

**CS 296 Principles of Database Management Systems (3) (F)**

Basic concepts of database management systems (DBMS); terminology, types of systems, large and small system implementation, report generators, and user interface. Prereq: At least 1 programming language course.

**CS 299 Special Projects (3) (S)**

Integrates concepts and skills learned in previous programming courses; focus on solutions to typical problems encountered in business; case studies in systems and programming; repeatable for credit with different programming languages. Prereq: CS 154, 280; or CS 134, 233.

**Insurance****IS 104 Insurance Mathematics (3) (F)**

Intro to the mathematics of insurance; present value, law of large numbers, annuities and mortality tables; good preparation for the Course 9 exam from the Life Office Management Association. Prereq: MG 165 or college level math course.

**IS 107 Principles of Life and Health Insurance (3) (F)**

Intro to the principles, practices, and techniques of life and health insurance.

**IS 108 Insurance Law (3) (F)**

Intro to life and health insurance law; good preparation for the HS 324 exam from the American College, Course 3 exam from the Life Office Management Association, or Course CPCU 6 from the American Institute of Chartered Property and Casualty Underwriters.

**IS 109 Principles of Risk and Insurance (3) (F)**

Intro to the principles, practices, and techniques of risk and insurance; good preparation for the HS 315 exam from the American College or Course CPCU 2 exam from the American Institute of Chartered Property and Casualty Underwriters.

**IS 113 Pension Planning (3) (S)**

Intro to retirement plans for individuals and businesses; good preparation for the HS 326 exam from the American College, the Course 10PP exam from the Life Office Management Association, or the Course III and Course IV exams from the Certified Employee Benefit Specialist program.

**IS 205 Insurance Company Operations (3) (S)**

Intro to the various activities involved in operating an insurance company; good preparation for the Course 2 exam from the Life Office Management Association or the CPCU 5 exam from the American Institute of Chartered Property and Casualty Underwriters. Prereq: IS 107 or 109.

**IS 206 Property and Liability Insurance (3) (S)**

Principles of commercial property and liability insurance; insurance and non-insurance techniques for dealing with exposures; good preparation for the CPCU 3 and CPCU 4 exams from the American Institute of Chartered Property and Casualty Underwriters or the Property and Liability Course exam from the American College. Prereq: IS 109.

**Interdisciplinary Studies****IY 100 Student Government Leadership (2) (F,S)**

Promotes development of appropriate leadership skills; focus on identifying, nurturing and mentoring students as they grow to become effective leaders; parliamentary process and the basic principles of arbitration, compromise, conflict resolution, effective communication, motivation and team building.

Japanese, see "Humanities"

**Job Skills Development****JS 101 Career and Life Planning (3) (F,S)**

Assists students to develop awareness of personal choice in making career and life decisions; focus on developing realistic short and long term career goals through personality, abilities and skills assessments; job market trends explored in relation to need for continual training and retraining.

**Landscaping and Turf Management****LM 000 Landscaping and Turf Management (F,S,Su)**

Landscape management; plant and soil science; pest and insect identification and management; selection and safe application of pesticides and fertilizer; landscape design and residential turf management; cost calculation and bid preparation; greenhouse and nursery production and management; interiorscaping; computer assisted landscape drafting and design; 30 clock hours/week.

Leadership, see "Humanities," "Interdisciplinary Studies," "Management," "Psychology"

**Legal Assisting****LA 110 Fundamentals of Law (3) (F,S)**

Intro to the basic areas in the legal field upon which future courses build; survey of the following areas of law emphasizing the attorney, paralegal, and legal tribunal's role in the administration of justice: Torts, Contracts, Civil Procedure, and Criminal Law; opportunity to obtain a first hand view of the legal field.

**LA 130 Legal Research (3) (F)**

Study of the sources of law as found in the legal library; focus on legal research and acquisition of various research case briefing and analytical skills.

**LA 135 Legal Writing/Case Analysis (3) (S)**

Systematized approach to how legal results and doctrines are reached through case analysis; writing techniques, case analysis, and briefing skills; focus on format, documentation development, application of judicial opinions, and uniform citations. Prereq: LA 110, 130. Coreq: ENGL 1010.

**LA 140 Advanced Legal Writing and Research (3) (F)**

Ultimate culmination of legal research and writing skills; refines previously acquired skills into practical use; various real experience, research and writing assignments designed to simulate work encountered in the work force. Prereq: LA 130, 135.

**LA 210 Contracts (3) (S)**

In-depth study of contracts and restitution law; focus on understanding the inter-relationships among the concepts covered; various contractual rules of law, their uses and applications. Prereq: LA 110.

**LA 220 Torts (3) (S)**

Intense paralegal-oriented study of tort law; broad spectrum of tort litigation including negligence, personal injury, worker's compensation, intentional torts, and medical malpractice; inves-

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tigation, interviewing, and research; materials and lectures primarily from the viewpoint of preparation and litigation of personal injury type cases.

**LA 225 Constitutional Law I (3) (F,Su)**  
Study of critical constitutional issues affecting the legal justice system and its personnel; focus on constitutional provisions and court decisions presently shaping modern criminal law and basic Constitutional guarantees. Prereq: LA 110 or instructor's consent.

**LA 230 Criminal Law/Procedure (3) (S)**  
Intense study of the Tennessee Rules of Criminal Procedure combined with an in-depth study of specific crimes, their elements and rules of criminal responsibility that articulate when it is appropriate to blame/punish persons for committing morally wrong and harmful, illegal acts; historical and modern state of criminal law doctrine and some of the more controversial aspects of criminal law.

**LA 235 Administrative Law (3) (on demand)**  
Principles related to authority of federal and state agencies to create, interpret and apply administrative laws; judicial review of administrative rulings, freedom of information issues concerning access to government information, and issues of governmental liability/immunity. Prereq: LA 110, 130.

**LA 240 Trial Practice and Civil Procedure (3) (F)**  
Techniques and documentation utilized in the trial of a civil or criminal action; basic elements of investigation, drafting, and interviewing; focus on jurisdiction, discovery, procedure, multi-party litigation and other topics. Prereq: LA 110, 130.

**LA 245 Legal Ethics for Paralegals (3) (on demand)**  
Rules on legal ethics and professional responsibility that affect various legal professionals; focus on rules that affect the paralegal; rules and guidelines from the American Bar Association (ABA), National Association of Legal Assistants (NALA), and National Federation of Paralegal Associations (NFPA); topics include certification and licensing, unauthorized practices of law, confidentiality, conflicts of interest, advertising, client fees and funds, and competence. Coreq: LA 110, 130.

**LA 250 Wills, Trusts and Estate Planning (3) (S)**  
Intro to the legal sub-specialties of wills, trusts and estate planning; study of the more common forms of trusts, survey of basic principles of law applicable to trusts, and the planning, administration, and interpretation of trusts; planning and drafting of wills, and estate planning; focus on writing skills to avoid will contests and to ensure that the purpose and intention of trusts are carried out.

**LA 260 Domestic Relations (3) (F)**  
Instruction and training in every aspect of family law; divorce, legal separation, annulment, child custody, adoption, support, etc.; focus on pleading and drafting documentation.

**LA 270 Insurance Law (3) (F)**  
Insurance law basics; policy analysis, types of coverage, insurable interest, automobile insurance and industry regulation. Prereq: LA 110 or instructor's consent.

**LA 275 Bankruptcy (3) (S)**  
In-depth study of federal bankruptcy laws and guidelines; focus on statutory provisions and sub-

sequent judicial interpretations of the Federal Bankruptcy Code. Prereq: LA 110.

**LA 280 Property Law (3) (S)**  
Advanced study in various fields of property law; in-depth coverage of landlord/tenant law, transference of ownership interest and general topic of assets—what they are, how they are created and sustained by legal institutions, how they are defined, who can own them, how they are transferred, and what regulations governments may impose on them. Prereq: LA 110, 130.

**LA 290 Law Practice Management (3) (F)**  
Survey of law office management techniques and practices; business aspects of law offices, including management concepts, chain of command, record keeping, billing procedures, and other technology aspects.

**LA 298 Special Topics in Legal Assisting Technology (1-3) (on demand)**  
Selected Legal Assisting Technology related topics of current and special interest; repeatable for credit on different topics. Prereq: Instructor's consent.

**LA 299 Internship (1-3) (F,S,Su)**  
Structured academic strategy combining on-campus study with planned and supervised work experience related directly to paralegal's role in the legal community; assists students in career development and aids in difficult transition from classroom knowledge to real-world applications. Prereq: CS 101, LA 110, 135, 240, and instructor's consent.

Literature, see "English"

LPN, See "Practical Nursing"

### Machine Tool Technology

**MT 000 Machine Tool Technology (F,S,Su)**  
Machine shop safety; basic hand tools and precision instruments; lathes, milling machines, and grinders; basic stamping die components principles and construction; focus on precision grinding; CNC technology; blueprint reading focusing on skills needed to interpret shop drawings; 30 clock hours/week.

Machine Transcription, See "Office Systems"

Magnetic Resonance Imaging, See "Radiologic Technology"

### Maintenance Technology

**MN 102 Electrical Fundamentals I (3) (F,S)**  
Intro to the basics that support maintenance activities relative to industrial/commercial electrical and electronic systems; generation, transmission, regulation, and distribution of power systems with focus on in-plant customs, practices and applications; basic AC/DC theory and concepts including circuits, batteries, transformers, and magnetism; class 2 hours, lab 3 hours.

**MN 103 Mechanical Fundamentals I (3) (F,S)**  
Intro to mechanical practices, applications, and concepts of drive components, mechanical forces, and machine motion; focus on machines and equipment, and operating, servicing and maintaining shafts, belts, bearings, clutches, brakes, chains and gear systems using a systems approach; class 2 hours, lab 3 hours. Coreq: MD 104.

**MN 112 Electrical Fundamentals II (3) (F,S)**  
Variables of electrical/electronic systems and devices and means of measurement and monitoring; explores electrical devices such as switching, modifying, and regulating; electrical transmission (conductors), AC/DC circuits; intro to electronics; and preparation for advanced studies in control application and theory; class 2 hours, lab 3 hours. Prereq: MN 102.

**MN 113 Mechanical Fundamentals II (3) (F,S)**  
Intro to integrated drive system basics that propel and control motion; focus on conversion of motion patterns for efficient and effective management of processes and application of force/motion patterns in propulsion, positioning, and articulated movement of machines, materials and tooling systems; class 2 hours, lab 3 hours. Prereq: MN 103.

**MN 210 Building and Structural Maintenance (3) (F,S)**  
Intro to necessary skills for servicing and maintenance of buildings and facilities used to house and support production machinery, processes, and storage; lock and key systems, carpentry, finishing for floors, walls, and ceilings, painting, roof maintenance, plumbing, and landscape maintenance activities; class 2 hours, lab 3 hours. Prereq: OS 116. Coreq: HZ 115.

**MN 215 Maintenance Management and Organization (3) (F,S)**  
Intro to the supervisor's role in a contemporary maintenance department/organization; human relations and organizational duties, control of maintenance resources, improvement of maintenance performance, and need to promote maintenance productivity through life long learning; lab and project activities include research on current maintenance management practices; class 2 hours, lab 3 hours. Prereq: HZ 115, MN 102, 103, OS 116.

**MN 218 Hydraulics, Pneumatics, and Fluid Systems (3) (F,S)**  
Intro to fluid handling, management and quality control activity basics; focus on the parameters that sustain selection, installation, operation, service and maintenance of fluid handling and management systems; activity based labs aid in perfecting skill and proficiency with regard to industrial/commercial systems; class 2 hours, lab 3 hours. Prereq: MN 113.

### Mammography

**MY 210 Mammography Patient Management (3) (F)**  
One of a 3-course set in specialized imaging of the breast; complete set fulfills federal regulations for formal specialized training in mammography prior to independent mammography performance; patient care (psychological, sociological and physical), breast anatomy and physiology, pathology, compression and positioning and special procedures in mammography. Coreq: MY 220, 230.

**MY 220 Mammography Instrumentation/Physics (3) (F)**

One of a 3-course set in specialized imaging of the breast; complete set fulfills federal regulations for formal specialized training in mammography prior to independent mammography performance; characteristics of dedicated film screen mammography units, image receptors and physicist's/technologist's required quality control tests; lab experiments used to apply theoretical principles and concepts. Coreq: MY 210, 230.

**MY 230 Mammography Clinic (4) (F)**

One of a 3-course set in specialized imaging of the breast; complete set fulfills federal regulations for formal specialized training in mammography prior to independent mammography performance; supervised performance of a minimum of 100 mammography exams and film-reporting sessions with radiologists interpreting mammograms; observation and assistance in technologist's quality assurance tests and localization procedures required; 180 clinic hours. Prereq: Successful completion of positioning course work in MY 210. Coreq: MY 210, 220.

**Management****MG 101 Professional Ethics in the Workplace: Business and Commerce (1) (F,S)**

Prepares students to cope with difficult choices in the business-commerce arena by the study of moral principles governing conduct of persons at work.

**MG 103 Introduction to Business (3) (F,S,Su)**

Concise, clear overview of business, promoting understanding of the available tools for management to use in making decisions and awareness of our economic system; concepts and structure of American business methods, financing, internal organization, and management.

**MG 105 Introduction to Quality Management (3) (F)**

Acquaints students with concepts and tools associated with continuous improvement of products and services offered by the firm; explores basic tenets of quality from several of the outstanding writers in the Quality Management field.

**MG 106 Quality Improvement Tools (3) (S)**

Intense study of the tools needed to improve product and service quality; implementation of these tools results in continuous quality improvement which assists companies in meeting global competition. Prereq: MATH 1530, MG 105.

**MG 109 Practical Business Planning (2) (S)**

Develop professional business plans using commercial computer software; emphasis on problems facing entrepreneurs, such as determining financial requirements, establishing product offerings, and setting prices. Coreq: MG 103.

**MG 110 Leadership Skills (1) (S)**

Comprehensive approach to the subject of leadership; successful leadership styles and ways to manage conflict, formulating a plan from initial concept through execution, positive productivity techniques, and presentation and speaking skills improvement.

**MG 114 Principles of Management (3) (F,S,Su)**

Concise, comprehensive review of the management processes of planning, organizing, leading and controlling; students develop decision

making and communication skills through case studies, research reports and simulations. Prereq: MG 103.

**MG 134 Supervision and Human Relations (3) (F,S,Su)**

Preparation for supervisory role through the study of managerial techniques for improving productivity and quality within a total quality management environment; focus on human relations and team building.

**MG 154 Marketing (3) (F,S,Su)**

Study of the field of marketing; covers marketing channels, functions, methods and institutions; interpersonal skills developed through collaborative projects; may include case studies and/or computer simulations.

**MG 160 Project Management (1-3) (F)**

Basic project management concepts; project organization, quotations and negotiations; planning, beginning operations, budgeting and funding; quality assurance and control, procurement, management style, team building and phasing-out methods; tracking a project with management computer software package; experience with computer applications required. Prereq: MG 103; or instructor's consent.

**MG 164 Personal Financial Management (1) (F)**

Overview of insurance, taxes, interest, planning, budgeting, and investing for students with no training in financial matters and/or students whose major does not include a financial course on these topics; credit not allowed for MG 165 or 185 and MG 164.

**MG 165 Business Mathematics (3) (F,S,Su)**

Application of math to solve problems related to routine business operations and to personal finances; topics include insurance, taxes, consumer credit, retail applications, investments and introductory statistics.

**MG 170 Labor Relations (3) (S)**

Intro to labor relations; overview of labor relations beginning with the history and progressing through developments in the field, federal laws and recent trends; presents a labor relations definition and a working knowledge of basic negotiations concepts.

**MG 176 Customer Service Skills I (3) (F)**

Intro to customer service skills and personal and group service skills analysis; components of good customer service focused on retention of customers and how to match customer needs with business features and to deal effectively with dissatisfied customers through listening and communications skills.

**MG 177 Customer Service Skills II (3) (S)**

Advanced customer service skills; customer service equipment use (telephone, e-mail, fax, voice messages) focus on correct phone usage, verbal communication and non-verbal skills as applied to customer care and advanced listening skills; stress control for customer care specialists.

**MG 178 Customer Service Practicum (3) (Su)**

Internship reinforcing information acquired in MG 176 and 177; actual practical applications within a company or in a testing lab provide hands-on opportunities to handle telephone customer service calls; focus on conflict and retention. Prereq: MG 176, 177.

**MG 185 Basic Investing (3) (F)**

Presents alternative means of investing for the purpose of receiving benefits such as profits, interest payments or income tax reduction; elective for both business and non-business majors.

**MG 190 E-commerce Introduction (1) (on demand)**

Commerce on the Internet; functions, future, and use.

**MG 191 E-commerce Success (1) (on demand)**

Creation and maintenance of a successful web site.

**MG 192 E-commerce Finance (1) (on demand)**

Overview of money, financial practices, and information available on the Internet.

**MG 193 E-commerce Operating Issues (1) (on demand)**

Covers selected topics on the successful, continuing operation of an e-commerce site.

**MG 194 E-commerce Marketing Issues (1) (on demand)**

Marketing in the e-commerce environment.

**MG 195 E-commerce Legal Issues (1) (on demand)**

Survey of legal issues shaping e-commerce including taxation, licensing, and contract principles.

**MG 214 Purchasing (3) (F)**

The organization and operation of the purchasing function; focus on commodity analysis methods, selection of supply sources, stock control systems, and purchasing policies. Prereq: Advanced standing or instructor's consent.

**MG 215 Retail Operations (3) (F,S)**

Study of the field of retailing; store location and lay-out, merchandising, advertising, salesmanship, customer service standards, staffing, and security; focus on policy differences according to retail establishment type. Prereq: MG 154, 165.

**MG 216 Consumer Behavior (3) (S)**

The motives, attitudes, buying behavior, product innovation, and expectations of consumers that contribute to an understanding of the marketing process; focus on consumer decision-making process and their perceptions. Prereq: MG 154, 244.

**MG 224 Entrepreneurship (3) (S)**

Capstone course that applies skills learned throughout the previous courses in the Small Business Management Program; focus on starting, financing and operating a small business, while building a comprehensive business plan. Prereq: BU 114, MG 103.

**MG 235 Merchandising and Inventory Control (3) (S)**

Techniques of merchandising and inventory control related to optimum management practices; focus on profitable management of multi-faceted operations; examination of management information systems. Prereq: BU 114.

**MG 244 Advertising (3) (F)**

Examines principles of modern advertising related to customer psychology; includes means and media of creative communication with customers; focus on group interaction via a selected advertising campaign. Prereq: MG 154.

## 2001-02 Course Descriptions

**MG 254 Salesmanship (3) (S)**

Basic personal salesmanship principles linking customer needs to selling activities; focus on salesman's duties and methods, common problems, competitor and product knowledge, and handling objections; includes oral presentations in which each student serves as both buyer and seller.

**MG 260 Market Research (3) (F)**

In-depth study of the marketing research process; problem formulation, research design, data-collection methods and analysis, instruments, and constructing the research report. Prereq: MATH 1510, MG 154.

**MG 264 Human Resources Management (3) (F,S)**

Intro to principles and practices of effective resources management; focus on procurement, development, compensation, integration, and management of personnel through case studies. Prereq: MG 103 or instructor's consent.

**MG 280 Problems in Marketing (3) (S)**

Study of marketing mistakes from all areas of the field; case study approach used to explore various problems that today's companies deal with frequently; including direct marketing and telemarketing. Prereq: MATH 1510, MG 154, 260.

**MG 285 Organizational Behavior (3) (S)**

Study of strategic variables and relationships of structure and process involving groups of people and how they may be motivated to work together more productively.

**MG 286 Health Services Management Practicum (3) (S)**

Preparation for employment in Health Services Management; provides practical work experience; 2 required areas of emphasis are Accounting and Management/Supervision; 3rd area of emphasis may be from Human Resources, Marketing/Ethics, and Communications; students observe and work (without pay) 9 hours/week for 1 semester in approved health facility. Prereq: Department head's consent.

**MG 288 Applied Management I (1-9) (F)**

Results oriented management development course to refine skills in leadership, team building, decision making and controlling processes to increase individual productivity within the workplace.

**MG 289 Applied Management II (1-9) (S)**

A continuation of MG 288. Prereq: MG 288.

**MG 295 Students in Free Enterprise (1-3) (F,S)**

Explores real life business situations through participation in community project.

**MG 299 Special Topics in Management (1-19) (on demand)**

Selected management and related topics of current and special interest; repeatable for credit on different topics. Prereq: Department head's consent.

Management, Hospitality, See "Hospitality Management"

Management, Industrial, See "Industrial Management"

Management, Medical Office, See "Medical Office Management"

**Marine Engine Technology****SE 000 Marine Engine Technology (F,S,Su)**

Marine engine repair; shop safety, tools and equipment; routine maintenance, diagnosis and troubleshooting 2- and 4-cycle internal combustion engines; electrical, fuel, compression, lubrication, cooling, power transfer, carburetion and exhaust systems; students disassemble, inspect, and reassemble engines; 30 clock hours/week.

Marketing, See "Management"

**Mass Communications****CO 110 Introduction to Mass Communications (3) (F,S)**

Survey of mass communications field; overview of mass media (TV, radio, newspapers, and magazines), their role and effect in society, and how they work together.

**CO 202 Broadcast Announcing (3) (F,S)**

Examination of broadcast communication principles and effective announcing techniques; lab and broadcast experiences cultivate on-air personality and announcing skills.

**CO 204 TV Production (3) (F,S)**

Practice and study in basic elements of television production; focus on studio facilities, equipment, and techniques.

**CO 205 Radio and Television News Writing and Editing (3) (F,S)**

Practice and study of preparing news for radio and television broadcasting. Prereq: CO 110, ENGL 1010, keyboarding skills.

**CO 210 Communications Practicum (3) (F,S)**

Classroom and supervised lab work in broadcast communications; FCC rules and regulations, operating procedures, radio station format, and program development; class 1 hour, lab 6 hours. Prereq: CO 110, 202.

**CO 212 Television Practicum (3) (F,S)**

Study of television production, lights and lighting techniques, cameras and their operation, and microphone characteristics; postproduction editing, basic switching techniques, and electronic field production; class 1 hour, lab 6 hours. Prereq: CO 110, 204.

**CO 219 Internship in Television Communications (3) (F,S)**

Field experience in television with supervision by College faculty and cooperating broadcast stations; written reports relating to the field experience; lab 9 hours. Prereq: Instructor's consent.

**CO 230 Remote Television Production (4) (F,S)**

Intensive practical experience in multi-camera remote television broadcasting; focus on production, direction, camera and audio operation, electronic graphics use, satellite news gathering and uplinking.

**CO 240 News and Sports Broadcasting (3) (on demand)**

Techniques and methods used by Radio-TV news

and sports broadcasters; focus on reporting, writing, management of resources and on-camera presentation. Prereq: CO 202 or 204 or instructor's consent.

**CO 249 Special Topics in Mass Communications (3) (on demand)**

Specialized topics in the field of mass communications; repeatable for credit on different topics. Prereq: Instructor's consent.

