



CHATTANOOGA STATE

2002-2003 CATALOG

TRANSFORM YOUR LIFE!

Chattanooga State Technical Community College

2002-2003 Catalog

CollegeSource

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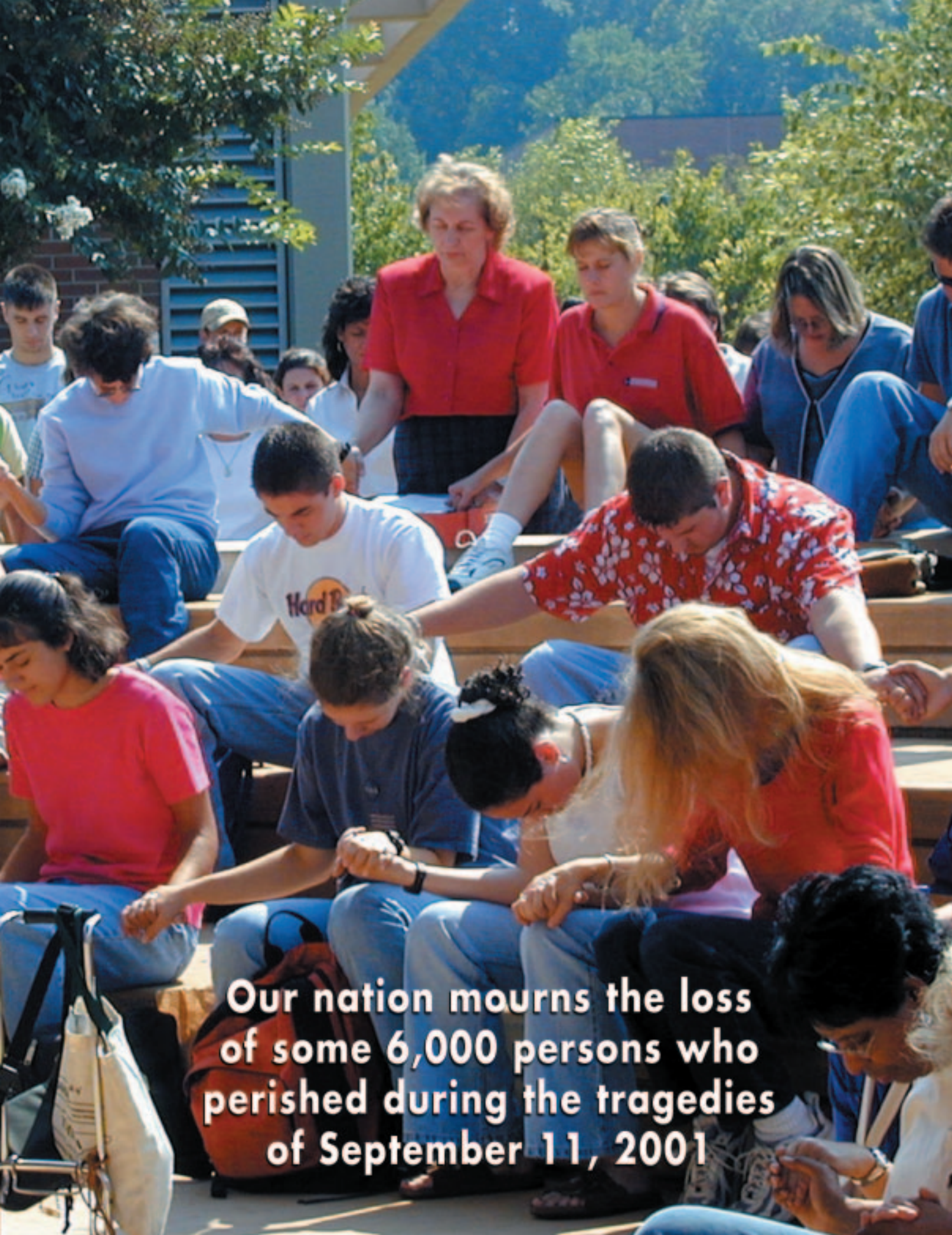
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**Our nation mourns the loss
of some 6,000 persons who
perished during the tragedies
of September 11, 2001**

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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 2002

Classes begin for Industrial Technology and other designated programs	August 19
Registration	August 21-22
Classes begin	August 26
Last day to add	August 30
Labor Day holiday (no classes)	September 2
Fall Reading Days (no classes)	October 6-8
Application for Graduation Due	October 31
Last day to withdraw	November 1
Thanksgiving holidays (no classes)	November 28-Dec 1
Last day of classes	December 7
Finals	December 10-14

Spring 2003

Classes begin for Industrial Technology and other designated programs	January 6
Registration	January 8-9
Classes begin	January 13
Last day to add	January 17
M.L. King holiday (no classes)	January 20
Spring Break (no classes)	March 10-16
Last day to withdraw	March 21
Good Friday holiday (no classes)	April 18-20
Last day of classes	April 30
Finals	May 2-7
Commencement	May 10

Summer 2003

Industrial Technology classes begin	May 6
Registration (all sessions)	May 12
Classes begin for 12-week and 1st 6-week sessions	May 14
Last day to add for 1st 6-week session	May 16
Last day to add for 12-week session	May 19
Memorial Day holiday (no classes)	May 26
Classes begin for 10-week session	May 28
Last day to add for 10-week session	June 2
Last day to withdraw for 1st 6-week session	June 11
Last day of classes for 1st 6-week session	June 25
Classes begin for 2nd 6-week session	June 26
Last day to add for 2nd 6-week session	June 30
Last day to withdraw for Industrial Technology	July 3
Independence Day holiday (no classes)	July 4-6
Last day to withdraw for 12-week session	July 8
Last day to withdraw for 10-week session	July 11
Last day to withdraw 2nd 6-week session	July 23
Last day of classes for Industrial Technology	July 30
Last day of classes for 12-week, 10-week, and 2nd 6-week sessions	August 7

Telephone Numbers

Chattanooga State Main Campus, 4501 Amnicola Highway	697-4400
Chattanooga State Downtown, 535 Chestnut St., Suite 112	697-3100
Chattanooga State East, 7158 Lee Highway	697-4797
Chattanooga State North, Dayton	365-5010
Chattanooga State West, Kimball	837-1327
Chattanooga State Grundy County High School	837-1327
Chattanooga State Sequatchie Valley Technical Center	554-4027
Admissions/Registration	697-4401
Adult Education (GED)	697-2529
Advisement	697-4483
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
Library Services	697-4448
Records	697-4401
Small Business Development and Resource Center	752-1774
Student Life	697-4475
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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 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).

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.

Preregistration The period of time before registration day in which students may register for the next semester(s).

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 can 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.

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 degree 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

SP 120 Interpersonal Communication Skills in the Workplace

**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)

EG 124 Introduction to Engineering Computations

ET 115 Computers in Engineering Technology

OF 125 Word Processing I

OF 126 Word Processing II

OF 127 Desktop Publishing

Humanities Electives (3 hours)

ART 1010 Survey: Art History I

ART 1020 Survey: Art History II

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

ENGL 2550 Contemporary Women's Literature

HUM 1010 Introduction to the Humanities I

HUM 1020 Introduction to the Humanities II

HUM 1040 The Human Experience through Song

HUM 1230 Philosophy of Science and Technology

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 2230 Ethics

PHIL 2430 Philosophy of Religion

RELS 2030 Religions of the World

RELS 2230 Religion in America

RELS 2610 Biblical Studies I

RELS 2620 Biblical Studies II

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
MATH	1830	Calculus for Management, Life, and Social Sciences
MATH	1910	Calculus with Analytic Geometry I
MATH	1920	Calculus with Analytic Geometry II
† 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 60 semester hours.

Criteria	Advanced Placement Course
1. Three (3) high school math credits above the Algebra I level and a Math subscore of 25 on the ACT or corresponding SAT score.	Calculus with Analytic Geometry I, MATH 1910
2. Two (2) high school math credits above the Algebra I level and 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

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
EC	212	Principles of Economics II
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	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

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
Freshman			
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>
Sophomore			
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
Freshman			
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>
Sophomore			
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	<u>1</u>	<u>1</u>
	Total Hours: 69-70	<u>18</u>	<u>18</u>

*Prerequisite: CS 102 or equivalent.

**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.

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.

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	
		17	18
Total Hours: 71			

*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

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 Computer Elective	3	
		<u>3</u>	<u>16</u>
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 Banking Electives Humanities Elective Unrestricted Elective	3 3 3 1	3 3 3 1
		<u>19</u>	<u>18</u>

Total Hours: 71-72

*Satisfies Oral Communication requirement.

Business

See "Management"

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 Administration

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
Freshman				
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 Computer Elective Unrestricted Elective	5 3 1	4	4
		<u>18</u>	<u>16</u>	<u>4</u>
Sophomore				
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 Humanities Elective Natural Science Elective Social/Behavioral Science Elective	3 3 3 3		3 4
		<u>3</u>	<u>17</u>	<u>7</u>
Total Hours: 80			<u>18</u>	<u>7</u>

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
Freshman			
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 197	Spreadsheet Software Applications	3	
CS 198	Database Software Applications		3
ENGL 1010	Composition I	3	
MATH 1510,1520	Statistics I, II Humanities Elective Social/Behavioral Science Elective	3 3 3	3 3
		<u>3</u>	<u>15</u>
Sophomore			
BU 114,115	Principles of Accounting I, II	4	4
CS 160	Java Programming I	3	
CS 204	Microcomputer Architecture	3	
CS 205	Computer Networks	3	
CS 215	Local Area Network Management		3
CS 240	Computer User Support		3
CS 244	Systems Analysis and Design		3
CS 296	Principles of Database Management Systems	3	
ENGL 2710	Technical Reports Unrestricted Elective	1	3
		<u>17</u>	<u>16</u>
Total Hours: 66			

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
Freshman			
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
		<u>16</u>	<u>19</u>
Sophomore			
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	
		<u>17-18</u>	<u>15</u>
Total Hours: 67-68			

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
Freshman			
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	3	
		<u>16</u>	<u>19</u>
Sophomore			
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		3
		<u>18</u>	<u>17</u>
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:

- 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 courses approved to be taken in lieu of Advanced Placement.

Career Opportunities

Emergency medical services management, dental office management, health care field 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		1	
Total Hours: 72		42	18	12

*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		4	
			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		

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
		19	15
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		1
		18	17
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
HM 299	Special Topics in Hospitality	1-6
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 provides the general management tools needed in industrial environments, with emphasis on operations, financial and quality management, human resources and supervisory skills.

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
ENGL 1010	Composition I	3	
MATH 1530	Introductory Statistics		3
MG 101	Professional Ethics in the Workplace: Business and Commerce	1	
MG 103	Introduction to Business	3	
MG 114	Principles of Management		3
MG 134	Supervision and Human Relations		3
MG 165	Business Mathematics	3	
	Computer Elective	3	
	Social/Behavioral Science Elective		3
	Unrestricted Elective		1
		<u>17</u>	<u>17</u>
Sophomore			
BU 173	Business Law I	3	
CS 197	Spreadsheet Software Application		3
FM 201	Financial Management	3	
IM 204	Production and Inventory Control		3
MG 110	Leadership Skills		1
MG 170	Labor Relations	3	
MG 214	Purchasing	3	
MG 254	*Salesmanship		3
MG 264	Human Resources Management		3
	Humanities Elective	3	
	**Directed Electives	<u>3</u>	<u>3</u>
		18	16

Total Hours: 68

*Satisfies Oral Communication requirement.

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

CS 198	Database Software Applications	3
DD 114	CAD Engineering Drawing I	3
MD 184	Manufacturing Processes	3
MG 105	Introduction to Quality Management	3
MG 160	Project Management	1-3
MG 285	Organizational Behavior	3

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 administration. A minimum grade of "C" is required in each course.

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	<u>3</u>	<u>12-15</u>
		13	15-18

Total Hours: 28-31

*Prerequisite: 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
Freshman			
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
		<u>16</u>	<u>19</u>
Sophomore			
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	
	Unrestricted Elective		1
		<u>18</u>	<u>19</u>

Total Hours: 72

*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
Freshman			
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
Sophomore			
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
		18	15
Total Hours: 69			

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
Freshman			
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	
		17	16
Sophomore			
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	
		18	18
Total Hours: 69			

*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
Freshman				
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	2		
NW 206	Network Design and Management			3
		8	16	16
Sophomore				
CS 244	Systems Analysis and Design			3
CS 296	Principles of Database Management Systems	3		
ENGL 2710	Technical Reports			3
NW 207	Advanced 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	
			14	13
Total Hours: 67				

*Prerequisite: CS 102 or consent of instructor.

Office Administration

Associate of Applied Science Degree

The Office Administration major provides an academic and technical foundation for individuals preparing for or upgrading skills in administrative support positions in business and industry.

Certified Professional Secretary

After completion of 12 semester hours of college level work at Chattanooga State, Certified Professional Secretaries (CPS) may receive up to 22 hours of college credit, applicable toward the AAS degree in Office Administration only. This credit may not duplicate or replace previously earned college credits. The student must present proof that all parts of the CPS exam have been passed and must be actively pursuing an Office Administration major. The courses for which credit may be awarded are:

BU 114	Principles of Accounting I	4
CS 102	Introduction to Computer Software	3
MG 103	Introduction to Business	3
MG 114	Principles of Management	3
OF 104	Business Communications I	3
OF 105	Business Communications II	3
OF 195	General Office Procedures	3

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
Freshman			
CS 102	Introduction to Computer Software	3	
ENGL 1010	Composition I		3
MG 165	Business Mathematics		3
OF 104	Business Communications I	3	
OF 113,114	Keyboarding/Document Processing I, II	3	3
OF 125	Word Processing I		3
OF 127	Desktop Publishing		3
OF 195	General Office Procedures	3	
	Humanities Elective	3	
	Social/Behavioral Science Elective	3	
	Unrestricted Elective		1
		<u>18</u>	<u>16</u>
Sophomore			
BU 114	Principles of Accounting I	4	
CS 150	Principles of Web Site Design		3
CS 293	Microcomputer Software Applications	4	
ENGL 2710 or	Technical Reports or		
OF 105	Business Communications II	3	
OF 126	Word Processing II	3	
OF 206	Office Administration Internship		3
SP 110	Fundamentals of Public Speaking		3
	*Directed Electives	3	3
	Mathematics/Natural Science Elective		3-4
		<u>17</u>	<u>15-16</u>
Total Hours: 66-67			

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

Legal Emphasis		
LA 110	Fundamentals of Law	3
LA 130	Legal Research	3
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
Freshman			
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>
Sophomore			
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	3	
		<u>3</u>	<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
Freshman			
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>
Sophomore			
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
Freshman			
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>
Sophomore			
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	3	
		<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. A minimum grade of "C" is required in each course.

SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
CS 101 or	Computer Literacy or		
CS 102	Introduction to Computer Software		3
CS 150	Principles of Web Site Design	3	
OF 113,114	Keyboarding/Document Processing I, II	3	3
OF 125,126	Word Processing I, II	3	3
		<u>9</u>	<u>9</u>
Total Hours: 18			

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, DD, EE, ET, MD) 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	4		
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
		16	18	5
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 w/Analytic Geometry I	4		
	Humanities Elective		3	
	Social/Behavioral Science Elective	3		
		18	15	
Total Hours: 72				

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
DD 222	Introduction to Pro/ENGINEER	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, 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
Freshman				
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
		17	16	7
Sophomore				
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
		18	16	
Total Hours: 74				

Chemical Process Operations

Technical Certificate

This certificate program trains graduates for employment as process operators in the chemical, manufacturing, refining, petrochemical, polymers, pharmaceuticals, plastics, food and beverage, water/sewage, utilities and pulp/paper industries. 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
CT 111	Introduction to Process Technology	3	
CT 112	Industrial Mathematics	3	
CT 113	Industrial Chemistry	4	
CT 121	Industrial Process Equipment		4
CT 122	Introduction to Quality Control		3
CT 123	Introduction to Process Operations		4
CT 124	Introduction to Process Controls and Instrumentation		3
OS 116	Industrial Maintenance Safety	3	
	Computer Elective	3	
Total Hours: 30		16	14

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
Freshman				
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
		17	17	5
Sophomore				
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 w/Analytic Geometry I	4		
MD 134,242	Statics & Strength of Materials I, II	3	3	
PHYS 2020	Physics II		4	
	Humanities Elective		3	
		17	16	
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
Freshman				
DD 116	CAD for Electronics		3	
EE 110	Electrical Circuits I	4		
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
		16	18	5
Sophomore				
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 w/Analytic Geometry I	4		
	*Computer Elective			3
	Humanities Elective			3
	Social/Behavioral Science Elective	3		
		18	14	
Total Hours: 71				

*CS 124, CS185, or EG 124.

Electrical Lineman

Technical Certificate

In partnership with regional power and utility companies and the International Brotherhood of Electrical Workers (IBEW), this program provides graduates with the entry-level skills needed for lineman apprentice programs in electrical utilities, telephone companies, cable TV companies, and other communication-related industries utilizing overhead and in-ground electrical construction. 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
EP 102	Electrical Circuits for Lineman	3	
EP 116	Electrical Distribution Principles		3
EP 125	Commercial Drivers Licensure		2
EP 130	Problem Solving for Electrical Lineman	3	
EP 144, 145	Applied Electrical Distribution I, II	4	4
EP 151	Electrical Safety		1
HZ 200	Hazardous Materials Technician Certification		2
MG 176	Customer Service Skills I	3	
PHED 1120	Strength and Conditioning		1
PHED 1130	Fitness for Living	2	
Total Hours: 28		15	13

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.

Construction

See "Civil Engineering Technology"

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	Legal Aspects of the Fire Service	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
		44	19	4

Total Hours: 67

*Completion of CSTCC's 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.

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

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	Legal Aspects of the Fire Service	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. Students with current state or national licensure as Emergency Medical Technicians may be eligible for Advanced Standing credit toward the Technical Elective requirement. See program adviser for details.

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.

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
Freshman			
ENGL 1010	Composition I	3	
FI 111	Introduction to Emergency Services	3	
FI 114	Building Construction for Fire Science		3
FI 140	Legal Aspects of the Fire Service	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
		<u>18</u>	<u>16</u>
Sophomore			
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	
		<u>18</u>	<u>15</u>
	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.

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
Freshman			
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
		<u>19</u>	<u>19</u>
Sophomore			
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		1
		<u>18</u>	<u>13</u>
	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
Freshman				
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	
		<u>17</u>	<u>17</u>	<u>7</u>
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 w/Analytic Geometry I	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	
		<u>16</u>	<u>16</u>	
	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
Freshman			
CS 101	Computer Literacy	3	
CS 114	Concepts of Programming	3	
EE 110	Electrical Circuits I	4	
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
		<u>18</u>	<u>17</u>
Sophomore			
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	
		<u>18</u>	<u>17</u>
	Total Hours: 70		

*Prerequisite: CS 176. Corequisite: CS 204.

**Any course with CS prefix or EG 124.

Mathematics & Sciences

Pharmacy Technician Certificate

Technical Certificate

Accredited by the American Society of Health System Pharmacists

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
Freshman				
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
Freshman				
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
	Computer Elective			3
	*Oral Communication Elective			3
		21	20	12
Sophomore				
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

*SP 110 or SP 120 required.

**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
Total Hours: 32		16	8	8

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 curriculum consists of a combination of classroom, laboratory, and clinical practice. A minimum grade of "C" is required in all HE and the prerequisite BIOL courses in order to meet prerequisite and degree requirements. Graduates are eligible to take the accreditation exam administered by the American Health Information Management Association and receive recognition as a Registered Health Information Technician (RHIT) 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. Most first year courses may be taken without formal program acceptance.

Admission Information

Additional admission procedures, including prerequisite college level courses, 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
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 110	Introduction to Health Information Management	1		
HE 111	History and Physical Examination	1		
HE 112,221	Pharmacology I, II	2	1	
HE 115	Health Informatics and Records Management	2		
HE 122	Introduction to Clinical Coding and Reimbursement	2		
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	Clinical 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		2	
	Social/Behavioral Science Elective			3
	Unrestricted Elective			1
		17	16	16
Sophomore				
HE 177	Introduction to Speech Recognition Technology	2		
HE 178	Speech Recognition Technology Applications	1		
HE 225	Health Data Content, Standards, and Computer-based Patient Record		3	
HE 242	Medicolegal, Ethical and Confidentiality Concepts	2		
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 265	Clinical Coding Seminar	1		
HE 297	Health Informatics Management			3
	*Humanities Elective			3
	**Oral Communication Elective			3
	**Directed Elective			3
Total Hours: 80		15	16	16

*The following courses are preferred:

PY 251 for Social/Behavioral Science

HUM 2550 for Humanities

ENGL 2710 for Oral Communication

**Directed Elective(s) totaling three (3) hours must be selected from the following:

BU 114	Principles of Accounting I	4
CS 114	Concepts of Programming	3
CS 124	¹ Visual Basic I	3
CS 296	² Principles of Database Management Systems	3
HS 299	Special Topics in Allied Health	1-3
NW 204	³ Microcomputer Architecture	3
NW 206	⁴ Network Design and Management	3
OM 105	Medical Office Accounting	2

¹Prerequisite: CS 114.

²Prerequisite: At least 1 programming language course.

³Prerequisite: CS 104.

⁴Prerequisites: NW 204, 205.

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		3	
Total Hours: 32		18	8	6

Nursing

Associate of Applied Science Degree

Accredited by the National League for Nursing Accrediting Commission
61 Broadway, New York, New York 10006
(800) 669-1656

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 or nursing website for detailed informa-

tion on program policies (Nursing Program Handbook) or for information about admission, 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) or nursing website 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
Freshman				
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	3		
	*Mathematics Elective			3
		19	15	6
Sophomore				
BIOL 2230	Microbiology	4		
NS 238,249	Nursing III, IV	8	9	
	Computer Elective		3	
	Humanities Elective		3	
	**Oral Communication Elective	3		
	Unrestricted Elective	1		
Total Hours: 71		16	15	

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

MATH 1410 not acceptable for Nursing/Allied Health programs.