**Mathematics****DSPM 0000 Developmental Mathematics for Industrial Technology Programs**

Course of study includes whole numbers, fractions, decimals, percents, ratio and proportion; 5 clock hours/week. Formerly MA 000.

**DSPM 0700 Basic Mathematics/Elementary Algebra (5) (F,S,Su)**

Covers whole numbers, fractions, decimals, percents, ratio, proportions, elementary statistics, measurement conversions, basic geometric applications, real number system, exponents, square roots, linear equations and inequalities; appropriate use of calculator and applications. Formerly MA 070. Prereq: COMPASS Placement.\*\*

**DSPM 0800 Elementary Algebra (3) (F,S,Su)**

Covers measurement conversions, basic geometric applications, real number system, exponents, square roots, linear equations and inequalities; appropriate use of calculator and applications. Formerly MA 080. Prereq: COMPASS Placement.\*\*

**DSPM 0850 Intermediate Algebra (5) (F,S,Su)**

Factoring polynomials, rational expressions and equations, linear equation systems and inequalities, radical expressions and equations, exponents, Pythagorean Theorem, graphics calculator usage and applied problems. Formerly MA 081. Prereq: DSPM 0800 or COMPASS Placement.\*\*

**MATH 0990 Geometry (3) (F,S,Su)**

Minimum preparation for students who did not have high school geometry for trigonometry and calculus; lines, angles, planes, triangles, circles, polygons, and their properties; includes applications, direct and indirect proofs; not intended for transfer; not accepted toward any degree program at Chattanooga State. Formerly MA 090. Prereq: DSPM 0850.

**MATH 1000 Tutoring Mathematics (1) (F,S)**

On-line course offering in-depth view of the tutoring process; Chattanooga State textbook familiarization, and intro to and discussion of Math Center mission and procedures; focus on professionalism, study, tutoring techniques, listening, communication, and critical thinking skills; specific attention paid to math concepts giving students the most difficulty; tutor training program certified by College Reading and Learning Association (CRLA). Formerly MA 119. Prereq: Department head's and instructor's consent.

**MATH 1010 Contemporary Mathematics (3) (F,S,Su)**

Nature and techniques of mathematics; topics

\*\**Transitional studies course (not generally transferable; not applicable to credit hours required for a degree or certificate)*

such as number systems, modern geometry, probability, and the history and development of mathematical ideas. Formerly MA 143. Prereq: 2 years of high school algebra and acceptable test scores; or DSPM 0850.

#### MATH 1410 Structure of Number Systems I (3) (F,S,Su)

Study of relations, functions, numeration systems, and whole number systems. Formerly MA 163. Prereq: 2 years of high school algebra and acceptable test scores; or DSPM 0850.

#### MATH 1420 Structure of Number Systems II (3) (F,S,Su)

Study of integers, number theory, rational and irrational numbers and Euclidean geometry. Formerly MA 164. Prereq: MATH 1410 with a minimum grade of "C."

#### MATH 1510 Statistics I (3) (F,S,Su)

Intro to statistical thinking; sampling methods, data organization, variability and central tendency measures, probability distributions and estimations; credit not allowed for both MATH 1510 and 1530. Formerly MA 170. Prereq: 2 years of high school algebra and acceptable test scores; or DSPM 0850.

#### MATH 1520 Statistics II (3) (F,S,Su)

Continuation of MATH 1510; focus on hypothesis testing, construction of confidence intervals, independence of two variables, simple analysis of variance, analysis of regression, and intro to non-parametric statistics. Formerly MA 171. Prereq: MATH 1510 with a minimum grade of "C."

#### MATH 1530 Introductory Statistics (3) (F,S,Su)

Intro to statistical thinking; sampling methods, organization of data, measures of central tendency and variability, probability, probability distributions, estimations, hypothesis testing, inference for regression, and variance analysis; credit not allowed for both MATH 1510 and 1530. Formerly MA 153. Prereq: 2 years of high school algebra and acceptable test scores; or DSPM 0850.

#### MATH 1710 College Algebra (3) (F,S,Su)

Equations and inequalities, functions and graphs, linear and quadratic functions, equation systems, polynomial and rational functions, and exponential and logarithmic functions; credit not allowed for both MATH 1710 and 1740. Formerly MA 117. Prereq: 2 years of high school algebra and acceptable test scores; or DSPM 0850.

#### MATH 1720 Pre-Calculus (5) (F,S,Su)

Functions and graphs, higher degree polynomial functions, trigonometric functions, their graphs, identities, and equations, inverse trigonometric functions, triangle applications, vectors, polar coordinates, complex numbers, conic sections, sequences and series, and the Binomial theorem; credit not allowed for both MATH 1750 and 1720. Formerly MA 118. Prereq: 2 high school math credits above the Algebra I level and acceptable test scores; or MATH 1710 with a minimum grade of "C."

#### MATH 1740 Algebra and Trigonometry for Technologies I (4) (F,S,Su)

First of a 2-semester pre-calculus or technical math series; focus on functions and graphs, equations, determinants, right triangle trigonometry, trigonometric functions of any angle, graphs of trigonometric functions, exponents, radicals, and vectors; credit not allowed for both MATH 1710 and MATH 1740. Formerly

MA 121. Prereq: 2 years of high school algebra and acceptable test scores; or DSPM 0850.

#### MATH 1750 Algebra and Trigonometry for Technologies II (4) (F,S,Su)

Second of a 2-semester pre-calculus or technical math series; focus on complex numbers, logarithms, quadratic equation systems, exponential and logarithmic equations, inequalities, variations, properties of trigonometric functions, matrices, inverse trigonometric functions, higher degree equations, introductory statistics, and an intro to calculus; credit not allowed for both MATH 1750 and 1720. Formerly MA 125. Prereq: 2 high school math credits above the Algebra I level and acceptable test scores; or MATH 1740 with a minimum grade of "C."

#### MATH 1830 Calculus for Management, Life, and Social Sciences (3) (F,S,Su)

Intro to calculus: limits, differentiation of functions, optimization, marginal analysis, integration, the Fundamental Theorem of Calculus, applications of integration. Formerly MA 193. Prereq: 2 high school math credits above the Algebra I level and acceptable test scores; or MATH 1710 with a minimum grade of "C."

#### MATH 1910 Calculus I with Analytic Geometry (4) (F,S,Su)

Limits, derivatives and integrals of algebraic, trigonometric, exponential and logarithmic functions, their graphs and applications. Formerly MA 135. Prereq: 3 high school math credits above the Algebra I level and acceptable test scores; or MATH 1720 or 1750 with a minimum grade of "C."

#### MATH 1920 Calculus II with Analytic Geometry (4) (F,S,Su)

Continuation of MATH 1910; differentiation and integration involving inverse trigonometric functions, integration techniques, integral applications, infinite sequences and series, plane curves, parametric equations, and polar coordinates. Formerly MA 136. Prereq: MATH 1910 with a minimum grade of "C."

#### MATH 2010 Linear Algebra (3) (F,S)

Intro to linear algebra; linear systems, matrix algebra and matrices, determinants, vectors and vector spaces, inner product spaces, linear transformations, and eigenvectors and eigenvalues. Formerly MA 210. Prereq: MATH 1910 with a minimum grade of "C."

#### MATH 2110 Calculus III with Analytic Geometry (4) (F,S)

Continuation of MATH 1920; vectors, space coordinates, vector-valued functions, partial differentiation, multiple integrals, and vector analysis. Formerly MA 245. Prereq: MATH 1920 with a minimum grade of "C."

#### MATH 2120 Differential Equations (3) (F,S)

Intro to basic concepts, theory, methods, and applications of ordinary differential equations including systems of equations and transform methods. Formerly MA 246. Prereq: MATH 1920 with a minimum grade of "C." Coreq: MATH 2010.

#### MATH 2990 Special Topics in Mathematics (1-4) (on demand)

Detailed study of specific topics in math; repeatable for credit on different topics. Formerly MA 299. Prereq: Department head's and instructor's consent.

## Mechanical Engineering Technology

#### MD 104 Blueprint Reading and Analysis (1-4) (on demand)

Intro to the basics of blueprint interpretation and mathematical analysis; topics include orthographic projection, dimensioning, sectioning, line conventions, visualization of the object and basic shop math.

#### MD 134 Statics and Strength of Materials I (3) (F)

Statics covers components and resultants of vectors, moments, equilibrium of structures, centroids and moment of inertia; strength of materials covers basic stresses and deformations, beam diagrams, flexure and shear. Prereq: ET 115, MATH 1750.

#### MD 184 Manufacturing Processes (3) (F,S)

Primary and secondary manufacturing processes; covers formation of material into shapes through the testing of the finished product; basic C.I.M. concepts, usage of lathes, mills, drills, saws and other machine shop tools; lab exercises, videos, and tours of manufacturing facilities; class 2 hours, lab 3 hours.

#### MD 207 Numerical Control I (3) (F)

Basic principles of numerical control systems; focus on hands-on equipment usage, program debugging, and error diagnosis; NC tooling, 2- and 3-axis machining and G-codes; class 2 hours, lab 3 hours. Prereq: ET 115, MATH 1750, MD 184. Coreq: MD 294.

#### MD 208 Numerical Control II (3) (S)

DNC links, CAM software, NC programming languages, 3-axis contouring, sculptured surfaces, interfacing CAD systems with NC systems; class 2 hours, lab 3 hours. Prereq: MD 207.

#### MD 226 Fluid Power (3) (S)

Principles of pneumatics and hydraulics; air compressors and power boosters, hydraulic fluids and power devices, accumulators, and controls; class 2 hours, lab 3 hours. Prereq: ET 115, MATH 1750.

#### MD 242 Statics and Strength of Materials II (3) (S)

Continuation of MD 134; further study of vector operations and forces induced in structures in 2 and 3 dimensions; stresses for welds, 2 material members, eccentric loads and those caused by temperature changes; interrelationship of beam diagrams derived; wood and steel beams designed; class 2 hours, lab 3 hours. Prereq: MD 134. Coreq: MATH 1910.

#### MD 254 Elements of Material Science (3) (S)

Study of the physical structure of engineering materials and how their properties are dependent upon their internal structure; crystal structures, phase relationships, mechanical behavior of solids, and polymer and composite characteristics; class 2 hours, lab 3 hours. Prereq: MATH 1740.

#### MD 264 Thermodynamics I (3) (F)

Intro to applied thermodynamics; heat energy, heat transfer, psychrometry, refrigeration, and load surveys; labs include studies of real heating and cooling equipment in operation; class 2 hours, lab 3 hours. Prereq: ET 115, MATH 1750.

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MD 265 Thermodynamics II (3) (S)  
Continuation of MD 264; the perfect gas law, heat and energy, internal combustion engines, gas turbines, steam turbines, properties of steam, and refrigeration; class 2 hours, lab 3 hours.  
Prereq: MD 264.

MD 274 Machine Design (3) (S)  
Principles of dynamics; kinetics and kinematics of rectilinear motion and rotation of bodies, curvilinear motion, work, energy and power; gear design basics. Prereq: MD 134, PHYS 2010.  
Coreq: MATH 1910.

MD 294 Automated Manufacturing (3) (F)  
Various manufacturing concepts applied to manufacturing automation; manufacturing organization, flexible manufacturing systems, plant layout and design, quality control, computer integrated manufacturing, jig and fixture design, geometric tolerancing and dimensioning, plastics, and tool design. Prereq: DD 124, MATH 1530, MD 184.

MD 298 Special Topics in Mechanical Engineering Technology (1-4) (on demand)  
Specialized topics and/or problems in mechanical engineering technology; repeatable for credit on different topics. Prereq: Instructor's consent.

MD 299 Special Topics in Mechanical Engineering Technology with Lab (1-4) (on demand)  
Specialized topics and/or problems in mechanical engineering technology; repeatable for credit on different topics. Prereq: Instructor's consent.

### Mechanical Engineering Technology (DuPont)

MZ 110 Mechanical Principles (4) (DuPont)  
Intro to concepts of mechanical principles of motion, thermodynamics, fluid mechanics, and mathematical solution techniques; class 3 hours, lab 2 hours.

MZ 111 Mechanical Tool Applications (3) (DuPont)  
Intro to the safe use and care of tools, precision measuring instruments, mechanical drawing, and everyday shop operations; class 2 hours, lab 2 hours.

MZ 112 Mechanical Piping Systems (3) (DuPont)  
Intro to equipment and practices of pipe fitting procedures; pipe and pipe fitting properties identified by material, dimensions, schedule number, joining method, and function; basic piping system layout concepts taught using orthographic and isometric sketches; measurement, fabrication, assembly, and installation techniques; techniques and practices related to testing and breaking into a piping system explained with focus on safety; class 2 hours, lab 2 hours.

MZ 120 Mechanical Maintenance Principles (3) (Dupont)  
Overview of the principles required to maintain and repair mechanical systems found in typical production facilities; bolt grade marking, hardware fasteners and identification, torque values, rigging techniques to move loads and equipment, lubricant characteristics and principles, bearings, seals, packing, pump applications and selection, and alignment techniques using dual dial indicators; class 2 hours, lab 2 hours.

MZ 122 Fluid Mechanics (3) (Dupont)  
Intro to the principles of pneumatics and components found in a typical pneumatic circuit; force and energy transmission, compressors, pressure and directional control, diagrams, maintenance programs, and troubleshooting in a pneumatic circuit; covers safety, use of each component, and troubleshooting procedures; class 2 hours, lab 2 hours.

MZ 124 Principles of Thermodynamics (3) (Dupont)  
Saturated, superheated, and wet steam; latent heat of steam, pressure/temperature relationship of saturated and superheated steam, condensing steam, and major components of steam generating equipment; how steam and condensate are formed, importance and need of steam traps; steam piping; installation, testing, troubleshooting, and repair of typical steam trap assemblies; class 2 hours, lab 2 hours.

MZ 130 Principles of Machine Operation and Maintenance (3) (DuPont)  
Advanced maintenance principles for production equipment; chem, ansi, canned, nonmetallic, and sealless pumps; pump bearings and motors, mechanical seals, fans and blowers, power transmission related to chain drives, V belts, industrial flat belts, sheaves, shaft couplings, bearing mounting and dismounting, bearing failure analysis, gear types and usage, maintaining spur, helical, herringbone bevel work gears, and gear reducers; class 2 hours, lab 2 hours. Prereq: Instructor's consent.

MZ 131 Introduction to Welding Principles and Techniques (1-4) (DuPont)  
Welding safety, processes, and techniques; personal protective equipment, equipment set-up; oxy-acetylene process used to demonstrate proper equipment set-up, lighting, adjusting, and extinguishing the flame, bevel cutting pipe in position, and equipment disassembly; SHAW process used to make fillet welds on carbon steel plate in position; class 1 hour, lab 3 hours. Prereq: Instructor's consent.

MZ 200 Machine Shop Principles I (3) (DuPont)  
Intro to basic machine tool principles and operation; physical properties of metals and how they are manipulated and enhanced from the mining of raw ore to the refining process; alloying and heat treatment processes that enhance a metal's properties; natural and manufactured abrasives and bonding processes that determine their specific molecular structures; various types of grinding machines studied and used; class 2 hours, lab 2 hours.

MZ 201 Machine Shop Principles II (3) (DuPont)  
Intro to the operation and safe use of lathes, milling machines, drill presses and other machine shop equipment; focus on the engine type bench lathe and its various applications; familiarity gained through lab work; milling machines, including NC and CNC types, studied and safely operated; class 2 hours, lab 2 hours.

MZ 210 Predictive/Preventive Maintenance (4) (DuPont)  
Intro to the basic information needed to establish or improve Predictive/Preventive Maintenance and equipment reliability programs; covers the latest predictive/preventive technology and how its implementation helps plants compete within the world market place; class 3 hours, lab 2 hours.

MZ 211 Laser Alignment (5) (DuPont)  
Provides a working knowledge of the optical laser alignment system; basic principles of alignment, pre-alignment, overview of various alignment methods, opticalign operating principles and special applications, using opticalign, detecting frame strains, and thermal growth; class 3 hours, lab 6 hours.

MZ 212 Oxy-Fuel Gas Cutting (6) (DuPont)  
Welding safety basics, personal protective equipment, welding processes, equipment set, lighting, adjusting, and extinguishing the flame, bevel cutting pipe in position, and equipment disassembly; SHAW process used to make fillet welds on carbon steel plate in position; class 3 hours, lab 9 hours.

MZ 214 Gas Tungsten Arc Welding Principles I (6) (DuPont)  
Intro to the operation, set-up, current adjustments and striking of gas tungsten arc welding equipment; basic gas tungsten arc welding techniques of metal preparation and welding techniques for common types of steel and aluminum.

MZ 260 Mechanical Drawings and Standards (3) (DuPont)  
Intro to P&ID's as well as the Dupont Industrial Engineering Standards; specific symbology, application and interconnection of prints and drawings studied until the student is fully competent to analyze given process control system from its prints; class 2 hours, lab 2 hours.

Mechanics, Automotive, see "Automotive Technology"

Mechanics, Diesel, See "Diesel Equipment Mechanics"

Mechanics, Marine, See "Marine Engine Technology"

### Medical Office Assisting

MO 000 Medical Office Assisting (F,S,Su)  
30 clock hours/week.

#### Fall Semester

Administrative and clinical procedures; anatomy and physiology, medical terminology, basic medical typing, business communication, professional orientation and exam room procedures.

#### Spring Semester

Pharmacology and administration of medication, administrative practices (insurance, billing, filing, scheduling, and banking), lab procedures, medical transcription, first aid and CPR. Prereq: Successful completion of fall semester.

#### Summer Semester

Review of clinical and lab procedures; externship in physician's office. Prereq: Successful completion of spring semester.

### Medical Office Management

OM 101 Medical Office Supervision (1) (F)  
Elements surrounding the supervision/management of successful medical office; focus on the supervisor's role in planning/follow-through of

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procedures, organizing and motivating people at work, and leadership/discipline styles.

### OM 102 Medical Office Personnel Practices (1) (F)

Personnel/human resource practices involved in the effective management of successful medical office.

### OM 103 Medical Practice Marketing and Ethics (1) (F)

The physician's role in marketing and in the role of the staff as a marketing team; focus on patient and public relations, image improvement through proven marketing strategies, and ethical issues prevalent in a medical practice.

### OM 104 Medical Office Communications (1) (F)

Communication processes involved in staff, patient, and community relations; focus on telephone techniques, listening, routine medical correspondence, and medical practice scheduling techniques.

### OM 105 Medical Office Accounting (2) (S)

Medical office bookkeeping and accounting; intensive academic training and utilization of hands-on projects focusing on basic accounting principles and related computerized general ledger application; theory and applications limited to medical office utilization; experience with computer applications required; may not be substituted for BU 114 or BU 250.

### OM 106 Medical Office Coding (2) (S)

Survey course in medical coding for individuals employed in a medical office; brief overview of coding principles for the ICD-9-CM and CPT classification systems.

Medical Records, See "Health Information Management"

Medical Terminology, See "Health Science"

Medical Transcription, See "Health Information"

## Music

### MUSIC—GENERAL COURSES

#### MUS 1000 Music Seminar (0) (F,S)

Provides opportunities to perform and to attend concerts and seminars on various musical topics; required each semester of attendance for every music major; repeatable. Formerly MU 001. Coreq: Private instruction in music.

#### MUS 1030 Music Appreciation (3) (F,S,Su)

Development of music from Middle Ages to the present; designed to give better understanding and appreciation of traditional art music as well as music of our present culture. Formerly MU 110.

#### MUS 1040 History of Rock and Roll (3) (on demand)

Study of the development of rock and roll by musical analysis, style comparison and coverage of the performers and their music's impact on society. Formerly MU 139.

#### MUS 1130 Fundamentals of Music (3) (F,S)

Study of basic music elements: scales, intervals, triads, meter, note values, rhythm, notation, and simple keyboard harmony. Formerly MU 111.

#### MUS 1210 Music Theory I (3) (F)

Building scales, major and minor key signatures, triads, intervals, rhythmic notation, 4-part vocal writing, and primary and secondary triads. Formerly MU 112. Coreq: MUS 1310.

#### MUS 1220 Music Theory II (3) (S)

Harmonization of melodies, non-chord tones, writing for the piano, secondary dominants, and secondary diminished seventh chords. Formerly MU 113. Prereq: MUS 1210, 1310. Coreq: MUS 1320.

#### MUS 1310 Fundamental Sightreading and Ear Training I (1) (F)

Development of sightreading skills through basic drills in aural and visual recognition, intervals, melodies, harmonies, and rhythmic impulsations; lab 3 hours. Formerly MU 147. Coreq: MUS 1210.

#### MUS 1320 Fundamental Sightreading and Ear Training II (1) (S)

Continued development of sightreading skills through advanced drills in aural and visual recognition, intervals, melodies, harmonies, and rhythmic impulsations; lab 3 hours. Formerly MU 148. Prereq: MUS 1210, 1310. Coreq: MUS 1220.

#### MUS 2210 Music Theory III (3) (F)

Modal changes, Neapolitan chords, pedal points, modulations, extended tertian harmony, modal harmony, non-functional harmony, and non-tertian harmony. Formerly MU 212. Prereq: MUS 1220, 1320. Coreq: MUS 2310.

#### MUS 2220 Music Theory IV (3) (S)

Study of harmony and form in music; binary and ternary principles, imitative, variation, sonata-allegro, rondo and atypical formal organization. Formerly MU 213. Prereq: MUS 2210, 2310. Coreq: MUS 2320.

#### MUS 2310 Sightreading and Ear Training III (1) (F)

Sight singing, ear training and dictation; basic drills in aural and visual recognition, intervals, melodies, harmonies and rhythms; lab 3 hours. Formerly MU 247. Prereq: MUS 1220, 1320. Coreq: MUS 2210.

#### MUS 2320 Sightreading and Ear Training IV (1) (S)

Continuation of MUS 2310; lab 3 hours. Formerly MU 248. Prereq: MUS 2210, 2310. Coreq: MUS 2220.

#### MUS 2530 Electronic Music (3) (on demand)

Hands-on course to gain the knowledge and required skills for electronic music; focus on MIDI and how it is used in conjunction with computers and sound devices; also covers electronic keyboards, software programs, and basic recording techniques. Formerly MU 239.

#### MUS 2990 Special Topics in Music (1-3) (on demand)

Study of specific topics relating to the historical and cultural significance of music; repeatable for credit on different topics. Formerly MU 235.

### MUSIC—PERFORMANCE AND INSTRUCTION

*Designated Music Performance and Instruction courses are repeatable for credit, but no more than*

*12 hours (in any combination) may be applied toward a degree. Each course has a maximum limit as well (see course description).*

#### MUS 1410 Piano Instruction (1-2) (F,S)

Private instruction in piano; daily practice required; 1 half-hour lesson each week per credit hour; repeatable; maximum 6 hours applicable toward a degree; extra fee required. Formerly MU 141.

#### MUS 1440 Jazz Piano (1) (on demand)

Instruction to acquire/improve jazz/pop piano skills; jazz theory, piano voicings, improvisation and various stylistic approaches discussed and integrated through exercises and a repertoire; repeatable; maximum of 6 hours applicable toward a degree. Formerly MU 140.

#### MUS 1500 Vocal Music for Personal

Development (1) (F,S)  
Individual voice instruction for non-music majors; repeatable; maximum of 2 hours applicable toward a degree; extra fee required. Formerly MU 105.

#### MUS 1510 Voice Instruction (1-2) (F,S)

Private instruction in voice; daily practice required; 1 half-hour lesson each week per credit hour; repeatable; maximum of 6 hours applicable toward a degree; extra fee required. Formerly MU 151.

#### MUS 1610 Guitar Instruction (1-2) (F,S)

Private instruction in guitar; daily practice required; 1 half-hour lesson each week per credit hour; repeatable; maximum of 6 hours applicable toward a degree; extra fee required. Formerly MU 171.

#### MUS 1620 Guitar Class (2) (on demand)

Group instruction in guitar; must provide own instrument; maximum of 6 hours applicable toward a degree. Formerly MU 161.

#### MUS 1630 Private Brass Musical Instrument Instruction (1-2) (on demand)

Traditional apprenticeship approach in proper techniques for brass musical instruments; focus on only 1 brass instrument; repeatable; maximum of 6 hours applicable toward a degree. Formerly MU 136. Prereq: Previous experience on a brass instrument, ability to read music.

#### MUS 1640 Private Woodwind Musical Instrument Instruction (1-2) (on demand)

Traditional apprenticeship approach in proper techniques for woodwind musical instruments; focus on only 1 woodwind instrument; repeatable; maximum of 6 hours applicable toward a degree. Formerly MU 137. Prereq: Previous experience on a woodwind instrument, ability to read music.

#### MUS 1650 Private Percussion Musical

Instrument Instruction (1-2) (on demand)  
Instruction in proper percussion techniques; repeatable; maximum of 6 hours applicable toward a degree. Formerly MU 138. Prereq: Previous percussion experience, ability to read music.

#### MUS 1710 Concert Band (1-2) (F,S)

Concert band open to all students with previous experience in wind and percussion instrumental music; repeatable; maximum of 6 hours applicable toward a degree. Formerly MU 130.

#### MUS 1720 Jazz Band (1-2) (F,S)

Performance of big band, jazz-rock and dixieland styles; members required to play at scheduled

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performances; repeatable; maximum of 6 hours applicable toward a degree; lab 3 hours. Formerly MU 122. Prereq: Instructor's consent, knowledge/skill in an instrument.

**MUS 1810 Concert Choir (1-2) (F,S)**

Performance of choral literature; open to all students; performance at scheduled concerts required; repeatable; maximum of 6 hours applicable toward a degree; lab 3 hours. Formerly MU 115.

**MUS 1820 Gospel Choir (1-2) (F,S)**

Non-auditioned choral music group; performs music of an inspirational and spiritual nature; open to all students; repeatable; maximum of 6 hours applicable toward a degree. Formerly MU 261.

**MUS 1830 Show Choir (1-2) (on demand)**

Performance of pop, ballad, rock and jazz compositions with choreography; repeatable; maximum of 6 hours applicable toward a degree; lab 3 hours. Formerly MU 157. Prereq: Selected by audition. Coreq: MUS 1810.

**MUS 1840 Chorale (1-2) (F,S)**

Auditioned choral group; performs wide variety of choral music; admission by audition only; repeatable; maximum of 6 hours applicable toward a degree. Formerly MU 260. Coreq: MUS 1810.

**MUS 1850 Jazz Vocal Ensemble (1-2) (F,S)**

Auditioned vocal ensemble; performs standard and contemporary jazz music; repeatable; maximum of 6 hours applicable toward a degree. Formerly MU 262.

**MUS 2430 Conducting (2) (on demand)**

Intro to conducting techniques; repeatable; maximum of 6 hours applicable toward a degree. Formerly MU 240. Prereq: MUS 1210, 1310.

**Network Management****NW 204 Microcomputer Architecture (3) (F,S,Su)**

Use of microcomputers as a business tool; microcomputer basics; focus on hardware components and configurations, networking, and security. Prereq: CS 104 or instructor's consent. (Same as CS 204; credit not allowed for both courses.)

**NW 205 Introduction to Windows NT (2) (on demand)**

Intro to Windows NT operating environment; focus on student centered, hands-on activities to present real-world examples and procedures of Windows NT technology. Prereq: CS 101 or instructor's consent.

**NW 206 NT Design and Management (3) (on demand)**

Intro for students needing a foundation in current networking technology for local area networks, wide area networks, and the Internet. Prereq: NW 204, 205; or instructor's consent.

**NW 207 Advanced NT Network Management (4) (on demand)**

Provides knowledge and skills needed to install and configure a Microsoft Windows NT Server and perform day-to-day administration tasks in a Microsoft Windows NT-based network; class 3 hours, lab 2 hours. Prereq: NW 206 or instructor's consent.

**NW 208 Windows NT Server Enterprise Technologies (3) (on demand)**

Provides knowledge and skills needed to work in

a server-based enterprise environment and to design, implement, and support a network operating system in a multidomain enterprise environment; class 2 hours, lab 2 hours. Prereq: NW 207 or instructor's consent. Coreq: NW 209 or instructor's consent.

**NW 209 TCP/IP Services (2) (on demand)**

Provides knowledge and skills needed to set up, configure, use and support Transmission Control Protocol/Internet Protocol (TCP/IP) on Microsoft NT operating system; class 1 hour, lab 2 hours. Prereq: NW 207 or instructor's consent.

**NW 210 Internet Information Server (2) (on demand)**

Provides knowledge and skills needed to install, configure, and support the Microsoft Internet Information Server (IIS); class 1 hour, lab 2 hours. Prereq: NW 207 or instructor's consent. Coreq: NW 209 or instructor's consent.

**Nuclear Medicine Technology****NM 200 Introduction to Nuclear Medicine (2) (F)**

Intro to basic terminology in nuclear medicine technology; special emphasis on guidelines for radiation protection, regulatory requirements, ethics, patient care and participation in the Nuclear Medicine Technology Program and its clinical affiliates. Prereq: Admission to Nuclear Medicine Technology Program. Coreq: NM 201, 205, 207, 208.

**NM 201 Instrumentation and Statistics (3) (F)**

Principles of instrumentation and nuclear statistics as used in the nuclear medicine laboratory with emphasis on use, maintenance, and quality control of personal monitoring devices, gas and scintillation detectors; intro to statistical analysis and computer applications associated with radiation detection and imaging. Prereq: Admission to Nuclear Medicine Technology Program. Coreq: NM 200, 205, 207, 208.

**NM 205 Clinical Procedures I (2) (F)**

Intro to clinical procedures with focus on the biological, physiological and anatomical aspects of nuclear medicine procedures; students synthesize knowledge concerning the relationships between physiology, pathophysiology, radiochemistry, radiobiology, instrumentation and patient care techniques. Prereq: Admission to Nuclear Medicine Technology Program. Coreq: NM 200, 201, 207, 208.

**NM 207 Practicum in Nuclear Medicine I (9) (F)**

Clinical experience allowing students to assimilate methods, theory, and techniques into clinical practice; students must demonstrate an acceptable level of progression in clinical competency. Prereq: Admission to Nuclear Medicine Technology Program. Coreq: NM 200, 201, 205, 208.

**NM 208 Radiopharmacology (2) (F)**

Basic principles of radiopharmacy as practiced in the nuclear medicine laboratory; special emphasis on radionuclide and radiopharmaceutical preparations, radiation safety, quality control procedures and operation of equipment. Prereq: Admission to Nuclear Medicine Technology Program. Coreq: NM 200, 201, 205, 207.

**NM 212 Physics and Radiation Biology of Nuclear Medicine (3) (S)**

Principles of physics and radiation biology as related to nuclear medicine. Prereq: NM 200, 201, 205, 207, 208. Coreq: NM 215.

**NM 215 Clinical Procedures II (4) (S)**

Continuation of NM 205; nuclear medicine procedures of the gastrointestinal, genitourinary and endocrine systems; radionuclide therapy. Prereq: NM 200, 201, 205, 207, 208. Coreq: NM 212.

**NM 217 Practicum in Nuclear Medicine II (1) (S)**

Continuation of NM 207; students must continue to demonstrate an acceptable level progression in clinical competency, including technical competency and development as a well-rounded technologist. Prereq: NM 200, 201, 205, 207, 208. Coreq: NM 212, 215.

**NM 225 Clinical Procedures III (4) (Su)**

Continuation of NM 215; nuclear medicine procedures of the central nervous system, tumor and inflammatory processes; intro to in-vivo non-imaging procedures, in-vitro procedures, and department management; preparation for national registries begins. Prereq: NM 200, 201, 205, 207, 208, 212, 215. Coreq: NM 227.

**NM 227 Practicum in Nuclear Medicine III (2) (Su)**

Continuation of NM 217; students must demonstrate mastery of the required clinical competencies defined by the Joint Review Committee on Educational Programs in Nuclear Medicine as *Essential*. Prereq: NM 212, 215, 217. Coreq: NM 225.

**Nursing****NS 024 Nursing Transition (4) (Su)**

Assists licensed practical nurses with transition from the role of LPN to associate degree RN; content derived from first year nursing courses provides a background on which the student's remaining educational program will be based; successful completion of the theory and clinical components of the course required for continued progression in the nursing program; not accepted toward any degree program at Chattanooga State; class 3 hours, lab 3 hours; liability insurance required. Prereq: Acceptance into the Transition Program, Chemistry (high school or CHEM 1010), BIOL 1430, 2010, 2020, PY 101, 217.

**NS 101 Success in Nursing (1) (F)**

Knowledge and skills to cope with the demands of the nursing curriculum. Coreq: NS 119 or 238.

**NS 119 Nursing I—Wellness and Adaptation (9) (F)**

Begins development of psychomotor, cognitive and affective competencies needed to assume 3 roles of the associate degree nurse; intro to the nursing process focusing on assessment of culturally diverse individuals across the life span; with emphasis on teaching and communication, students plan and implement interventions to promote and maintain wellness and provide care to individuals experiencing variation in function; clinical experiences provided in a variety of community based settings; class 5 hours, lab 12 hours. Achievement test fee and liability insurance required. Prereq: Admission to Nursing Program. Coreq: BIOL 1430, 2010, PY 217.

**NS 128 Nursing II—Alterations in Health I (8) (S)**

Expands development of psychomotor, cognitive and affective competencies needed to assume 3 roles of the associate degree nurse; with continued emphasis on assessment, students plan, implement and evaluate interventions to promote, maintain and restore health in culturally diverse

individuals across the life span who experience alteration in protective, activity/mobility, comfort/rest, fluid and gas transport, psychosocial/cultural, and growth and development functions; students apply nursing process in caring for pediatric and adult clients in acute care, ambulatory care and community based settings; class 5 hours, lab 9 hours. Achievement test fee required. Prereq: NS 119. Coreq: BIOL 2020, PY 101.

#### NS 238 Nursing III—Alterations in Health II (8) (F)

Enhances development of psychomotor, cognitive and affective competencies needed to assume 3 roles of the associate degree nurse; continued focus on assessing, planning, implementing and evaluating interventions to promote, maintain and restore health in culturally diverse individuals across the life span who experience alteration in fluid and gas transport, nutrition/metabolism, psychosocial/cultural, elimination, and growth and development functions; students apply nursing process in caring for pediatric and adult clients in acute care and community based settings with concentrated experience in care of the client with altered psychosocial function; class 5 hours, lab 9 hours. Achievement test fee and liability insurance required. Prereq: NS 119, 128. Coreq: BIOL 2230.

#### NS 249 Nursing IV—Alterations in Health III (9) (S)

Operationalizes the performance of psychomotor, cognitive and affective competencies needed to assume 3 roles of the associate degree nurse; continued focus on assessing, planning, implementing and evaluating interventions to promote, maintain and restore health in culturally diverse individuals across the life span who experience alteration in growth and development, sensory/perceptual, elimination, protective and psychosocial/cultural functions; students apply nursing process in caring for clients in acute care and community based settings with concentrated experience in childbearing family care; course culminates with a clinical experience in management of groups of clients in acute or extended care setting; class 5 hours, lab 12 hours. Achievement test fee required. Prereq: NS 119, 128, 238.

#### NS 260 Nursing Practicum (6) (Su)

Intensive post-graduate clinical practice experience; class 15 hours, lab 225 hours. Prereq: NS 249, nursing program director's consent.

#### NS 299 Special Topics in Nursing (1-3) (on demand)

Study of selected topics of interest in nursing; repeatable for credit on different topics. Prereq: Instructor's consent.

Nutrition, See "Biology" and "Dietary Manager"

### Occupational Safety

#### OS 110 Fundamentals of Occupational Safety and Health (3) (F)

Intro to the occupational safety and health field; legal requirements, injury compensation, accident causes, hazard recognition, program management, and incident investigation; overview of some specialized programs such as industrial hygiene, fire prevention, system safety, ergonomics, and hazardous materials management.

#### OS 116 Industrial Maintenance Safety (3) (F,S,Su)

Review of basic requirements and application of industrial safety and general housekeeping practices related to manufacturing and service environments; intro to potential maintenance activity hazards, employer/employee responsibility for job safety, and Occupational Safety and Health Act.

#### OS 120 Industrial Safety Compliance (3) (F,S)

Systematic review of basic requirements of the Occupational Safety and Health Administration general industry standard; combination of lecture, class projects, and field trips familiarize students with compliance requirements set forth in 29 CFR 1910.

#### OS 125 Construction Safety Compliance (3) (on demand)

Recognition, avoidance and prevention of potential hazards in construction; study of workplace standards, accident prevention programs, loss-control techniques and worker education related to construction industry; credit not allowed for both OS 125 and CI 110.

#### OS 190 Special Topics in Occupational Safety (1-4) (on demand)

Specific topics pertaining to Occupational Safety of current industrial and business interests; repeatable for credit on different topics. Prereq: Instructor's consent.

#### OS 210 Motor Carrier Safety (3) (F)

Intro and systematic review of the Federal Motor Carrier Safety Regulations and Hazardous Material Regulations requirements set forth in Part 49 CFR. Prereq: OS 120 or 125.

#### OS 220 Ergonomics and Human Factors (3) (F)

Intro to ergonomic and human factors that combine to provide effective programs for occupational ergonomic hazard prevention; role of safety and health professionals in ergonomics. Prereq: OS 120, 125.

#### OS 230 Occupational Safety & Health Systems (3) (on demand)

Common safety and health protection systems in industrial or construction settings; emphasis on employee training, preparation of checklists and accident investigation. Prereq: OS 120 or 125.

#### OS 240 Occupational Safety & Health Program Management (3) (on demand)

Intro to occupational safety program elements that combine to provide proven effective overall safety programs for employers; safety and health professionals' role in management reviewed. Prereq: OS 120 or 125.

### Office Systems

#### OF 103 Records Management/Calculators (3) (F,S)

Extensive practice in applying ARMA indexing rules in alphabetic, numeric, subject, and geographic filing systems; theory and practice using touch system to solve business problems on electronic calculator.

#### OF 104 Business Communications I (3) (F,S)

Study of English skills: focus on proofreading and using reference sources efficiently.

#### OF 105 Business Communications II (3) (F)

Prepare result-producing communications: letters, memos, e-mail, and short reports; focus on oral communication skills through reports and team activities. Prereq: OF 104 or ENGL 1010, OF 113 or keyboarding at 25 nwpm.

#### OF 107 Keyboarding for Information Systems (1) (F,S,Su)

Basic keyboarding; develops touch mastery for input; speed and accuracy; for non-Office Systems Technology majors only; not allowed as an elective for Office Systems Technology majors.

#### OF 113 Keyboarding/Document Processing I (3) (F,S,Su)

Basic keyboarding; formatting of business letters, memos, reports, and tables with speed and accuracy.

#### OF 114 Keyboarding/Document Processing II (3) (F,S,Su)

Keying straight copy; speed, accuracy and decision-making skills in business documents. Prereq: OF 113 or equivalent.

#### OF 125 Word Processing I (3) (F,S)

Applications in word processing from basic editing techniques through document merge. Prereq: keyboarding at 25 nwpm.

#### OF 126 Word Processing II (3) (F,S)

Continuation of OF 125; advanced word processing functions and formatting; focus on speed, decision making, and accuracy. Prereq: OF 125.

#### OF 127 Desktop Publishing (3) (F,S)

Mechanics of desktop publishing, creation of a variety of publications. Prereq: CS 101 or equivalent.

#### OF 128 Advanced Desktop Publishing (3) (S)

Continuation of OF 127; focus on design, decision-making and advanced applications. Prereq: OF 127.

#### OF 143 Notehand (3) (on demand)

Study of principles and theory, with practice in reading and writing notehand; focus on penmanship, phonetics, word families, brief forms, phrases, and development of student's ability to take light office dictation. Prereq: OF 104 or ENGL 1010, keyboard speed/25wpm.

#### OF 150 CPS<sup>®</sup> Examination Review I (4) (on demand)

Preparation for CPS<sup>®</sup> Examination; focus on economics, accounting, business law, office administration, and business communications; topics not intended to prescribe the exact content of exam, but indicate areas in which secretaries should possess understanding, knowledge, judgement, and skill. Prereq: Instructor's consent.

#### OF 151 CPS<sup>®</sup> Examination Review II (2) (on demand)

Preparation for CPS<sup>®</sup> Examination; focus on human resources management, business behavioral science, and organization and management; topics not intended to prescribe exact content of exam, but indicate areas in which secretaries should possess knowledge, skill, understanding, and judgement. Prereq: Instructor's consent.

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OF 183 Machine Transcription (3) (F)  
Transcription skills for professional, medical and legal offices; emphasis on terminology and production of mailable copy. Prereq: OF 104 or ENGL 1010, OF 114 or equivalent.

OF 195 General Office Procedures (3) (F,S)  
Principles and techniques of the 21st century office; emphasis on time, information, records management, telephone techniques, teamwork and human relations.

OF 206 Office Systems Internship (3) (S)  
Internship in professional, legal, and medical office administration, combining classroom and office work experiences; focus on professionalism, critical thinking, organizational skills. Prereq: CS 293, advanced sophomore standing; or instructor's consent.

### Opticianry Management

OP 103 Optical Theory (3) (on demand)  
Intro to optical theory related to opticianry practice; theory evolution, sign convention, metric system, lens power basics, prism and plane mirrors; Satisfactory/No Credit grading. Prereq: State licensure as dispensing optician and minimum of 3 years experience.

OP 113 Organizational Behavior for Ophthalmic Professionals (3) (on demand)  
Intro to concepts and theories of organizational behavior related to the ophthalmic profession; Satisfactory/No Credit grading. Prereq: State licensure as dispensing optician and minimum of 3 years experience.

OP 123 Introduction to the Optical Business (3) (on demand)  
Intro to concepts and theories of sales and business management related to the ophthalmic profession; Satisfactory/No Credit grading. Prereq: State licensure as dispensing optician and minimum of 3 years experience.

Ornamental Horticulture, See "Landscaping and Turf Management"

Paralegal, See "Legal Assisting"

Paramedic Training, See "Emergency Medical Services"

### Pharmacy Technician

PC 101 Introduction to Pharmacy Practice (3) (F)  
Intro to pharmacy practice and the health care system; focus on pharmacy technicians' role and relationship with pharmacists; written and oral communication skills to deal with other health care professionals and patients; automation, computer use, and technology used in pharmacy practice; managed care medicine and health care organizations; generic and brand names of top 200 drugs; class 2 hours, lab 4 hours.

PC 104 Chemistry for Pharmacy Technicians (4) (F)  
Intro to the study of chemistry; atomic and molecular structure, bonding, stoichiometry and

equation writing, compound classification and naming, gas laws, liquid and solid states, solutions, acids and bases, kinetics and equilibria, oxidation and reduction; emphasis on organic compounds and applications to pharmacy; credit may not be applied toward a chemistry major; class 3 hours, lab 3 hours. Prereq: DSPM 0800, DSPR 0800, DSPW 0800.

PC 105 Pharmacy Law and Ethics (3) (F)  
Intro to pharmacy law history and application of laws governing duties delegated to pharmacy technicians; state and federal laws pertaining to pharmacy practice and drug distribution discussed.

PC 110 Pharmaceutical Calculations (4) (S)  
Basic math computations with Roman numerals; addition, subtraction, multiplication, and division of whole numbers and fractions; pharmacy measurement systems (metric, apothecary, and avoirdupois); interpretation of numeric symbols and Latin abbreviations; medical terms, symbols, and abbreviations used in pharmacy practice.

PC 115 Introduction to Human Biology (4) (F)  
Structure and function of the human body; focus on cells, tissues, and circulatory, respiratory, digestive, nervous, cardiovascular, endocrine, and reproductive systems; class 3 hours, lab 3 hours.

PC 201 Pharmacology and Therapeutics (4) (S)  
Provides practical knowledge of general therapeutic classes of drugs and their interactions with the human body; focus on drug classifications, dosages and routes of administration and some major side effects of medications. Prereq: PC 101, 115.

PC 205 Pharmacy Practice (5) (S)  
Review of prescriptions for accuracy; gathering patient information; entering information into data processing; preparing labels; counting, measuring, or admixing of drug products; pricing and third party billing, and maintaining records; ordering, stocking, returning drug products, medication distribution and control, and compounding with a heavy focus on sterile products and IV admixture; class 3 hours, lab 6 hours. Prereq: PC 110.

PC 220 Pharmacy Practice Clinical Rotations (5) (Su)  
Clinical experience in local institutional and community pharmacies to observe and practice basic pharmacy practice skills learned in class and through lab participation; students under supervision of a registered pharmacist; seminar 2 hours, clinical experience 24 hours. Prereq: PC 110, 201, 205.

### Philosophy

PHIL 1030 Introduction to Western Philosophy (3) (F,S)  
Basic teachings of the great philosophers from Pre-Socratics to modern Existentialists. Formerly PL 111. Prereq: ENGL 1010.

PHIL 2130 Logic (3) (F)  
Basic principles of deductive and inductive reasoning; focus on ordered, rational approach to problem solving. Formerly PL 211.

PHIL 2230 Ethics (3) (S)  
Study and comparison of major ethical theories from classical times to the present. Formerly PL 212. Prereq: ENGL 1010.

PHIL 2410 Philosophy of Religion: Old Testament (3) (F,S,Su)  
Investigation of philosophical, religious, socio-political, and literary aspects of the Old Testament and its impact on Western Culture. Formerly PL 220. Prereq: ENGL 1010.

PHIL 2420 Philosophy of Religion: New Testament (3) (F,S,Su)  
Investigation of philosophical, religious, socio-political, and literary aspects of the New Testament and its impact on Western Culture. Formerly PL 221. Prereq: ENGL 1010.

PHIL 2430 Philosophy of Religion (3) (F)  
Philosophical examination of religion; issues include the existence and nature of God, relationship between faith and reason, and challenges to religious belief. Formerly PL 240. Prereq: ENGL 1010.

### Physical Education

PHYSICAL EDUCATION—GENERAL COURSES

PE 154 First Aid and Safety Education (3) (F,S,Su)

Basic accident prevention principles applied to the home, school, and community; administering immediate and temporary care in the event of injury or sudden illness, focus on cardio-pulmonary resuscitation; may lead to CPR certification.