***SP 110* or *SP 120* required.

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, LPNs will be awarded credit for NS 119, 128 and progress into the second year of the nursing program.

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
Freshman			
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>
Sophomore			
PT 201	Physical Therapy Seminar		2
PT 205	Therapeutic Exercise	5	
PT 210,221	Clinical Practice II, III	4	10
	Computer Elective	3	
	Humanities Elective		3
	*Mathematics Elective	3	
	**Oral Communication Elective	3	
	Unrestricted Elective	1	
		<u>19</u>	<u>15</u>
Total Hours: 72			

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

**SP 110 or SP 120 required.

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
		<u>17</u>	<u>8</u>	<u>7</u>
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., Chattanooga Outpatient Center, Diagnostic Imaging Inc., East Ridge Hospital, Erlanger Medical Center, Hutcheson Medical Center, Memorial Hospital, Memorial Atrium (outpatient), Memorial North Park Hospital, Parkridge Medical Center, 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	
	Computer Elective		3	
	Humanities Elective			3
	*Oral Communication Elective			3
	Social/Behavioral Science Elective		3	
	Unrestricted Elective			1
		19	21	10
Total Hours: 93				

*SP 110 or SP 120 required.

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.

Requirements

1. Certified transcript from approved school of Radiologic Technology. (School must have JRCERT/CAHEA approval at the time the student graduated.)
2. Proof of registration by ARRT.

SUMMARY OF REQUIRED HOURS

Semester Hours	Course No.	Course Title
	ENGL 1010	Composition I
	HS 184	Radiation Biology
	MATH 1710	College Algebra
	NU 104	Radiation Protection and Radiological Health Administration
	RT 172	Radiologic Pathology
	RT 232	Introduction to Pararadiologic Imaging Modalities and Radiation Therapy
		Computer Elective
		Humanities Elective
		*Oral Communication Elective
		Social/Behavioral Science Elective
		Unrestricted Elective
	Total Hours: 32	

*SP 110 or SP 120 required.

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

Course No.	Course Title	Semester Hours		
		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
	Humanities Elective	3		
	**Oral Communication 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.

**SP 110 or SP 120 required.

Ultrasound

See "Diagnostic Medical Sonography"

X-Ray Technology

See "Radiologic Technology"

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
Freshman			
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	
		<u>18</u>	<u>15</u>
Sophomore			
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	
		<u>16</u>	<u>18</u>

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 2001-02 catalog. For information about possible changes for 2002-03, contact the Criminal Justice adviser.

SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
Freshman			
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
		<u>19</u>	<u>17</u>
Sophomore			
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	
		<u>19</u>	<u>18</u>

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 supervised classroom practice teaching.

Child Development Associate (CDA)

The CDA is a nationally recognized credential awarded by the Council for Professional Recognition to child care providers who have demonstrated their skill in working with young children. Holders of a current CDA credential may receive up to 9 hours of college credit, applicable toward the AAS degree in Early Childhood Education only. Such credit may not duplicate or replace previously earned college credits. The courses for which credit may be awarded are:

ECED 1020	Foundations of Early Childhood Education	3
ECED 2010	Safe, Healthy Learning Environments	3
ECED 2040	Family Dynamics & Community Involvement	3
ECED 2130	Clinical Practicum I	3

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.*

SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
Freshman			
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	<u>4</u>	
		15	15
Sophomore			
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		<u>3</u>
		<u>15</u>	<u>15</u>
	Total Hours: 60		

**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 social 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

SUMMARY OF REQUIRED HOURS

Course No.	Course Title	Semester Hours	
		FALL	SPR
Freshman			
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		<u>3</u>
		<u>16</u>	<u>16</u>
Sophomore			
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		<u>3</u>
		<u>18</u>	<u>18</u>
	Total Hours: 68		

**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
 Basic Financial Planning
 Computer Network Support
 Customer Service
 E-commerce
 General, Legal, or Medical Office Clerk/Receptionist
 Highway Transportation
 Advanced Highway Transportation
 Network Management
 Non-Profit Management
 Purchasing
 Quality Management
 Small Business
 Supervisory Development
 Supervisory Management
 Technology in the Classroom
 Web Developer
 Call 697-4441 for information.

Engineering, Environmental & Emergency Technologies

Automated Controls
 Computer-Aided Manufacturing (CAM)
 Computer Systems Technology
 Construction and Inspection
 Construction Management
 Advanced Construction Management
 Dupont Customized Certificates
 Automated Control
 Chemical Technology
 Electro-Mechanical
 Engineering Technology
 Polymer Operator
 Electricity/Electronics Technology
 HVAC Technology
 Hydraulics/Pneumatics Technology
 Quality Technology
 Structural Engineering Technology
 Surveying
 Call 697-4434 for information.

Humanities

Theatre Arts
 Call 697-4440 for information.

Mathematics & Sciences

Dietary Manager Program
 Call 697-2559 for information.

Nursing/Allied Health

Advanced Patient Care and Management
 Clinical Coding and Reimbursement
 Computed Tomography
 Dental Assisting
 Emergency Medical Services
 EMT/EMT-IV Program
 Paramedic Training Program
 Magnetic Resonance Imaging
 Advanced Magnetic Resonance Imaging
 Mammography
 Medical Transcription
 Nursing Assistant
 Speech Recognition Technology
 Call 697-4450 for information and application.

Social & Behavioral Sciences

American Sign Language
 Group Fitness Instruction
 Call 697-3127 for information.

Industrial Technology Programs

Chattanooga State Technical Community College

Volume Number 27

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37	Technical Drafting
	Truck Driving, see "Commercial Truck Driving"
37	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

Industrial Technology students are expected to maintain satisfactory attendance and to progress in an appropriate manner toward their training objectives.

Student Progress

Semester grades are awarded as follows:

S = Satisfactory

U = Unsatisfactory

If a student receives a “U” grade, he or she will be suspended for a minimum of one enrollment period. Criteria considered in assessing candidacy for readmission are 1) the candidate’s willingness to address those deficiencies that contributed to the suspension and 2) the likelihood that the student may succeed in pursuing his or her training objective.

Attendance

1. Students are expected to attend class every day and to be on time.
2. Three unexcused tardies in any 30-day period of classes will result in a 30-day probation.
3. Any student missing more than nine unexcused hours in any 30-day period of classes will be placed on 30-day probation.
4. Any student who receives three unexcused tardies while on probation will be suspended.
5. Any student missing over nine unexcused hours while on probation will be suspended.
6. Any student missing 60 unexcused hours or more during the entire program will be suspended.
7. Students who miss because of illness may be required to have a written doctor’s excuse.
8. Absences/tardies may be excused for:
 - a. Personal illness
 - b. Disability due to accident
 - c. Exposure to a contagious disease
 - d. Emergencies beyond control of student
 - e. Illness or death of spouse, children, parents, or other family members who reside in the home of the student.
 - f. 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.
 - g. Medical and dental appointments
 - h. Job interviews approved or scheduled by instructor
 - i. Required appearances in court
 - j. Military duty (copy of orders required)

Note: Additional retention standards for specific programs may be maintained by the school pursuant to accreditation or licensing requirements.

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
 Surgical Technology
 Technical Drafting
 Welding

Second Year:

After receiving the industrial technology certificate, the student must:

1. request a change in status from industrial technology to degree-seeking student at the Records Office.
2. meet all admission requirements for degree-seeking status:
 - a. official high school transcript or GED;
 - b. ACT and/or COMPASS tests;
 - c. official college transcripts, if any.
3. provide the following documentation:
 - a. an industrial technology certificate from Chattanooga State’s Industrial Technology Division, granted after January 1, 1983; or
 - b. 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.

4. remove Transitional Studies deficiencies, if any;
5. 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	Total Clock Hours
CD 000	Commercial Truck Driving	330

Computer Repair

See "Industrial Electronics"

Cosmetology

Certificate

This four-semester 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.

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

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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Transform Your Life!

Associate of Arts/Associate of Science

Degree Requirements	Credit Hours
General Education	
CS 101 or EG 124	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	Religious Studies
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
English Composition	6
Humanities, including at least 3 semester credit hours in literature	9
History 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.	
Natural/Physical Sciences and Mathematics, to include one year of science and at least one course in mathematics	9
Physical Education Activities Courses (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).

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
- EG 124 Introduction to Engineering Computations

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 to satisfy the computer requirement for the AA or AS degree. See 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 1010 Survey: Art History I
- ART 1020 Survey: Art History II
- 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
- ENGL 2550 Contemporary Women's Literature

Other Humanities (0-3 hours)

- HUM 1010 Introduction to the Humanities I
- HUM 1020 Introduction to the Humanities II
- HUM 1040 The Human Experience through Song
- HUM 1230 Philosophy of Science and Technology
- HUM 2130 Mythology
- HUM 2140 Folklore and Native Culture
- HUM 2330 Contemporary Women Artists and Writers
- PHIL 1030 Introduction to Western Philosophy
- PHIL 2230 Ethics
- PHIL 2430 Philosophy of Religion
- RELS 2030 Religions of the World
- RELS 2230 Religion in America
- RELS 2610 Biblical Studies I
- RELS 2620 Biblical Studies II

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 with Analytic Geometry I
- MATH 1920 Calculus with Analytic Geometry II

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 and a Math subscore of 25 on the ACT or corresponding SAT score.	Calculus with Analytic Geometry I, MATH 1910
2. Two (2) high school math credits above the Algebra I level and 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, 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 TCA Statute 49-3253.
- 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.

Fulfillment of Requirements for both TBR and the University of Tennessee System Institutions

The Tennessee General Assembly passed legislation mandating the transferability of 60 semester hours effective at all public institutions of higher education in Tennessee. A transfer track module that incorporates both the TBR and the University of Tennessee System minimum degree requirements consists of 60 semester hours in eight categories of courses and includes a provision to incorporate 12 to 15 semester hours of pre-major courses and/or electives. Completion of the module will permit students to transfer to any public institution of higher education in Tennessee. The courses in Categories 1 through 7 include all 32 semester credit hours of the Minimum Degree

Requirements established by the Tennessee Board of Regents (TBR) and the minimum General Education courses identified by the University of Tennessee (UT). UT and TBR universities may have certain other General Education requirements for specific majors. Category 8 represents the minimum Pre-Major/Major Elective requirements that are unique to each student's major. Students completing the 60-hour module may transfer courses for full academic credit to any public university in Tennessee. Students must work with their academic advisers to ensure that all courses taken within the categories are appropriate to their intended majors.

Category 1: Two English Composition Courses (normally 6 credit hours)

Analytic and expository writing

Category 2: Two Mathematics Courses (normally 6 credit hours)

Solving quantitative and logical problems numerically

Category 3: Two Science Courses (normally 6-8 credit hours)

Using scientific principles to describe the natural world in disciplines such as biology, chemistry, geology, physics, etc.

Category 4: Five History and Humanities Courses (normally 15 credit hours)

Analysis and performance courses in disciplines such

as literature, speech communications, theatre, art, music, etc. History courses (normally 6 credit hours), including American History as required by TCA Statute 49-3253

Category 5: Two Social/Behavioral Science Courses (normally 6 credit hours)

Theory, practice and analysis in disciplines such as anthropology, criminal justice, economics, political science, psychology, sociology, etc.

Category 6: Two Multicultural and Interdisciplinary Courses (normally 6 credit hours)

Courses with international dimension or which explore human civilizations and cultures; courses which explore issues across disciplines; foreign language courses that include practical skills for speaking, listening, writing, reading, and cultural understanding. Intermediate foreign language is required for the majority of Bachelor of Arts degree majors and for selected Bachelor of Science degree majors.

Category 7: Two Physical Education Courses (normally 2 credit hours)

Activity skill-building courses (sports, fitness, wellness)

Category 8: Pre-Major/Major Elective Courses (normally 12-15 credit hours) sufficient to complete the 60 hour University Track Program.

Regents Online Degree Programs

Beginning Fall 2001, Chattanooga State Technical Community College joined with the other Tennessee Board of Regents institutions in offering the Regents Online Degree Programs (RODP). Courses required in these programs can be completed entirely online and will be transferable among all the participating institutions.

The Regents Online Degree Programs bring college to student—at home, the library, the office or on the road. Anytime of the day or night. No long waiting lines or hours away from job and family. No commuting. Simply click into class and start learning. The student can pick up a few courses or go for an associate's or bachelor's degree on his/her own schedule.

Degrees are granted by any Tennessee Board of Regents university or community college of the student's choice and are the same as those earned by any other graduates of a Board of Regents school—and just as valuable in getting the career the student seeks.

College goes to the student, with Tennessee's Regents Online Degree Programs. So no matter where the student is, he/she can still invest in his/her future.

Quality courses taught by top faculty from established, accredited institutions.

Inexpensive tuition, and financial aid available in many cases.

Attend class anytime, wherever there's a computer and internet connection.

Computer technical support available 24 hours a day, 7 days a week.

Only basic keyboarding skills required.

Receive course work, assignments and grades online.

The Regents Online Degree Programs offered by Chattanooga State are:

Degree:	Associate of Applied Science
Major:	Professional Studies
Concentration:	Information Technology

Degree:	Associate of Arts
Major:	General Studies

Degree:	Associate of Science
Major:	General Studies

*Information about these programs can be found at:
<http://www.TN.regentsdegrees.org/campus/cstcc>*

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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:

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

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, coeducational, 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.

Associate Degree Programs

Degree	Major	Concentration	
Associate of Arts Associate of Science Associate of Applied Science	General	Financial Planning	
	General		
	Accounting 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	
	Advertising Arts		
	American Sign Language Studies		
	Applied Technology		
	CAD/CAM Engineering Technology		
	Civil Engineering Technology		
	Dental Hygiene		
	Early Childhood Education		
	Electrical/Electronic Engineering Technology		Automated Controls Computer Systems Networking Technology
	Emergency Services Technology		Emergency Medical Care Emergency Service Supervision & Administration Fire Suppression
	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	Court Reporting		
Office Administration			
Physical Therapist Assistant			
Radiologic Technology			
Respiratory Care			

Academic Inventory

Industrial Technology Certificate Programs—(Clock hour)

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

Technical Certificate Programs

CAD Technology	Nuclear Medicine Technology
Chemical Process Operations	Pharmacy Technician
Diagnostic Medical Sonography	Radiation Therapy Technology
Electrical Lineman	Word Processing
Information Systems Technology	

Regents Online Degree Programs

Degree	Major	Concentration
Associate of Arts	General Studies	Information Technology
Associate of Science	General Studies	
Associate of Applied Science	Professional Studies	

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 and pay the non-refundable application 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 school 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) scores. Scores are valid if taken within three years of the first semester of attendance and 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 and pay the non-refundable application 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 school 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.

Transfer students who have not been previously assessed and who have not earned credits in college-level English composition or college-level, algebra-based mathematics must undergo COMPASS assessment in the appropriate area(s). Transfer students are not required to submit ACT/SAT scores, although they are encouraged to do so if they have valid scores. For assessment purposes, transfer students are those with 9 or more transferable college hours.

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:

- 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. (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.)
- COMPASS scores supercede any ACT/SAT scores received after COMPASS assessment.
- Technical certificate program students are admitted as Special Students. Assessment requirements are determined by the content of the program.

High School Unit Requirements

Beginning fall semester 1989, students entering a Chattanooga State program designed for transfer to a four-year institution should have the following high school credits:

- 4 units English
- 3 units Algebra I & II and Advanced Math or Integrated Mathematics I, II, II
- 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.
- Applicants who are non-Tennessee residents are subject to the same admission requirements as Tennessee applicants.
- The High School Unit 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).
- Be 18, or (if under 18) have a high school diploma or GED.
- 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 exam or COMPASS. (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 algebra-based 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

Students who are regularly enrolled in another college may attend Chattanooga State as transient students. If they later wish to change to degree-seeking status, all regular admission requirements must be met. Transient students 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, dated after the end of the last term attended.

- Meet course prerequisites. (Transcript may be required for advisement.)
- If taking English or math, show successful completion of appropriate college level English and/or algebra-based math course(s), or satisfy the course's Mandatory Assessment Requirements.

Note: 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.
 - ACT composite score of at least 22.
 - 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 taught 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. Middle College High School—Courses are offered during the day at the Chattanooga State Amnicola site. Students will matriculate into Chattanooga State with parent and principal's permission. SACS

qualified instructors teach all courses. Since 4 units of English is required for high school graduation, each student will enroll in an English course developed and taught by a Hamilton County teacher, housed on the Chattanooga State campus for this purpose.

Each participating student will enroll in other courses defined as necessary to complete the Carnegie units that are required for high school graduation. These courses are included with the standard curriculum offered at Chattanooga State and are taught by full-time Chattanooga State teachers. Middle College High School students participate in whatever regularly scheduled course that is appropriate for the completion of their high school requirements for courses other than English. Students receive both college and high school credit simultaneously for college courses.

Middle College High School students meet the following criteria:

- Have completed the 9th, 10th, or 11th grade.
 - Have an ACT composite score of at least 19 or a demonstration of ability by exception.
 - Provide a written statement of recommendation from principal (counselor) and parent.
 - Have completed all necessary paperwork for college entrance.
 - Have been selected for participation by the Middle College High School screening committee.
 - Will be dual enrolled with the college.
4. 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.
 5. 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. A “Maintenance Fee Reduction Request” form, available from the Admissions Office, must be completed at the time of registration each semester in order to receive the discount or waiver. Normal admission (or readmission) requirements apply.

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 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.

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 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

Individuals who have not earned an associate or baccalaureate degree may be eligible to petition to receive credit for work experience and/or certified professional programs. A student who has previously taken the petitioned course may not request Credit for Life Experience. Credit hours earned by Life Experience are not considered part of the College’s Graduation Residency Requirement.

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 portfolio process must be initiated at least two semesters before graduating. A non-refundable assessment fee, equivalent to the per-credit-hour maintenance/tuition fee, must be paid prior to faculty assessment of the student's portfolio. Step-by-step procedures are listed in the *Student Handbook*. Assessment by portfolio is allowed only if credit by exam (including CLEP) is not available.

Military Service Credit

Credit may be granted 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 submit documentation of previous training to the Veterans Affairs Office.

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

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., father or mother, or non-parental guardian or legal custodian provided the guardianship or custodianship was not created primarily to create in-state status).
- 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.

- The spouse of a student classified as in-state shall also be classified as 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 his/her care, custody, and earnings and are no longer under any legal obligation to support or maintain him/her.

Contact the Admissions Office for more information.

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.

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.

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 complete 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 students with a minimum ACT composite 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 12 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.

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

Academic standing is based on the student's grade point average and is posted at the end of each term. The standing designation becomes part of the permanent record and does not change even if the GPA changes due to repeated courses.

Good Standing

The minimum college-level GPA required to graduate is 2.0. To be enrolled in good standing, 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.

Industrial Technology

The Industrial Technology academic retention policy 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. (This form cannot be used

to completely withdraw from school. See “Withdrawal From College.”) Forms must be submitted to the Admissions and Registration Office for processing. Approval is required, as indicated on the back of the form. Students may not drop transitional studies courses except for extraordinary reasons and with special permission from the Director or his/her representative.

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 and on the Web.

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.

Students who are members of school sanctioned organizations will not incur grade penalties for classes not attended or class assignments/exams missed while representing Chattanooga State at scheduled events. At the beginning of each semester, the student must present a letter of organizational membership and a

tentative activity schedule that has been developed and signed by the organization sponsor. It is also the student’s responsibility to notify the teacher in advance of any class he/she will miss. The student must complete missed assigned work/exams. Scheduled completion time will be at the discretion of the instructor.

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 are included in determining classification.

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.

Dropping a Class

See “Change of Registration.”

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	Description
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 D is urged to repeat the 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. 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. <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 Incomplete.
W		Withdrawal. Indicates the student has withdrawn from the course. Does not count in the GPA.
WD		Used prior to Spring 2001 to indicate that the student had been granted special permission to withdraw from a transitional studies course. Does not count in the GPA.
WP/WF		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. Indicates the course work has not been completed, but the quality of work done has been satisfactory. Available only for transitional studies courses. 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 does not count in the GPA. A student receiving an 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/tuition fees.
AU	Audit. Indicates that the student elected to enroll in the course for no grade or credit. Audits do not replace previous grades.
CE	Credit by Examination. This designation is used for both institutional and national exams (AP and CLEP).
CL	Credit for Life Experience. The CL is not counted in the GPA.
S/N	Satisfactory/No Credit. Selected courses may be offered 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 consists of hours taken in college level courses. The combined GPA includes hours taken in both 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.

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

All requirements for degrees and/or certificates (technical or Industrial Technology) must be completed

before the credential can be posted to the student's transcript or a diploma awarded. This includes removal of any incomplete grades in courses needed to satisfy degree or certificate requirements.

All candidates for graduation for a given academic year (Fall, Spring, or Summer) may participate in Chattanooga State's annual commencement exercises even though all requirements for graduation may not have been met. However, such participation in no way confirms completion of requirements or official graduation. Students not completing all requirements by the end of the summer term following commencement must reapply.

Application and Fee

A student must submit an application and pay the non-refundable application fee for each degree or certificate by the deadline in order to be considered a candidate for graduation. This deadline applies to all candidates for a given academic year, including summer completers.

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.

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.

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.

Grade Point Average

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

Technical Certificate—All courses required for the Technical Certificate must be completed with a grade of C or better.

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 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.