PE 210 Introduction to Physical Education (3) (S)  
Role of physical activity in American education; historical, political, economic, and social forces affecting physical education and society.

PE 211 Personal and Community Health (3) (F)  
Significant information useful in making intelligent decisions about personal health; focus on personal, family, social living, and community health.

PE 214 Physical Education for Children (3) (S)  
Planning, organizing, administering, and evaluating programs and playgrounds; theories of play, body mechanics principles, activities corresponding to level of growth and development, and materials and methods of teaching.

PE 220 Care and Prevention of Athletic Injuries (3) (F)  
Prevention, analysis, prompt diagnosis, treatment and rehabilitation of common athletic injuries; focus on practical aspects of athletic training within a theoretical framework; lab experiences significant part of course.

PE 235 Special Topics in Wellness and Health Promotion (1-3) (on demand)  
Specific topics of interest in wellness and health promotion fields; repeatable for credit on different topics; does not meet 2-course Physical Education requirement for transfer programs (AA and AS degrees).

PHYSICAL EDUCATION—ACTIVITY COURSES  
Physical Education Activity courses meet 2 hours per week for each semester hour of credit.  
*To encourage students to develop and maintain an active, healthy lifestyle, designated Physical Education Activity Courses are repeatable for credit, but no more than 6 hours (in any combination) may be applied toward a degree. Each course has a maximum limit as well (see course description).*

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### Adaptive Physical Education

*Students with Adaptive Physical Education needs may enroll in any of a number of regular Physical Education activity classes. These classes routinely begin with evaluation of each student's physical profile and establish a personalized training or conditioning program based on the individual's needs. A wide range of adaptations may be implemented, limited by considerations of the student's personal safety and abilities and reasonable and appropriate use of the College's equipment and facilities.*

PHED 1010 Aerobics (1) (F,S,Su)  
Repeatable; maximum of 4 hours applicable toward a degree. Formerly PE 125.

PHED 1020 Step Aerobics (2) (F,S)  
Repeatable; maximum of 4 hours applicable toward a degree. Formerly PE 124.

PHED 1090 Introduction to Yoga (1) (F,S,Su)  
Repeatable; maximum of 2 hours applicable toward a degree. Formerly PE 156.

PHED 1110 Concepts of Wellness (1) (F,S,Su)  
Concepts, understandings, and values of activity as applied to optimal living through wellness; lab in motor activity. Formerly PE 118.

PHED 1120 Strength and Conditioning (1) (F,S,Su)  
Intro to weight training and conditioning. Formerly PE 138.

PHED 1130 Fitness for Living (2) (F,S,Su)  
Repeatable; maximum of 4 hours applicable toward a degree. Formerly PE 128.

PHED 1140 Walking for Fitness (2) (F,S,Su)  
Repeatable; maximum of 4 hours applicable toward a degree. Formerly PE 127.

PHED 1450 Beginning Self-Defense (1) (F,S)  
Formerly PE 164.

PHED 1460 Self-Defense for Women (1) (F,S)  
Formerly PE 103.

PHED 1470 Advanced Self-Defense for Women (1) (S)  
Formerly PE 165. Prereq: PHED 1460 or instructor's consent.

PHED 1550 Bicycling (1) (on demand)  
Must provide own bicycle; campsite rental fees, food, and transportation not included in course cost. Formerly PE 141.

PHED 1560 Skin and Scuba Diving (1) (F,S)  
Scuba equipment rental not included in course cost; swimming proficiency needed; repeatable; maximum of 2 hours applicable toward a degree. Formerly PE 140.

PHED 1570 Backpacking and Hiking (1) (F,S)  
Repeatable; maximum of 2 hours applicable toward a degree; equipment, campsite rental fees, food, and transportation not included in course cost. Formerly PE 143.

PHED 1750 Elementary Ballet Technique (1) (F,S)  
Students provide own attire and are responsible for private studio user costs; repeatable; maximum of 2 hours applicable toward a degree. Formerly PE 150.

PHED 1770 Line Dance (1) (F) Formerly PE 151.

PHED 1810 Introduction to Paddle (1) (F,S,Su)  
Repeatable; maximum of 2 hours applicable toward a degree. Formerly PE 157.

PHED 1820 Beginning Table Tennis (1) (F,S)  
Formerly PE 105.

PHED 1830 Racquetball (1) (F,S) Formerly PE 131.

PHED 1840 Volleyball (1) (F,S) Formerly PE 122.

PHED 1850 Basketball (1) (F) Formerly PE 152.

PHED 1860 Golf (1) (F) Formerly PE 116.

PHED 1870 Beginning Tennis (1) (F,S,Su)  
Formerly PE 119.

PHED 1880 Intermediate Tennis (1) (on demand)  
Formerly PE 121. Prereq: PHED 1870 or comparable skills.

PHED 1990 Special Topics: Physical Education Activity (1-2) (on demand)  
Repeatable for credit on different topics; maximum of 6 hours applicable toward a degree. Formerly PE 245.

### Physical Science

PSCI 1030 The Physical Environment (4) (F,S)  
Explores physical science in its historical and sociological significance, the process of science, and the present content of scientific fact and theory; includes physics, chemistry, geology and astronomy; class 3 hours, lab 3 hours. Formerly PH 109.

PSCI 2990 Special Topics in Science (1-4) (on demand)  
Study of a specific topic in science; repeatable for credit on different topics. Formerly PH 299. Prereq: Department head and instructor's consent.

### Physical Therapist Assistant

PT 104 Introduction to Physical Therapy (2) (F)  
Physical therapy's history, function, and purpose; physical therapist assistant's role in interaction and communication with other health care providers; medical terminology applied to physical therapy. Prereq: Admission into the Physical Therapist Assistant Program. Coreq: PT 115, 123.

PT 111 Clinical Practice I (2) (S)  
Clinical experience in local health care facilities to observe and practice basic physical therapy skills learned in class and lab; students supervised by registered physical therapist or registered physical therapist assistant; clinic 6 hours; Satisfactory/No Credit grading. Prereq: PT 104, 115. Coreq: PT 112, 125, liability insurance fee.

PT 112 Pathological Conditions (3) (S)  
Survey of diseases and injuries treated by physical therapy; associated medical or surgical treatment of these conditions; physical therapy treatment for specific conditions. Prereq: PT 104, 115, 123. Coreq: BIOL 2020, PT 111, 125.

PT 115 Physical Therapy Procedures I (5) (F)  
Basic physical therapy principles and modality techniques; class 3 hours, lab 6 hours. Prereq: Admission into Physical Therapist Assistant Program. Coreq: PT 104, 123, liability insurance fee.

PT 123 Functional Anatomy (4) (F)  
Integrates muscle innervation, position, and function of the musculoskeletal system for specific joints and their muscular components; palpation skills, joint range of motion, goniometry, and manual muscle testing; biomechanical concepts related to simple movement analysis and kinesiology; class 3 hours, lab 3 hours. Prereq: Admission to Physical Therapist Assistant Program. Coreq: BIOL 2010, PHYS 1030, PT 104, 115.

PT 125 Physical Therapy Procedures II (4) (S)  
Continuation of PT 115; focus on the principles and uses of spinal traction, electrical stimulation, biofeedback, pain control, protocol exercise routines and completion of manual muscle testing; class 3 hours, lab 3 hours. Prereq: PHYS 1030, PT 104, 115, 123. Coreq: PT 111, 112.

PT 201 Physical Therapy Seminar (2) (S)  
Critique sessions concerning physical therapy procedures and techniques and clinic participation; student presentations on physical therapy procedures and techniques, pathology, anatomy and physiology. Prereq: PT 205. Coreq: PT 221.

PT 205 Therapeutic Exercise (5) (F)  
Principles and uses of therapeutic exercises and exercise equipment options; special assessment procedures, exercise techniques, neurodevelopmental exercises, and techniques utilized in specific conditions; intro to orthotics, prosthetics, splinting and gait analysis; class 3 hours, lab 6 hours. Prereq: PT 125. Coreq: PT 210.

PT 210 Clinical Practice II (4) (F)  
Continuation of PT 111; students work under direct, on-premise supervision of a registered physical therapist or registered physical therapist assistant to gain expertise in skills learned in class and lab; clinic 12 hours; Satisfactory/No Credit grading. Prereq: PT 125. Coreq: PT 205, liability insurance fee.

PT 221 Clinical Practice III (10) (S)  
Continuation of PT 210; students apply skills learned in class and lab under direct, on-premise supervision of a registered physical therapist or registered physical therapist assistant; clinic 30 hours; Satisfactory/No Credit grading. Prereq: PT 210, instructor's consent. Coreq: PT 201.

### Physics

PHYS 1000 Basic Technical Physics (3) (F)  
Preparation for college physics for students with no previous physics and/or weak math background; algebraic equations, trigonometry and vectors; intro to physical mechanics; not intended for transfer; not accepted toward any degree program at Chattanooga State. Formerly PH 100. Recommended coreq: MATH 1710 or 1740.

PHYS 1030 Concepts of Physics (4) (F,S)  
One semester intro physics course for non-science and non-engineering majors; focus on the nature of physics and applying basic physics concepts in everyday life experience and work; math limited to basic algebra required to understand and apply physics concepts; mechanical motion, energy, temperature and heat, fluids, electricity, magnetism, wave motion and optics; class 3 hours, lab 3 hours. Formerly PH 110.

## 2001-02 Course Descriptions

PHYS 2010 Non-Calculus-Based Physics I (Mechanics and Thermodynamics) (4) (F,S,Su)  
Intro to algebra-based physics covering mechanics, heat, and thermodynamics; for engineering technology and preprofessional majors; background/refresher for students needing calculus-based physics; class 3 hours, lab 3 hours. Formerly PH 114. Prereq: PHYS 1000 or equivalent. Coreq: MATH 1720 or 1750.

PHYS 2020 Non-Calculus-Based Physics II (Electricity, Magnetism, and Optics) (4) (S,Su)  
Continuation of PHYS 2010; basic principles of electricity and magnetism, ray and wave optics; class 3 hours, lab 3 hours. Formerly PH 115. Prereq: PHYS 2010.

PHYS 2110 Calculus-Based Physics I (4) (F)  
For students working toward a bachelor's degree in engineering or the sciences; covers the topics of mechanics: statics, kinematics, work, energy, power, momentum, conservation laws, heat, rotational and harmonic motion, and thermodynamics; class 3 hours, lab 3 hours. Formerly PH 254. Prereq: MATH 1910, PHYS 2010; or departmental consent. Coreq: MATH 1920.

PHYS 2120 Calculus-Based Physics II (4) (S)  
Continuation of PHYS 2110; covers electrostatics, fields and potentials, electromotive force, AC/DC circuits, electromagnetism, capacitance and inductance, and electromagnetic waves; class 3 hours, lab 3 hours. Formerly PH 255. Prereq: PHYS 2110.

### Plant Systems Administration (BOMA)

SA 111 Boilers and Heating Systems Fundamentals (3) (on demand)  
Basics of boiler and heating systems management; thermodynamics principles, fuels and fuel burning, boiler controls, and hydronic, warm air, infrared, and electric heating systems.

SA 112 Refrigeration Systems and Accessories (3) (on demand)  
Basic operation, management, and maintenance of refrigeration systems and associated accessories; refrigeration and operating cycles, compressors, refrigerants, condensers, and safety. Prereq: SA 111.

SA 113 Air Handling, Water Treatment, and Plumbing Systems (3) (on demand)  
Overview of air handling, water treatment, fire protection, plumbing, and security systems applied to facilities management and maintenance. Prereq: SA 112.

SA 114 Electrical Systems and Illumination (3) (on demand)  
Intro to basic electricity, building electrical service and components, electrical energy consumption, and building lighting as related to facilities management and maintenance. Prereq: SA 111.

SA 115 Control Systems (3) (on demand)  
Overview of HVAC controls used in facilities management; covers applications of pneumatic, electrical, electronic, auxiliary, and computer control. Prereq: SA 113, 114.

SA 116 Building Design and Maintenance (3) (on demand)  
Maintenance requirements for structural components of a facility; foundations, roofing systems,

floors, ceilings, walls, windows, doors, elevators, parking, and landscaping maintenance. Prereq: SA 114.

SA 117 Energy Management (3) (on demand)  
Conditions and equipment affecting energy consumption, conservation, and management. Prereq: SA 113, 114.

SA 118 Facilities Management Supervision (3) (on demand)  
Supervisor's role and management techniques for facilities managers.

### Political Science

PO 110 Introduction to American Government (3) (F,S)  
Basics of democratic government; constitutional principles, functions, operations, and processes of governmental change; attention given to the role of political parties, public opinion, interest groups and propaganda.

PO 219 State and Local Government (3) (F)  
Intro to state and local government; focus on the interrelationships between state and local, state and federal, and local and federal governments.

### Practical Nursing

LP 000 Practical Nursing (F,S,Su)  
32.5 clock hours/week.

#### First Semester

Intro to the nursing profession; normal anatomy/physiology, nutrition, aging, basic math; nursing procedures to assist in maintaining normal function; clinical experiences in long term care facilities.

#### Second Semester

Study of alterations in normal function; focus on nursing care of adults with medical and/or surgical problems; includes disease process, diet therapy, and pharmacology; clinical experiences in acute care setting. Prereq: Successful completion of First Semester.

#### Third Semester

Specialty areas of obstetric, gynecologic and pediatric nursing; intensive review for state licensing examination; concentrated clinical practice experience. Prereq: Successful completion of Second Semester.

### Psychology

DSPS 0800 Psychology of Learning (3) (F,S,Su)  
Designed to develop effective study habits, attitudes and skills in the classroom setting; focus on application of study skills, critical thinking, and the processes of learning how to learn in college.\*\* Formerly PY 081.

PY 101 General Psychology (3) (F,S,Su)  
Intro survey course; study of mental processes and human behavior to better understand ourselves and anticipate and predict the behavior of others; history and methods of psychology, principles of human development (infancy through adulthood), motivation, emotion, stress, learning and remembering, and abnormal psychology.

PY 103 Stress Management (1) (on demand)  
Relationship of stress to physical and mental well-being; focus on developing a lifestyle that

promotes wellness through exercise, proper nutrition, and understanding the basic physiology of stress.

PY 109 Healthy Marriages Aren't Accidents (1) (on demand)

Basic "maintenance skills" for creating a marriage with long-range, positive potential; attention given to "pitfalls" that become obstacles to successful marriages; general communications skills, interactive listening, conflict resolution, and CONSTRAT (conscious strategizing).

PY 201 Introduction to Behavioral Statistics (4) (F,S)

Fundamental statistics for the behavioral sciences; descriptive and inferential statistics, research design, and interpretation of psychological data; computer analysis emphasized; class 3 hours, lab 2 hours. Prereq: 2 years of high school algebra and acceptable test scores; or DSPM 0850.

PY 213 Abnormal Psychology (3) (S)

Abnormal and psychopathological behavior patterns, mental deficiencies, neuroses, psychoses, personality disorders; prevention and processing; contains service-learning component. Prereq: PY 101.

PY 215 Child Growth and Development (3) (F,S)

Physical, emotional, social and intellectual child development from conception through adolescence; concepts of development and function derived from theoretical approaches, research and clinical observation emphasized; child rearing applications included. Prereq: PY 101.

PY 217 Human Growth and Development (3) (F,S,Su)

Overview of human developmental changes from conception to death focusing on multidisciplinary perspectives (biological, cognitive, behavioral, social); analysis and application of these perspectives in various environmental contexts. Prereq: PY 101.

PY 235 Special Topics in Psychology (1-3) (on demand)

Specific topics of traditional and current social and psychological interest; repeatable for credit on different topics.

PY 241 Psychology of Individual Differences (3) (F,S)

Individual differences in the dimensions of interests, values, intelligence, personality, and needs; group diversity relating to gender, age, race, work, social class, and education; critical analysis of genetic and environmental factors influencing these differences.

PY 250 Leadership Development (3) (F,S)

Leadership philosophy, practices, and skills; focus on learning and application of basic leadership concepts; decision making, empowerment, trust, goal-setting, and conflict resolution; leadership styles explored through readings in the humanities and critical analysis of art, film, music, and literature. (Same as HUM 2550; credit not allowed for both courses.)

PY 251 Psychology of Personal Adjustment (3) (F,S,Su)

Major theories of adjustment and maladjustment, including psychoanalysis, neo-Freudian, be-

*\*\*Transitional studies course (not generally transferable; not applicable to credit hours required for a degree or certificate)*

behavioral theory and humanistic psychology; role of religion, work behavior and other cultural influences.

Public Speaking, See "Speech"

## Quality Technology

**QA 140 Quality Technician (3) (on demand)**  
Basic concepts and body of knowledge involved in Certified Quality Technician Examination; review and application of quality control concepts and techniques, practical statistical methods, sampling and reliability principles, reliability calculations, metrology, calibration basics, quality data analysis and problem solving, cost methodology, and quality audit concepts and principles; class 2 hours, lab 2 hours. Recommended prereq: MATH 1510 or 1530.

**QA 142 Quality Engineering (4) (on demand)**  
Basic concepts and body of knowledge involved in Certified Quality Engineer Examination; basic concepts and principles of probability, discrete and continuous probability functions, sampling distributions, statistical inference, regression, and correlation analysis; statistical quality control, acceptance sampling using attributes and variables, experimental design, quality planning, quality management, product liability, metrology, inspection, testing, quality cost analysis, quality auditing, reliability, maintainability, product safety, quality information systems, motivation, and human factors. Recommended prereq: MATH 1510 or 1530.

**QA 144 Mechanical Inspector (3) (on demand)**  
Basic concepts and body of knowledge required for the Certified Mechanical Inspector Examination; review and application of technical math, basic statistics, blueprint reading, inspection equipment, planning, technology, materials and processes, sampling techniques and plans; class 2 hours, lab 2 hours. Recommended prereq: MATH 1510 or 1530.

**QA 146 Quality Auditing (1-2) (on demand)**  
Basic concepts and body of knowledge required for Certified Quality Auditor (CQA) Examination; review of steps required for planning and conducting an audit: initiation, preparation, performing, reporting, and follow-up; sample questions from previous CQA examinations.

**QA 148 Quality Manager (3) (on demand)**  
Preparation for the ASQC Certified Quality Manager examination; includes quality standards, functions and organizations, quality needs and overall strategic plans, customer satisfaction and focus, project management, continuous improvement, human resource management, and training and education. Recommended prereq: MATH 1510 or 1530.

**QA 240 Statistical Process Control (3) (on demand)**  
Concepts and body of knowledge required in basic statistical process control and improvement; study and applications of basic probability concepts and principles, discrete and continuous probability functions, sampling distributions, limited statistical inference, linear regression, and correlation analysis; also covers flow charts, check sheets, stem and leaf plots, histograms, cause and effect diagrams, and run and pareto

chart; measurement process evaluation methods. Recommended prereq: MATH 1510 or 1530.

**QA 298 Special Topics in Quality (1-4) (on demand)**  
Specialized topics and/or problems in quality; repeatable for credit on different topics. Prereq: Instructor's consent.

**QA 299 Special Topics in Quality with Lab (1-4) (on demand)**  
Specialized topics and/or problems in quality; repeatable for credit on different topics. Prereq: Instructor's consent.

Radiation Therapy Technology, See "Health Science"

## Radiologic Technology

**RT 110 Introduction to Radiologic Technology (3) (F)**  
Organization, function, supervision and financial arrangements of radiology departments; rules and regulations of the program and the clinical affiliates, brief history of medicine and radiology, do's and don'ts regarding radiation and electrical protection and general safety, and ethical and legal responsibilities entailed by becoming a member of a paramedical profession. Prereq: Admission to RT Program, liability insurance fee.

**RT 112 Clinic I (2) (S)**  
Intro to radiographic imaging, radiographic equipment care, basic radiographic positioning and exposure selection, and body mechanics of handling patients; focus on simulation, practice and competent performance of 3 radiologic exams from 3 of the following exam categories: upper extremities, lower extremities, bony thorax, chest and abdomen, contrast studies (intro only), and spines; 20 lab/clinic hours. Prereq: BIOL 2010, HS 145, RT 110, 124, 134. Coreq: BIOL 2020, HS 155, RT 115, 125, 135.

**RT 114 Clinic II (4) (Su)**  
Continuation of RT 112; provides the opportunity to develop increased knowledge and skill in correct positioning to demonstrate specific anatomy, radiographic film evaluation process, reasons for radiographic exams, and proper methods of patient care; focus on simulation, practice, and competent performance of 3 radiographic exams from 3 of the following exam categories: 1) upper extremities, 2) lower extremities, 3) bony thorax, chest and abdomen, 4) common contrast studies (intro only), 5) spines and 6) cranium; in preparation for final category competency evaluation beginning fall semester of the 2nd year, students given opportunity to gain experience and proficiency in the 6 exam categories which must be completed by the first half of the summer semester; 40 lab/clinic hours. Prereq: BIOL 2020, HS 155, RT 115, 125, 135.

**RT 115 Medical Terminology (3) (S)**  
Medical terminology applied to Radiologic Technology; elements and origins of medical terminology; intro to word building system and relation to specific terminology for the body; abbreviations and symbols addressed; focus on radiographic orders and diagnostic reports. Prereq: BIOL 2010, RT 134. Coreq: BIOL 2020, RT 112, 135.

**RT 124 Radiographic Exposure I (3) (F)**  
First of a 2-course series; nature and production of x-rays, x-ray film and intensifying screens, in-

visible and manifest image creation, film processing equipment and quality control, prime factors of radiography and x-ray interaction with matter; lab experiments demonstrate clinical applications of theoretical principles and concepts; class 3 hours, lab 3 hours. Prereq: Admission to RT Program. Coreq: HS 145, MATH 1710, RT 110.

**RT 125 Radiographic Exposure II (3) (S)**  
Second of a 2-course series; factors that govern and influence radiographic image production using radiographic film, importance of proper operation and care of radiographic equipment, primary beam filtration, image intensification and stereoscopic radiography, tomography, and radiation protection and health physics; lab experiments demonstrate clinical applications of theoretical principles and concepts; class 3 hours, lab 2 hours. Prereq: HS 145, MATH 1710, RT 110, 124. Coreq: HS 155.

**RT 134 Radiographic Positioning—Film Critique I (3) (F)**  
Intro to radiographic positioning and terminology, upper extremities, lower extremities, bony thorax and chest, abdomen and related positioning for common contrast exams, and terminology, anatomy and radiographic positioning of the cervical, thoracic and lumbar-lumbo-sacral vertebrae; lab assignments provide exam simulation and practice prior to working with a patient; class 3 hours, lab 5 hours. Prereq: Admission to RT Program. Coreq: BIOL 2010, RT 110.

**RT 135 Radiographic Positioning—Film Critique II (3) (S)**  
Anatomy, topography, morphology and routine projections of the cranium and terminology, anatomy and radiography of the sella turcica, orbits, temporal bones, facial bones, mandible, temporomandibular articulations and paranasal sinuses; lab assignments provide for exam simulation and practice prior to working with patients. Prereq: BIOL 2010, RT 134. Coreq: BIOL 2020, RT 112.

**RT 143 Radiographic Positioning—Film Critique III (3) (F)**  
Radiography of the soft-tissue structures of the neck, thorax, and abdomen; contrast media characteristics relative to their proper use in the body, side effects, and administration and opacification methods; normal radiographs of each system of the body reviewed with focus on preprocedure prep, patient care and management, contraindications for and complications of the procedures, and proper positioning and exposure of the structures. Prereq: All 1st year RT program courses.

**RT 172 Radiologic Pathology (3) (S)**  
Survey of disease related to Radiologic Technology for advanced student radiographer; material based on systems and related organs of the body, stressing studies that make use of radiology; each system discussed according to categories of disease demonstrated by radiography or by another imaging modality; focus on specific pathologic conditions encountered in the major organ systems that require adjustments in exposure factors, patient care and management, and positioning. Prereq: All previous course material in RT curriculum prior to spring semester of the 2nd year.

**RT 200 Magnetic Resonance Imaging (4) (F)**  
Intro to basic essentials of magnetic resonance

## 2001-02 Course Descriptions

imaging methods, system operation, cross-sectional anatomy and clinical imaging interpretation; focus on requirements to operate magnetic resonance equipment. Prereq: Active certification as Registered Technologist by American Registry of Radiologic Technologists.

## RT 202 Clinic III (2) (F)

Continuation of RT 114; increased focus on correct positioning to demonstrate specific anatomy, reasons for radiographic exams, radiographic film evaluation process, and proper patient care methods; emphasis given to final category instruction and evaluation of 4 category exams from 2 of the following categories: upper extremities, lower extremities, bony thorax, chest and abdomen, contrast studies, spines, and cranium; assignments in nuclear medicine, radiation therapy, computerized tomography, special procedures, and paradiologic areas give opportunity for partial completion of general program competencies; 20 lab/clinic hours. Prereq: All 1st year RT program courses.

## RT 210 Advanced Magnetic Resonance Imaging for Technologists (3) (S)

One-semester course covering advanced imaging techniques now used in Magnetic Resonance Imaging; focus on gradient echo, cardiac/cine, and 3-D imaging; paramagnetics, spectroscopy, motion suppression techniques, MR angiography, and scan protocols that improve image quality and permit evaluation of moving joints. Prereq: RT 200.

## RT 212 Clinic IV (2) (S)

Continuation of RT 202; 20 lab/clinic hours. Prereq: RT 143, 202, 223, 232, 234. Coreq: HS 184, RT 172, 235.

## RT 223 Special Procedure Radiography—Nursing (3) (F)

Special procedures discussed in reference to anatomy, procedures, indications and contraindications, contrast media, equipment and patient positioning; basic medical techniques and patient care, medical and surgical asepsis, vital signs, medical emergencies, drug administration, anatomy and radiography of central nervous system and the visceral and peripheral circulatory system, general and computerized tomography, and foreign body localization. Prereq: All 1st year RT program courses.

## RT 224 Clinic V (3) (Su)

Continuation of Clinic IV; proper method of cleaning an automatic film processor and doing preventive maintenance checks and quality control also taught; 30 lab/clinic hours. Prereq: RT 172, 212, 235.

## RT 230 Magnetic Resonance Imaging for Technologists Clinical (3) (F,S)

One-semester course to prepare Radiologic Technologists clinically for a professional career in MRI; focus on foundations, concepts and procedures of clinical Magnetic Resonance Imaging; advanced standing available for qualified candidates; 225 clinic hours. Prereq: Active certification as Registered Technologist by American Registry of Radiologic Technologists. Coreq: RT 200.

## RT 232 Introduction to Paradiologic Imaging Modalities and Radiation Therapy (3) (F)

Intro to subspecialties of diagnostic radiography and basic radiation therapy principles; focus on the following paradiologic imaging modalities:

digital radiography, thermography, diagnostic ultrasound, diaphanography, positron emission tomography, magnetic resonance, and nuclear medicine; radiation therapy and subspecialties discussed in reference to comparison to conventional radiology physical principles, equipment and methodology, historical development, selected clinical applications, and biological effects. Prereq: All 1st year RT program courses.

## RT 234 Radiology Seminar I (4) (F)

First of a 2-course series in advanced radiographic science, patient care and management, and radiographic positioning and procedures; complete series presents integrated coverage of radiation protection, equipment operation and maintenance, image production and evaluation, radiographic positioning and procedures, patient care and management, and quality assurance; provides opportunity to develop skills and knowledge needed to exercise independent judgment and discretion in technical performance of medical imaging procedures; focus on non-routine procedures in each exam category area and evaluation of performance of radiologic systems to effect best diagnostic results with the least cost and radiation exposure to patients; emphasis on film processing quality assurance. Prereq: All previous RT program course material prior to fall semester of the 2nd year.

## RT 235 Radiology Seminar II (4) (S)

Second of 2-course series in advanced radiographic science, patient care and management, and radiographic positioning and procedures; emphasis on x-ray equipment analysis and quality control and development of an exposure guide. Prereq: All previous RT Program course material prior to spring semester of the 2nd year. Coreq: HS 184, RT 172, 212.

## RT 250 Advanced Patient Care and Management (6) (F)

Prepares registered or registry eligible technologist to perform advanced patient care associated with imaging procedures; cardiac monitoring, rapid patient assessment in emergencies, proper follow-up to include advanced cardiac life support (ACLS), pharmacology of all medications and contrast media utilized in imaging or emergency intervention, venipuncture, vital signs, urinary catheterization, charting and documentation. Prereq: Graduate of CAHEA/JRCERT accredited Radiologic Technology Program and certified or eligible for certification by American Registry of Radiologic Technologists.

## Reading

## DSPR 0690 Individualized Instruction in Reading Skills (2) (F,S,Su)

Individualized course for students with significant weakness in general or specific reading skills and in need of individualized instruction and guided practice; may be taken before or after DSPR 0700 and/or DSPR 0800; lab 4 hours; repeatable. Formerly RE 069. Prereq: Assessment test recommendation or Department Head's consent.\*\*

## DSPR 0700 Basic/Developmental Reading (4) (F,S,Su)

Lecture/lab course to improve ability to comprehend written materials, identify main and subordinate ideas, make inferences, separate fact from opinion, develop flexibility and efficiency in reading rate, and improve vocabulary and rea-

soning skill. Formerly RE 070. Prereq: COMPASS Placement.\*\*

## DSPR 0800 Developmental Reading: Reading Analysis and Reasoning (3) (F,S,Su)

Designed to improve student's overall reading skills to college level; focus on reasoning skills, analysis of materials for bias and point of view, and increasing flexibility and efficiency in reading rate. Formerly RE 081. Prereq: DSPR 0700 or COMPASS Placement.\*\*

## DSPR 0870 Topics in Reading (1) (on demand)

For students who cannot demonstrate mastery of objectives in a particular area of competency in language arts even though he/she has competency in other language arts areas; students may work on spelling, vocabulary, rate and flexibility, or reasoning skills; lab 2 hours. Formerly RE 087. Prereq: Assessment test or instructor's recommendation.\*\*

## Real Estate

## RS 101 Basic Principles of Real Estate (4) (F,S)

Basics of real estate; prepares applicants for the State of Tennessee Real Estate License Exam; topics include ethics, contracts, trust deeds, closing statements, leases, mortgages, and real estate math.

## RS 103 Real Estate Course for New Affiliates (2) (on demand)

Establishes performance capabilities, knowledge, and skills for performing in real estate for real estate affiliates (salespersons) already engaged in real estate as a career. Prereq: RS 101 or instructor's consent.

Religion, See "Humanities" and "Philosophy"

## Renaissance Institute

## RI 100 The College Experience (1-3) (F,S,Su)

Explores college life, including expectations, challenges and opportunities for success, through self-reflection, exposure to diverse ideas and people, dialogue between students and instructor, and participation in campus and community activities.

## Respiratory Care

## RC 111 Principles of Respiratory Care Procedures I (3) (F)

Theory in the application of nursing principles and skills for respiratory personnel; basic nursing principles, vital signs, aseptic technique, the apothecary system and drug calculations; gas laws, relative humidity and pulmonary values. Prereq: Acceptance into Respiratory Care Program.

## RC 112 Principles of Respiratory Care Procedures II (3) (S)

Intensive study of equipment and therapy modalities of humidity and aerosol therapy; intro to oxygen therapy. Prereq: RC 111.

## RC 113 Principles of Respiratory Care Procedures III (4) (Su)

Continuation of oxygen therapy study; hyperin-

\*\**Transitional studies course (not generally transferable; not applicable to credit hours required for a degree or certificate)*

flation therapy such as SMI and IPPB, and airway management; indications and contraindications emphasized; series of preclinical check-offs required for course completion; class 3 hours, lab 3 hours. Prereq: RC 112.

#### RC 141 Technical Foundations of Respiratory Care I (3) (F)

Overview of respiratory care development, role of the therapist's medical vocabulary with focus on English meaning of root words, prefixes and suffixes used by allied health professions.

#### RC 142 Technical Foundations of Respiratory Care II (3) (S)

Provides comprehensive awareness of the functioning of the heart and lungs; physiologic principles of pulmonary mechanics, O<sub>2</sub> and CO<sub>2</sub> transport, acid-base homeostasis, and an intro to general principles of drug action focusing on the effects on renal and cardiopulmonary systems. Prereq: RC 141.

#### RC 143 Technical Foundations of Respiratory Care III (3) (Su)

Continues development of cardiopulmonary physiology and pharmacology knowledge; focus on neural and chemical control of cardiopulmonary functions, drug administration, respiratory and systemic drugs, and recognition and management of adverse reactions. Prereq: RC 141, 142.

#### RC 210 Fundamentals of Respiratory Care I (3) (F)

In-depth study of mechanical ventilation; combination of didactic and guided lab experiences; critical care medicine principles as applied to rationale, institution and discontinuance of mechanical ventilation presented; basic ventilator operation and modification concepts; class 2 hours, lab 3 hours. Prereq: RC 113, 143. Coreq: RC 221, 241.

#### RC 212 Fundamentals of Respiratory Care II (3) (S)

Cardiopulmonary diagnostic testing and monitoring related to the respiratory care practitioner; major cardiovascular monitoring and supportive therapy concepts presented along with EKG and pulmonary testing and interpretation, transcutaneous oxygen monitoring, oximetry, end tidal CO<sub>2</sub> monitoring; class 2 hours, lab 2 hours. Prereq: RC 210, 221, 241. Coreq: RC 222, 242, 243.

#### RC 213 Fundamentals of Respiratory Care III (3) (Su)

Advanced topics including fluid and electrolyte balance, pulmonary rehabilitation, hemodynamics, and new techniques in respiratory care; practice exams given to prepare students for entry level and advanced practitioner exams given by the NBRC. Prereq: RC 212, 222, 242, 243. Coreq: RC 223.

#### RC 221 Clinical Practicum I (6) (F)

Respiratory care procedures in hospital settings; patient care experience includes oxygen therapy, medical gas cylinder use, humidity and aerosol therapy, IPPB, incentive spirometry, bronchial hygiene, chest physiotherapy, isolation techniques, cleaning and sterilization, CPR, physical assessment, and arterial puncture; lab 24 hours; Satisfactory/No Credit grading. Prereq: RC 111, 112, 113, 143. Coreq: RC 210, 241. (Clinical fee and professional liability insurance required).

#### RC 222 Clinical Practicum II (6) (S)

Continuation of RC 221; emphasis on patient evaluation and clinical judgment; additional procedures include pediatric therapy, blood gas instrumentation and quality control procedures, EKG testing and interpretation, endotracheal intubation, pulmonary function testing, chest radiographs interpretation and home care; clinical rotations may be scheduled during evening or night hours; lab 24 hours; Satisfactory/No Credit grading. Prereq: RC 210, 221, 241. Coreq: RC 212, 242, 243.

#### RC 223 Clinical Practicum III (7) (Su)

Continuation of RC 221 and RC 222; emphasis on critical care procedures; new procedures include initiation, monitoring and discontinuation of mechanical ventilation, neonatal-pediatric intensive care, hemodynamic monitoring and lab test interpretation; clinical rotations may be during evening or night hours; lab 24 hours; Satisfactory/No Credit grading. Prereq: RC 212, 222, 242, 243. Coreq: RC 213.

#### RC 241 Clinical Pathophysiology I (3) (F)

General concepts of disease, human pathology, arterial blood gases, and acid-base concepts; complements clinical experience in sampling and analysis gained in RC 221. Prereq: RC 113, 143.

#### RC 242 Clinical Pathophysiology II (3) (S)

Study of the etiology, pathology, pathophysiology, symptoms, diagnosis, course, treatment, and prognosis of selected diseases that affect the cardiopulmonary system. Prereq: RC 210, 241. Coreq: RC 212, 222, 243.

#### RC 243 Pediatric/Perinatal Respiratory Care (3) (S)

Intro to common pediatric and neonatal cardiopulmonary disorders; intro to therapeutic modalities used in the treatment of infants and children, including critical care procedures. Prereq: RC 210, 221, 241. Coreq: RC 212, 222, 242.

Secretarial Science, See "Office Systems"

### Sociology

#### SO 110 Introduction to Sociology (3) (F,S,Su)

Intro to field of sociology; focus on basic concepts, principles, and processes used to study the structure and function of society.

#### SO 120 Social Problems (3) (S)

Study of social problems in the U.S.; provides sociological perspective for making sense of future developments in our society. Prereq: ENGL 1010.

#### SO 214 Criminology (3) (F)

Principles of criminology; what constitutes a crime, relevance of crime statistics, and major theories relating to the causes of crime; the problems, social costs of crime, and effects on society approached from sociological perspective. Prereq: ENGL 1010.

#### SO 215 Marriage and Family (3) (S)

Emphasizes values and family dynamics of contemporary American life; helps students make knowledgeable choices in their interpersonal lives by providing sound facts and using a problem-solving approach. Prereq: ENGL 1010.

#### SO 216 Cultural Anthropology (3) (F,S,Su)

Comparative study of culture, social organization, economics, government, education, religion, language, and arts in various primitive and present societies.

#### SO 217 Sociology of Aging (3) (on demand)

Basic course in social gerontology; focus on the aging process and the problems of the aged.

#### SO 235 Special Topics in Sociology (1-3) (on demand)

Specific topics of traditional and current sociological interest; repeatable for credit on different topics. Prereq: ENGL 1010.

Sonography, See "Diagnostic Medical Sonography"

### Spanish

#### SPAN 1010 Elementary Spanish I (4) (F,S)

First semester of a 2-semester series designed for students with little or no prior instruction in Spanish; students develop solid grammar foundation, utilize practical vocabulary, and perform elementary reading tasks in the Spanish language; focus on idiomatic conversation and Spanish culture. Formerly SH 110.

#### SPAN 1020 Elementary Spanish II (4) (F,S)

Focus on more complex grammatical forms on the elementary level to enhance the development of reading, oral, and aural skills beyond the SPAN 1010 level. Formerly SH 111. Prereq: SPAN 1010.

#### SPAN 2010 Intermediate Spanish I (3) (F)

Intermediate Spanish grammar, reading, and conversation; focus on conversation, oral skills, and Spanish culture. Formerly SH 210. Prereq: SPAN 1020 or 2 years of high school Spanish.

#### SPAN 2020 Intermediate Spanish II (3) (S)

Continuation of SPAN 2010; focus on conversation and oral skills; strong emphasis on reading and translation. Formerly SH 211. Prereq: SPAN 2010.

#### SPAN 2990 Special Topics in Spanish (1-3) (on demand)

Specific topics pertaining to Spanish language and culture; repeatable for credit on different topics. Formerly SH 235. Prereq: Instructor's consent.

### Speech

#### SP 110 Fundamentals of Public Speaking (3) (F,S,Su)

Introductory public speaking course stressing organization and presentation of the extemporaneous speech in a variety of formats. Prereq: ENGL 1010.

#### SP 235 Special Topics in Speech (1-3) (on demand)

Specific topics in speech communication and forensics; repeatable for credit on different topics. Prereq: ENGL 1010 with minimum grade of "C."

## 2001-02 Course Descriptions

Surgical Technology

OR 000 Surgical Technology (F,S,Su)  
32.5 clock hours/week.

**First Semester**

Intro to basic operative procedures and techniques, principles of asepsis; human anatomy/physiology, microbiology, medical terminology; clinical experience in campus practice lab.

**Second Semester**

Continued study of surgical operative procedures and techniques; clinical experience in surgical areas of affiliated hospitals. Prereq: Successful completion of First Semester.

**Third Semester**

Intensive clinical practice experience in a variety of surgical settings; review for national certification examination. Prereq: Successful completion of Second Semester.

Sustainability, See "Environmental Science"

Technical Drafting

DF 000 Technical Drafting (F,S,Su)

Basic drafting tools, procedures and processes; principles of algebra and trigonometry, geometric construction, multiview projection and perspective used to interpret and make blueprints, drawings and multiview sketches; computer-assisted architectural, civil, electrical/electronic, sheet metal, piping, and structural drafting; use of reference materials (CD ROM's, the Internet, standard reference books and manuals, etc.); advanced study in choice of specialization: Architectural (commercial), Mechanical/Piping, or Civil/Structural; 30 clock hours/week.

Theatre

THEA 1030 Introduction to the Theatre (3) (F)  
Representative survey of drama and stagecraft from its beginning to the present; analysis of significant plays from outstanding periods of theatre history; enhances understanding and appreciation of the theatre. Formerly DR 111.

THEA 1110 Acting I (3) (on demand)  
Fundamentals of formal stage performance, stressing both voice and movement. Formerly DR 212.

THEA 1120 Acting II (3) (on demand)  
Continuation of THEA 1110; focus on building characters in acting; auditioning techniques for the stage and screen. Formerly DR 213. Prereq: THEA 1110.

THEA 1230 Movement (2) (on demand)  
Basic vocabulary needed for auditioning and performing in musical theatre dance; basic jazz, tap, ballet and modern dance techniques as applied to choreography for musical theatre. Formerly DR 131.

THEA 1240 Voice and Diction for the Stage (2) (on demand)  
Intro to vocal production for the stage; basic vocal production and dialect using the Lessac approach; vocal quality, clear articulation, and standard pronunciation patterns with focus on vocal needs for the stage. Formerly DR 126.

THEA 1990 Performance and Production (2) (on demand)

Lab course in theatrical performance and production; students have specific assignments as functioning members of a production or performance company; repeatable; maximum of 2 hours applicable toward a degree; lab 4 hours. Formerly DR 204.

THEA 2110 Acting III (3) (on demand)  
Second-year course builds on concepts developed in THEA 1110 and 1120; acting styles explored within different theatrical genres; in-depth acting technique study with character analysis and development using scene study and monologues. Formerly DR 222. Prereq: THEA 1120, 1230, 1240.

THEA 2120 Acting IV (3) (on demand)  
Continuation of THEA 2110; advanced acting technique applied to theatrical genres expanded to include applied study in scene performance/production, including self-direction; explores acting styles in historical theatrical periods. Formerly DR 223. Prereq: THEA 1990, 2110.

THEA 2210 Technical Theatre I (3) (on demand)  
Basic vocabulary, principles and techniques used in major technical areas of theatrical production; basic stagecraft, lighting, costuming and sound principles and techniques; hands-on application in actual theatrical productions. Formerly DR 220.

THEA 2220 Technical Theatre II (3) (on demand)  
Advanced study and hands-on application of principles of stagecraft, lighting, costuming, and sound; drafting, welding, scenery rigging, and 2- and 3-dimensional scenery construction introduced. Formerly DR 221. Prereq: THEA 2210.

THEA 2430 Musical Theatre (2) (on demand)  
Performance techniques used in modern musical theatre productions/auditions; voice production, acting, and movement for the stage presented in scene study projects from the standard musical theatre repertory. Formerly DR 241. Prereq: THEA 1110, 1240.

THEA 2990 Special Topics in Drama (3) (on demand)  
Study of topics relating to the historical and cultural significance of theatre; repeatable for credit on different topics. Formerly DR 235.

Tomography

TM 210 Computed Tomography Patient Care and Management (3) (F)

One of a 3-course set in whole body Computed Tomography (CT) imaging; complete set provides formal specialized training in CT whole body imaging prior to independent performance; covers patient care and management, whole body cross-sectional anatomy, pathology, imaging procedures with protocols, and special procedures in CT. Prereq: Graduate of CAHEA/JRCERT accredited Radiologic Technology Program and certified or eligible for certification by American Registry of Radiologic Technologists. Coreq: TM 220, 230.

TM 220 Computed Tomography Physics (3) (F)  
One of a 3-course set in whole body Computed Tomography (CT) imaging; covers history of CT, computer basics, scanning methods, digital imaging, quality control, and radiation protection.

Prereq: Graduate of CAHEA/JRCERT accredited Radiologic Technology Program and certified or eligible for certification by American Registry of Radiologic Technologists. Coreq: TM 210, 230.

TM 230 Computed Tomography Clinic (4) (F)  
One of a 3-course set in whole body Computed Tomography (CT) imaging; clinical component conducted at approved clinical education center and requires supervised performance of computed tomography of head, neck, spine, chest, abdomen, pelvis and musculoskeletal system; arrangements for clinical education made by students to obtain clinical experience with Chattanooga State-approved CT facility in their geographic area. Prereq: Graduate of CAHEA/JRCERT accredited Radiologic Technology Program and certified or eligible for certification by American Registry of Radiologic Technologists. Coreq: TM 210, 220.

Truck Driving, See "Commercial Truck Driving"

Ultrasound, See "Diagnostic Medical Sonography"

Welding

WD 000 Welding Technology (F,S,Su)  
Theory and practice in welding; oxyacetylene flame cutting, welding and brazing; MIG welding procedures; gas metal arc welding on aluminum; TIG welding on mild steel plate and aluminum; gas tungsten arc pipe welding; flux cored arc welding, covering self shielding and shielded flux cored electrode wire; welding instruction and practice in all positions on thin and thick gauge aluminum and 11-gauge plate; math and blueprint reading for welding; 30 clock hours/week.

Wellness, See "Physical Education"

X-Ray Technology, See "Radiologic Technology"

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# Governance

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## Administrative and Professional Staff

**James L. Catanzaro**, (1990) President; Professor,  
Philosophy, Western Civilization—Humanities.  
Ph.D., Claremont Graduate School and University  
Center, California.

**Deborah A. Adams**, (1981-86, 1988) Dean, Business  
and Community Development. B.S., University of  
Tennessee, 1976.

**Annette Ballew Alsobrooks**, (2000) Designer,  
Marketing. B.S., University of Tennessee at  
Chattanooga, 1995.

**Bruce T. Alston**, (1993) Producer, Media Services.  
B.F.A., New York Institute of Technology, 1990.

**Donald F. Andrews**, (1980) Dean, Humanities.  
Ph.D., University of Tennessee, 1977.

**James L. Barrott**, (1985) Dean, Engineering,  
Environmental, and Emergency Technologies. M.S.,  
University of Tennessee at Chattanooga, 1993.