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, 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 Office that administers FERPA is:

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. 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 fees listed below were effective fall semester 2001 and are subject to change at any time by the Tennessee Board of Regents.

Fee Schedule

Estimated fee schedule per academic semester for credit students:

	In-State	Out-of-state*
<u>Cost Per Semester Hour</u>		
Maintenance Fee	\$ 64.00	\$ 64.00
Tuition		193.00
Total Per Semester Hour	\$ 64.00	\$ 257.00
<u>Maximum Charge**</u>		
Maintenance Fee	\$744.00	\$ 744.00
Tuition		2,229.00
Maximum Maintenance & Tuition Per Student	\$744.00	\$2,973.00

*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.

**Excludes Regents Online Degree courses. See below.

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—\$367 Part-time—\$220

Regents On-line Degree Program (RODP)—The fees for RODP students will be the current part-time per hour charge of the home institution for the maintenance fee and for the out-of-state fee, as applicable, plus an online course fee equivalent to 25% of the part-time per hour fee rounded up to the nearest whole dollar. For Chattanooga State students, the RODP Online Course Fee is \$16 per credit hour. (Since the RODP Online Course Fee is considered a "special course fee," TBR, UT and other state employees who are entitled to a fee waiver are still required to pay this fee.) RODP students are not required to pay campus access, technology access fees, or student activity fees. These fees are included in the RODP Online Course Fee. If RODP students desire to attend campus activities they may request to pay the additional student activity fee. Regents degree courses are all charged per hour and viewed separately from on-campus courses so as not to mix with the full-time cap applicable to on-campus courses and other on-line courses that are not part of the Regents Degree Program, and distance education courses. For more information, visit: <http://www.TN.regentsdegree.org>

Senior Citizens and Persons with Disabilities—Maximum charge for senior citizens and persons with disabilities who qualify for discounted maintenance fees for courses taken for credit: \$75.

Fees Charged in Addition to Maintenance and Tuition:

Application Fee—\$10. Paid one-time. Non-refundable.

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 Fee—A non-refundable assessment fee, equivalent to the per-credit-hour maintenance/tuition fee, must be paid prior to faculty assessment of the student's portfolio.

Graduation Fee—\$25.

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.

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.

College Credit Courses

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.

Industrial Technology Courses

75% of fees are refunded for drops or withdrawals during the first 10% of the class hours.

50% of fees are refunded for drops or withdrawals during the first 20% of the class hours. No refunds will be made after 20% of the class hours have been completed.

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, Withdrawal, and Repayment Policies

Refund

Class withdrawal refunds will be calculated using the TBR refund policy published in Chattanooga State's Class Schedule. Any refund due for class(es) dropped before the 14th day will be returned to the student; after the 14th day, refunds will be returned to the Department of Education.

Withdrawal and Repayment

Students who withdraw from all classes prior to completing more than 60% of the term will have their eligibility for aid recalculated based on the percent of the term they completed. E.g., a student who withdraws completing only 30% of the term will have "earned" only 30% of any Title IV aid received. The remaining 70% is considered "unearned" and must be returned.

When the total amount of unearned aid is greater than the amount returned by Chattanooga State from the student's account, the student is responsible for repaying the difference. Loan amounts are returned by the student to the lender according to the terms of the promissory note.

The Financial Aid Office will notify the student of the amount of repayment due. The student has 20 calendar days after notification to repay in full or make satisfactory repayment arrangements with the Financial Aid Office. Students owing repayment are ineligible for additional Title IV aid unless arrangements can be made for deducting balances from future awards.

For more detailed information on these policies and procedures for withdrawal, contact the Financial Aid Office.

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:

- Registration and orientation session.
- Computerized instructional lab.
- Reading program.
- English as a Second Language (ESL) classes.
- GED practice tests.

Advisement

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

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

Child Development Center

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

Disabilities Support Services arranges for accommodations for students with documented disabilities so that they have equal access to programs and activities offered by the College. Accommodations may include readers, scribes, interpreters, notetakers, assistive listening systems, and adaptive computer equipment. A support group for students with disabilities is available during the fall and spring semesters. Disabilities Support Services also assists students in linking to appropriate campus and community services, such as counseling, tutoring, registration assistance, financial aid, and Vocational Rehabilitation.

Distance Education Program

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

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 Jasper Public Library, while Chattanooga State North students use Bryan College Library or Dayton Public Library. Sequatchie Valley students may use Sequatchie County Public Library or Pikeville Public Library. Students located elsewhere may contact the Dean of Library Services who will

make arrangements for those students to have access to library services.

Holdings include 74,730 books, 470 current magazine subscriptions, 5,070 videotapes, and 900 audiotapes. Students can search more than a dozen online databases containing journal articles, news stories, literary and biography information, as well as complete books. The library's catalog and these other resources can be searched through the Internet site at <http://library.cstcc.cc.tn.us/>.

The library staff provides individualized and classroom instruction on research for students, faculty, and staff. Reference librarians are available during all hours the library is open.

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.

Placement and Cooperative Education

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

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

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 may take college-level courses concurrently with transitional studies courses that do not require skills in which the student is currently deficient.
- Students may not withdraw from a transitional studies course except for extraordinary reasons and with special permission from the Transitional Studies Director.
- 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.
- DSPS 0800, Psychology of Learning, is mandatory for students who place into any two subject areas at either the basic (0700) or developmental (0800, 0850) level. Transitional studies students not *required* to take DSPS 0800 may *elect* to take it.



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

How To Read Course Descriptions

<p>Indicates courses which can be used to fulfill TBR minimum degree requirements. For more information, see "Transfer Programs."</p>	<p>Specific topics in French language and culture; repeatable for credit on different topics. Prereq: FREN 1010 and instructor's consent. [E]</p> <p><u>Geography</u></p> <p>GO 101 Physical Geography (3) The Earth's physical environment; processes that determine Earth's climate, water, soil, landforms, vegetation, and distribution patterns of each. [S]</p> <p>GO 103 World Geography (3) Study of selected world regions; focus on each region's characteristics, problems and global interrelationships. [F,S]</p> <p><u>Geology</u></p> <p>GEOL 101 Introduction to geology; Earth's age and materials, processes, and resource structure. class 3 hours, lab 2 hours. [E]</p> <p>◆ GEOL 1050 Historical Geology (4) Earth's origin and geologic history; concept of geologic time and the fossil record; class 3 hours, lab 2 hours. Prereq: GEOL 1040. [S]</p>	<p>TCBS, 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. [on demand]</p> <p>HZ 120 Hazardous Materials Regulations (3) 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. [on demand]</p> <p>HZ 125 Pollutant Migration (3) Methods of predicting ultimate fate and concentration and principles of meteorology and dispersion of hazardous materials in the environment. Prereq: HZ 101. [on demand]</p> <p>HZ 200 Hazardous Materials Technician Certification (2) Required by hazardous materials and safety technicians; 4 hours upon completion: OSHA 29 CFR 1910.120 annual update training for hazardous materials and emergency response; basic CPR; Department of Transportation hazardous materials employee general and safety training certification; confined space operations certification; respiratory credit and certification; Satisfactorily credit and certification; Satisfactorily Credit grading; class 1 hour, lab 2 hours. Prereq: Instructor's consent. [on demand]</p> <p>HZ 201 Special Topics in Hazardous Materials and Waste Management (1-4)</p>
<p>Brief description of course content</p> <p>If the course has a lab component, a breakdown of the amount of time per week spent in class and lab will be shown here. Some clinical courses may show the total amount of time spent in clinic for the entire semester.</p>	<p>Prefix or subject abbreviation, GEOL = Geology</p> <p>Course number</p> <p>Course title</p> <p>Number of semester credit hours</p> <p>Term(s) offered: E = Every, F = Fall, S = Spring, Su = Summer.</p> <p>Prerequisite and/or corequisite. A prerequisite is a course which should be completed prior to enrolling in the selected course. A corequisite is a course which should be completed prior to or at the same time as the selected course.</p>	<p>Earth</p>

Course Descriptions

Descriptions of courses offered by the College are listed alphabetically according to subject area, then in numerical order under each subject.

Accounting

BU 104 Basic Fund Accounting (3)

An introduction for non-accountants to fund accounting for non-governmental non-profit organizations; use of financial statements and other reports and techniques in decision making. [on demand]

BU 110 Business Tax Reporting (3)

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. [S]

BU 114,115 Principles of Accounting I,II (4,4)

Principles, practices and techniques of accounting. 114–Emphasis on basic functions for proprietorship and partnership. 115–Emphasis on partnership, corporation and managerial accounting; analysis of financial statements. Must be taken in sequence. [E]

BU 173,175 Business Law I,II (3,3)

Principles of law governing business transactions. 173–Contracts, sales and agency. 175–Business organizations, property laws, commercial paper, secured transactions, and business legal environment. Must be taken in sequence. [173–E, 175–S]

BU 185,186 Federal Taxes I,II (3,3)

Study of federal tax code. 185–Individual income tax; includes issues in form preparation such as tax credits, tax rates, capital gains and losses, and personal deductions. 186–Corporations, partnerships, estates, trusts, withholdings and estimated taxes. Must be taken in sequence. Coreq for 186: BU 115. [185–F, 186–S]

BU 201 Accounting Internship (3)

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

BU 204,205 Intermediate Accounting I,II (3,3)

Theory and structure of financial statements; emphasizes generally accepted accounting principles. Must be taken in sequence. Prereq: BU 115. [204–F, 205–S]

BU 224 Cost & Budgeting (3)

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

BU 233 Auditing (3)

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. [S]

BU 240 Practical Accounting Applications (3)

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. [F]

BU 250,251 Accounting Information

Systems I,II (3,3)

Core concepts in using commercial application software in accounting information systems; integrates software application projects with course topics; experience with computer applications required. 251 includes internal controls as they relate to EDP and systems for managerial decision making. Must be taken in sequence. Prereq: BU 115. [250–F, 251–S]

BU 255 Professional Review in Accounting and Taxation (3)

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

BU 299 Special Topics in Accounting (1-3)

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

Advertising Arts

AA 106 Design (4)

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. [F]

AA 107,219 Illustration I,II (3,4)

107–Advanced drawing 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. 219–Study of illustration concepts as self-expression; mastery of a variety of techniques; all illustration forms covered; professional orientation with industry-related problems and deadlines. Prereq: Instructor's consent. [107–S, 219–F]

AA 108 Advertising Concepts (3)

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. [F]

AA 109 Production Art (4)

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. [F]

AA 116 Typography (4)

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. [S]

AA 190 Photography for Designers I (3)

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. [F]

AA 209,210 Graphic Design I,II (4,4)

Intermediate to advanced creative problem solving. 209–Application of design principles and techniques to poster, logo/trademark and ad design. 210–Basic identity design, collateral design, typography as a major design element;

audience, deadline, and production addressed. Prereq for 209: AA 106, 108, 116. Coreq for 209: AA 245 or instructor's consent. Prereq for 210: AA 209, 245. Coreq for 210: AA 246 or instructor's consent. [209–F, 210–S]

AA 215,217 Advertising Design I,II (3,3)
215–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. 217–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. [215–F, 217–S]

AA 218 Airbrush Illustration (3)

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

AA 221 Design Internship (3)

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. [E]

AA 222 Portfolio (2)

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. [S]

AA 245 Computer Applications for Graphic Design (3)

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. [F]

AA 246 Computer Illustration (3)

In-depth intro to digital imagery creation; design and illustration projects created for personal portfolio. Prereq: AA 245 or instructor's consent. [S]

AA 249 Special Topics in Advertising Arts (1-3)

Intro to selected issues and/or problems in advertising arts; repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

Air Conditioning/Refrigeration

AC 000 Air Conditioning/Refrigeration Technology

Theory, application, operation and maintenance of air conditioning and refrigeration systems; 30 clock hours/week. [E]

American Sign Language Studies

HP 120,121,220,221 American Sign Language I,II,III,IV (3,3,3,3)

Study of the manual alphabet and language of "signs." 120–Basic level skill development; sentence structure, question forms, verb usage, classifiers, negatives, locational relationships, plurals, and time measurements stressing ASL and Deaf Community. 121–Intense study of manual communication; vocabulary, language concepts, sign language idioms, and

expressive/receptive skills; intro to ASL conversational regulators. 220–Focus on communication of day-to-day experiences and activities, spatial agreement, storytelling, and general conversational regulators. 221–Emphasis on language concepts and syntax, vocabulary review, conversational patterns, numbers, fingerspelling, songs, poetry, and storytelling techniques. Must be taken in sequence. [120, 220–F; 121, 221–S]

HP 125 ASL Sign Choir (1)

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. [F,S]

HP 130 Orientation to Deafness (3)

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. [F]

HP 132 Psychology of Deaf People and Their Culture (3)

Study of psychological processes, behavior, emotional and social maturity, disability adjustments of deafness, social patterns, family status, socialization in groups and in the Deaf Community, and economic status of Deaf persons. [S]

HP 135 Special Topics in American Sign Language (1-3)

Special topics in American Sign Language; focuses on use of ASL in the workplace; repeatable for credit on different topics. [on demand]

HP 222 Fingerspelling (2)

Comprehensive study of fingerspelling, using drills to enable reading of full-speed fingerspelling and fluent expression in fingerspelling. Coreq: HP 221 or instructor's consent. [S]

HP 236 English Sign Systems (3)

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. [on demand]

HP 246 Oral Interpreting Techniques (3)

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. [on demand]

Art (Fine Art and Graphic Design)

◆ ART 1010,1020 Survey: Art History I,II (3,3)

Survey of the history of art and architecture within western civilization. 1010–Prehistoric, ancient near eastern, Egyptian, Aegean, classical, early Christian, Byzantine, medieval and Renaissance art. 1020–Baroque, rococo, neo-classic, romantic, impressionism, cubism, and post-modern art. [1010–F, 1020–S]

◆ ART 1030 Art Appreciation (3)

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. [E]

ART 1060 Making Art Safely (1)

Survey of health and safety concerns in the field of visual arts; overview of chemicals used in diverse media; tips on studio design, safe use of materials and tools, and on how to stay informed; for artists and hobbyists. [F,S]

ART 1110,1120 Life Drawing I,II (4,4)

Beginning to advanced studies from figure and still-life objects. 1110–Line and value studies emphasizing observation and accurate spatial and proportionate rendering; intro to composition. 1120–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. Must be taken in sequence. [F,S]

ART 1210 Three Dimensional Design (4)

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. Prereq: ART 1060. [F,S]

ART 1400 Beginning Photography (1)

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 35mm camera. [F,S]

◆ ART 2030 Art Structure (4)

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. [F,S]

ART 2160 Art Education (4)

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. [S]

ART 2310,2320 Painting and Composition I,II (4,4)

Painting techniques in oil and/or acrylics. 2310–Focus on developing color relationships and spatial and composition skills; studies may include abstract, still life, landscape, and/or figurative subject matters. 2320–Stresses technical skills in sustained personal image composition; some assigned problems but focus on student's choice of non-objective, abstract, surreal, pop, or realistic direction. Must be taken in sequence. Prereq for 2310: ART 1110. (ART 1120 recommended.) Prereq for 2320: ART 1060. [F,S]

ART 2410,2420 Photography and Darkroom I,II (4,4)

Fine art approach to photography; darkroom work and oral critiques; must provide own 35mm camera. 2410–Black and white photography and printing; image, personal symbolism, avant garde composition, content, and photographs as art statements. 2420–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. Must be taken in sequence. Prereq for 2420: ART 1060. [F,S]

ART 2430 Color Photography (4)

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. Prereq: ART 1060, 2410. [F,S]

ART 2610,2620 Ceramics I,II (4,4)

Studio in ceramics; focus on design and creative handbuilding, glazing and wheel-throwing. 2610–Beginning techniques. 2620–Intermediate techniques. Must be taken in sequence. Prereq for 2620: ART 1060. Coreq for 2620: ART 1110. [F,S]

ART 2790 Intermediate Studio (3)

Continued practice in technical expertise while expanding compositional and expressive components in chosen studio area; repeatable. Prereq: ART 1060, advanced standing in emphasized media and instructor's consent. [F,S]

ART 2990 Special Topics in Art History or Theory (1-3)

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. [E]

ART 2991 Special Topics in Studio Art (1-4)

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. Prereq: ART 1060. [E]

Astronomy

◆ ASTR 1030 Astronomy (4)

Intro to astronomy; 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. [F]

Auto Body Repair

AB 000 Auto Body Repair Technology

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. [E]

Automotive Technology

AM 000 Automotive Technology

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. [E]

Aviation

AV 101 General Aeronautics (3)

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. [on demand]

AV 111 Flight Theory (3)

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. [F]

AV 112 Navigation (3)

Pilotage principles, dead reckoning, and radio-electronic methods of navigation applied to cross-country flight planning. [F]

AV 113 FAA Regulations (3)

Federal and international laws governing aviation operation and their source, enforcement and purpose; laws or regulations concerning airmen, aircraft, air agencies, air operation, air traffic control, and flying safety stressed; Airman's Information Manual and its application included. [F]

AV 123 Meteorology (3)

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. [S]

AV 141,142,143,144 Flight Instruction I,II,III,IV (3,3,3,3)

Flight instruction; class 1 hour, lab 4 hours. 141–Focus on familiarity with the airplane and its systems; application of material covered in other AV courses. 142 & 143–More advanced flight and technical instruction in precision flight techniques. 144–Emphasis on instrument flight operations and weather flying. Must be taken in sequence or have instructor's consent. [F,S]

AV 201 Aerospace Internship (3)

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. [F,S]

AV 221 Aviation Management (3)

Principles of aviation management; topics include aviation needs, economics, finance, public relations, maintenance, insurance, and general operating procedures. [S]

AV 231 Instrument Flight (3)

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. [S]

Banking

BK 110 Principles of Banking (3)

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. [F,S]

BK 112 Money and Banking (3)

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. [F]

BK 118 Commercial Lending (3)

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. [F]

BK 122 Economics for Bankers (3)

Intro to the basic principles of economics; emphasis on economic theory applied to banking. [S]

BK 130 Consumer Lending (3)

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. [F]

BK 211 Marketing for Bankers (3)

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. [S]

BK 212 Analyzing Financial Statements (3)

Basic and advanced financial statement analysis techniques to assist bank lenders and bank credit analysts in their job functions. Prereq: BU 114. [F]

BK 219 Law and Banking Principles (3)

Intro to banking law and legal issues; emphasis on Uniform Commercial Code, contracts, bankruptcy, and implications of consumer lending. [S]

BK 229 Law and Banking Applications (2)

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. [S]

Biology

BIOL 1050 Introduction to Human Biology (3)

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. [F,S]

BIOL 1051 Introduction to Human Biology Laboratory (1)

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. Coreq: BIOL 1050. [F,S]

◆ BIOL 1110,1120 General Biology I,II (4,4)
Class 3 hours, lab 3 hours. 1110–Chemical concepts related to biology: cell structure and

function, photosynthesis, respiration, cellular control, cell division, Mendelian and molecular genetics, ecological concepts. 1120–Evolutionary principles, survey of the Kingdoms: Archebacteria, Eubacteria, Protista, Fungi, Plantae, Animalia; study of plant and animal biological systems. Must be taken in sequence. [E]

BIOL 1430 Nutrition (3)

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. [E]

BIOL 2010,2020 Human Anatomy and Physiology I,II (4,4)

Structure, function, interrelationships and homeostasis of body organ systems; biochemical, cytological and histological studies integrate dissection, experimentation, 3-D visualization, and computer applications; focus on critical thinking and clinical application; class 3 hours, lab 3 hours. 2010–Integumentary, skeletal, muscular, and nervous systems. 2020–Endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems; includes immunity, metabolism, fluid-electrolyte dynamics, and genetics. Must be taken in sequence with a C or better. [E]

◆ BIOL 2050 Plant Morphology (4)

Analysis of the structure, reproductive processes, and evolutionary relationships of the main non-vascular and vascular plant groups; class 3 hours, lab 3 hours. Prereq: BIOL 1110 or equivalent. [F]

BIOL 2230 Microbiology (4)

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. Prereq: BIOL 1110 or 2010. [E]

BIOL 2990 Special Topics in Biology (1-4)

Detailed study of a specific topic in biological sciences; repeatable for credit on different topics. Prereq: Department head and instructor's consent. [on demand]

Broadcasting, See "Mass Communications"

Business Accounting, See "Accounting"

Business Law, See "Accounting"

Business Management, See "Management"

Cardiopulmonary Resuscitation (CPR), See "Emergency Medical Services"

Chemical Technology

CT 101 Foundational Studies for Chemical Process Operator (4)

Intro to terms and basic concepts used in food and chemical process industries; helpful to prospective and existing employees in the in-

dustry and provides base for follow-up studies in chemical and food processing; class 3 hours, lab 3.5 hours. [on demand]

CT 102 Fundamentals of Process Operations (4)

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. [on demand]

CT 107 Plant Statistics (1)

Intro to statistical thinking and its industrial applications; includes statistical process control, Excel use, and plant-specific control charts and graphs. Prereq: CT 112. [on demand]

CT 111 Introduction to Process Technology (3)

Overview of process technology ranging from safety to process utilities; includes a plant visit. Prereq: DSPM 0800, DSPR 0800, DSPW 0800. [F]

CT 112 Industrial Mathematics (3)

Basic mathematical operations, systems of measure, problem solving, geometry, right angle trigonometry, and their industrial applications. Prereq: DSPM 0800, DSPR 0800, DSPW 0800. [F]

CT 113 Industrial Chemistry (4)

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. [F]

CT 121 Industrial Process Equipment (4)

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. [S]

CT 122 Introduction to Quality Control (3)

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. [S]

CT 123 Introduction to Process Operations (4)

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. [S]

CT 124 Introduction to Process Control and Instrumentation (3)

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. [S]

CT 150,220 Unit Operations I,II (4,4)

Processes and equipment used to convert raw materials into chemical products; class 3 hours, lab 3 hours. 150—Characteristics and operations of materials handling and storage systems; checks and maintenance requirements; mixing operations, tanks, pumps, conveyors, and piping.