**Martha K. Bates**, (1991) Technician, Biology—Math  
and Sciences. B.S., Mississippi College, 1967.

**Julie C. Bennett**, (1984) Manager, Kimball Site—  
Extended Services. B.S., Covenant College, 1991.

**Raymond M. Bertani**, (1984) Coordinator,  
Educational TV—Distance Education. B.A.,  
University of Tennessee at Chattanooga, 1984.

**Larry L. Bray**, (1992) Counselor, Career Planning  
and Counseling. M.Ed., Wright State University,  
1981.

**Joyce R. Brennan**, (1992) Director, Academic  
Systems—Computer Services. M.S., University of  
Florida, 1964.

**Joyce A. Brinkmeyer**, (2000) Manager, Workforce  
Assessment and Development—Business and  
Community Development Center. B.S., Illinois State  
University, 1971.

**Patricia K. Brown**, (1979) Director, Marketing,  
Design, and Publications—Marketing. B.S.,  
Covenant College, 1998.

**C. Edward Bryant**, (1998) Women's Basketball  
Coach/Outreach Counselor. B.S., University of  
Tennessee at Chattanooga, 1997.

**Nora C. Burke**, (1993) Supervisor, PC Support—  
Computer Services. B.S., University of Tennessee at  
Chattanooga, 1987.

**Douglas E. Byrd**, (1988) Counselor, Career Planning  
and Counseling. M.A., University of Alabama, 1988;  
M.S., Jacksonville State University, 1981.

**Amy L. Campbell**, (1998) Technician, Chemistry—  
Math and Sciences. B.S., Centre College, 1977.

**Anne B. Campbell**, (1999) Editor, Marketing. M.A.,  
University of Georgia School of Journalism, 1978.

**Bruce A. Carlisle**, (1997) Systems Analyst 1,  
Computer Services. B.S., University of Tennessee at  
Chattanooga, 1997.

**Wilka M. Carter**, (1995) Librarian 1, Library  
Services. M.L.S., Peabody College, 1970.

**Heidi G. Cawood**, (1994) Designer, Marketing. B.S.,  
Middle Tennessee State University, 1993.

**Charles E. Chamberlin**, (1998) Manager, Network  
Services—Computer Services. B.S., University of  
Chattanooga, 1967.

**Christine A. Chardos**, (1997) Adviser, Orientation,  
Advising, and Retention. B.S., University of  
Tennessee at Chattanooga, 1993.

**R. Foster Chason**, (1976) Interim Associate Vice  
President, Academic Affairs; Professor, Behavioral  
Sciences—Social and Behavioral Sciences. D.A.,  
Middle Tennessee State University, 1984.

**Janice W. Cochran**, (1988) Special Assistant to the  
Vice President for Academic Affairs; Associate  
Professor, Chemistry—Math and Sciences. M.S.,  
University of Georgia, 1980.

**Lulu L. Copeland**, (1996) Manager, Computer and  
Technical Training—Business and Community  
Development Center. B.S.E., University of Tennessee  
at Chattanooga, 1982.

**Gladys Crates**, (1974) Dean, Mathematics and  
Sciences; Associate Professor, Mathematics. Ed.D.,  
University of Tennessee, 1994.

**Thomas F. Crum**, (1991) Director, Human  
Resources. M.S., University of Illinois, 1970.

**Missy N. Crutchfield**, (1994) Associate Vice  
President, Public Relations and Governmental and  
Community Affairs. M.S., Middle Tennessee State  
University, 1998.

**Mark A. Cunningham**, (1983) Manager, Systems  
Support—Computer Services. A.S., Chattanooga  
State Technical Community College, 1982.

**Timothy S. Dills**, (1999) Assistant Coordinator,  
Educational TV—Distance Education. B.A., Freed-  
Hardeman University, 1988.

**Margaret V. Douglas (Peggy)**, (1999) Specialist,  
Student Affairs; Interim Director, Financial Aid.  
Ph.D., University of Tennessee, 1989.

**James C. Durm**, (1997) Director, Administrative  
Systems—Computer Services. M.B.A., Troy State  
University, 1980.

**David W. Duvall**, (1987) Director, Retention/Tech.  
Prep.—Academic Affairs. Ed.S., Middle Tennessee  
State University, 1978.

**Paul J. Ennis**, (2000) Technician, Chemistry—Math  
and Sciences. B.S., University of California, 1979.

**Nora S. Ernst**, (1991) Director, Institutional  
Research—Academic Affairs. Ph.D., University of  
North Texas, 1977.

**M. Allison Fetters**, (2000) Manager, Writing  
Center—Humanities. M.A., University of Tennessee  
at Chattanooga, 1995.

**Juanita B. Finnell**, (1992) Adviser, Orientation,  
Advisement, and Retention. M.S., University of  
Tennessee at Chattanooga, 1992.

**Gary L. Fisher**, (1993) Director, Media Services.  
B.A., University of Tennessee at Chattanooga, 1989.

**Darlene C. Florence**, (1998) Adviser/Interim  
Director, Orientation, Advisement, and Retention.  
M.B.A., University of Tennessee at Chattanooga, 1991.

**P. Andrew Forrester**, (1986) Coordinator, Student  
Services—TN Technology Center. M.A., Tennessee  
Technological University, 2000.

**Barbara A. French**, (1985) Coordinator, Business  
and Community Development Center.

**Elizabeth L. Fronk**, (2000) Assistant Librarian 1,  
Library Services. M.L.S., University of Michigan,  
1993.

**Patricia A. Gardner**, (1988) Specialist, Continuing  
Education—Business and Community Development  
Center. B.A., University of Tennessee at  
Chattanooga, 1970.

**Diane E. Garrett**, (1988) Coordinator, Curriculum—  
Academic Affairs. M.A., University of Tennessee,  
1974.

**Donald W. Gibson**, (1992) Manager, Telephone  
Systems—Computer Services. M.B.A., University of  
Tennessee at Chattanooga, 1997.

**R. Clifford Goodlet**, (1998) Assistant Coordinator,  
Educational Technology—Distance Education. B.S.,  
Tennessee Wesleyan College, 1972.

**Marsha L. Goolesby-Barker**, (1999) Coordinator,  
Recruitment—Institutional Advancement. M.S.,  
University of Tennessee at Chattanooga, 1993.

**Tanya Gorman**, (1982) Dean, Nursing/Allied Health;  
Associate Professor, Nursing. Ed.D., University of  
Tennessee, 1985.

**E. Clark Graham**, (1998) Coordinator, Student  
Services (Evening)—TN Technology Center. M.A.,  
Tennessee Technological University, 1980.

## 2001-02 Governance/Accreditation

- Kita L. Graham**, (1998) Manager, Transitional Studies and Workforce Development Testing—Academic Affairs. B.S., Middle Tennessee State University, 1994.
- Judy D. Green**, (1999) Coordinator, TECTA Program—Social and Behavioral Sciences. B.S., University of Tennessee at Chattanooga, 1999.
- Douglas P. Hampton**, (1996) Technician, Aviation—Business and Information Systems. B.S., University of Tennessee at Chattanooga, 1999.
- Craig T. Harston**, (2000) Counselor, Small Business Development Center. Ph.D., Tulane University.
- Robert C. Hawfield**, (1986) Technician, Industrial Technology—TN Technology Center. M.A., University of Tennessee, 1994.
- Jerry L. Hendrix**, (1997) Manager, Dayton Site—Extended Services. B.S., University of Tennessee at Chattanooga, 1975.
- Marcella P. Henry**, (1983) Librarian 1—Library Services. M.L.S., Louisiana State University, 1980.
- Fannie D. Hewlett**, (1979) Dean, Social and Behavioral Sciences; Interim Associate Vice President, Academic Affairs; Professor, Psychology—Social and Behavioral Sciences. Ed.D., University of Tennessee, 1990.
- Carolyn J. Hill**, (1980) Manager, Employment and Job Analysis—Human Resources. B.S., University of Tennessee, 1966.
- Cheryl A. Hilling**, (1999) Technician, Biology—Math and Sciences. M.S., Ohio State University, 1988.
- Robert E. Hobgood**, (1996) Manager, Auditorium—Media Services. B.A., University of Tennessee at Chattanooga, 1985.
- Susan R. Holmes**, (1999) Associate Vice President, Academic Affairs. M.Ed., Vanderbilt University, 1996.
- Linda R. Homa**, (1997) Adviser, Orientation, Advisement, and Retention. B.S., Covenant College, 1997.
- Deborah S. Howe**, (1989) Programmer/Analyst 2, Computer Services. B.S., University of Tennessee at Chattanooga, 1999.
- Lori E. Hunter**, (2000) Specialist, Disabilities Support Services. M.S., University of Tennessee, 1998.
- Steve C. Huskins**, (1993) Director, Plant Operations. B.S., University of Tennessee, 1978.
- Vicki M. Jackson**, (1976) Coordinator, Testing Center—Basic Skills. B.S., Covenant College, 1992.
- Betty M. Jones**, (1991) Coordinator, Intramurals—Student Activities. B.S., University of Tennessee at Chattanooga, 1989.
- Susan G. Joseph**, (1990) Director, Accounting—Business Office. B.S., University of Tennessee, 1982.
- Edward R. Kelly**, (1987) Assistant Director, Plant Operations. M.S., University of Tennessee, 1961.
- Sandra J. Kluttz**, (1991) Director, Student Life—Student Affairs. M.S., University of Tennessee, 1978.
- Mary E. Knaff**, (1990) Affirmative Action Officer, Human Resources. M.S., University of Tennessee at Chattanooga, 1993.
- Georgiana C. Kotarski**, (2000) Director, Institutional Development—Public Relations and Governmental and Community Affairs. M.S., University of Tennessee at Chattanooga, 1994.
- Victoria P. Leather**, (1981) Dean, Library Services. M.S.L.S., University of Tennessee, 1978.
- Norma L. Lee**, (1981) Registrar, Records—Admissions/Registration and Records. B.S., Covenant College, 1994.
- Terrence E. Lee**, (1981) Programmer/Analyst 2, Computer Services. B.S., University of Tennessee at Chattanooga, 1980.
- W. Robbie Littlejohn**, (1993) Technician, Biology—Math and Sciences. B.S., University of Tennessee at Chattanooga, 1988.
- M. Catherine Lunn**, (1987) Research Analyst 1, Small Business Development Center. A.S., Chattanooga State Technical Community College, 1985.
- Kathryn L. Lutes**, (1998) Director, Disabilities Support Services. M.Ed., University of Tennessee at Chattanooga, 1992.
- Deborah J. Mailen**, (1994) Director, Grants and Contracts—Business Office. B.S., University of Tennessee, 1975.
- Brenda R. Maples**, (1987) Assistant Coordinator, Testing Center. Certificate, University of Tennessee at Chattanooga.
- Donna G. Marsh**, (1995) Specialist, Small Business Development Center. M.S., University of Tennessee, 1963.
- Tara C. Mathis**, (1998) Coordinator, MultiCultural Services. M.B.A., University of Tennessee at Chattanooga, 1997.
- L. Ann Mawhinney**, (1987) Director, Internal Audit—President's Office. M.S., University of Wisconsin at Milwaukee, 1979.
- Elaine D. McCalla**, (1999) Computer Programmer Analyst, Computer Services. B.S., Florida A & M University, 1988.
- C. Suzette Melville**, (1998) Bursar, Business Office. B.S., University of Tennessee at Chattanooga, 1994.
- Jerry H. Meyerson**, (1992) Director, Non-Credit Programs—Continuing Education/Business and Community Development Center. M.Ed., University of Tennessee at Chattanooga, 1996.
- Linda P. Miller**, (1981) Associate Vice President, Marketing. M.A., University of Tennessee at Chattanooga, 1990.
- Barbara S. Morgan**, (1968) Administrative Assistant to the President. A.S., Chattanooga State Technical Institute, 1967.
- Diane C. Norris**, (1982) Interim Director, Admissions/Registration and Records.
- Tamara O. Oglesby**, (1992) Adviser, Orientation, Advisement, and Retention. B.A., Spelman College, 1974.
- Consuelo B. O'Neal**, (1978) Vice President, Student Affairs. M.Ed., Memphis State University, 1977.
- Marcia H. Owens**, (1999) Manager, East Campus—Extended Services. M.Ed., University of Tennessee at Chattanooga, 1995.
- Percy K. Parakh**, (1995), Specialist, Computer Services. B.S., Mysore University, 1975.
- Steve S. Pec**, (1992) Assistant Librarian 1, Library Services. M.L.S., Kent State University, 1992.
- Jennifer A. Peet**, (2000) Technician, Biology—Math and Sciences. B.S., Troy State University, 1994.
- Daniel L. Peterson**, (1998) Computer Programmer Analyst, Computer Services. B.S., University of Wisconsin at LaCrosse, 1982.
- Darryl J. Pirtle**, (1994) Programmer/Analyst 2, Computer Services. B.S., Freed-Hardeman University, 1983.
- Bradley R. Reynolds**, (1999) Technician, Chemistry—Math and Sciences. B.S., Tennessee Wesleyan College, 1996.
- Michael E. Ricketts**, (1983) Director, Basic Skills; Director, Athletics. Ed.D., University of Tennessee, 1996.
- Bonnie H. Riggs**, (1988) Assistant Director, Institutional Research—Academic Affairs. M.B.A., University of Tennessee at Chattanooga, 1996.
- Daryl G. Riley**, (1980) Director, WAWL (Radio Station)—Media Services.
- CarolAnn Roberts**, (2000) Counselor, Career Planning and Counseling. M.S., University of Tennessee at Chattanooga, 1984.
- Michael L. Rogers**, (2000) Computer Programmer/Analyst 1, Computer Services. B.S., University of Tennessee at Chattanooga, 1980.
- Deborah J. Rudd**, (1987) Interim Assistant to the President for School Relations, Dual Enrollment; Associate Professor, English—Humanities. M.A., University of Tennessee at Chattanooga, 1990.
- Randolph C. Schulte**, (1995) Interim Dean, Business and Information Systems; Assistant Professor, Management. M.A.T., Colgate University, 1977.
- Gregory A. Sedrick**, (1998) Vice President, Academic Affairs and Strategic Planning; Professor, Engineering, Environmental, and Emergency Technologies. Ph.D., University of Missouri, 1990; P.E.
- Richard M. Seehuus**, (1995) Coordinator, Educational Technology—Distance Education. M.A., Indiana University, 1992.
- David M. Slagle**, (1998) Counselor, Small Business Development Center. B.A., Franklin and Marshall College, 1977.
- Belinda S. Smith**, (1998) Counselor, Career Planning and Counseling. M.S., Alabama A & M University, 1982.
- Kathrandra D. Smith**, (1994) Coordinator, Marketing. M.A., University of North Carolina at Chapel Hill, 1994.
- Jimmy Smithson**, (1981) Dean, TN Technology Center. M.Ed., University of Mississippi, 1967.
- Cynthia W. Swafford**, (1987) Director, Nursing—Nursing/Allied Health. Ed.D., University of Tennessee, 1992.
- Elaine Swafford**, (1988) Vice President, Institutional Advancement. Ed.D., University of Sarasota, 1999.
- Tammy L. Swenson**, (1987) Vice President, Business and Finance. M.B.A., University of Tennessee at Chattanooga, 1991; C.P.A.; Certified Government Financial Manager.
- Pamela P. Temple**, (1980) Librarian 1, Library Services. M.L.S., George Peabody College, 1968.
- Sheila A. Thompson**, (1997) Coordinator, Special Projects—Public Relations and Governmental and Community Affairs. B.S., University of Tennessee at Chattanooga, 1987.
- Lynda Timmons**, (1989) Systems Programmer 1, Computer Services. B.S., University of Tennessee at Chattanooga, 1993.
- Sandra D. Townley**, (1997) Director, Career Planning and Counseling. M.S., University of Tennessee at Chattanooga, 1982.
- Larry R. Waldrep**, (1999) Manager, Business and Industry Training—Business and Community Development Center. B.A., Georgia State University, 1965.
- Rita Ward-Johnson**, (2000) Coordinator, Math Center—Math and Sciences. B.S., University of Tennessee at Chattanooga.
- Nancy V. Watts**, (1997) Director, Pharmacy Technician Program—Math and Sciences. Pharm.D., Mercer University, 1990.
- Melvin J. Williams**, (1999) Coach, Men's Basketball/Outreach Counselor. B.S., Middle Tennessee State University, 1992.
- Napoleon Williams**, (1993) Assistant Director, Safety/Security—Plant Operations. B.S., University of Tennessee at Chattanooga, 1996.
- Sandra B. Williford**, (1993) Assistant Librarian 1, Library Services. M.L.I.S., Louisiana State University, 1988.
- Sandra J. Winton**, (1997) Counselor, Recruitment/Financial Aid. B.S., University of Tennessee at Chattanooga, 1992.
- Mary J. Woytalik**, (1999) Counselor, Career Planning and Counseling. M.Ed., University of Tennessee at Chattanooga, 1979.
- Laura Young**, (1994) Assistant Librarian 1, Library Services. M.S.L.S., University of North Carolina, 1971.

## Faculty

- George W. Abbott**, (1981) Intermediate Vocational Teacher, Air Conditioning, Refrigeration, and Heating—TN Technology Center. A.G.E., Chattanooga State Technical Community College, 1988; Diploma, Chattanooga Area Vocational Technical School, 1980.
- Marcia E. Abernathy**, (1997) Instructor, Nursing—Nursing/Allied Health. M.S.N., University of Alabama, 1985.
- Cinda J. Adams**, (1992) Associate Professor, Social Sciences—Social and Behavioral Sciences. M.S., University of Illinois at Urbana-Champaign, 1976; B.S., Jackson State University, 1974.
- Bertha L. Alford**, (1983) Associate Professor, Office Systems Technology—Business and Information Systems. M.Ed., University of Tennessee at Chattanooga, 1985; B.S., Southern University, 1969.
- Ebrahim M. Alipour**, (1997) Assistant Professor, Mechanical Engineering—Engineering, Environmental, and Emergency Technologies. A.S.M.E., 1988; P.E., 1984; M.E., Lamar University, 1981.
- Kenneth D. Allen**, (1997) Assistant Professor/Program Director, Nuclear Medicine—Nursing/Allied Health. M.S., Belmont University, 1995; B.A., Austin Peay State University, 1989.
- Truman G. Anderson**, (1976) Professor, Management—Business and Information Systems. Ed.D., University of Tennessee, 1980; M.S., Tennessee Technological University, 1969; B.S., University of Chattanooga, 1966.
- Ruth I. Armstrong**, (2000) Instructor, Psychology—Social and Behavioral Sciences. M.S., University of Tennessee at Chattanooga, 1991; B.S., University of Tennessee at Chattanooga, 1989.
- Jody Arnold**, (1993) Assistant Professor/Program Director, Diagnostic Medical Sonography—Nursing/Allied Health. B.S., Tennessee Wesleyan, 1994; A.S., Chattanooga State Technical Community College, 1986; R.D.M.S., R.T.(R).
- Vernon F. Ball**, (1978) Professor, English—Humanities. Ph.D., Ball State University, 1976; M.A., Ball State University, 1967; B.S., Ball State University, 1966.
- Sherri L. Barnes**, (1993) Assistant Professor, Mathematics—Math and Sciences. M.S., University of Tennessee, 1992; B.S., University of Tennessee at Chattanooga, 1990.
- Susan N. Bartley**, (1997) Instructor, Mathematics—Math and Sciences. M.Ed., University of Tennessee at Chattanooga, 2000; B.A., University of Tennessee at Chattanooga, 1976.
- Sharon V. Baum**, (1983) Vocational Teacher, Cosmetology—TN Technology Center. Ray Reed Beauty College, 1965. Tennessee Instructors and Aesthetics License.
- Garry L. Belk**, (1998) Instructor, Information Systems—Business and Information Systems. M.S., University of Tennessee at Chattanooga, 1992; B.S., Talladega College, 1986.
- Paula Benford**, (1987) Instructor, Adult Education—Basic Skills. B.A., University of Tennessee at Chattanooga, 1975.
- Cindy D. Birchell**, (1993) Instructor, Physical Therapy—Nursing/Allied Health. A.S., Chattanooga State Technical Community College, 1981. Licensed Physical Therapist Assistant in Tennessee.
- Jane A. Bouldin**, (1976) Associate Professor, Office Systems Technology—Business and Information Systems; M.Ed., University of Tennessee at Chattanooga, 1975; B.S., University of Chattanooga, 1968; C.P.S.
- Michael E. Brennan**, (1992) Associate Professor/Department Head, Chemistry—Math and Sciences. Ph.D., University of Florida, 1967; M.S., University of Florida, 1965; B.S., University of Dayton, 1962.
- Dee K. Browder**, (1967) Associate Professor, English—Humanities. M.A., West Georgia College, 1971; B.S., University of Chattanooga, 1965.
- Marilyn B. Brown**, (1979) Associate Professor/Department Head, Mathematics—Math and Sciences. M.Ed., University of Tennessee at Chattanooga, 1975; B.S., Tennessee A&I State University, 1967.
- Neshawn Bynum Calloway**, (1996) Assistant Professor, Music—Humanities. M.A., University of Tennessee at Chattanooga, 1996; B.S., University of Memphis, 1994.
- Joyce B. Campbell**, (1988) Associate Professor, Nursing—Nursing/Allied Health. M.S.N., University of Tennessee, 1982; B.S.N., East Tennessee State University, 1964; C.C.R.N.
- Tina R. Cannon**, (1993) Assistant Professor, Mathematics—Math and Sciences. M.Ed., Tusculum College, 1993; B.S., University of Tennessee at Chattanooga, 1989.
- Deborah T. Cantrell**, (1999) Assistant Professor, Mathematics—Math and Sciences. M.Ed., University of Tennessee at Chattanooga, 1985; B.S., University of Tennessee at Chattanooga, 1982.
- Rebecca A. Cantrell**, (1988) Associate Professor, Writing—Humanities. M.A., University of Tennessee at Chattanooga, 1990; B.S., Tennessee Wesleyan College, 1976; A.A., Hiwassee College, 1974.
- Mary Lee Carder**, (1999) Instructor, Practical Nursing—TN Technology Center. A.S., State University of West Georgia, 1979; C.C.R.N.
- Kenneth F. Cardillo**, (1999) Instructor, Music—Humanities. D.Phil., Oxford Graduate School, 1992; M.M., University of Tennessee at Chattanooga, 1989; B.S.M., Northeastern College, 1987.
- Ben W. Carr, Jr.**, (1975) Associate Professor, Aviation—Business and Information Systems. M.Ed., Middle Tennessee State University, 1972. B.S., Middle Tennessee State University, 1971.
- Karen W. Castleberry**, (1976) Assistant Professor, Dental Assisting—Nursing/Allied Health. B.S., Covenant College, 1996; A.S., Chattanooga State Technical Community College, 1986; RDA, 1979; CDA, 1972; Dental Assisting Certificate, 1972.
- Shirley M. Clark**, (1992) Associate Professor, Human Services—Social and Behavioral Sciences. M.S.S.W., University of Tennessee, 1978; B.S., Middle Tennessee State University, 1976; A.S., Galveston College, 1972.
- Richard K. Clements**, (1994) Associate Professor, Biology—Math and Sciences. Ph.D., University of Kentucky, 1995; M.S., University of Tennessee, 1987; B.S., Tennessee Technological University, 1984.
- Charles L. Cofer**, (1988) Assistant Professor, Electrical/Electronic Engineering Technology—Engineering, Environmental, and Emergency Technologies. B.S.E., University of Tennessee at Chattanooga, 1986; P.E.
- Cheryl D. Coffman**, (2000) Instructor, Early Childhood Education—Social & Behavioral Sciences. M.E., Southwestern Baptist Theological Seminary, 1976; B.A., Tift College/Mercer University, 1968.
- Gay D. Cohen**, (1991) Associate Professor, Nursing—Nursing/Allied Health. M.S.N., University of Tennessee, 1981; B.S.N., University of Tennessee Center for Health Sciences, 1974.
- Peter A. Collins**, (1983) Associate Professor, Mathematics—Math and Sciences. M.A., Eastern Michigan University, 1971; B.S., Eastern Michigan University, 1967.
- John E. Cousino**, (1991) Associate Professor, Respiratory Care—Nursing/Allied Health. M.A., University of South Florida 1986; B.A., University of South Florida 1984; A.S., Pasco Hernando Community College, 1977.
- Albert R. Covington**, (1983) Senior Vocational Teacher, Industrial Electronics—TN Technology Center. B.S., University of New York, 1986; A.S., Chattanooga State Technical Community College, 1967.
- Jarvis G. Dean, Jr.**, (1979) Associate Professor, Accounting—Business and Information Systems. M.S., University of Tennessee, 1963; A.B., Duke University, 1957; C.P.A., Certified Management Accountant.
- Kenneth J. DeLorey**, (2000) Instructor, Machine Tool Technology—TN Technology Center. SFC License, KLC Group, 1992; MFG E Plant Manager License, Management Institute, 1974; Mechanical Engineering and Mechanical Drafting License, Lowell University, 1969.
- Carolyn F. Dodson**, (1990) Associate Professor, Biology—Math and Sciences. Teacher Certification, University of Arkansas, 1972; M.S., Arizona State University, 1970; B.S., Southwest Missouri State University, 1968.
- T. Scott Douglass**, (1991) Associate Professor, English; Department Head, English, Humanities, and Philosophy—Humanities. Ph.D., Florida State University, 1982; M.A., Florida State University, 1979; B.A., University of Tennessee at Chattanooga, 1977.
- Milon R. Eakin**, (2000) Instructor, English—Humanities. M.A., Middle Tennessee State University, 1994; B.A., Berea College, 1972.
- Louie J. Edmundson**, (1979) Professor, English—Humanities. D.A., Middle Tennessee State University, 1975; M.A.T., Vanderbilt, 1960; B.A., Vanderbilt, 1959.
- Linda S. Edwards**, (1985) Associate Professor, Reading—Humanities. M.S., University of Tennessee at Chattanooga, 1982; B.S., University of Tennessee, 1977.
- Ann R. Ehmling**, (1988) Assistant Professor, EMS Program—Nursing/Allied Health. B.S., Covenant College, 1993; A.A.S., Chattanooga State Technical Community College, 1990; EMT-Paramedic, Volunteer State Community College, 1985.
- Joseph P. Everett**, (1976) Professor, Mathematics—Math and Sciences. Ed.D., Florida State University, 1972; M.S., University of Southern Mississippi, 1963; B.S., University of Southern Mississippi, 1961; A.A., Copiah-Lincoln Junior College, 1959.
- Lisa L. Evers**, (1998) Assistant Professor, Nursing—Nursing/Allied Health. M.S., Southern Illinois University, 1994; Type 73 School Nurse Certificate, SIUE School of Nursing, 1993; B.S., Mississippi University for Women, 1979.
- Jerry L. Faulkner**, (1994) Associate Professor, Environmental Science—Math and Sciences. Ph.D., University of Tennessee, 1994; M.S., University of Tennessee, 1987; B.S., Tennessee Temple University, 1983.
- D. Clay Ferguson**, (1976) Associate Professor, Management—Business and Information Systems. M.Ed., University of Tennessee at Chattanooga, 1974; B.S., University of Tennessee at Chattanooga, 1970.
- Arlene Flerchinger**, (2000) Instructor, Information Systems—Business and Information Systems. A.A.S., Chattanooga State Technical Community College, 1995; M.A., University of Denver, 1974; B.A., University of Denver, 1973.
- Toni W. Fountain**, (1992) Associate Professor, Mathematics—Math and Sciences. M.Ed., University of Tennessee at Chattanooga, 1991; B.S., University of Tennessee at Chattanooga, 1988.
- Jean H. Gammon**, (1981) Associate Professor, Reading—Humanities. M.Ed., University of Tennessee at Chattanooga, 1977; B.S., University of Arkansas at Monticello, 1969; A.S., School of the Ozarks, 1966.
- James E. Garner**, (1983) Associate Professor, Mathematics—Math and Sciences. M.A., University of Mississippi, 1964; B.A., University of Mississippi, 1962.
- George G. Glass, Jr.**, (1977) Associate Professor, Mathematics, Environmental Science—Math and Sciences. M.S., North Carolina State University, 1974; B.S., North Carolina State University, 1968.

**Hisel H. Gobble**, (1978) Associate Professor, Accounting—Business and Information Systems. M.B.A., East Tennessee State University, 1974; B.A., Emory and Henry College, 1972.

**Efrem K. Graham**, (1997) Assistant Professor, Communications/Broadcasting—Business and Information Systems. M.S., Columbia University, 1994; B.A., Richard Stockton College, 1992.

**Jesse R. Graham**, (1992) Assistant Professor, Environmental Protection Technology—Engineering, Environmental, and Emergency Technologies. M.S., Florida Institute of Technology, 1992; B.S., University of Tennessee, 1980.

**Billy D. Green**, (1969) Vocational Teacher, Machine Tool Technology—TN Technology Center. Teacher's Certificate, University of Tennessee, 1977. Diploma, Cincinnati Milling Machine Co., 1958.

**Donald W. Green**, (1986) Intermediate Vocational Teacher, Air Conditioning, Refrigeration, and Heating—TN Technology Center. Certificate, Chattanooga State Technical Community College, 1984; A.B.S., McKenzie College, 1977.

**Flavius L. Green (Wilkie)**, (1999). Instructor, Physical Education—Social and Behavioral Sciences. M.Ed., Middle Tennessee State University, 1970; B.S., University of Chattanooga, 1965.

**Yolanda J. Green**, (1988) Associate Professor, Nursing—Nursing/Allied Health. M.S.N., University of Alabama in Birmingham, 1983; B.S.N., University of Tennessee at Chattanooga, 1980.

**David E. Guinn**, (1998) Vocational Instructor, Heating, Air Conditioning, and Refrigeration—TN Technology Center. Certificate, Chattanooga State Technical Community College, 1993.

**Hennie Gunter**, (1988) Associate Professor, Nursing—Nursing/Allied Health. M.S.N., University of Tennessee, 1981; B.S., Middle Tennessee State University, 1972; A.D.N., Middle Tennessee State University, 1971.

**M. David Haddock, Jr.**, (1979) Professor, Accounting—Business and Information Systems. Ed.D., Auburn University, 1976; M.S., University of Tennessee, 1973; B.S., University of Tennessee, 1971; C.P.A.

**Sharon E. Hall**, (1988) Assistant Professor, Respiratory Therapy—Nursing/Allied Health. Registered Respiratory Therapist, 1979; B.S., Respiratory Therapy, Mount Marty College, 1978.

**Lucy W. Hampton**, (1995) Vocational Teacher, Surgical Technology—TN Technology Center. B.S.N., University of Tennessee at Chattanooga, 1983.

**Christine B. Hassevoort**, (2000) Instructor, Music—Humanities. M.A., Bob Jones University, 1997; B.A., Bob Jones University, 1993.

**Darrin J. Hassevoort**, (2000) Instructor, Music—Humanities. M.A., Bob Jones University, 1996; B.A., Bob Jones University, 1994.

**Betsy K. Headrick**, (1983) Associate Professor, Information Systems; Department Head, Advertising Arts, Information Systems, Mass Communications, and Office Systems—Business and Information Systems. M.S., University of Tennessee at Chattanooga, 1992; A.S., Chattanooga State Technical Community College, 1983; B.A., University of Georgia, 1973.

**Denise I. Frank Heinly**, (1979) Associate Professor, Art—Humanities. M.A., University of Tennessee at Chattanooga, 1991; M.Ed., University of Florida, 1977; B.F.A., University of Florida, 1975; B.A., University of Florida, 1968.

**William J. Helseth**, (1980-83, 1992) Associate Professor, Art; Department Head, Art, Foreign Language, Music—Humanities. M.S., Florida State University, 1976; M.F.A., Pennsylvania State University, 1973; B.F.A., University of Florida, 1970.

**Joel B. Henderson**, (1998) Instructor, English—Humanities. M.S., Harding University, 1993; B.A., Harding University, 1991.

**Alan D. Herweyer**, (1989) Associate Professor, Mathematics—Math and Sciences. M.A.T., Calvin College, 1985; M.S., Purdue University, Illinois, 1973; B.A., Calvin College, 1971.

**Marian A. Higginbotham**, (1999) Assistant Professor, Mathematics—Math and Sciences. M.Ed., Alabama State University, 1990; B.S., Tennessee State University, 1970.

**C. Bruce Hilbert**, (2000) Instructor, Mathematics—Math and Sciences. B.S., Samford University, 1998.

**Sara J. Hill (Jackie)**, (1990) Associate Professor, Early Childhood Education—Social and Behavioral Sciences. M.Ed., University of Tennessee at Chattanooga, 1987; B.S., University of Tennessee, 1978.

**Stuart R. Hilton**, (1989) Associate Professor, CAD/CAM Technology—Engineering, Environmental, and Emergency Technologies. M.S., University of Tennessee at Chattanooga, 1994; M.B.A., St. Joseph's, 1984; B.S., 1957.

**Constance C. Hitchcock**, (1999) Instructor, Management—Business and Information Systems. M.B.A., Vanderbilt University, 1987; B.S., University of Southern California, 1981.

**Gregory D. Holcomb**, (1999) Assistant Professor, Electrical/Electronic Engineering Technology—Engineering, Environmental, and Emergency Technologies. M.S., University of Tennessee, 1987; B.S., University of Tennessee at Chattanooga, 1979.

**Max T. Holland**, (1989) Senior Vocational Teacher, Industrial Electricity—TN Technology Center. M.S., University of Southern Mississippi, 1965; B.S., University of Southern Mississippi, 1964.

**Don Hunt**, (1990) Vocational Instructor, Commercial Truck Driving—TN Technology Center. Certified Commercial Truck Driving Instructor, 1976.

**Alexis D. Jenkins**, (1988) Intermediate Vocational Teacher, Medical Office Assisting Program—TN Technology Center. B.S., University of Tennessee Medical Units, 1970.

**Diane P. Johnson**, (2000) Assistant Professor, Nursing—Nursing/Allied Health. M.S., College of St. Francis, 1996; B.S., Southern College, 1988; A.S., Cleveland State University, 1978.

**James C. Johnson**, (1996) Vocational Instructor, Machine Tool Technology—TN Technology Center. Certificate, Chattanooga State Technical Community College, 1991.

**William A. Johnson**, (1990) Professor, Dental Auxiliary Programs; Program Director, Dental Assisting & Hygiene—Nursing/Allied Health. M.P.H., University of Michigan, 1973; D.M.D., University of Oregon Dental School, 1969; B.S., University of Oregon, 1966.

**Debra S. Jones**, (1998) Instructor, Speech—Humanities. M.S., Texas Christian University, 1978; B.A., Mississippi State University, 1976.

**Jimmy E. Jones**, (1996) Vocational Teacher, Marine/Small Engine Repair—TN Technology Center. A.A.S., Chattanooga State Technical Community College, 1995.

**Wayne C. Jones**, (1981) Professor, Electrical/Electronic Engineering Technology—Engineering, Environmental, and Emergency Technologies. Ed.D., University of Tennessee, 1977; M.S., Oklahoma State University, 1970; B.S., Oklahoma State University, 1968; A.A.S., Kellogg Community College, 1965.

**Angela L. Jordan**, (1997) Assistant Professor, Mathematics—Math and Sciences. M.S., Middle Tennessee State University, 1997.

**Zia M. Kabir**, (1997) Assistant Professor, Industrial Maintenance Technology; Coordinator, Industrial Maintenance, Emergency Services Technology, and Environmental Protection and Safety Technology—Engineering, Environmental, and Emergency Technologies; M.S., University of Tennessee at Chattanooga, 1981; B.S., University of Tennessee at Chattanooga, 1970.

**Patricia W. Kato**, (1980) Associate Professor, Writing—Humanities. M.A., East Tennessee State University, 1980; B.A., Tennessee Technological University, 1974; A.S., Columbia State Community College, 1972.

**De'Lara M. Khalili**, (1997) Instructor, English—Humanities. M.A., University of Tennessee at Chattanooga, 1997; B.A., University of Tennessee at Chattanooga, 1995; A.A., Chattanooga State Technical Community College, 1993.

**Denis O. Kiely**, (2000) Instructor, English—Humanities. M.A., Western Kentucky University, 1983; B.A., University of Maryland, 1977.

**Shirley A. Kilgore**, (1985) Associate Professor, Nursing—Nursing/Allied Health. M.S.N., University of Tennessee, 1986; B.S.N., University of Tennessee, 1977.

**Virginia M. Kilgore**, (1995) Vocational Instructor, Cosmetology—TN Technology Center. Cosmetologist Instructor License, Tennessee State Board of Cosmetology, 1993.

**Paula R. Kinchen**, (2000) Instructor, English—Humanities. M.A., Ohio University, 1996; B.A., Ohio University, 1984; A.A., Cuyahoga Community College, 1980.

**Michael D. Krogman**, (1999) Instructor, Philosophy—Humanities. Ph.D., University of Tennessee, 1998; M.A., University of Tennessee, 1995; M.A., Simon Greenleaf School of Law, 1991; B.A., Moody Bible Institute, 1988.

**Sara E. Kuhn**, (1980) Professor, English—Humanities. Ed.D., University of Georgia, 1979; B.S., Louisiana State University, 1969.

**Richard K. Lamerand, P.E.**, (1980-87, 1992) Associate Professor, Pre-Engineering; Coordinator, Mechanical Engineering Technology, CAD/CAM Engineering Technology, and Civil Engineering Technology—Engineering, Environmental, and Emergency Technologies. M.S., University of Houston, 1977; B.S., Michigan Technological University, 1971.

**Billie S. Lane**, (1989) Associate Professor, Biology—Math and Sciences. M.S., Louisiana State University, 1966; B.S., Northwestern State College, 1962.

**K. Labron Lawson**, (1989) Vocational Intermediate Teacher, Auto Body Repair—TN Technology Center. B.S. Tennessee Wesleyan College, 1997; A.S., Chattanooga State Technical Community College, 1995; ASE Certified; ICAR Certified, Unibody.

**Douglas M. Ledford**, (1997) Vocational Teacher, Surgical Technology—TN Technology Center. Certified Surgical Technologist, 1984; B.S., Tennessee Temple University, 1981.

**Lisa Legg**, (1993) Assistant Professor/Program Director, Radiation Therapy—Nursing/Allied Health. B.S., Covenant College, 1994; Technical Certificate, Radiation Therapy, Chattanooga State Technical Community College, 1992; A.S., Chattanooga State Technical Community College, 1990.

**Charles L. Lewis**, (1975) Associate Professor, Study Skills—Social and Behavioral Sciences. Ed.S., Mississippi State University, 1971; M.Ed., Mississippi State University, 1970; B.S., Mississippi State University, 1969.

**Kathryn M. Loftis**, (1977) Associate Professor—Humanities. M.A., University of Alabama, 1970; B.A., University of Alabama, 1968.

**Marie P. Loisy**, (1999) Assistant Professor, Nursing—Nursing/Allied Health. M.S. Michigan State University, 1997; B.S., University of Tampa, 1993.

**Kathy L. Long**, (1988) Associate Professor, Social Sciences; Department Head, Strategic Affairs—Social and Behavioral Sciences. M.S., M.A., Florida State, 1973, 1974; B.A., Harding University, 1972.

**Sandra K. Lowery**, (1996) Associate Professor, Nursing—Nursing/Allied Health. M.S., Indiana University, 1978; B.S., Washington University, 1968.

**Maria Lugo-Carlone**, (2000) Assistant Professor, Spanish—Humanities. Ph.D., University of Massachusetts at Amherst, 1999. M.A., Middlebury College, 1994; B.A., King College, 1990.

**Beatrice R. Lyons**, (1974) Associate Professor, American Sign Language Studies—Social and Behavioral Sciences. Expressive Interpreting Certificate, Expressive Transliterating Certificate, and Comprehensive Oral Interpreting Certificate from the National Registry of Interpreters of the Deaf, Inc., 1979, 1980; Council on Education of the Deaf Class A Teacher's Certificate, 1974; M.S., University of Tennessee, 1965; B.S., University of Chattanooga, 1964.

**Judy L. Mabe**, (2000) Instructor, Dental Hygiene—Nursing/Allied Health. A.S., University of Tennessee Center for the Health Sciences, 1975; B.S., University of Tennessee at Martin, 1974.

**Warren C. Mackey**, (1976) Professor, Social Sciences/Department Head, Student Affairs—Social and Behavioral Sciences. D.A., Middle Tennessee State University, 1980; M.S., Tennessee State University, 1975; B.S., Tennessee State University, 1972.

**Teresa T. Marcus**, (1998) Instructor, Dietary Manager—Math and Sciences. TN Licensed Dietitian/ Nutritionist, 1990; GA Licensed Dietitian, 1986; Commission on Dietetic Registration, 1976; American Dietetic Association, 1975; M.S., University of Tennessee, 1974; B.S., University of Tennessee, 1973.

**Carol G. Martin**, (1974) Associate Professor, Office Systems Technology—Business and Information Systems. M.Ed., University of Tennessee at Chattanooga, 1976; B.S., University of Tennessee at Chattanooga, 1970; C.P.S.

**J. Jeffrey McEwen**, (1995) Assistant Professor, Social Sciences—Social and Behavioral Sciences. M.A., University of Tennessee, 1995.

**Carolynn A. McMahan**, (1999) Instructor, Management—Business and Information Systems. M.B.A., University of Tennessee at Chattanooga, 1995; B.A., University of Mississippi, 1987.

**Grace G. Medley**, (1988) Vocational Intermediate Teacher, Practical Nursing—TN Technology Center. M.S., University of Tennessee at Chattanooga, 1987; B.S., University of Tennessee at Chattanooga, 1982; Diploma, Baroness Erlanger School of Nursing, 1961.

**Carolyn S. Miller**, (1989) Associate Professor—Humanities. M.Ed., University of Tennessee at Chattanooga, 1976; B.S., University of Tennessee at Chattanooga, 1972.

**Cheryl L. Miller**, (1988) Associate Professor, Nursing—Nursing/Allied Health. M.S.N., University of Tennessee, 1986; B.S.N., University of Tennessee at Memphis, 1973.

**Stuart B. Miller**, (1982) Senior Vocational Teacher, Landscaping and Turf Management—TN Technology Center. Vocational Education, UCF, 1981; M.A.T., Rollins College, 1976; B.A., Rollins College, 1971.

**Christine Moniyung**, (1999) Assistant Professor, Nursing—Nursing/Allied Health. M.S., Andrews University, 1997; B.S., Andrews University, 1990.

**Gay M. Moore**, (2000) Instructor, Human Services—Social and Behavioral Sciences. M.Ed., University of Tennessee at Chattanooga, 1990; B.A., North Carolina State University, 1969.

**M. Jeffrey Morris**, (1996) Assistant Professor, Advertising Arts—Business and Information Systems. B.S., Middle Tennessee State University, 1976.

**Roy H. Morris**, (1992) Vocational Instructor, Automotive Technology—TN Technology Center. Master ASE Certified in eight automotive fields, GM Master Technician.

**Samuel J. Nalley**, (1971) Professor, Physics—Math and Sciences. Ph.D., University of Tennessee, 1971; M.S., University of Tennessee, 1967; B.S., Arkansas State Teachers College, 1965.

**Shirley F. Nelson**, (1990) Associate Professor, English—Humanities. M.A., Middle Tennessee State University, 1978; B.S., Middle Tennessee State University, 1971.

**Edward C. Nichols**, (1993) Associate Professor, Mathematics—Math and Sciences. Ph.D., University of Tennessee, 1986; M.S., University of Tennessee, 1983; B.S., Mississippi College, 1978.

**R. Duane Nickols**, (1979) Associate Professor, Civil Engineering Technology—Engineering, Environmental, and Emergency Technologies. B.S.C.E., University of Kentucky, 1971; P.E., A.S., C.E.T., Lexington Technical Institute, 1970.

**Bobette D. Nourse**, (1999) Assistant Professor, Chemistry—Math and Sciences. Ph.D., Purdue University, 1991; B.S., Michigan State University, 1986.

**Patricia Ochoa**, (1998) Assistant Professor, Physical Education—Social and Behavioral Sciences. Ph.D., University of Alabama, 1999. M.A., University of Alabama, 1990; B.S., University of Alabama, 1987.

**T. Gail Ownby-Hughes**, (2000) Instructor, Emergency Services Technology—Engineering, Environmental, and Emergency Technologies. M.S., University of Tennessee, 1999; B.S., Tusculum College, 1994.

**Merrill B. Parker**, (1976) Professor, Information Systems—Business and Information Systems. Ph.D., Peabody College of Vanderbilt University, 1979; M.S., University of Tennessee at Chattanooga, 1970; A.B., University of Chattanooga, 1968.

**Richard C. Parker**, (1991) Associate Professor, Physics—Math and Sciences. M.S.E., University of Washington, 1970; B.S., University of Louisville, 1963.

**Rita A. Parker**, (1999) Instructor, Health Information Management—Nursing/Allied Health. A.S., Dalton College, 1977; A.R.T.

**Patricia L. Patterson**, (1998) Instructor, Legal Assisting—Business and Information Systems. J.D., University of Tennessee, 1984; B.S., University of Tennessee, 1979.

**Claire M. Peacock**, (1988) Assistant Professor, Mathematics—Math and Sciences. M.Ed., University of Tennessee at Chattanooga, 1995; B.A., University of Tennessee at Chattanooga, 1969.

**Richard C. Perkins**, (1988) Vocational Intermediate Teacher, Technical Drafting—TN Technology Center. A.S., Chattanooga State Technical Community College, 1986.

**John C. Peterson**, (1990) Professor, Mathematics—Math and Sciences. Ph.D., Ohio State University, 1969; M.A. University of Northern Iowa, 1966; B.A., University of Northern Iowa, 1962.

**Anita Polk-Conley**, (1989) Associate Professor, Mathematics—Math and Sciences. M.S., University of Tennessee Space Institute, 1986; B.A., University of Tennessee at Chattanooga, 1980.