220—Focus on types of reactors, energy input/output, and reactor control methods. Must be taken in sequence. [on demand]

CT 211 Instrumental Analysis (4)

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. [on demand]

Chemistry

CHEM 1010,1020 Introduction to Chemistry I,II (4,4)

Principles of chemistry; not for chemistry majors; class 3 hours, lab 3 hours.

◆ 1010—Atomic and molecular structure, bonding, equation writing and stoichiometry, compound classification, gas, liquid and solid states, solutions, acids/bases. 1020—Basics of organic and analytical chemistry; organic compound families, their preparation and reactions; qualitative and quantitative analytical methods. Must be taken in sequence. Coreq for 1010: DSPM 0850. [1010—E, 1020—on demand]

CHEM 1060 Survey of Organic and Analytical Chemistry (3)

Second semester of principles of chemistry without lab; credit not given for both CHEM 1020 and CHEM 1060; CHEM 1020 substitutes for CHEM 1060, but not vice versa. Prereq: CHEM 1010 or equivalent. [on demand]

◆ CHEM 1110,1120 General Chemistry I,II (4,4)

Properties of matter related to atomic and molecular structure; element and compound reactions and equations, stoichiometry, kinetics, and measurement techniques and calculation; 1120 lab includes qualitative analysis; for students in the field of science, medicine, or engineering; class 3 hours, lab 3 hours. Must be taken in sequence. Prereq for 1110: CHEM 1010 or equivalent. Coreq for 1110: MATH 1710 or 1740. [E]

CHEM 2010,2020 Organic Chemistry I,II (4,4)

Aliphatic and aromatic hydrocarbons, stereochemistry, monofunctional and some polyfunctional compounds; basic separation, purification, synthesis and identification techniques emphasized in lab; for science and preprofessional majors; class 3 hours, lab 3 hours. Must be taken in sequence. Prereq: CHEM 1120. [2010—F, 2020—S]

CHEM 2170 Quantitative Analysis (4)

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. Prereq: CHEM 1120. [on demand]

CHEM 2990 Special Topics in Chemistry (1-5)

Detailed study of a specific chemistry topic; repeatable for credit on different topics. Prereq: Department head and instructor's consent. [on demand]

Civil Engineering Technology

CI 101 Construction Licensing (2)

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. [on demand]

CI 102 Construction Calculations (3)

Applied mathematics for the construction industry; covers basic math, applied algebra, applied trigonometry, and intro to construction estimating. [on demand]

CI 103 Construction Project Administration (3)

Establishing and controlling the flow of documentation on a construction project; focus on communication between owners, developers, architects, construction managers, facilities managers, general contractors, subcontractors, and vendors. [on demand]

CI 110 Construction Safety (3)

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. [F,S]

CI 111 Construction Blueprint Reading (2)

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. [on demand]

CI 116 Construction Planning and Scheduling (3)

Provides a working knowledge for planning and scheduling of construction projects; C.P.M., Precedence Method, PERT, Bar Charts, arrow diagrams, and computer applications. [on demand]

CI 164 Construction Methods & Estimating (3)

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. [F]

CI 174,274 Surveying I,II (4,4)

Fundamental concepts and practices of surveying; class 2 hours, lab 4 hours. 174—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. 274—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. Coreq for 174: MATH 1750. Prereq for 274: CI 174, MATH 1750; or instructor's consent. [174—S, 274—F]

CI 202 Construction Financial and Cost Analysis (2)

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. [on demand]

CI 224 Hydraulics (3)

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. [F]

CI 231 Construction Materials Testing (3)
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. [F]

CI 233 Contracts and Specifications (3)
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. Prereq: Instructor's consent. [F,S]

CI 242,243 Structures I,II (3,3)
Analysis, design, and detailing of elementary structures; emphasis on structural components rather than entire structures. Prereq: MATH 1750. Coreq: MD 242. 242–Steel structures. 243–Concrete structures. [S]

CI 298 Special Topics in Civil Engineering Technology (1-4)
Specialized topics and/or problems in civil engineering technology; repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

CI 299 Special Topics in Civil Engineering Technology with Lab (1-4)
Specialized topics and/or problems in civil engineering technology; repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

Commercial Truck Driving

CD 000 Commercial Truck Driving
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. [E]

Communications, See "Mass Communications"

Computer-Aided Design Technology

DD 100 Introduction to CAD (1)
Intro to a PC-based Computer-Aided Design (CAD) system; Satisfactory/No Credit grading. [on demand]

DD 101 Microcomputer Drafting (3)
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. [F,S]

DD 114,124,204 CAD Engineering Drawing I,II,III (3,3,3)

CAD engineering drawing using AutoCAD software; class 2 hours, lab 3 hours.

114–Introductory level; includes scales, sketching of multi-view and pictorial drawings, AutoCAD geometry construction and editing techniques, dimensioning, and plotting.

124–Intermediate level; includes electrical, piping, fasteners, welding, power transmission, property plats, elevations, and structural steel designing; design project required.

204–Advanced level; includes developments, intersections, limits, tolerances, GD&T, detail and assembly drawings, cams, scripts and slides, menu customization, intro to 3-D wireframe, surfaces, and solids modeling drawings. Must be taken in sequence. Alternate prereq for 124: DD 101. Coreq for 124: MATH 1740. Coreq for 204: MATH 1750. [114–F; 124–S,Su; 204–F]

DD 116 CAD for Electronics (3)

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. [S]

DD 118 Introduction to Intergraph Microstation (3)

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. [S]

DD 210 AutoLISP Programming (3)

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. [S]

DD 214 Mechanical Desktop (3)

Intro to Mechanical Desktop software; includes surface modeling, parametric design, assembly modeling, and part modeling; class 2 hours, lab 3 hours. Prereq: DD 124 or instructor's consent. [S]

DD 216 Architectural Desktop (3)

Intro to Architectural Desktop software; class 2 hours, lab 3 hours. Prereq: DD 114, MATH 1740. [on demand]

DD 218 Land Development Desktop (3)

Intro to Land Development software; includes working with projects, creating boundaries and labels, developing surfaces, and roadway, subdivision, and sewer design; class 2 hours, lab 3 hours. Prereq: CI 224, 274; or instructor's consent. [on demand]

DD 222 Introduction to Pro/ENGINEER (3)

Fundamentals of the Pro/ENGINEER software; concepts of solid modeling, including the fundamentals of part, assembly, and drawing creation; class 2 hours, lab 2 hours. Prereq: DD 114 or instructor's consent. [on demand]

DD 298 Special Topics in CAD (1-4)

Selected specialized topics and/or problems in Computer-Aided Design (CAD); repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

DD 299 Special Topics in CAD with Lab (1-4)

Selected specialized topics and/or problems in Computer-Aided Design (CAD); repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

Computed Tomography

The following 3-course set provides formal specialized training in CT whole-body imaging prior to independent performance. All 3 courses must be taken together. Prereq: Admission to program.

TM 210 Computed Tomography Patient Care and Management (3)

Patient care and management, whole body cross-sectional anatomy, pathology, imaging procedures with protocols, special procedures in CT. [F]

TM 220 Computed Tomography Physics (3)

History of CT, computer basics, scanning methods, digital imaging, quality control, radiation protection. [F]

TM 230 Computed Tomography Clinic (4)

Supervised performance of computed tomography of head, neck, spine, chest, abdomen, pelvis and musculoskeletal system at program approved CT facility in student's geographic area. [F]

Computer Programming, See "Information Systems"

Computer Repair, See "Industrial Electronics"

Computer Science, See "Information Systems"

Construction, See "Civil Engineering Technology"

Cooperative Education

CP 101,102,103,104,105,106 Cooperative Education Work Experience I,II,III,IV,V,VI (1-3 each)

Combines off-campus work with on-campus study, allows students to gain marketable job skills and develop self-confidence and interpersonal skills; credit based on hours worked; approved for unrestricted elective credit in career programs (AAS).

Cosmetology

CY 000 Cosmetology

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. [E]

Court Reporting

OF 175 Medical and Technical Dictation (3) Terminology encountered in medical malpractice, chemical, construction, patent, and other complex litigation; focus on the use of special reference materials. Prereq: OF 230. [Su]

OF 210,220,230,240,250,255 Court Reporting I,II,III,IV,V,VI (5,4,4,4,4,4) Principles and theory of reading and writing machine shorthand; class 4 hours, lab 4 hours except 210; class 5 hours, lab 5 hours in 210. 210–Focus on machine operation and phonetics. 220–Focus on brief forms, phrases, and development of ability to take dictation; 100 wpm required for course completion. 230 & 240–Focus on speedbuilding; speed required for course completion: 130 wpm in 230, 170 wpm in 240. 250–Focus on 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 required for course completion. 255–Focus on all court reporting areas; must pass one 5-minute test with 96% accuracy and two 5-minute tests with 95% accuracy at each of the following speeds: 225 wpm 2-voice testimony; 200 wpm jury charge; 180 wpm literacy. Must be taken in sequence. Prereq for 210: DSPR 0700, DSPW 0700. [210, 240–F; 220, 250–S; 230–Su; 255–F,Su]

OF 260,270 Court Reporting Procedures I,II (4,4)

Methods and procedures for transcript production of legal proceedings. 260–Format, punctuation, dictation of machine shorthand notes, general use of reference materials, computer transcription of notes including real-time reporting. 270–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. Must be taken in sequence. Prereq for 260: OF 210. [260–F, 270–S]

Creative Writing. See “English”

Dental Assisting

Admission to the program is a prerequisite for all DA courses. All Fall Semester courses are prerequisite to all Spring semester courses, and all courses taught in the same term are corequisites.

DA 120,121 Basic Sciences I,II (2,1) Basic sciences for dental assisting. 120–Anatomy and physiology, microbiology, oral anatomy, histology, and embryology. 121–Oral pathology, nutrition, pain control and pharmacology. [120–F, 121–S]

DA 124 Dental Materials (3) Laboratory skills, including material manipulation, fabrication of models and other devices and lab equipment operation; lab/material safety complying with OSHA guidelines; class 2 hours, lab 3 hours. [F]

DA 125 Dental Radiology (3) Dental radiology theory and practice; emphasis on the technical aspects of x-ray production, exposure techniques, film processing, pre-

liminary interpretation, and radiation biology and safety; class 2 hours, lab 3 hours. [F]

DA 128 Dental Office Management (3) Preparation to serve as dental receptionist/dental office manager. [S]

DA 130,131 Clinical Skills I,II (5,9) Skills development in performing tasks specified by Tennessee State Dental Practice Act; must provide own transportation to off-campus clinical sites; class 2 hours, clinic hours: 9 in 130, 21 in 131. 130–Work in on-campus clinic and 2 or more off-campus sites; must submit valid CPR card before externship rotation. 131–Work in off-campus clinical sites; in-depth study of dental specialties, ethics and jurisprudence; preparation for State and National Board Exams. [130–F, 131–S]

DA 134 Communications for Dental Assistants (2) Written and oral communication skills; applied psychology relative to the dental profession. [S]

Dental Hygiene

Admission to the Dental Hygiene Program is a prerequisite for all DH courses unless otherwise noted. Please consult the SUMMARY OF REQUIRED HOURS. All DH courses shown in the same term are corequisites and all DH courses shown in the preceding term(s) are DH prerequisites.

DH 132,135,238,239 Dental Hygiene I,II,III,IV (9,9,5,3) Course series integrates didactic knowledge with affective behavior and psychomotor skills. 132–Tooth morphology; head, neck and oral anatomy; oral embryology, histology and pathology; radiology; periodontology; pain management; dental materials; oral health education; patient management, including special needs; clinical dental hygiene; medical and dental emergencies; legal and ethical issues; infection and hazard control management, including bloodborne infectious diseases; focus on clinical safety, critical thinking and decision making. 135–Focus on recognition of conditions requiring treatment modification (e.g., developmental abnormalities, drug therapies, medical conditions) evident during medical and dental history review, radiographic interpretation, and clinical examination; role of research in the profession. 238–Focus on treatment modifications necessitated by clinical findings. 239–Focus on lifelong learning strategies, e.g., literature review; outreach projects with community agencies. Prereq for 239: Program director’s consent. [132, 238–F; 135, 239–S]

DH 142,145,248,249 Dental Hygiene Applications I,II,III,IV (4,4,4,4) Application of dental hygiene theory; supervised provision of services on partner, lab manikin or client; lab hours: 11 in 142, 12 in 145, 14 in 248 & 249; Satisfactory/No Credit grading. 142–Determination of services through accurate decision making stressed. 145–Integration of preventive, educational and therapeutic concepts when treating clients. 248 & 249–Preventive, educational and therapeutic concepts for treating increasingly severe gingivitis and periodontal conditions. [142, 248–F; 145, 249–S]

DH 255 Dental Hygiene Clinical Enhancement (2) 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. [on demand]

Diagnostic Medical Sonography

Admission to the Diagnostic Medical Sonography Program is a prerequisite for all US courses unless otherwise noted. Please consult the SUMMARY OF REQUIRED HOURS. All courses shown in the same term are corequisites and all courses shown in the preceding term(s) are prerequisites.

US 200 Introduction to Diagnostic Medical Sonography (1) 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. [F]

US 201,211 Ultrasound Physics I,II (2,2) Physical principles of diagnostic medical sonography; correlation with instrumentation procedures; class 2 hours, lab 1 hour. 201–Basic sound wave characteristics, matter-ultrasound interaction; pulse-echo imaging. 211–Real-time ultrasound transducer characteristics, image processing and display, spectral analysis, Doppler ultrasound physics; application of theoretical concepts in lab. [201–F, 211–S]

US 202,212,222 Obstetrics and Gynecology I,II,III (3,2,2) A 3-course sequence in female pelvic ultrasound; class hours: 3 in 202, 2 in 212 & 222, lab 1 hour. 202–Physiological processes affecting imaging; pathological processes and sonographic appearance. 212–Fetal anatomy; gestational age estimation; fetal anomaly detection and intrauterine growth retardation; transabdominal and transvaginal techniques for assessing early intrauterine and ectopic pregnancies. 222–Advanced fetal and pelvic sonograph techniques; multiple gestations, antenatal syndromes, placental, umbilical cord and membrane evaluation; fetal and maternal disorders; intro to infertility studies; uncommon pathological processes in nongravid pelvis. [202–F, 212–S, 222–Su]

US 203,213,223 Abdominal and Small Parts I,II,III (3,2,2) Abdominal cross-sectional and sagittal anatomy, muscular system, and abdominal vascular structures; class hours: 3 in 203, 2 in 213 & 223, lab 1 hour. 203–Abdominal organs, their relation and normal sonographic presentation; physiologic process; metabolic functions; importance of lab data. 213–Pathologic patterns of various organs; relation to sonographic appearance, physiologic changes, and lab findings; anatomic variations; Doppler and color-flow technique in vascular anatomy evaluation. 223–Neonatal encephalography and demonstration of anatomy and pathology of superficial structures (small parts). [203–F, 213–S, 223–Su]

US 205,215,225 Clinic I,II,III (7,1,1)

Increasing development of sonographic knowledge and skills in the clinical setting; performance of sonographic exams under clinical supervision; weekly case studies and imaging critiques; clinic hours: 540 in 205, 520 in 215, 420 in 225. 205–Intro to the sonographic imaging process and the clinical setting; exam protocol; operation of ultrasound instrumentation. 215–Normal anatomy; pathology and abnormal physiological processes. 225–Focus on completion of all clinical objectives. [205–F, 215–S, 225–Su]

US 210 Departmental Management (1)

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; class 1 hour, lab 1 hour. [S]

US 220 Ultrasound Seminar (1)

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. [Su]

US 221 Physical Instrumentation Applications (2)

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. [Su]

US 231 Vascular Physics (3)

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. [F,S]

Diesel Equipment Mechanics**DM 000 Diesel Mechanics**

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. [E]

Dietary Manager**ND 110 Practical Diet Therapy (3)**

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. [S]

ND 111 Practical Diet Therapy Practicum (1)

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. [S]

ND 120 Food Service Sanitation (2)

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 SERVESAFE Certification Examination given at course end. Prereq: BIOL 1430. Coreq: ND 121. [F,S]

ND 121 Food Service Sanitation Practicum (1)

Series of area non-commercial food service agency visits and/or study of food service sanitation and 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. [F,S]

ND 125 HACCP Training & Certification (1)

Recipes, flowcharts and written Hazard Analysis Critical Control Point (HACCP) system; develop and implement an HACCP food safety system for food service operation. Coreq: ND 120, 121; or proof of current SERVESAFE certification. [F]

ND 130 Food Service Management (2)

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. [Su]

ND 131 Food Service Management Practicum (1)

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. [Su]

ND 140 Food Service Administration (3)

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. [F]

ND 141 Food Service Administration Practicum (1)

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. [F]

Drafting, See "Technical Drafting"

Drama, See "Theatre"

Early Childhood Education**ECED 1010 Introduction to Early Childhood Education (2)**

Orientation to the profession; family relationships, diversity, child development, age-appropriate practices, observation and assessment, learning environments, health and safety, and guidance. [F]

ECED 1020 Foundations of Early Childhood Education (3)

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. [S]

ECED 2010 Safe, Healthy Learning Environments (3)

Basic principles of children's health in family, child care program, and community; nutrition, hygiene, growth, disease, accident prevention, and safety; includes field component. [F]

ECED 2020 Infant, Toddler, Child Growth and Development (3)

Physical, cognitive, social and emotional development of young children; application to child care, guidance and development; includes field component. [F,S]

ECED 2030 Infant & Toddler Care (3)

Procedures for stimulating intellectual and physical development of infants and toddlers as well as basic caregiving skills; includes field component. [S]

ECED 2040 Family Dynamics & Community Involvement (3)

Role of family and community in the physical, cognitive, social, and emotional growth of the child in a diverse society; includes field component. Prereq: ECED 1020 or departmental consent. [F]

ECED 2050 Psychomotor Development (3)

Theories and application of psychomotor development; focus on motor skills; includes field component. Prereq: ECED 2020. [S]

ECED 2060 Development of Exceptional Children (3)

Physical, intellectual, and sensory impairments; community resources for diagnosis and treatment services; includes field component. Prereq: ECED 1020, 2070; or departmental consent. [S]

ECED 2070 Developmental Assessment (3)

Developing competency in screening children for developmental problems; community support programs and referral procedures; includes field component. Prereq: ECED 1020, 2020; or departmental consent. [F]

ECED 2090 Creative Expression (3)

Theories, teaching techniques, and basic program components of early childhood art instruction; use of art media and creative play activities. [on demand]

ECED 2100 The Mentoring Teacher (3)

Philosophy, principles, and methods of mentoring; focus on role of mentors as facilitators of adult learning. [on demand]

ECED 2120 Administration of Child Care Programs (3)

Organization and administration practices; staff-management relations, state and local licensing standards, national accreditation, CDA standards, tax laws, legal liabilities; laboratory observation and interaction. Prereq: ECED 1010, 1020, 2020, 2030. [S]

ECED 2130,2140 Clinical Practicum I,II (3,3)
Supervised practicum in providing age-appropriate child care; 90 clock hours. 2130–Includes evaluation of learning environments; health and safety checklist. 2140–Concepts and techniques, including development and implementation of lesson plans. Prereq for 2140: ECED 1010, 1020, 2010, 2020, 2030, 2050, 2070, 2130; or departmental consent. [2130–F, 2140–S]

ECED 2150 Educating the Culturally Different (3)

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. [on demand]

ECED 2160 Language Arts for Young Children (3)

Techniques and methods for development of language skills in young children. [on demand]

Ecolonomics, See "Environmental Science"

Economics**EC 113 Consumer Economics (3)**

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. [on demand]

EC 211,212 Principles of Economics I,II (3,3)

211–Macro economics; study of national income and its determination, fiscal and monetary policy, money and banking, economic growth, and international economics. 212–Micro economics; study of the market system; covers the price system, labor and the distribution of income, government and business, and forms of business organization. [F,S]

EC 235 Special Topics in Economics (1-3)

Specific topics of current economic interest; repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

Education**ED 201 Foundations of Education (3)**

Intro to the history, philosophies, and present practices of elementary and secondary education in America; includes field component. [F,S]

ED 235 Special Topics in Education (1-3)

Specific topics of traditional and current interest, including social developments and issues; repeatable for credit on different topics. [on demand]

Electric Lineman**EP 102 Electrical Circuits for Lineman (3)**

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. [F]

EP 116 Electrical Distribution Principles (3)

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. [S]

EP 125 Commercial Drivers Licensure (2)

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. [S]

EP 130 Problem Solving for Electrical Lineman (3)

Applied math related to electrical distribution; focus on applied algebra, geometry, and trigonometry. Prereq: DSPM 0800. [F]

EP 144,145 Applied Electrical Distribution I,II (4,4)

Electrical lineman field work; focus on hands-on experience; class 2 hours, lab 4 hours. 144–Climbing techniques and safety; proper use of lineman rigging; setting and guying electrical poles and pole rigging. 145–Hanging single and double cross arms, hand lines use, pole hardware installation, and string and sag conductors. Must be taken in sequence. [144–F, 145–S]

EP 151 Electrical Safety (1)

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. [S]

Electrical/Electronic Engineering Technology**EE 110,212 Electrical Circuits I,II (4,4)**

Study of DC and AC circuits, including series, parallel and series-parallel; class 3 hours, lab 3 hours. 110–Current, voltage, resistance, and power for DC circuits; capacitance, magnetism, inductance and DC transients; sinusoidal alternating waveforms. 212–Sinusoidal current, voltage, phasors and impedance; resistance and impedance networks and circuit theorems; resonance, transformers and 3-phase circuits; advanced practices with lab instruments. Must be taken in sequence. Coreq for 110: MATH 1740. Prereq for 212: MATH 1750. [110–F,S; 212–F]

EE 121,221 Electronics I,II (4,4)

Characteristics, parameters and basic physics of semiconductors; class 3 hours, lab 3 hours. 121–Includes diodes, bipolar and field effect transistors, optoelectronic devices, and small signal and power amplifiers; covers biasing methods and application of diodes in elementary rectifier/filter circuits. 221–Focus on linear inte-

grated circuit technology; covers decibels and frequency effects, voltage regulators, and amplifiers. Must be taken in sequence. Prereq for 121: EE 110. [121–S,Su; 221–S]

EE 140 Digital Circuits (4)

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. [F,S]

EE 141 Microcomputer Circuits (4)

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. [S,Su]

EE 200,201 Networking Technology I,II (4,4)

Local area networks; class 3 hours, lab 3 hours. 200–Wiring, cables, telephone networks, modems, cable modems, protocol and 1-server LANs. 201–Larger LANs, connections and operations; network architectures and standards, TCP/IP, Ethernet, 10 Base T, Novell, Macintosh servers, ISDN and multimedia technology. Must be taken in sequence or have instructor's consent. [200–F, 201–S]

EE 250 Microcomputer Systems (4)

Thorough study of DOS, DOS EDIT, DOSSHELL, 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 electromechanical 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. [F]

EE 251 Microcontrollers Applications (4)

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 converter 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. [S]

EE 260 Programmable Logic Controllers (4)

PLC system and components description; program functions including sequential on-off operations, timers, counters and data comparisons; PLC instructions use to perform nu-

merical, 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. [F]

EE 261 Automation Control Systems (4)
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. [S]

EE 271 Robotic Systems (4)
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. [S]

EE 284 Electrical Technology for Mechanical Engineering Technology (3)
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. [F]

EE 298 Special Topics in Electronics (1-4)
Special topics and/or problems in electronics; repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

EE 299 Special Topics in Electronics with Lab (1-4)
Special topics and/or problems in electronics; repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

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, Kirchhoff's Laws, theory and use of meters, power, magnetism, inductance and capacitance; series, parallel, and 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 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 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 Allen Bradley SLC-100/150, PLC-5 and T-50 programming terminals operation; class 2 hours, lab 3 hours.

EZ 201 Instrumentation Theory (3) (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 for calibration certification; class 2 hours, lab 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 220 Advanced Instrumentation (3) (DuPont)
Manual and automatic process controls; control loop installation, calibration, and tuning with emphasis on single loop controllers; calibration, installation and removal, disassembly, re-assembly, and maintenance of valves; class 2 hours, lab 3 hours.

EZ 230 Automated Control Systems (3) (DuPont)
Practical application of process installation, calibration, operation and troubleshooting using batch process simulator; use of process instrument drawings, schematic diagrams and input/output (I/O) drawings in installing, analyzing and troubleshooting a process on a system level; class 2 hours, lab 3 hours.

Electrician, See "Industrial Electricity"

Electronics, Industrial, See "Industrial Electronics"

Emergency Medical Services

A prerequisite to all EA courses (except 104 & 205) is admission into the program in which the course is required. Please consult the brochure for the specific program. All courses shown in the same term are corequisites and all courses shown in the preceding term(s) are prerequisites.

EA 104 Emergency First Responder (3)
Credit given for completion of current state certification.

EA 106,116 Emergency Medical Technician I,II (8,8)

Two semester sequence provides minimum training required to staff a licensed ambulance and prepares students for licensing exams; taught in accordance with the 1994 National Dept. of Transportation EMT-B curriculum and Tennessee regulatory requirements. [106-F, 116-S]

EA 205 IV Administration (2)
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: Current licensure as an EMT-Basic in the State of Tennessee. [S]

EA 226,227,228 Paramedic Theories I,II,III (14,14,7)

Based on 1998 Department of Transportation EMT-Paramedic curriculum. 226-Covers preparatory subjects, airway management & ventilation, and patient assessment.

227-Medical emergencies and traumatic injuries. 228-Special patient populations, assessment-based management; ambulance operations. [226-F, 227-S, 228-Su]

EA 240,241,242 Paramedic Clinical Practice I,II,III (2,3,4)

Clinic hours: 112 in 240, 216 in 241, 264 in 242; Satisfactory/No Credit grading. 240-Ambulance observation, EMS communication, aeromedical services, rescue, labor and delivery, burn unit, operating room, forensic center. 241-Emergency and Pediatric Emergency departments. 242-Precepted prehospital paramedic field internship. [240-F, 241-S, 242-Su]

Engineering Technology

ET 107 Introduction to Engineering Technology (1)

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. [F,S]

ET 112 Introduction to Space (3)

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. [on demand]

ET 115 Computers in Engineering Technology (3)

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. [F,S]

ET 116 Microcomputer Upgrade and Troubleshooting (2)

Intro to repair, assembly and updating of PC computers; focus on hardware, but some software troubleshooting covered. [on demand]

ET 117 A+ Certification Preparation (2)

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. [on demand]

ET 130 Preparation for the HAM Radio License (1)

Prepares students for the Technician Class Amateur Radio (HAM) Licensing Examination; combination of lecture and computer-aided study software utilized; Satisfactory/No Credit grading. [on demand]

ET 180 Our World of Technology (3)

Intro to the technologies of everyday living; how technology impacts communications, medicine, manufacturing, engineering and design, space, energy, and the environment; includes Internet use. [on demand]

ET 298 Special Topics in Engineering Technology (1-4)

Specialized topics and/or problems in engineering technology; repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

ET 299 Special Topics in Engineering Technology with Lab (1-4)

Specialized topics and/or problems in engineering technology; repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

Engineering Transfer

EG 124 Introduction to Engineering Computations (3)

Study of the structure, design, and implementation of computer programming for engineering applications; flow diagram representation of efficient algorithms and proper syntax of the C++ computer language; credit not allowed for both EG 124 and CS 185. Prereq: MATH 1720. [F, day/every year; Su, night/odd years]

EG 274 Engineering Mechanics (3)

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. [S, day/every year; F, night/odd years]

EG 284 Mechanics of Solids (3)

Stress-strain relationships under plane and 3-D deformations; Hooke's Law, extension, bending, shear, torsion, and beam deflections; Castiglione's theorem, column design and buckling, combined stresses, stress concentrations, and failure theories. Prereq: EG 274. Coreq: MATH 2110. [F, day/every year; S, night/even years]

EG 285 Mechanics of Materials Laboratory (2)

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. [F, day/every year; S, night/even years]

EG 294 Dynamics (3)

Rectilinear, curvilinear, and rotary motion; work and energy; impulse and momentum principles; emphasis on machine motions; 3-D problems. Prereq: EG 274. [S, day/every year; F, night/even years]

EG 298 Special Topics in Engineering (1-4)

Specialized topics and/or problems in engineering; repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

EG 299 Special Topics in Engineering with Lab (1-4)

Specialized topics and/or problems in engineering; repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

English

DSPW 0690 Individualized Instruction in Writing Skills (2)

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. Prereq: Assessment test recommendation or Department Head's consent. ** [E]

DSPW 0700 Basic/Developmental Writing (4)

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. Prereq: COMPASS Placement. ** [E]

DSPW 0800 Developmental Writing (3)

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. Prereq: DSPW 0700 or COMPASS placement. ** [E]

ENGL 1000 Tutoring Writing (1)

In-depth view of writing and tutoring process, and current writing center theory; focus on professionalism, interpersonal skills, and collaborative learning; repeatable for credit. Prereq: ENGL 1010 and English Department Head's and Writing Center Manager's consent. [on demand]

◆ ENGL 1010,1020 Composition I,II (3,3)

A 2-semester writing course; research project required. 1010-Focus on exposition and argument; process and development using various rhetorical patterns. 1020-Focus on reading and responding to short fiction, poetry, drama and/or non-fiction prose. Must be taken in sequence. Prereq for 1010: Placement per TBR specifications or DSPW 0800. [E]

ENGL 2050 Teaching English and Reading with the Internet (3)

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. Prereq: ENGL 1020. [E]

◆ ENGL 2110,2120 American Masterpieces I,II (3,3)

Framework and major movements, writers, and works of American literature; research project required. 2110-To 1865; focus on tracing the development of a national literature and literature's role in recording American cultural heritage. 2120-From 1865; focus on various attempts to portray the American response to the complexity of life in the 20th century. Prereq: ENGL 1020. [2110-F, 2120-S]

◆ ENGL 2140 African-American Literature (3)

Literature by African-American writers from the Colonial Period to the Modern Era; readings include written versions of traditional oral forms. Prereq: ENGL 1020. [F]

***Transitional studies course (not generally transferable; not applicable to credit hours required for a degree or certificate)*

◆ ENGL 2210,2220 English Masterpieces I,II (3,3)

Literary, cultural, and historical aspects of British literature; focus on works that illustrate important literary trends; research project required. 2210–To 1798. 2220–From 1798. Prereq: ENGL 1020. [2210–F, 2220–S]

◆ ENGL 2240 Shakespeare: An Introduction (3)

Study of representative plays by William Shakespeare selected from among the comedies, tragedies, and histories; research project required. Prereq: ENGL 1020. [F,S]

◆ ENGL 2410,2420 Literature of the Western World I,II (3,3)

Survey of western literature; research project required. 2410–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. 2420–Selected readings from the 17th–20th centuries; focus on cultural and aesthetic values presented by the writers, their relationship to earlier literature, and their influence on contemporary literature. Prereq: ENGL 1020. [2410–F,S; 2420–S]

◆ ENGL 2540 Literature by Women (3)

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. Prereq: ENGL 1020. [on demand]

◆ ENGL 2550 Contemporary Women's Literature (3)

Study of literature by contemporary women; emphasis on multicultural diversity; includes intro to feminist criticism and analysis of ways women perceive themselves as expressed in the 20th century. Prereq: ENGL 1020. [on demand]

ENGL 2630 Literature for Children (3)

Survey of children's literature with special attention to preschool and elementary; genres include folk tales, myth, fantasy, fiction, poetry, biography, and non-fiction. Prereq: ENGL 1010. [F,S]

ENGL 2640 Children's Literature: Contemporary Issues (3)

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. Prereq: ENGL 1010. [F,Su]

ENGL 2650 Literature for the Adolescent (3)
Literature for the young adult with emphasis on stages of development and their relationship to the reading experience. Prereq: ENGL 1010. [on demand]

ENGL 2710 Technical Reports (3)

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. Prereq: ENGL 1010. [E]

ENGL 2750 Journalism: News Writing and Editing (3)

Intro to journalism principles and the practice of news reporting, writing, and editing. Prereq: ENGL 1010. [on demand]

ENGL 2830 Creative Writing (3)

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. Prereq: ENGL 1010. [F,S]

ENGL 2990 Special Studies in English (3)
Topics of contemporary interest in language and literature; repeatable for credit on different topics. Prereq: ENGL 1010. [F,S]

Environmental Science

◆ ESC 1110,1120 Environmental Science I,II (4,4)

Study of environmental problems at global, national, and local levels; class 3 hours, lab 3 hours. 1110–Ecological principles, geophysical processes, and human population dynamics; scientific approach applied to understanding environmental concepts using hands-on laboratory and field experiences. 1120–Soil, water, and mineral resources, food resources and pesticides, hazardous wastes and air pollution, energy, land, and species resources; laboratory emphasis on local field experiences. [E]

ESC 2430 Introduction to Soil Resources (4)

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. [on demand]

ESC 2530 Introduction to Ecolonomics (3)

Principles of sustainability; application to business and community organizations; impact on economic development and corporate profitability. [F]

ESC 2540 Sustainable Design (3)

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. [S]

ESC 2550 Sustainable Process (3)

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. [S]

ESC 2610 Organic Gardening I (2)

Scientific basis of soils and plants and their relationships as they relate to gardening without additives. [F]

ESC 2650 Gardening with Native Plants (3)

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. [F]

ESC 2990 Special Topics in Environmental Science (1-4)

Detailed study of specific topic in environmental science; repeatable for credit on different topics. Prereq: Instructor and department head's consent. [on demand]

Environmental Technology, See "Hazardous Materials"

Financial Management

FM 201 Financial Management (3)

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. [F,S]

Financial Planning

FP 101 Fundamentals of Financial Planning (3)

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. [on demand]

FP 105 Personal/Household Financial Planning (3)

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. [on demand]

FP 201 Estate Planning (4)

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. [on demand]

FP 219 Computerized Financial Planning (3)

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 201. [on demand]

FP 220 Comprehensive Financial Planning (3)

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 186, FP 201. [on demand]

Fire Science

FI 111 Introduction to Emergency Services (3)

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. [on demand]

FI 113 Fire Alarm and Extinguishing Systems (3)

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. [on demand]

FI 114 Building Construction for Fire Science (3)

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. [on demand]

FI 115 Fire Apparatus and Equipment (3)

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. [on demand]

FI 116,124 Fire Fighting Tactics and Strategy I,II (3,3)

Fire control techniques and attack strategies. 116-Focus on residential fires; fire apparatus and equipment, forcible entry, ladder use, hose and hose stream application, extinguishing agents, ventilation, overhaul and salvage. 124-Focus on commercial, industrial, and non-residential fires; personnel and equipment distribution and use; hazard control. Must be taken in sequence. Prereq for 116: Instructor's consent. [on demand]

FI 119 Emergency Service Stress & Physical Fitness (3)

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. [F,S]

FI 140 Legal Aspects of the Fire Service (3)

Federal, state, and local laws that regulate emergency services; national standards influencing emergency services; standard of care, tort liability, and review of relevant court cases. Prereq: FI 111 or instructor's consent. [on demand]

FI 142 Emergency Services Community Relations (3)

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. [on demand]

FI 146 Emergency Service Stress (1)

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). [on demand]

FI 148 Essentials of Firefighting (3)

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. [F,S]

FI 212 Emergency Service Supervision/Leadership (3)

Supervision techniques, leadership concepts, supervisory challenges, and general responsibilities. [on demand]

FI 215 Principles of Fire Protection Chemistry (4)

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. Prereq: CHEM 1010. [on demand]

FI 217 Fire Hydraulics (3)

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. [on demand]

FI 225 Specialized Rescue Techniques (3)

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. [on demand]

FI 230 Certified Fire Fighter II (3)

Credit given for completion of standards set for state or national advanced Certified Fire Fighter II. [on demand]

FI 235 Fundamentals of Emergency Service Safety (3)

Application of safety during emergency and non-emergency operations; basic understanding of 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. [on demand]

FI 240 Emergency Service Instructor (3)

Credit given for national or state certification to NFPA 1041 Instructor Level I.

FI 251 Fire Officer I (3)

Credit given for national or state certification to NFPA 1021 Fire Officer Professional Qualifications. Prereq: FI 230 or instructor's consent.

FI 255 Industrial Fire Prevention and Protection (3)

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. [on demand]

FI 260 Fire Inspection Principles (3)

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. [on demand]

FI 262 Fire Causes and Investigation (3)

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. [on demand]

FI 265 Emergency Service Administration/Management (3)

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. [on demand]

FI 270 Emergency Service Strategic Planning & Innovation (3)

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. [on demand]

FI 275 Emergency Response to Hazardous Materials (4)

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. [on demand]

FI 280 Emergency Services Practicum (3)

Research project on contemporary issues or problems within emergency services field; written report required; findings may be applied in work environment. Prereq: FI 142 or instructor's consent. [on demand]

FI 282 Information Management for Emergency Services (3)

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. [on demand]

FI 299 Special Topics in Emergency Services (1-3)

Topics of traditional and current interest in emergency service field; repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

Foreign Language, see "French," "German," "Japanese, see 'Humanities,' " "Spanish"

French**FREN 1010,1020 Elementary French I,II (4,4)**

Elementary grammar, vocabulary, reading, idiomatic conversation, and French culture. Must be taken in sequence. [1010-F, 1020-S]

FREN 2010,2020 Intermediate French I,II (3,3)

Intermediate French conversation and reading. Must be taken in sequence. Prereq: FREN 1020 or 2 years of high school French. [2010-F, 2020-S]

FREN 2990 Special Topics in French (1-3)
Specific topics in French language and culture; repeatable for credit on different topics. Prereq: FREN 1010 and instructor's consent. [E]

Geography**GO 101 Physical Geography (3)**

The Earth's physical environment; processes that determine Earth's climate, water, soil, landforms, vegetation, and distribution patterns of each. [S]

GO 103 World Geography (3)

Study of selected world regions; focus on each region's characteristics, problems and global interrelationships. [F,S]

Geology**◆ GEOL 1040 Physical Geology (4)**

Intro to geology; Earth's age and origin; Earth materials, processes, and resultant structures; class 3 hours, lab 2 hours. [F]

◆ GEOL 1050 Historical Geology (4)

Earth's origin and geologic history; concept of geologic time and the fossil record; class 3 hours, lab 2 hours. Prereq: GEOL 1040. [S]

German**GERM 1010,1020 Elementary German I,II (3,3)**

Elementary grammar, vocabulary, reading and translation, conversation, and cultural studies. Must be taken in sequence. [1010-F, 1020-S]

GERM 2010,2020 Intermediate German I,II (3,3)

Intermediate German grammar and reading, oral drills and conversation. Must be taken in sequence. Prereq: GERM 1020 or 2 years of high school German. [on demand]

Graphic Design, See "Art" and "Advertising Arts"

Greenhouse, See "Landscaping and Turf Management"

Hazardous Materials**HZ 101 Introduction to Environmental Technology (3)**

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. [on demand]

HZ 115 Environmental Management for Maintenance Activities (3)

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. [on demand]

HZ 120 Hazardous Materials Regulations (3)

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), Compensation and Liabilities Act (CERCLA), 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. [on demand]

HZ 125 Pollutant Migration (3)

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. [on demand]

HZ 200 Hazardous Materials Technician Certification (2)

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. [on demand]

HZ 201 Special Topics in Hazardous Materials and Waste Management (1-4)

Study of hazardous materials and waste management topics of current industrial and business interests; repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

HZ 220 Environmental Systems Management (3)

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. [on demand]

HZ 225 Environmental Sampling (4)

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. [on demand]

HZ 230 Chemistry of Hazardous Materials (4)

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 or equivalent. [on demand]

HZ 234 Hazardous Waste Worker and Emergency Responder Certification (3)

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 2 hours, lab 2 hours; Satisfactory/No Credit grading. Prereq: Instructor's consent. [on demand]

HZ 235 Hazardous Waste Operations and Emergency Response (4)

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. [on demand]

HZ 240 Hazardous Waste Management (3)

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. [on demand]

HZ 245 Hazardous Materials Practicum (2)

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. [on demand]

Health and Physical Education, See "Physical Education"

Health Information

HEALTH INFORMATION MANAGEMENT

HE 101 Introduction to Medical Terminology (1)

General medical terms, common prefixes, suffixes and root words needed to build a working medical vocabulary. [E]

HE 102 Laboratory Procedures (1)

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. [F]

HE 103 Medical Terminology (3)

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. [F,S]

HE 110 Introduction to Health Information Management (1)

Health information management (HIM) and documentation, electronic charting, role of the HIM professional, patient confidentiality, HIM ethics, and the healthcare environment. [F]

HE 111 History and Physical Examination (1)

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; pathophysiology history and physical elements and diagnostic work-up. Coreq: BIOL 1050 or BIOL 2010 or HE 103 or HS 104; or instructor's consent. [F]

HE 112,221 Pharmacology I,II (2,1)

Principles and classifications of commonly used drugs by body system. 112-Drug actions, sources, administration, indications, adverse reactions; forms and reference material. 221-Generic and trade names, including contrast media, radioisotopes, chemotherapy drugs, and blood products; indications, actions, therapeutic level, and side effects. Must be taken in sequence or have instructor's consent. Coreq for 112: BIOL 1050 or 2010; or HE 103 or HS 104; or instructor's consent. [112-F, 221-S]

HE 115 Health Informatics and Records Management (2)

Intro to health informatics, records management, healthcare settings and basic standards; electronic charting, discipline- and industry-specific data elements, quantitative and

qualitative analysis, formats, records control, document imaging, storage and retention, forms management, numbering, filing, and indexing; class 1 hour, lab 3 hours. Prereq: Acceptance into HIM Program or instructor's consent. [F]

HE 122 Introduction to Clinical Coding and Reimbursement (2)

Intro to coding principles and conventions for ICD and CPT classification systems; overview of Medicare, insurance, reimbursement, accounts receivable, and collections; class 2 hours, lab 1 hour. Prereq: BIOL 1050 or HE 103. Coreq: HE 110. [F,S]

HE 177 Introduction to Speech Recognition Technology (2)

Covers basic speech recognition competencies, including dictation using voice commands to edit and navigate application software, customizing vocabularies, creating templates and downloading digital voice files from a handheld recorder. Prereq: Computer competence. [F,S]

HE 178 Speech Recognition Technology Applications (1)

Intro to speech enabling applications; purchase of software and minimum computer system specifications required if taken by distance education. Prereq: Computer competence. Coreq: HE 177 or instructor's consent. [F,S]

HE 202 Imaging and Diagnostic Procedures (1)

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. [S]

HE 213 Human Diseases and Surgical Procedures (3)

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. [S]

HE 222 Medicolegal and Professional Concepts (2)

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. [F,S]

HE 225 Health Data Content, Standards, and Computer-based Patient Record (3)

JCAHO, NCQA, Medicare and state licensure requirements; credentialing; data sets such as UHDDS, UACDS, MDS, HEDIS and NPBD; registries, primary versus secondary 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. [F]