**Larry Ponder**, (1979) Vocational Instructor, Welding Technology—TN Technology Center. Certified Combination Welder, 1976; Diploma, Chattanooga Area Vocational Technical School, 1976.

**Kathleen M. Puri**, (1992) Associate Professor, Nursing—Nursing/Allied Health. Clinical Specialist, 1993; M.S.N., University of Connecticut, 1987; B.S., University of Hartford, 1974; Nursing Diploma, St. Francis Hospital School of Nursing, 1966.

**Azar D. Raiszadeh**, (1993) Assistant Professor, Mathematics—Math and Sciences. Ed. D., University of Tennessee, 1997; M.B.A., Southeastern Louisiana University, 1977; B.A., Tehran Business College, 1973.

**Charles R. Ramsey**, (1996) Vocational Instructor, Commercial Truck Driving—TN Technology Center.

**Larry J. Ramsey**, (1984) Senior Vocational Teacher, Industrial Electronics—TN Technology Center. M.S., University of Tennessee, 1989; B.S., Lincoln Memorial University, 1980.

**Margaret S. Ramsey**, (1988) Associate Professor, Mathematics—Math and Sciences. M.M., University of Tennessee, 1991; B.S., Tennessee Technological University, 1987; A.S., Chattanooga State Technical Community College, 1984.

**Paul A. Ray**, (1995) Assistant Professor, Legal Assisting—Business and Information Systems. J.D., University of Arkansas School of Law, 1988.

**Linda P. Reaves**, (1971) Associate Professor, English—Humanities. M.A., Columbia University, 1971; B.S., Mississippi University for Women, 1963.

**Kenneth Reed**, (1999) Instructor, Director, EMS Program—Nursing/Allied Health. A.A., University of the State of New York, 1991; EMT.

**Ronald W. Reese**, (1983) Assistant Professor/Coordinator, Electrical/Electronic Engineering Technology—Engineering, Environmental, and Emergency Technologies. B.S.E.E., University of Tennessee, 1969.

**Joyce C. Rhoton**, (1977) Associate Professor, Biology—Math and Sciences. M.S., East Tennessee State University, 1969; B.S., East Tennessee State University, 1968; A.S., Hiwassee College, 1966.

**Marian K. Riggat**, (2000) Instructor, French—Humanities. M.A., University of Tennessee at Chattanooga, 1987; B.A., University of Alabama, 1970.

**Jeffrey L. Rinkel**, (1995) Assistant Professor, Speech—Humanities. M.A., University of Northern Iowa, 1982.

**Paul A. Robertson**, (1983, 1999) Assistant Professor, Mathematics—Math and Sciences. M.M., University of Tennessee, 1994; B.S., University of Tennessee, 1970.

**Kathleen S. Rose**, (1996) Assistant Professor, Nursing—Nursing/Allied Health. M.S., University of Tennessee at Chattanooga, 1996; B.S., Ball State University, 1976.

**Leesa A. Ross**, (1996) Assistant Professor, Nuclear Medicine—Nursing/Allied Health. B.S., Covenant College, 1997; A.S., West Virginia State College, 1991; C.N.M.T.

**McIver Rountree, Jr.**, (1987) Assistant Professor/Program Director, Respiratory Care—Nursing/Allied Health. B.S., Medical College of Georgia, 1977.

**Curtis E. Rowell**, (1978) Associate Professor, Information Systems—Business and Information Systems. Certified Data Processor, 1979; B.S., Jacksonville State University, 1961.

**Susan E. Ruta (Beth)**, (1987) Instructor, Chemical Technology—Engineering, Environmental, and Emergency Technologies. B.S., University of Tennessee at Chattanooga, 1986.

**George R. Ryan**, (1996) Assistant Professor, Mathematics—Math and Sciences. M.S., California State University, 1986; B.S., California State University, 1979.

**Margery K. Sanders**, (1997) Assistant Professor, Radiologic Technology—Nursing/Allied Health. M.B.A., University of Tennessee at Chattanooga, 1985; A.S. Chattanooga State Technical Community College, 1981; B.S. University of Tennessee, 1967.

**Rose N. Scalise**, (1997) Assistant Professor/Program Director, Health Information Management—Nursing/Allied Health. B.S., University of Pittsburgh, 1974.

**Ann D. H. Schide**, (2000) Instructor, Nursing—Nursing/Allied Health. B.S., Vanderbilt University, 1974.

**Marsha M. Schoonover**, (1983) Associate Professor, Mathematics—Math and Sciences. M.Ed., University of Tennessee at Chattanooga, 1981; B.S., University of Tennessee.

**Donna L. Seagle**, (1998) Instructor, Psychology—Social and Behavioral Sciences. GA Educator Certificate, 1995; TN Professional Liscence, 1994; M.A., Middle Tennessee State University, 1994; VA Teaching Certification, 1989; B.A. Emory and Henry College, 1989; A.A. Virginia Highlands Community College, 1985.

**William W. Shifflett**, (1984) Associate Professor, Accounting—Business and Information Systems. Certified Financial Planner, 1993; Chartered Life Underwriter, 1993; Chartered Financial Consultant, 1992; Certified Fraud Examiner, 1991; Certified Quality Auditor, 1991; Certified Cost Estimator/Analyst 1990; Fellow, Life Management Institute, 1989; M.B.A., University of Tennessee at Chattanooga, 1983; Certified Internal Auditor, 1983; Certified Management Accountant, 1982; C.P.A., 1980; B.S., Troy State University, 1973.

**Gregory M. Smith**, (1992) Assistant Professor, Radiologic Technology—Nursing/Allied Health. B.S., University of Tennessee at Chattanooga, 1996; A.S., Chattanooga State Technical Community College, 1989; A.R.R.T. Certification, 1989; R.T. (R).

**Joyce Smith**, (1987) Assistant Professor, Mathematics—Math and Sciences. M.Ed., University of Tennessee at Chattanooga, 1997; B.S., Tennessee Technological University, 1973; A.S., Columbia State Community College, 1970.

**Kimberly W. Smith**, (1997) Assistant Professor, Physical Education—Social and Behavioral Sciences. M.S., University of Tennessee, 1988.

**Merle L. Smith**, (1992) Vocational Teacher, Medical Office Assisting, Practical Nursing—TN Technology Center. B.S.N., University of Tennessee, 1962.

**Robert L. Smith**, (1990) Vocational Instructor, Diesel Technology—TN Technology Center. A.S.E. certified in eight automotive fields.

**Roy K. Sofield**, (1998) Assistant Professor, Biology—Math and Sciences. Ph.D., Rutgers University, 1983; M.S., Rutgers University, 1980; B.A., The King's College, 1974.

**Laqueta A. Soule**, (1991) Assistant Professor, Court Reporting—Business and Information Systems. B.S., University of Alabama, 1998; A.S., Edmundson Junior College, 1989; A.S., Chattanooga State Technical Community College, 1986.

**Betty K. Spaulding**, (1988) Associate Professor, Information Systems—Business and Information Systems. M.Ed., University of Tennessee at Chattanooga, 1988; B.A., University of Tennessee at Chattanooga, 1980.

**David Stanislawski**, (1994) Associate Professor, Chemistry—Math and Sciences. Ph.D., University of Wisconsin at Madison, 1978; H.A.B., Xavier University, 1972.

**James L. Steele, Jr.**, (1998) Instructor, Management; Interim Department Head, Accounting, Applied Technology, Legal Assisting, and Management—Business and Information Systems. M.S., Vanderbilt University, 1982; B.A., University of Tennessee at Chattanooga, 1976.

**William L. Stiffler, Jr.**, (1992) Associate Professor, Writing—Humanities. M.A., University of Tennessee at Chattanooga, 1991; M.R.E., Temple Baptist Theological Seminary, 1981; B.A., Tennessee Temple College, 1976.

**Ken Storrs**, (1976) Associate Professor—Social and Behavioral Sciences. M.S., University of Tennessee, 1980; B.A., University of Tennessee, 1971.

**Erik G. Stubsten**, (1996) Instructor, Mathematics—Math and Sciences. B.S., University of Tennessee at Chattanooga, 1994.

**James A. Sutton, Jr.**, (1970) Associate Professor, Behavioral Sciences—Social and Behavioral Sciences. M.A., Middle Tennessee State University, 1973; B.S., Western Carolina University, 1959.

**Laura Lynn Sutton**, (2000) Assistant Professor, Nursing—Nursing/Allied Health. M.S., East Tennessee State University, 1998; B.S., Carson Newman College, 1995; A.S., Walters State Community College, 1986.

**Alan C. Taylor**, (2000) Instructor, English—Humanities. M.A., University of Oregon, 2000; B.A., Samford University, 1997.

**Glenda K. Thurman**, (1975) Associate Professor/Program Director, Radiologic Technology—Nursing/Allied Health. R.T. (R); M.Ed., Vanderbilt University, 1988; B.A., Covenant College, 1985; A.S., Chattanooga State Technical Community College, 1975; Diploma, Baroness Erlanger Hospital School of Radiologic Technology, 1968; Certification A.R.R.T., 1968.

**David M. Trayer**, (1991) Associate Professor, Environmental Health and Safety—Engineering, Environmental, and Emergency Technologies. Certified Industrial Hygienist (ABIH), 1973; M.S., Harvard University, 1962; B.S., Emory and Henry College, 1954.

**Katherine H. Trotter**, (1997) Assistant Professor, Psychology—Social and Behavioral Sciences. Ph.D., University of Tennessee, 1996.

**Theresa A. Underwood-Lemons**, (1995) Associate Professor/Department Head, Physics—Math and Sciences. Ph.D., University of Tennessee, 1990; B.S., University of Southern Mississippi, 1982.

**Cynthia R. Veach**, (1988) Associate Professor, Dental Hygiene—Nursing/Allied Health. M.Ed., University of Tennessee at Chattanooga, 1992; B.S., University of Tennessee, Memphis, 1980; A.A.S., Guilford Technical Institute, Jamestown, N.C., 1968.

**Kathy Veal**, (1995) Vocational Teacher, Practical Nursing—TN Technology Center. Diploma, Baroness Erlanger School of Nursing, 1977.

**Margaret B. Venable**, (1981) Assistant Professor, Biology—Math and Sciences. M.S., Auburn University, 1976; B.S. Lambuth College, 1974.

**Hugh W. Vines**, (1983) Intermediate Vocational Teacher, Industrial Electricity—TN Technology Center. A.G.E., Chattanooga State Technical Community College, 1991. Journeyman electrician, 1972.

**Vicki L. Vonschaaf**, (1989) Intermediate Vocational Teacher, Practical Nursing—TN Technology Center. B.S., University of Tennessee at Chattanooga, 1981; Diploma, Baroness Erlanger School of Nursing, 1966.

**Duane J. Walker**, (1999) Vocational Instructor, Automotive Technology—TN Technology Center. Auto Mechanics Certificate, Athens Area Vocational School, 1967; ASE Certified Master Automotive Technician.

**Eber S. Wallace (Jane)**, (1970) Associate Professor, Biology—Math and Sciences. M.A.Ed., Austin Peay State College, 1966; B.S., Austin Peay State College, 1961.

**Lewis A. Wallace**, (1988) Associate Professor, Advertising Arts—Business and Information Systems. M. Div., Temple Theological Seminary, 1980; B.S., Fine Art, Lamar University, 1972; M.F.A., University of Georgia, 1970.

**Laura P. Warren**, (1984) Associate Professor/Program Director, Physical Therapist Assistant Program—Nursing/Allied Health. M.S., University of Tennessee, Memphis, 1996; B.S., Medical College of Georgia, 1979; Licensed Physical Therapist.

**Patricia Waters**, (1999) Assistant Professor, English—Humanities. Ph.D., University of Tennessee, 1998; M.A., University of Tennessee, 1974; B.A., Memphis State University, 1971.

**Dorothy T. Weathersby**, (1981) Professor, English—Humanities. Ed.D., University of Tennessee, 1975; M.A., George Peabody School for Teachers, 1967; B.A., George Peabody College for Teachers, 1966.

**Mary E. White (Libby)**, (1996) Instructor, Mathematics—Math and Sciences. M.S., University of Tennessee at Chattanooga, 1999. B.S., University of Tennessee at Chattanooga, 1992.

**Dean S. Wiley**, (1975-83, 1993) Professor, English—Humanities. Ed.D., University of Tennessee, 1983; M.Ed., Southern University, 1969; B.S., Jackson State University, 1967.

**Mark W. Wood**, (1992) Associate Professor, Art—Humanities. M.F.A., Yale University, 1987; B.F.A., East Tennessee State University, 1985.

**Jane M. Yantis**, (1984-86, 1988) Associate Professor, Biology—Math and Sciences. M.S., Cornell University, 1984; B.S., Virginia Polytechnic Institute and State University, 1981.

**Howard L. Yarbrough**, (1973) Professor, Biology; Department Head, Biology and Environmental Sciences—Math and Sciences. Ed.D., University of Tennessee, 1986; M.A., Austin Peay State College, 1966; B.S., Austin Peay State College, 1965.

**James R. Zimmer**, (1999) Assistant Professor, Mathematics—Math and Sciences. M.S., Bob Jones University, 1977; B.S., Bob Jones University, 1975.

# Accreditation

Chattanooga State Technical Community College is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, Georgia 30033-4097; Telephone number 404-679-4501) to award the associate degree.

## Program Accreditations and Approvals

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APPROVED BY THE NATIONAL COURT REPORTERS ASSOCIATION

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OF THE AMERICAN DENTAL ASSOCIATION

(A specialized accrediting body recognized by the Council on Postsecondary Accreditation by the United States Department of Education)

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(312) 440-2500 FAX (312) 440-7494

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(800) 669-1656

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35 East Wacker Drive, Suite 1970, Chicago, Illinois 60601-2208  
(312) 553-9355 FAX (312) 553-9616

**CHATTANOOGA  
STATE**  
TECHNICAL COMMUNITY COLLEGE

## Chattanooga State Technical Community College Official Bulletin, Volume XXVI, January 2001

Chattanooga State Technical Community College is an equal opportunity/affirmative action institution and welcomes applications for employment and educational programs from all individuals regardless of race, color, religion, sex, age, or national origin. Chattanooga State Technical Community College is non-discriminatory on the basis of sex in its educational programs and activities, including employment and admission of students to the College as required by Title IX of the Educational Amendments of 1972 and by rules and regulations based thereon and published as 45 C FR, part 86.

Chattanooga State Technical Community College complies fully with the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 and does not discriminate against the disabled.

Chattanooga State Technical Community College is one of 46 institutions in the Tennessee Board of Regents system, the seventh largest system of

higher education in the nation. The Tennessee Board of Regents is the governing board for this system which is comprised of six universities, fourteen community colleges, and twenty-six area technology centers. The TBR system enrolls more than 80 percent of all Tennessee students attending public institutions of higher education. Crime statistics, rate, and institutional security policies and procedures are available upon request.

*This catalog is intended for information purposes only. Requirements, rules, procedures, courses and informational statements set forth herein are subject to change. Notice of changes will be conveyed to duly enrolled students and other appropriate persons at the time such changes are effected. The period during which the degree requirements set forth in this catalog shall remain in effect, subject to changes provided herein, shall not exceed five (5) years from the beginning of the **Fall 2001** academic term.*

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## Major Areas of Study

	MAJOR CODE	OPTION CODE		MAJOR CODE	OPTION CODE
<b>A.A.S. Career Programs</b>			<b>Associate of Science (A.S.) Transfer</b>		
Accounting	ACCT		A.S. Transfer (Non-Specified)	ATRN	AST
Financial Planning	ACCT	FINE	Accounting	ATRN	ACTT
Advertising Arts	AA		Art	ATRN	ARTS
Allied Health			Art Education	ATRN	ART
Dental Hygiene	ALHE	DHY	Biology	ATRN	BIOS
Health Information Management	ALHE	HIM	Broadcasting	ATRN	BRDS
Nursing	ALHE	NU	Business Administration	ATRN	BUSA
Physical Therapist Assistant	ALHE	FT	C h e m i s t r y	ATRN	CHES
Radiologic Technology	ALHE	RAD	Early Childhood Education	ATRN	ECE
Respiratory Care	ALHE	RC	Economics	ATRN	ECOS
Undecided	ALHE	UND	Elementary Education	ATRN	ELES
American Sign Language Studies	ASLS		Environmental Science	ATRN	ENVS
CAD/CAM Engineering Technology	CCT		Forestry, Fisheries and Wildlife	ATRN	AFFW
Civil Engineering	CET		Geography	ATRN	GEO
Early Childhood Education	ECED		Graphic Design	ATRN	GDAS
Electrical/Electronic Engineering Technology			Health & Physical Education	ATRN	HPE
Automated Controls	EEET	ACST	Information Systems	ATRN	CSIS
Computer Systems	EEET	COMP	Management	ATRN	MGNT
Networking Technology	EEET	NET	Marketing	ATRN	MARK
Environmental Protection and Safety Technology			Mathematics	ATRN	MATS
Environmental Protection Technology	EPST	EPT	Music	ATRN	MUSS
Environmental Safety and Health Technology	EPST	ESH	Nutrition	ATRN	NUTR
Emergency Services Technology			Physics	ATRN	PHYS
Emergency Medical Care	ESTE	EMC	Political Science	ATRN	PLAS
Emergency Service Supervision and Administration	ESTE	ESSA	Pre-Cytotechnology	ATRN	PCYT
Fire Suppression	ESTE	FSUP	Pre-Dentistry	ATRN	PDEN
Human Services Specialist	HSS		Pre-Engineering	ATRN	PENG
Industrial Maintenance Technology	IMT		Pre-Law	ATRN	PLAW
Information Systems Technology			Pre-Medical Technology	ATRN	PMT
End User Support	INSY	EUS	Pre-Medicine	ATRN	PMED
Network Management	INDY	NETM	Pre-Occupational Therapy	ATRN	POCC
Programming	INSY	PROG	Pre-Optometry	ATRN	POPT
Legal Assistant Technology	LAT		Pre-Pharmacy	ATRN	PPHS
Management			Pre-Physical Therapy	ATRN	PPT
Aviation	MGT	AVIA	Pre-Veterinary	ATRN	PVET
Banking and Financial	MGT	BNKF	Psychology	ATRN	PSYS
General	MGT	GMT	Secondary Education	ATRN	SEDU
Health Services	MGT	HSM	Social Work	ATRN	SWAS
Hospitality	MGT	HSPM	Sociology	ATRN	SOCS
Industrial	MGT	INDS	Theatre Arts	ATRN	TART
Insurance	MGT	IMGT	Wellness/Fitness Leadership	ATRN	WFL
Marketing	MGT	MRKT			
Retail	MGT	RETL	<b>Associate of Arts (A.A.) Transfer</b>		
Small Business	MGT	SMLB	A.A. Transfer (Non-Specified)	ATRN	AAT
Mechanical Engineering Technology			Accounting	ATRN	ACTA
Mechanical Engineering Technology	MET	MECH	Art	ATRN	ART
Nuclear	MET	NUKE	Broadcasting	ATRN	BRDC
Office Systems Technology			Business Administration	ATRN	BUS
Court Reporting	OFT	CRT	Chemistry	ATRN	CHEA
Legal Emphasis	OFT	LEGL	Economics	ATRN	ECON
Medical Emphasis	OFT	MED	English	ATRN	EAL
Professional Emphasis	OFT	PROF	French	ATRN	FREN
Associate of Applied Technology			German	ATRN	GRMN
Air Conditioning & Refrigeration	AAT		Graphic Design	ATRN	GDA A
Auto Body Repair	AAT		History	ATRN	HIST
Automotive Technology	AAT		Humanities	ATRN	HUM
Cosmetology	AAT		Journalism	ATRN	JOUR
Diesel Equipment Mechanic	AAT		Management	ATRN	MGTA
Industrial Electricity	AAT		Marketing	ATRN	MGKA
Industrial Electronics	AAT		Mathematics	ATRN	MATA
Industrial Maintenance Mechanic	AAT		Music	ATRN	MUS
Landscaping and Turf Management	AAT		Philosophy	ATRN	PHIL
Machine Tool Technology	AAT		Psychology	ATRN	PSY
Marine and Small Engine Repair	AAT		Religion	ATRN	REL
Medical Office Assisting	AAT		Sociology	ATRN	SOC
Surgical Technology	AAT		Spanish	ATRN	SPAN
Technical Drafting	AAT		Theatre Arts	ATRN	TART
Welding	AAT				

### Technical Certificate Programs

CAD Technology	CAD
Diagnostic Medical Sonography	DMS
Information Systems Technology	ISTC
Nuclear Medicine Technology	NMTC
Pharmacy Technician	PHT
Radiation Therapy Technology	RITC
Word Processing	WPRC

### Special Student

S

### Transient Student

UNDZ

### Undecided or Nondeclared

UND

### Industrial Technology Programs

Air Conditioning & Refrigeration	VCAC
Auto Body Repair	VCAB
Automotive Technology	VCAM
Commercial Truck Driving	VCCD
Cosmetology	VCCY
Diesel Equipment Mechanic	VCDM
Industrial Electricity	VCIE
Industrial Electronics	VCER
Industrial Maintenance Mechanic	VCID
Landscaping & Turf Management	VCLM
Machine Tool Technology	VCMT
Marine and Small Engine Repair	VCSE
Medical Office Assisting	VCMO
Practice Nursing	VCLP
Surgical Technology	VCOR
Technical Drafting	VCDF/ME
Welding	VCWD

# General Admission Information

## Associate of Arts, Associate of Science, Associate of Applied Science Degrees:

- submit an application for admission with non-refundable \$10 fee
- provide official high school transcript or GED scores
- provide ACT or SAT test scores if under **21**.  
Note - academic assessment [Compass and/or Asset exam] may also be required
- provide official transcript(s) from each college attended

## Industrial Technology Programs:

- submit an application for admission with non-refundable \$10 fee
- applicant must be **18** years of age or older; and may be required to take the Vocational Test
- official high school transcript, GED scores, or Ability to Benefit Test required for Industrial Technology applicants seeking financial aid
- phone Industrial Technology at 423-697-4433 for more information

## Non-degree admission:

- submit an application for admission with non-refundable \$10 fee
- contact Admissions for information regarding:
  - Early Admission or Dual Enrollment
  - Special Student Status
  - **Technical** Certificates
  - Transient Requirements

**Applications for admission to Chattanooga State  
are accepted throughout the year.**

**For more information, phone 423-697-4422 or  
<http://www.chattanoogastate.org>**

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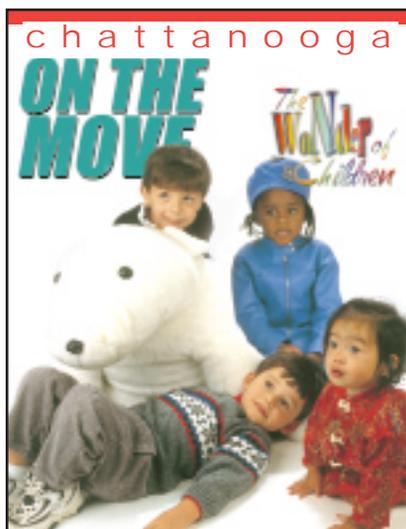
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