HE 226,256 Health Information Management Internship I,II (2,2)

Supervised learning experience in a Health Information Management department (non-hospital facilities and JCAHO-accredited hospitals). 226-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. 256-Focus on coding skills, quality management, and other management issues. Must be taken in sequence. Prereq for 256: HE 245, 249; or instructor's consent. [S]

HE 242 Medicolegal, Ethical, and Confidentiality Concepts (2)

Record retention, authentication, patient advocacy, subpoenaed information, release of information, security, confidentiality, advanced directives, organ donation, current legislation, and practical applications; class 1 hour, lab 2 hours. Prereq: HE 222 or instructor's consent. [F]

HE 244 Health Statistics (3)

Covers common health statistics; includes converting data into information; class 2 hours, lab 3 hours. Prereq: CS 197, MATH 1530; or instructor's consent. [F]

HE 245,255 Clinical Coding and Classification I,II (3,3)

Classification and coding systems for most health care settings; focus on accurate coding as major anti-fraud measure by substantiation of diagnoses and service through documentation and as a legitimate reimbursement optimizer; groupers and encoders used; class 2 hours, lab 3 hours. 245-ICD conventions, quality control, principal diagnosis identification, coding reference, DRGs, severity, sequencing and methodology. 255-CPT; relationship of coding to managed care, compliance, and chargemasters; APCs, and coding references. Prereq for 245: BIOL 1050, HE 122; or instructor's consent. Prereq for 255: HE 122, 213; or instructor's consent. [245-S, 255-Su]

HE 247 Healthcare Quality, Utilization, and Risk Management (3)

Principles of quality management, performance improvement, utilization review and risk management in healthcare; accreditation, credentialing, and regulatory issues; admission and level of care criteria; data quality; class 2 hours, lab 3 hours. Prereq: HE 225 or instructor's consent. [S]

HE 248 Reimbursement Methodologies (1)

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. [S]

HE 249 Practice Management, Billing, and Compliance (3)

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: Computer competence. [S]

HE 251 Electronic Patient Information, Security, and Internet (1)

Issues surrounding storage, transmission, and security of electronic patient information (EPI); class 1 hour, lab 1 hour. Prereq: HE 242 or instructor's consent. [S]

HE 252 Health Information Systems and Knowledge-based Applications (1)

Covers voice recognition, transcription, and dictation systems, auto-identification technologies, biometrics, arden-syntax, MEDLINE, CINAHL, Index Medicus, and HIM Internet resources; class 1 hour, lab 1 hour. Coreq: HE 247 or instructor's consent. [S]

HE 265 Clinical Coding Seminar (1)

Clinical review, application, and enhancement of ICD and CPT coding and classification systems; lab 3 hours. Prereq: HE 245, 255. [F]

HE 297 Health Informatics Management (3)

Covers principles of management on micro-, mid-, and organization-wide level, strategic planning, operations, systems, process improvement, human resources and relations, supervision, and finances within health informatics environment. Prereq: HE 115, 225; or instructor's consent. Coreq: HE 247 or instructor's consent. [S]

MEDICAL TRANSCRIPTION

HE 105,107 Keyboarding in Transcription I,II (3,3)

Touch control of the keyboard, proper typing techniques, speed and accuracy; formatting business documents and production of mailable copy; transcription; 107 includes office-style simulations; placement by exam; credit toward graduation not allowed for both HE 105 and OF 113 or for both HE 107 and OF 114. [105-F, 107-S]

HE 116,229 Medical Transcription Practice I,II (6,6)

Provides knowledge and skills to accurately transcribe medical dictation from physicians and allied health professionals. 116-Transcription of routine medical reports; proper content, use of transcription equipment and reference materials; professional and ethical conduct. 229-Transcription skills for cardiology, orthopedics, pathology, radiology, gastroenterology, and all major report categories (history, consultations, physicals, discharge summaries, emergency room records, and operative reports). Must be taken in sequence or have instructor's consent. Prereq for 116: Acceptance into Medical Transcription Certificate of Advancement program or instructor's consent. [116-F, 229-S]

HE 234 Medical Transcription Internship (4)

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. [Su]

Health Physics

NU 101 Health Physics and Industrial Hygiene Seminar (1)

Intro to disciplines of health physics and industrial hygiene; lectures and video presentations provide overview of basic features of both fields. [F]

NU 104 Radiation Protection and

Radiological Health Administration (4)
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: NU 204. [F,S]

NU 154 Atomic and Nuclear Physics (4)

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. [S]

NU 204 Introduction to Health Physics and Industrial Hygiene (4)

Radiation-induced ionization, methods of measurement, radiation safety and occupational health; topics include atomic and nuclear structure, types of ionizing radiation, radioactive decay, introductory gamma ray physics, shielding, distance/intensity relationships, instrumentation and dosimetry, health effects, waste disposal, fission and fusion; class 3 hours, lab 3 hours. Coreq: CHEM 1110. [F,S]

NU 264 Health Physics (4)

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. [S]

Health Science

A prerequisite to all HS courses numbered above 114 is admission into the program in which the course is required. Please consult the SUMMARY OF REQUIRED HOURS or the specific program brochure. All HS courses shown in the same term are corequisites and all HS courses shown in the preceding term are HS prerequisites.

HS 104,114 General Medical Terminology I,II (3,3)

Builds medical vocabulary; for students interested in health-related careers; must be taken in sequence; class 3 hours, lab 1 hour. [F,S]

HS 111 Health Care Overview (1)

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. [on demand]

HS 123 Introduction to Radiation Oncology (3)

Overview of radiation therapy; medical terminology, ethics and the law, patient care, cancer management, radiation therapy rationale, usage, and physics, and basic machine usage. [F]

HS 145,155 X-Ray Physics I,II (4,4)

Basic x-ray physics; physical phenomena associated with x-ray production, its quantity, quality, method of measurement, dose and exposure units; theory of photographic image formation by x-rays; principles of radiobiology; class 3 hours, lab 3 hours. 145-Math, basic electrostatics and mechanics; x-ray production and interaction with matter, factors that control quantity and quality of x-ray emission, and methods of controlling scatter radiation. 155-Latent and manifest image formation, factors affecting image quality, general tomography, image intensified fluoroscopy, stereography, mammography, digital imaging (DF/DR, US, MR, CT); x-ray facility design, radiation effects and protection, and health physics. [145-F, 155-S]

HS 172 Anatomy and Imaging (2)

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. [F]

HS 184 Radiation Biology (3)

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. [S]

HS 200 Clinical Education Methodology (3)

Aids instructors or future instructors in allied health and nursing programs to develop knowledge, skills and attitudes needed for effective 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. [on demand]

HS 214,224 Radiation Physics I,II (4,4)

Basic classical and modern physics concepts needed for physics involved in radiation therapy; includes math concepts needed for physics principles. [214-F, 224-S]

HS 220,230,240 Clinic I,II,II (8,1,1)

Radiation therapy clinical methodology; develops skills and knowledge in radiation protection and quality assurance, simulation and treatment planning, treatment procedures using multiple megavoltage machines, and patient care and management; clinic hours: 520 in 220 & 230, 450 in 240. [220-F, 230-S, 240-Su]

HS 223,233 Radiation Oncology I,II (3,3)

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; inter-relating of treatment planning with clinical radiation therapy. [223-S, 233-Su]

HS 243 Radiation Biology and Hyperthermia (3)

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. [Su]

HS 299 Special Topics in Allied Health (1-3)
Selected topics of interest in allied health; repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

History

◆ HIST 1010,1020 Western Civilization I,II (3,3)

Survey of political, economic, social, cultural, religious, and intellectual history of mankind that has influenced Western Civilization. 1010–To 1715. 1020–From 1715. [1010–F, 1020–S]

◆ HIST 1110,1120 History of World Civilizations I,II (3,3)

Survey of political, economic, social, cultural, religious, and intellectual history of world civilizations. 1110–To 1500. 1120–From 1500. [E]

◆ HIST 2010,2020 United States History I,II (3,3)

Survey of United States history; focus on political, diplomatic, economic, social, cultural and intellectual phases of American life in its regional, national, and international aspects. 2010–To 1865. 2020–From 1865. [E]

◆ HIST 2030 Tennessee History (3)

Survey of the state's history from its beginnings to the present; consideration of its social development, population, economy, political life, and geography. [F]

HIST 2040 The Scopes Trial (3)

Historical, scientific, theological, educational, and artistic ramifications of the Scopes Trial. Prereq: ENGL 1010. [F]

HIST 2130 Afro-American History (3)

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. [S]

HIST 2530 The Holocaust and Jewish Civilization (3)

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. [F]

HIST 2990 Special Topics in History (1-3)

Specific topics of traditional and current historical interest; includes relevant political and social developments and issues; repeatable for credit on different topics. [on demand]

Horticulture, See "Landscaping and Turf Management"

Hospitality Management

HM 101,201 Hospitality Internship I,II (3,3)
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 each semester. Must be taken in sequence. Prereq: HM 103. [F,S]

HM 103 Introduction to Hospitality Management (3)

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. [F,S]

HM 213 Hotel/Motel Management: Front Office Operations and Administration (3)

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. [on demand]

HM 223 Management of Food and Beverage Operations (3)

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. [on demand]

HM 233 Hospitality Sales and Marketing (3)

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. [on demand]

HM 243 Lodging Management (3)

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. [on demand]

HM 255 Tourism and Travel (3)

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. [on demand]

HM 265 Conference/Convention Management (3)

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. [on demand]

HM 274 Regional Tourist Attractions (3)

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. [on demand]

HM 280 Introduction to Culinary Preparation (3)

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. [on demand]

HM 281 Hot and Cold Food Preparation (3)

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. [on demand]

HM 282 Introduction to Professional Baking Methods (3)

Lecture and instructional demonstration of various components of baking, encompassing sweet and savory bread, cakes, pies and pastries, their preparation and decorative presentation. [on demand]

HM 299 Special Topics in Hospitality (1-6)

Selected hospitality-related topics of current and special interest; repeatable for credit on different topics; maximum of 6 hours applicable toward a degree. [on demand]

Human Services

HR 101 Introduction to the Field of Social Welfare (4)

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. [F,S]

HR 113 Introduction to Individuals with Developmental Disabilities (3)

Intro to the atmosphere in which developmentally disabled individuals live and their relationship to family, the community, caregivers, ethics and normal development. [F,S]

HR 123 Requisite Skills for Direct Caregivers (3)

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. [F,S]

HR 125 Community Social Services (3)

Survey of community social services to consider as resources in making effective referrals for human services in the Chattanooga Metropolitan area. Coreq: HR 101 or instructor's consent. [S]

HR 130 Substance Abuse Theories (3)

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. [S]

HR 135 Special Topics in Human Services (1-3)

Specific topics of interest in human services and social welfare; repeatable for credit on different topics. [on demand]

HR 205 Human Relations and Explorations (3)

Intro to social and psychological concepts and problems of communication in interpersonal transactions; affective behaviors, relations with others, and communication process dynamics. Coreq: HR 101. [F]

HR 210 Methods of Human Service Practice (3)

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. [F]

HR 219 Family Dysfunction (3)

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. [F]

HR 220 Human Services Practicum (6)

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. [S]

HR 235 Methods of Substance Abuse Treatment (3)

Theory and practice of alcohol and/or drug addiction treatment approaches; focus on understanding of wellness and the whole person, stages of recovery, discharge assessment, and community resources. [F]

HR 240 Group Dynamics (3)

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. [on demand]

HR 245 Introduction to Counseling (3)

Comparative analysis of major theoretical approaches to counseling and psychotherapy practice; psychodynamic, behavioral, cognitive behavioral, gestalt, transactional analysis, rational-emotive therapy and systems theory. [S]

Humanities**HUM 1000 Seeking Spirituality for the Twenty-first Century (1)**

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. [F,S]

◆ HUM 1010,1020 Introduction to the Humanities I,II (3,3)

Historical approach to pivotal ideas, systems of thought, and creations of the Western world; survey of the creative activities of man (e.g., music, drama, painting, sculpture, architecture, and literature) as reflections of the culture that produced them. 1010—From antiquity to 1600 A.D. 1020—From 1600 to present. Coreq: ENGL 1010. [1010—E; 1020—F,S]

◆ HUM 1040 The Human Experience through Song (3)

Study of culture(s) and the human experience through analysis of song lyrics; emphasis on messages in American lyrics including blues, country, folk, pop, rap, reggae, rock and spirituals. [F]

◆ HUM 1230 Philosophy of Science and Technology (3)

History of major scientific and technological achievements in the modern age and their relevance to the world view of Western civilization. [E]

HUM 1530 Elementary Japanese Language and Culture (3)

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. [on demand]

HUM 1550 Introduction to Service-Learning (3)

Nature of philanthropy, call for community service, and the role of the individual in societal transformation through service. [F,S]

◆ HUM 2130 Mythology (3)

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. [F,S]

◆ HUM 2140 Folklore and Native Culture (3)

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. Prereq: ENGL 1010. [on demand]

◆ HUM 2330 Contemporary Women Artists and Writers (3)

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. Prereq: ENGL 1010. [on demand]

HUM 2550 Leadership Development (3)

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.) Prereq: ENGL 1010. [F,S]

HUM 2990 Special Topics in Humanities (3)

Specific topics of traditional and current relevance in Humanities disciplines; repeatable for credit on different topics. Prereq: ENGL 1010. [on demand]

HVAC, See "Air Conditioning/Refrigeration"

Industrial Electricity**IE 000 Industrial Electricity**

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. [E]

Industrial Electronics**ER 000 Industrial Electronics**

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. [E]

Industrial Hygiene**IH 104 Essentials of Industrial Hygiene (4)**

Recognition, evaluation, and control of environmental health hazards; health effects of overexposure, exposure limits, monitoring, and sampling, instrumentation, and hazard control; on-site industrial hygiene surveys; class 3 hours, lab 3 hours. Coreq: CHEM 1110. [on demand]

IH 190 Special Topics in Industrial Hygiene and Occupational Health (1-4)

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. [on demand]

IH 204 Industrial Hygiene Sampling and Monitoring (4)

Principles, methods, and procedures used to assess human exposure to hazardous agents in the environment with focus on occupational hazards; environmental and personal exposure monitoring for chemical and physical agents, survey planning, calibration, dosimetry, data analysis, and record-keeping; on-site industrial hygiene surveys; class 3 hours, lab 3 hours. Prereq: IH 104. [on demand]

IH 214 Industrial Hygiene Control Technology (4)

Methods to prevent/reduce hazardous environmental agents; focus on occupational hazards; engineering design for safety; process containment of chemicals, substitution of safer materials, enclosure, automation, mechanical ventilation, shielding, administrative controls, and personal protective devices; on-site industrial hygiene surveys; class 3 hours, lab 3 hours. [on demand]

Industrial Maintenance Mechanics**ID 000 Industrial Maintenance Technology**

Theory and practical applications in industrial maintenance; blueprint reading, welding, machine shop, electricity, hydraulics, pneumatics, HVAC, general building maintenance; 30 clock hours/week. [E]

Industrial Management

IM 204 Production and Inventory Control (3)
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. [S]

IM 225 Statistical Quality Control (3)
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. [S]

IM 230 Work Design and Measurement (3)
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. [F]

Information Systems

CS 101 Computer Literacy (3)
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. [E]

CS 102 Introduction to Computer Software (3)
Basic components of microcomputers; use of commercial applications including word processing, electronic spreadsheets and presentation graphics. Not designed for transfer. [E]

CS 104 Fundamentals of Information Systems (3)
Overview of the information systems discipline; base number systems, computer, data, and file organization, career opportunities, and current technology concepts. [E]

CS 108 Internet Applications for Educators (3)
History of the Internet and classroom application; focus on accessing Internet resources. [Su]

CS 109 Maintaining Classroom Technology (3)
Covers basic skills needed to set up and maintain technology in the classroom. [Su]

CS 114 Concepts of Programming (3)
Basic concepts of traditional computer program design, design tools, and an intro to object technology. [E]

CS 124,225 Visual BASIC I,II (3,3)
Intro to the concepts of computer program design through the Visual BASIC language. 124–Use of controls, forms, code modules, functions and procedures to create Windows applications. 225–Advanced features: file processing, data access, and communicating with other Windows applications, including object linking and embedding. Must be taken in sequence. Prereq for 124: CS 114 or department head's consent. [124–F,S; 225–S]

CS 133 Control Language, Operations, and Utilities (3)

Training in operation skills; coding and use of commands, utilities, procedures, print spools, and job queues. Prereq: Instructor's consent. [on demand]

CS 134 RPG Programming Language (4)
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. [F,S]

CS 150 Principles of Web Site Design (3)
Design concepts and principles for designing web sites; intro to tools for creating, enhancing, and publishing a web site. Prereq: CS 102 or instructor's consent. [on demand]

CS 151 Building Web Sites (3)
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. [on demand]

CS 154,280 COBOL Programming Language I,II (3,3)
Use of COBOL to solve typical business problems. 154–Programming assignments include payroll, sales analysis, accounts payable, accounts receivable, and inventory control; class 3 hours, lab 2 hours. 280–Advanced features. Must be taken in sequence. Prereq for 154: CS 114 or instructor's consent. [F,S]

CS 160,161 Java Programming I,II (3,3)
160–Intro to the Java programming language; includes object-oriented techniques and development of simple application and applets. 161–Covers advanced features. Must be taken in sequence or have instructor's consent. Prereq for 160: CS 124 or instructor's consent. [on demand]

CS 176 Microcomputer Operating Systems (3)
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. [S]

CS 185 C++ Programming Language (3)
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; credit not allowed for both CS 185 and EG 124. Prereq: CS 114; or experience with a block structure language or instructor's consent. [S]

CS 190 Introduction to Macintosh (3)
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. [F]

CS 197 Spreadsheet Software Applications (3)
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. [F,S]

CS 198 Database Software Applications (3)
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. [F,S]

CS 204 Microcomputer Architecture (3)
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.) [F]

CS 205 Computer Networks (3)
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. [F]

CS 215 Local Area Network Management (3)
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. [S]

CS 231 Numerical Methods (3)
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. [on demand]

CS 233 Interactive RPG Programming (3)
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. [on demand]

CS 235 Systems Implementation and Documentation (3)
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. [on demand]

CS 240 Computer User Support (3)
Overview of computer user support; includes troubleshooting, problem-solving, personal communications, needs assessment, product documentation, user training, and help-desk operation. Coreq: CS 244 or instructor's consent. [on demand]

CS 244 Systems Analysis and Design (3)
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. [S]

CS 248 Survey of Computer Topics (1-4)
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. [on demand]

CS 249 Topics in Computer Applications (3)
Specialized topics and/or problems in computer data processing selected and studied in detail; repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

CS 250 Advanced Web Page and Site Design (3)
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. [S]

CS 251 Scripting Languages (3)
Intro to JavaScript and VBScript programming languages; covers both client-side and server-side programming. Prereq: CS 250 or instructor's consent. [on demand]

CS 293 Microcomputer Software Applications (4)
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: CS 102 or equivalent, OF 114; or instructor's consent. [F,S]

CS 296 Principles of Database Management Systems (3)
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. [F]

CS 299 Special Projects (3)
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. [S]

Insurance

IS 104 Insurance Mathematics (3)
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. [on demand]

IS 107 Principles of Life and Health Insurance (3)
Intro to the principles, practices, and techniques of life and health insurance. [on demand]

IS 108 Insurance Law (3)
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. [on demand]

IS 109 Principles of Risk and Insurance (3)
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. [on demand]

IS 113 Pension Planning (3)
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. [on demand]

IS 205 Insurance Company Operations (3)
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. [on demand]

Interdisciplinary Studies

IY 100 Student Government Leadership (2)
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. [F,S]

Japanese, see "Humanities"

Job Skills Development

JS 101 Career and Life Planning (3)
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. [F,S]

Landscaping and Turf Management

LM 000 Landscaping and Turf Management
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. [E]

Leadership, see "Humanities," "Interdisciplinary Studies," "Management," "Psychology"

Legal Assisting

LA 110 Fundamentals of Law (3)
Intro to the legal field; includes survey of Torts,

Contracts, Civil Procedure, and Criminal Law; focus on the attorney, paralegal, and legal tribunal's role in administration of justice. [F,S]

LA 130 Legal Research (3)
Study of sources of law found in the legal library; focus on legal research and acquisition of research case briefing and analytical skills. [F]

LA 135 Legal Writing/Case Analysis (3)
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: ENGL 1010, LA 110, 130. [S]

LA 140 Advanced Legal Writing and Research (3)
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 135. [F]

LA 210 Contracts (3)
In-depth study of contracts and restitution law; focus on understanding the inter-relationships of concepts covered; various contractual rules of law, their uses and applications. Prereq: LA 110. [S]

LA 220 Torts (3)
Intense paralegal-oriented study of tort law; broad spectrum of tort litigation including negligence, personal injury, worker's compensation, intentional torts, and medical malpractice; investigation, interviewing, and research; materials and lectures primarily from the viewpoint of preparation and litigation of personal injury type cases. [S]

LA 225 Constitutional Law (3)
Study of critical constitutional issues affecting the legal justice system and its personnel; focus on constitutional provisions and court decisions shaping modern criminal law and basic constitutional guarantees. Prereq: LA 110 or instructor's consent. [F,Su]

LA 230 Criminal Law/Procedure (3)
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. [S]

LA 235 Administrative Law (3)
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. [on demand]

LA 240 Trial Practice and Civil Procedure (3)
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. [F]

LA 245 Legal Ethics for Paralegals (3)
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. Prereq: LA 110, 130. [on demand]

LA 250 Wills, Trusts and Estate Planning (3)
Intro to the legal sub-specialties of wills, trusts and estate planning; study of 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. [S]

LA 260 Domestic Relations (3)
Instruction and training in every aspect of family law; divorce, legal separation, annulment, child custody, adoption, support, etc.; focus on pleading and drafting documentation. [F]

LA 270 Insurance Law (3)
Insurance law basics; policy analysis, types of coverage, insurable interest, automobile insurance and industry regulation. Prereq: LA 110 or instructor's consent. [F]

LA 275 Bankruptcy (3)
In-depth study of federal bankruptcy laws and guidelines; focus on statutory provisions and subsequent judicial interpretations of the Federal Bankruptcy Code. Prereq: LA 110. [S]

LA 280 Property Law (3)
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. [S]

LA 290 Law Practice Management (3)
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. [F]

LA 298 Special Topics in Legal Assisting Technology (1-3)
Selected Legal Assisting Technology related topics of current and special interest; repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

LA 299 Internship (1-3)
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 transition from classroom knowledge to real-world applications. Prereq: CS 101, LA 135, 240, and instructor's consent. [E]

Literature, see "English"

LPN, See "Practical Nursing"

Machine Tool Technology

MT 000 Machine Tool Technology
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. [E]

Magnetic Resonance Imaging, See "Radiologic Technology"

Maintenance Technology

MN 102,112 Electrical Fundamentals I,II (3,3)
Electrical fundamentals for industrial/commercial electrical and electronic systems maintenance; class 2 hours, lab 3 hours. 102–Basic AC/DC theory and concepts including circuits, batteries, transformers, and magnetism; generation, transmission, regulation and distribution of power systems with focus on in-plant customs, practices and application. 112–Measuring and monitoring electrical/electronic systems variables; switching, modifying, and regulating electrical devices; electrical transmission (conductors); AC/DC circuits; intro to electronics. Must be taken in sequence. [F,S]

MN 103,113 Mechanical Fundamentals I,II (3,3)
Mechanical practices, applications, and concepts; class 2 hours, lab 3 hours. 103–Drive components, mechanical forces, and machine motion; focus on operating, servicing and maintaining machines and equipment using a systems approach. 113–Basics of integrated drive systems that propel and control motion; focus on management of processes and application of force/motion patterns in propulsion, positioning, and articulated movement of machines, materials and tooling systems. Must be taken in sequence. Coreq for 103: MD 104. [F,S]

MN 210 Building and Structural Maintenance (3)
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. [F,S]

MN 215 Maintenance Management and Organization (3)
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. [F,S]

MN 218 Hydraulics, Pneumatics, and Fluid Systems (3)
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. [F,S]

Mammography

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. All 3 courses must be taken together. Prereq: Admission to program.

MY 210 Mammography Patient Management (3)
Patient care (psychological, sociological and physical), breast anatomy and physiology, pathology, compression and positions, and special procedures. [F]

MY 220 Mammography Instrumentation/Physics (3)
Characteristics of dedicated film screen mammography units, image receptors and required quality control tests; lab experiments used to apply theoretical principles and concepts. [F]

MY 230 Mammography Clinic (4)
Supervised performance of a minimum of 100 mammography exams and film-reporting sessions with radiologists interpreting mammograms; observation and assistance in quality assurance tests and localization procedures; clinic 140 hours in a program and FDA approved mammography facility in student's geographic area. [F]

Management

MG 101 Professional Ethics in the Workplace: Business and Commerce (1)
Prepares students to cope with difficult choices in the business-commerce arena by the study of moral principles governing conduct of persons at work. [F,S]

MG 103 Introduction to Business (3)
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. [E]

MG 105 Introduction to Quality Management (3)
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. [F]

MG 106 Quality Improvement Tools (3)
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. [S]

MG 109 Practical Business Planning (2)
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. [S]

MG 110 Leadership Skills (1)
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. [S]

MG 114 Principles of Management (3)
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. [E]

MG 115 E-commerce Operations (3)
Overview of operating an online business; focus on how the Internet is used in businesses and the fundamentals of Internet technology; replaces MG 196 and 197; duplicate credit not allowed. [F]

MG 116 E-commerce Marketing (3)
Study of how the Internet is used as a marketing tool both by e-businesses and traditional businesses. Prereq: MG 115. [S]

MG 120 Non-Profit Management (3)
Overview of unique management issues and challenges associated with operating a nonprofit organization. [on demand]

MG 134 Supervision and Human Relations (3)
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. [E]

MG 154 Marketing (3)
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. [E]

MG 160 Project Management (1-3)
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. [F]

MG 164 Personal Financial Management (1)
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; Satisfactory/No Credit grading; credit not allowed for MG 165 or 185 and MG 164. [F]

MG 165 Business Mathematics (3)
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. [E]

MG 170 Labor Relations (3)
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. [S]

MG 176,177 Customer Service Skills I,II (3,3)
176-Intro to customer service; analysis of personal and group service skills; components of good customer service; focus on customer retention and matching customer needs with business features; dealing effectively with dissatisfied customers through listening and communication skills. 177-Advanced customer service skills; focus on correct use of equipment (telephone, e-mail, fax, voice messages); verbal and non-verbal communication and advanced listening skills in customer care; stress control. [176-F, 177-S]

MG 178 Customer Service Practicum (3)
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. [Su]

MG 185 Basic Investing (3)
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. [F]

MG 190 E-commerce Introduction (1)
Commerce on the Internet; functions, future, and use. [on demand]

MG 195 E-commerce Legal Issues (1)
Survey of legal issues shaping e-commerce including taxation, licensing, and contract principles. [F]

MG 198 E-commerce Success Factors (1)
Survey of the marketing, financial, and operational characteristics of successful e-commerce sites. [S]

MG 214 Purchasing (3)
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. [F]

MG 215 Retail Operations (3)
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. [E,S]

MG 216 Consumer Behavior (3)
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. [S]

MG 224 Entrepreneurship (3)
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. [S]

MG 235 Merchandising and Inventory Control (3)
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. [S]

MG 244 Advertising (3)
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. [F]

MG 254 Salesmanship (3)
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. [S]

MG 260 Market Research (3)
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. [F]

MG 264 Human Resources Management (3)
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. [F,S]

MG 280 Problems in Marketing (3)
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. [S]

MG 285 Organizational Behavior (3)
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. [S]

MG 286 Health Services Management Practicum (3)
Preparation for employment in Health Services Management; provides practical work experience; 2 required areas of emphasis are Accounting and Management/Supervision making and controlling processes to increase individual productivity within the workplace. [S]

MG 288,289 Applied Management I,II (1-9,1-9)
Results oriented management development course to refine skills in leadership, team building, decision making and controlling processes to increase individual productivity in the workplace. Must be taken in sequence. [288-F, 289-S]

MG 295 Students in Free Enterprise (1-3)
Explores real life business situations through participation in community project. [F,S]

MG 299 Special Topics in Management (1-19)

Selected management and related topics of current and special interest; repeatable for credit on different topics. Prereq: Department head's consent. [on demand]

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
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. [E]

Marketing, See "Management"

Mass Communications

CO 110 Introduction to Mass Communications (3)

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. [F,S]

CO 202 Broadcast Announcing (3)

Examination of broadcast communication principles and effective announcing techniques; lab and broadcast experiences cultivate on-air personality and announcing skills. [F,S]

CO 204 TV Production (3)

Practice and study in basic elements of television production; focus on studio facilities, equipment, and techniques. [F,S]

CO 205 Radio and Television News Writing and Editing (3)

Practice and study of preparing news for radio and television broadcasting. Prereq: CO 110, ENGL 1010, keyboarding skills. [F,S]

CO 210 Communications Practicum (3)

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. [F,S]

CO 212 Television Practicum (3)

Study of television production, lights and lighting techniques, cameras and their op-

eration, and microphone characteristics; post-production editing, basic switching techniques, and electronic field production; class 1 hour, lab 6 hours. Prereq: CO 110, 204. [F,S]

CO 219 Internship in Television Communications (3)

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. [F,S]

CO 230 Remote Television Production (3)

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; class 2 hours, lab 2 hours. [F,S]

CO 240 News and Sports Broadcasting (3)

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. [on demand]

CO 249 Special Topics in Mass Communications (3)

Specialized topics in the field of mass communications; repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

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.

DSPM 0700 Basic Mathematics/Elementary Algebra (5)

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. Prereq: COMPASS Placement.** [E]

DSPM 0800 Elementary Algebra (3)

Covers measurement conversions, basic geometric applications, real number system, exponents, square roots, linear equations and inequalities; appropriate use of calculator and applications. Prereq: COMPASS Placement.** [E]

DSPM 0850 Intermediate Algebra (5)

Factoring polynomials, rational expressions and equations, linear equation systems and inequalities, radical expressions and equations, exponents, Pythagorean Theorem, graphics calculator usage and applied problems. Prereq: DSPM 0800; or COMPASS Placement.** [E]

MATH 0990 Geometry (3)

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. Prereq: DSPM 0850. [E]

MATH 1000 Tutoring Mathematics (1)

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). Prereq: Department head's and instructor's consent. [F,S]

◆ MATH 1010 Contemporary Mathematics (3)

Nature and techniques of mathematics; topics such as number systems, modern geometry, probability, and the history and development of mathematical ideas. Prereq: 2 years of high school algebra and acceptable test scores; or DSPM 0850. [E]

◆ MATH 1410,1420 Structure of Number Systems I,II (3,3)

1410–Study of relations, functions, numeration systems, and whole number systems. 1420–Integers, number theory, rational and irrational numbers and Euclidean geometry. Must be taken in sequence with a C or better. Prereq for 1410: 2 years of high school algebra and acceptable test scores; or DSPM 0850. [E]

◆ MATH 1510,1520 Statistics I,II (3,3)

Intro to statistical thinking. 1510–Sampling methods, data organization, variability and central tendency measures, probability distributions, and estimations; credit not allowed for both MATH 1510 and 1530. 1520–Focus on hypothesis testing, construction of confidence intervals, independence of 2 variables, simple analysis of variance, analysis of regression, and intro to non-parametric statistics. Must be taken in sequence with a C or better. Prereq for 1510: 2 years of high school algebra and acceptable test scores; or DSPM 0850. [E]

◆ MATH 1530 Introductory Statistics (3)

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. Prereq: 2 years of high school algebra and acceptable test scores; or DSPM 0850. [E]

◆ MATH 1710 College Algebra (3)

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. Prereq: 2 years of high school algebra and acceptable test scores; or DSPM 0850. [E]

◆ MATH 1720 Pre-Calculus (4)

Trigonometric functions, identities, equations and graphs, 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. Prereq: 2 high school math credits above the Algebra I level and acceptable test scores; or MATH 1710 with a C or better. [E]

***Transitional studies course (not generally transferable; not applicable to credit hours required for a degree or certificate)*

MATH 1740,1750 Algebra and Trigonometry for Technologies I,II (4,4)

A 2-semester pre-calculus or technical math sequence for engineering technology majors; credit not allowed for both MATH 1710 and 1740 or for both MATH 1720 and 1750. 1740–Functions, graphs, equations, determinants, right triangle trigonometry, trigonometric functions and graphs, exponents, radicals, and vectors. 1750–Complex numbers, logarithms, quadratic equations, exponential and logarithmic equations, inequalities, variations, trigonometric and inverse trigonometric functions, matrices, higher degree equations, introductory statistics, and an intro to calculus. Prereq for 1740: 2 years of high school algebra and acceptable test scores; or DSPM 0850. Prereq for 1750: 2 high school math credits above the Algebra I level and acceptable test scores; or MATH 1740 with a C or better. [E]

◆ **MATH 1830 Calculus for Management, Life, and Social Sciences (3)**

Intro to calculus: limits, differentiation of functions, optimization, marginal analysis, integration, the Fundamental Theorem of Calculus, applications of integration. Prereq: 2 high school math credits above the Algebra I level and acceptable test scores; or MATH 1710 with a C or better. [E]

MATH 1910,1920,2110 Calculus with Analytic Geometry I,II,III (4,4,4)

◆ 1910–Limits, derivatives and integrals of algebraic, trigonometric, exponential and logarithmic functions, their graphs and applications. ◆ 1920–Differentiation and integration involving inverse trigonometric functions, integration techniques, integral applications, infinite sequences and series, plane curves, parametric equations, and polar coordinates. 2110–Vectors, space coordinates, vector-valued functions, partial differentiation, multiple integrals, and vector analysis. Must be taken in sequence with a C or better. Prereq for 1910: 3 high school math credits above the Algebra I level and acceptable test scores; or MATH 1720 or 1750 with a C or better. [1910, 1920–E; 2110–F,S]

MATH 2000 Mathematical Problem Solving (1)

Explores a variety of mathematical problem solving techniques; focus on applying mathematical concepts and communicating effectively. Prereq: MATH 1720 and instructor's consent. [on demand]

MATH 2010 Linear Algebra (3)

Intro to linear algebra; linear systems, matrix algebra and matrices, determinants, vectors and vector spaces, inner product spaces, linear transformations, and eigenvectors and eigenvalues. Prereq: MATH 1910 with a C or better. [F,S]

MATH 2120 Differential Equations (3)

Intro to basic concepts, theory, methods, and applications of ordinary differential equations including systems of equations and transform methods. Prereq: MATH 1920 with a C or better. Coreq: MATH 2010. [F,S]

MATH 2990 Special Topics in Mathematics (1-4)

Detailed study of specific topics in math; repeatable for credit on different topics. Prereq: Department head's and instructor's consent. [on demand]

Mechanical Engineering Technology**MD 104 Blueprint Reading and Analysis (1-4)**

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. [on demand]

MD 134,242 Statics and Strength of Materials I,II (3,3)

134–Statics: vectors, moments, equilibrium of structures, centroids and moment of inertia; strength of materials: basic stresses and deformations; beam diagrams, flexure and shear. 242–Further study of vector operations and forces 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; wood and steel beams designed; class 2 hours, lab 3 hours. Must be taken in sequence. Prereq for 134: ET 115, MATH 1750. Coreq for 242: MATH 1910. [F,S]

MD 184 Manufacturing Processes (3)

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. [F,S]

MD 207,208 Numerical Control I,II (3,3)

Principles of numerical control systems; class 2 hours, lab 3 hours. 207–Focus on hands-on equipment usage, program debugging, and error diagnosis; NC tooling, 2- and 3-axis machining and G-codes. 208–DNC links, CAM software, NC programming languages, 3-axis contouring, sculptured surfaces, interfacing CAD systems with NC systems. Must be taken in sequence. Prereq for 207: ET 115, MATH 1750, MD 184. Coreq for 207: MD 294. [207–F, 208–S]

MD 226 Fluid Power (3)

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. [S]

MD 254 Elements of Material Science (3)

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. [S]

MD 264,265 Thermodynamics I,II (3,3)

Applied thermodynamics; study of heat and energy transfer and refrigeration; class 2 hours, lab 3 hours. 264–Labs include study of heating and cooling equipment in operation. 265–Internal combustion engines, gas and steam turbines, properties of steam. Must be taken in sequence. Prereq for 264: ET 115, MATH 1750. [264–F, 265–S]

MD 274 Machine Design (3)

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. [S]

MD 294 Automated Manufacturing (3)

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. [F]

MD 298 Special Topics in Mechanical Engineering Technology (1-4)

Specialized topics and/or problems in mechanical engineering technology; repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

MD 299 Special Topics in Mechanical Engineering Technology with Lab (1-4)

Specialized topics and/or problems in mechanical engineering technology; repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

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 200,201 Machine Shop Principles I,II (3,3) (DuPont)

Machine tool principles and operation; class 2 hours, lab 2 hours. 200–Physical properties of metals, their manipulation in mining and refinement; alloying and heat treatment processes; natural and manufactured abrasives and bonding processes that determine their molecular structures; various types of grinding machines studied and used. 201–Operation and safe use of lathes, milling machines (including NC and CNC types), drill presses, etc.; focus on engine type bench lathe.

MZ 210 Planned Maintenance/PPM (3) (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 2 hours, lab 3 hours.

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**

30 clock hours/week. Must be taken in sequence. First Semester

Administrative and clinical procedures; anatomy and physiology, medical terminology, basic medical typing, business communication, professional orientation and exam room procedures. [F]

Second Semester

Pharmacology and administration of medication, administrative practices (insurance, billing, filing, scheduling, and banking), lab procedures, medical transcription, first aid and CPR. [S]

Third Semester

Review of clinical and lab procedures; externship in physician's office. [Su]

Medical Office Management**OM 101 Medical Office Supervision (1)**

Elements surrounding the supervision/management of successful medical office; focus on the supervisor's role in planning/follow-through of procedures, organizing and motivating people at work, and leadership/discipline styles. [on demand]

OM 102 Medical Office Personnel Practices (1)

Personnel/human resource practices involved in the effective management of successful medical office. [on demand]

OM 103 Medical Practice Marketing and Ethics (1)

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. [on demand]

OM 104 Medical Office Communications (1)

Communication processes involved in staff, patient, and community relations; focus on telephone techniques, listening, routine medical correspondence, and medical practice scheduling techniques. [on demand]

OM 105 Medical Office Accounting (2)

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. [on demand]

OM 106 Medical Office Coding (2)

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. [on demand]

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)**

Provides opportunities to perform and to attend concerts and seminars on various musical topics; required each semester of attendance for every music major; repeatable. Coreq: Private instruction in music. [F,S]

◆ MUS 1030 Music Appreciation (3)

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. [E]

MUS 1040 History of Rock and Roll (3)

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. [on demand]

MUS 1130 Fundamentals of Music (3)

Study of basic music elements: scales, intervals, triads, meter, note values, rhythm, notation, and simple keyboard harmony. [F,S]

MUS 1210,1220,2210,2220 Music Theory I,II,III,IV (3,3,3,3)

1210–Building scales, major and minor key signatures, triads, intervals, rhythmic notation, 4-part vocal writing, and primary and secondary triads. 1220–Harmonization of melodies, non-chord tones, writing for the piano, secondary dominants, and secondary diminished 7th chords. 2210–Modal changes, Neapolitan chords, pedal points, modulations; modal, non-functional, extended tertian and non-tertian harmony. 2220–Harmony and form; binary and ternary principles, imitative, variation, sonata-allegro, rondo and atypical formal organization. Must be taken in sequence. Coreq: MUS 1310 sequence; MUS 1400 or 1410. [1210, 2210–F; 1220, 2220–S]

MUS 1310,1320,2310,2320 Fundamental Sightreading and Ear Training I,II,III,IV (1,1,1,1)

Development of sightreading skills through drills in aural and visual recognition, intervals, melodies, harmonies, and rhythmic impulations; lab 3 hours. 2310 & 2320–Added focus on sight singing, ear training, and dictation. Must be taken in sequence. Coreq: MUS 1210 sequence. [1310, 2310–F; 1320, 2320–S]

MUS 2530 Electronic Music (3)

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. [on demand]

MUS 2990 Special Topics in Music (1-3)
Study of specific topics relating to the historical and cultural significance of music; repeatable for credit on different topics. [on demand]

MUSIC—INSTRUCTION AND PERFORMANCE

Musical majors must take at least one course from Applied Instruction and one from Performing Ensemble each semester. Designated courses are repeatable for credit, but no more than 12 hours of Applied Instruction and/or Performing Ensemble, in any combination, may be applied toward a degree.

APPLIED INSTRUCTION COURSES:

MUS 1400 Piano Instruction for Non-Majors (1)

Individual piano instruction for non-majors; repeatable; maximum of 4 hours applicable toward a degree; extra fee required. [E]

MUS 1410 Piano Instruction (1-2)

Private instruction in piano; daily practice required; 1 half-hour lesson each week per credit hour; repeatable; maximum of 6 hours applicable toward a degree; extra fee required. [F,S]

MUS 1440 Jazz Piano (1)

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. [on demand]

MUS 1500 Voice Instruction for Non-Majors (1)

Individual voice instruction for non-music majors; repeatable; maximum of 2 hours applicable toward a degree; extra fee required. [F,S]

MUS 1510 Voice Instruction (1-2)

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. [F,S]

MUS 1610 Guitar Instruction (1-2)

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. [F,S]

MUS 1620 Guitar Class (2)

Group instruction in guitar; must provide own instrument; repeatable; maximum of 6 hours applicable toward a degree. [on demand]

MUS 1650 Private Percussion Musical Instrument Instruction (1-2)

Instruction in proper percussion techniques; repeatable; maximum of 6 hours applicable toward a degree. Prereq: Previous percussion experience, ability to read music. [on demand]

MUS 2430 Conducting (2)

Intro to conducting techniques; repeatable; maximum of 6 hours applicable toward a degree. Prereq: MUS 1210, 1310. [on demand]

PERFORMING ENSEMBLE COURSES:

MUS 1720 Jazz Band (1-2)

Performance of big band, jazz-rock and dixieland styles; members required to play at scheduled performances; repeatable; maximum of 6 hours

applicable toward a degree; lab 3 hours. Prereq: Instructor's consent, knowledge/skill in an instrument. [F,S]

MUS 1810 Concert Choir (1-2)

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. [F,S]

MUS 1820 Gospel Choir (1-2)

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. [F,S]

MUS 1840 Chorale (1-2)

Auditioned choral group; performs wide variety of choral music; admission by audition only; repeatable; maximum of 6 hours applicable toward a degree. Coreq: MUS 1810. [F,S]

MUS 1850 Jazz Vocal Ensemble (1-2)

Auditioned vocal ensemble; performs standard and contemporary jazz music; repeatable; maximum of 6 hours applicable toward a degree. [F,S]

Network Management

NW 204 Microcomputer Architecture (3)

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.) [E]

NW 205 Introduction to Windows (2)

Hands-on intro to Windows operating environment using real-world examples. Prereq: CS 102 or instructor's consent. [on demand]

NW 206 Network Design and Management (3)

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. [on demand]

NW 207 Advanced Network Management (4)

Provides knowledge and skills needed to install and configure a Microsoft Windows Server and perform day-to-day administration tasks in a Microsoft Windows-based network; class 3 hours, lab 2 hours. Prereq: NW 206 or instructor's consent. [on demand]

NW 208 Windows NT Server Enterprise Technologies (3)

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. [on demand]

NW 209 TCP/IP Services (2)

Provides knowledge and skills needed to set up, configure, use and support Transmission Control Protocol/Internet Protocol (TCP/IP) on Microsoft operating system; class 1 hour, lab 2 hours. Prereq: NW 207 or instructor's consent. [on demand]

NW 210 Internet Information Server (2)

Provides knowledge and skills needed to install, configure, and support the Microsoft Internet In-

formation Server (IIS); class 1 hour, lab 2 hours. Prereq: NW 207 or instructor's consent. Coreq: NW 209 or instructor's consent. [on demand]

Nuclear Medicine Technology

Admission to the Nuclear Medicine Technology Program is a prerequisite for all NM courses. Please consult the SUMMARY OF REQUIRED HOURS. All courses shown in the same term are corequisites and all courses shown in the preceding term(s) are prerequisites.

NM 200 Introduction to Nuclear Medicine (2)

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. [F]

NM 201 Instrumentation and Statistics (3)

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. [F]

NM 205,215,225 Clinical Procedures I,II,III (2,4,4)

Biological, physiological and anatomical aspects of nuclear medicine clinical procedures. 205—Skeletal, cardiovascular and respiratory organ systems; relationship between physiology, pathophysiology, radiochemistry, radiobiology, instrumentation and patient care techniques. 215—Gastrointestinal, genitourinary and endocrine systems; radionuclide therapy. 225—Central nervous system, tumor and inflammatory processes; intro to in-vivo non-imaging procedures, in-vitro procedures, and department management; preparation for national registries. [205—F, 215—S, 225—Su]

NM 207,217,227 Practicum in Nuclear Medicine I,II,III (9,1,2)

Clinical experience allowing students to assimilate methods, theory, and techniques into clinical practice; must demonstrate acceptable level of progression in clinical competency culminating in mastery of all required clinical competencies defined by the Joint Review Committee on Education Programs in Nuclear Medicine as *Essential*; Satisfactory/No Credit grading. [207—F, 217—S, 227—Su]

NM 208 Radiopharmacology (2)

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. [F]

NM 212 Physics and Radiation Biology of Nuclear Medicine (3)

Principles of physics and radiation biology as related to nuclear medicine. [S]

Nursing Assistant

NA 105 Certified Nursing Assistant (5)
Education and clinical training to prepare students to become Certified Nursing Assistants; basic nursing skills, restorative services, personal care skills, communication skills, infection control methods, safety and emergency care measures, patient rights and mental health needs; 64 class hours, 48 clinic hours; 7 week course. [on demand]

Nursing

Admission to the Nursing Program is a prerequisite for all NS courses unless otherwise noted. Please consult the SUMMARY OF REQUIRED HOURS; all BIOL and PY courses are pre/corequisite to the NS courses as shown.

NS 024 Nursing Transition (4)
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. [Su]

NS 101 Success in Nursing (1)
Knowledge and skills to cope with the demands of the nursing curriculum. Coreq: NS 119 or 238. [F]

NS 119,128,238,249 Nursing I,II,III,IV (9,8,8,9)
Progressive development of psychomotor, cognitive and affective competencies needed to assume 3 roles of the associate degree nurse in caring for culturally diverse individuals across the life span; students assess clients and plan, implement and evaluate interventions to promote, maintain and restore health; clinical experience in acute care, ambulatory care and community based settings; class 5 hours, 12 lab hours in 119 & 249, 9 lab hours in 128 & 238; achievement test fee and liability insurance required. 119–Intro to nursing process; wellness and adaptation. 128, 238, 249–Alterations in function: protective, activity/mobility, comfort/rest, fluid and gas transport, psychosocial/cultural, growth and development, nutrition/metabolism, elimination, sensory/perceptual; focus on adult and pediatric client care in 128 & 238, clients with altered psychosocial function in 238, and intensive care, childbearing family, and management in 249. [119, 238–F; 128, 249–S]

NS 260 Nursing Practicum (6)
Intensive post-graduate clinical practice experience; class 15 hours, lab 225 hours. Prereq: NS 249, nursing program director's consent. [Su]

NS 299 Special Topics in Nursing (1-3)
Study of selected topics of interest in nursing; repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

Nutrition, See "Biology" and "Dietary Manager"

Occupational Safety

OS 110 Fundamentals of Occupational Safety and Health (3)
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. [on demand]

OS 116 Industrial Maintenance Safety (3)
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. [on demand]

OS 120 Industrial Safety Compliance (3)
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. [on demand]

OS 125 Construction Safety Compliance (3)
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. [on demand]

OS 190 Special Topics in Occupational Safety (1-4)
Specific topics pertaining to Occupational Safety of current industrial and business interests; repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

OS 220 Ergonomics and Human Factors (3)
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. [on demand]

OS 230 Occupational Safety & Health Systems (3)
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. [on demand]

OS 240 Occupational Safety & Health Program Management (3)
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. [on demand]

Office Administration

OF 104,105 Business Communications I,II (3,3)
104–Study of English skills; focus on proof-reading and using reference sources efficiently. 105–Prepare result-producing communications: letters, memos, e-mail, and short reports; focus on oral communication skills through reports and team activities. Prereq for 105: OF 104 or ENGL 1010, OF 113 or keyboarding at 25 nwpm. [104–F,S; 105–F]

OF 107 Keyboarding for Information Systems (1)
Basic keyboarding; develops touch mastery for input; speed and accuracy; for non-Office Administration majors only; not allowed as an elective for Office Administration majors. [E]

OF 113,114 Keyboarding/Document Processing I,II (3,3)
Keyboarding and formatting of business documents (letters, memos, reports, tables) with speed and accuracy; credit toward graduation not allowed for both OF 113 and HE 105 or for both OF 114 and HE 107. Must be taken in sequence. [E]

OF 125,126 Word Processing I,II (3,3)
Applications in word processing. 125–Basic editing techniques through document merge. 126–Advanced functions and formatting; focus on speed, decision making, and accuracy. Must be taken in sequence. Prereq for 125: Keyboarding at 25 nwpm. [F,S]

OF 127 Desktop Publishing (3)
Mechanics of desktop publishing, creation of a variety of publications. Prereq: CS 102 or equivalent. [F,S]

OF 195 General Office Procedures (3)
Covers office procedures, manual and automated records management using ARMA indexing rules, and use of electronic calculator in business applications. [F,S]

OF 206 Office Administration Internship (3)
A capstone experience to prepare for employment in the professional, industrial, and legal job markets; simulated office experience and on-the-job training in chosen emphasis; class 3 hours, lab 6 hours. Prereq: Sophomore standing or instructor's consent. [S]

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)
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. [F]

PC 104 Chemistry for Pharmacy Technicians (4)

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. [F]

PC 105 Pharmacy Law and Ethics (3)

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. [F]

PC 110 Pharmaceutical Calculations (4)

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. [S]

PC 115 Introduction to Human Biology (4)

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. [F]

PC 201 Pharmacology and Therapeutics (4)

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. [S]

PC 205 Pharmacy Practice (5)

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. Coreq: PC 110. [S]

PC 220 Pharmacy Practice Clinical Rotations (5)

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. [Su]

Philosophy

◆ PHIL 1030 Introduction to Western Philosophy (3)

Basic teachings of the great philosophers from Pre-Socratics to modern Existentialists. Prereq: ENGL 1010. [F,S]

PHIL 2130 Logic (3)

Basic principles of deductive and inductive reasoning; focus on ordered, rational approach to problem solving. [F]

◆ PHIL 2230 Ethics (3)

Study and comparison of major ethical theories from classical times to the present. Prereq: ENGL 1010. [S]

◆ PHIL 2430 Philosophy of Religion (3)

Philosophical examination of religion; issues include the existence and nature of God, relationship between faith and reason, and challenges to religious belief. Prereq: ENGL 1010. [F]

PHIL 2990 Special Topics in Philosophy (3)

Special topics of traditional and current relevance in Philosophy; repeatable for credit on different topics. Prereq: ENGL 1010. [on demand]

Physical Education

PHYSICAL EDUCATION—GENERAL COURSES

PE 133 Introduction to Exercise Science and Nutrition (3)

Basic principles of exercise science and nutrition as they apply to teaching group fitness; provides preparation for national certification exams in group exercise instruction, including aerobics and weight training. [F]

PE 134 Methods of Teaching Group Fitness (3)

Intro to teaching group fitness; covers class format, fitness assessment, music selection, choreographing steps or exercise to music, music tempo, safety considerations, motivation, role modeling, cuing, and liability; provides preparation for national certification exams in group exercise instruction, including aerobics and weight training. [F]

PE 154 First Aid and Safety Education (3)

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. [E]

PE 201 Group Fitness Instruction (3)

Concepts and techniques for designing and practice in teaching all components of a safe and effective group exercise class. Prereq: PE 133, 134. [S]

PE 202 Group Fitness Instructor Internship (3)

Internship as a fitness instructor assistant; minimum of 10 hours per week of supervised field work and 1 hour of weekly seminar. Prereq: PE 133, 134, 154. Coreq: PE 201. [S]

PE 210 Introduction to Physical Education (3)

Role of physical activity in American education; historical, political, economic, and social forces affecting physical education and society. [S]

PE 211 Personal and Community Health (3)

Significant information useful in making intelligent decisions about personal health; focus on personal, family, social living, and community health. [F]

PE 220 Care and Prevention of Athletic Injuries (3)

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. [F]

PE 235 Special Topics in Wellness and Health Promotion (1-3)

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). [on demand]

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).*

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)

Repeatable; maximum of 4 hours applicable toward a degree. [E]

◆ PHED 1020 Step Aerobics (2)

Repeatable; maximum of 4 hours applicable toward a degree. [F,S]

◆ PHED 1030 Aerobic Kickboxing (1)

Repeatable; maximum of 2 hours applicable toward a degree. [F,S]

◆ PHED 1090 Introduction to Yoga (1)

Repeatable; maximum of 2 hours applicable toward a degree. [F,S]

◆ PHED 1110 Concepts of Wellness (1)

Concepts, understandings, and values of activity as applied to optimal living through wellness; lab in motor activity. [E]

◆ PHED 1120 Strength and Conditioning (1)

Intro to weight training and conditioning; repeatable; maximum of 4 hours applicable toward a degree. [E]

- ◆ PHED 1130 Fitness for Living (2)
Repeatable; maximum of 4 hours applicable toward a degree. [E]
- ◆ PHED 1140 Walking for Fitness (2)
Repeatable; maximum of 4 hours applicable toward a degree. [E]
- ◆ PHED 1150 Body Sculpting (1)
Basic instruction and practice in the fundamentals of weight training using light hand weights; repeatable; maximum of 2 hours applicable toward a degree. [F,S]
- ◆ PHED 1450 Beginning Self-Defense (1) [F,S]
- ◆ PHED 1460 Self-Defense for Women (1) [F,S]
- ◆ PHED 1470 Advanced Self-Defense for Women (1)
Prereq: PHED 1460 or instructor's consent. [S]
- ◆ PHED 1560 Skin and Scuba Diving (1)
Scuba equipment rental not included in course cost; swimming proficiency needed; repeatable; maximum of 2 hours applicable toward a degree. [F,S]
- ◆ PHED 1570 Backpacking and Hiking (1)
Repeatable; maximum of 2 hours applicable toward a degree; equipment, campsite rental fees, food, and transportation not included in course cost. [F,S]
- ◆ PHED 1750 Elementary Ballet Technique (1)
Repeatable; maximum of 2 hours applicable toward a degree. [F,S]
- ◆ PHED 1810 Introduction to Paddle (1)
Repeatable; maximum of 2 hours applicable toward a degree. [F,S]
- ◆ PHED 1820 Beginning Table Tennis (1) [F,S]
- ◆ PHED 1830 Racquetball (1) [F,S]
- ◆ PHED 1840 Volleyball (1) [F,S]
- ◆ PHED 1850 Basketball (1) [F]
- ◆ PHED 1860 Golf (1) [F]
- ◆ PHED 1870 Beginning Tennis (1) [E]
- ◆ PHED 1880 Intermediate Tennis (1)
Prereq: PHED 1870 or comparable skills. [on demand]
- ◆ PHED 1990 Special Topics: Physical Education Activity (1-2)
Repeatable for credit on different topics; maximum of 6 hours applicable toward a degree. [on demand]

Physical Science

- ◆ PSCI 1030 The Physical Environment (4)
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. [F,S]
- PSCI 2990 Special Topics in Science (1-4)
Study of a specific topic in science; repeatable for credit on different topics. Prereq: Department head and instructor's consent. [on demand]

Physical Therapist Assistant

Admission to the Physical Therapist Assistant Program is a prerequisite for all PT courses. Please consult the SUMMARY OF REQUIRED HOURS; all PT courses shown in the same term are corequisites, all PT courses shown in the preceding term(s) are PT prerequisites, and all BIOL and PHYS courses are pre/corequisites to PT courses as shown.

PT 104 Introduction to Physical Therapy (2)
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. [F]

PT 111,210,221 Clinical Practice I,II,III (2,4,10)
Clinical experience in local health care facilities; students apply skills learned in class and lab under direct supervision of registered physical therapist or registered physical therapist assistant; clinic hours: 6 in 111, 12 in 210, 30 in 221; Satisfactory/No Credit grading; liability insurance required. [111-S, 210-F, 221-S]

PT 112 Pathological Conditions (3)
Survey of diseases and injuries treated by physical therapy; associated medical or surgical treatment of these conditions; physical therapy treatment for specific conditions. [S]

PT 115,125 Physical Therapy Procedures I,II (5,4)
Physical therapy principles; class 3 hours, lab hours: 6 in 115, 3 in 125; liability insurance required. 115-Basic principles and modality techniques. 125-Focus on spinal traction, electrical stimulation, biofeedback, pain control, protocol exercise routines, manual muscle testing. [115-F, 125-S]

PT 123 Functional Anatomy (4)
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. [F]

PT 201 Physical Therapy Seminar (2)
Critique sessions concerning physical therapy procedures and techniques and clinic participation; student presentations on physical therapy procedures and techniques, pathology, anatomy and physiology. [S]

PT 205 Therapeutic Exercise (5)
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. [F]

Physics

PHYS 1000 Basic Technical Physics (3)
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. Recommended coreq: MATH 1710 or 1740. [F,S]

◆ PHYS 1030 Concepts of Physics (4)
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. [F,S]

◆ PHYS 2010,2020 Non-Calculus-Based Physics I,II (4,4)
Algebra-based physics for engineering technology and preprofessional majors; class 3 hours, lab 3 hours. 2010-Mechanics, heat and thermodynamics. 2020-Electricity and magnetism, ray and wave optics. Must be taken in sequence. Prereq for 2010: PHYS 1000 or equivalent. Coreq for 2010: MATH 1720 or 1750. [2010-E; 2020-S,Su]

◆ PHYS 2110,2120 Calculus-Based Physics I,II (4,4)
Calculus-based physics; for engineering and science majors; class 3 hours, lab 3 hours. 2110-Mechanics: statics, kinematics, work, energy, power, momentum, conservation laws, heat, rotation and harmonic motion, and thermodynamics. 2120-Electrostatics, fields and potentials, electromotive force, AC/DC circuits, electromagnetism, capacitance and inductance, and electromagnetic waves. Must be taken in sequence. Prereq for 2110: MATH 1910, PHYS 2010; or departmental consent. Coreq for 2110: MATH 1920. [2110-F, 2120-S]

Political Science

PO 110 Introduction to American Government (3)
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. [F,S]

PO 219 State and Local Government (3)
Intro to state and local government; focus on the interrelationships between state and local, state and federal, and local and federal governments. [F]

Practical Nursing

LP 000 Practical Nursing
32.5 clock hours/week. Must be taken in sequence.
First Semester
Intro to the nursing profession; normal anatomy and physiology, nutrition, aging, basic math; nursing procedures to assist in maintaining normal function; clinical experiences in long term care facilities. [F,S]
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. [S,Su]
Third Semester
Specialty areas of obstetric, gynecologic and pediatric nursing; intensive review for state licensing examination; concentrated clinical practice experience. [Su,F]

Psychology

DSPS 0800 Psychology of Learning (3)

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. ** [E]

PY 101 General Psychology (3)

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. [E]

PY 103 Stress Management (1)

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. [on demand]

PY 109 Healthy Marriages Aren't Accidents (1)

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). [on demand]

PY 201 Introduction to Behavioral Statistics (4)

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. [F,S]

PY 213 Abnormal Psychology (3)

Abnormal and psychopathological behavior patterns, mental deficiencies, neuroses, psychoses, personality disorders; prevention and processing; contains service-learning component. Prereq: ENGL 1010, PY 101. [S]

PY 215 Child Growth and Development (3)

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. [F,S]

PY 217 Human Growth and Development (3)

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. [E]

PY 235 Special Topics in Psychology (1-3)

Specific topics of traditional and current social and psychological interest; repeatable for credit on different topics. [on demand]

PY 241 Psychology of Individual Differences (3)

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. [F,S]

PY 250 Leadership Development (3)

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.) [F,S]

PY 251 Psychology of Personal Adjustment (3)

Major theories of adjustment and maladjustment, including psychoanalysis, neo-Freudian, behavioral theory and humanistic psychology; role of religion, work behavior and other cultural influences. [E]

Public Speaking, See "Speech"

Quality Technology

QA 142 Quality Engineering (4)

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. [on demand]

QA 146 Quality Auditing (1-2)

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. [on demand]

QA 240 Statistical Process Control (3)

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. [on demand]

QA 298 Special Topics in Quality (1-4)

Specialized topics and/or problems in quality; repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

QA 299 Special Topics in Quality with Lab (1-4)

Specialized topics and/or problems in quality; repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

Radiation Therapy Technology, See "Health Science"

Radiologic Technology

A prerequisite to all RT courses is admission into the program in which the course is required.

Please consult the SUMMARY OF REQUIRED HOURS for the specific program. All RT courses shown in the same term are corequisites and all RT courses shown in the preceding term(s) are RT prerequisites. BIOL, HS, and MATH courses required in the Radiologic Technology AAS degree program are pre/corequisite to RT courses as shown, and all Freshman year courses are prerequisite to second year RT courses.

RT 110 Introduction to Radiologic Technology (3)

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; liability insurance fee. [F]

RT 112,114,202,212,224 Clinic I,II,III,IV,V (2,4,2,2,3)

Simulation, practice and competent performance of radiologic exams in the following categories: 1) upper extremities, 2) lower extremities, 3) bony thorax, chest and abdomen, 4) contrast studies, 5) spines, 6) cranium; progressive development of knowledge and skills in correct positioning to demonstrate specific anatomy, radiographic film evaluation process, reasons for radiographic exams, and proper methods of patient care; assignments in advanced imaging procedures and radiation therapy; lab/clinic hours: 20 in 112, 202 & 212, 40 in 114, 30 in 224. 112-Intro to radiographic imaging and equipment care, basic positioning and exposure selection, and body mechanics of handling patients; must demonstrate competent performance of 3 radiologic exams from 3 different categories (except cranium). 114-Must demonstrate competent performance of 3 radiologic exams from 3 different categories; preparation for final category competency evaluation. 202, 212 & 224-Final category instruction and evaluation of 4 exams from 2 categories; assignments in nuclear medicine, radiation therapy, computed tomography, special procedures, and paradiologic areas; proper method of cleaning automatic film processor, preventive maintenance and quality control covered in 224. [112, 212-S; 114, 224-Su, 202-F]

RT 115 Medical Terminology (3)

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. [S]

***Transitional studies course (not generally transferable; not applicable to credit hours required for a degree or certificate)*

RT 124,125 Radiographic Exposure I,II (3,3)
124–Nature and production of x-rays; x-ray film and intensifying screens, invisible and manifest image creation, film processing equipment and quality control, prime factors of radiography and x-ray interaction with matter; class 3 hours, 3 lab hours. 125–Factors that govern and influence radiographic image production using radiographic film, proper operation and care of radiographic equipment, primary beam filtration, image intensification and stereoscopic radiography, tomography, radiation protection and health physics. [124–F, 125–S]

RT 134,135,143 Radiographic Positioning—
Film Critique I,II,III (3,3,3)
Radiographic positioning and film critique; exam simulation and practice prior to working with patients. 134–Intro to positioning and terminology; upper and lower extremities, bony thorax, chest, and abdomen, cervical, thoracic and lumbar-lumbo-sacral vertebrae; intro to common contrast procedures; class 3 hours, lab 5 hours. 135–Anatomy, topography, morphology and routine projections of the cranium; terminology, anatomy and radiography of the sella turcica, orbits, temporal bones, facial bones, mandible, temporomandibular articulations and paranasal sinuses. 143–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 body system reviewed with focus on preprocedures prep, patient care and management, contraindications and complications, and proper positioning and exposure. [134–F, 135–S, 143–F]

RT 172 Radiologic Pathology (3)
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. [S]

RT 200 Magnetic Resonance Imaging (4)
Intro to basic essentials of magnetic resonance imaging methods, system operation, cross-sectional anatomy and clinical imaging interpretation; focus on requirements to operate magnetic resonance equipment. [F]

RT 210 Advanced Magnetic Resonance
Imaging for Technologists (3)
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. [S]

RT 223 Special Procedure Radiography—
Nursing (3)
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. [F]

RT 230 Magnetic Resonance Imaging for
Technologists Clinical (3)
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. [F,S]

RT 232 Introduction to Pararadiologic
Imaging Modalities and Radiation
Therapy (3)
Intro to subspecialties of diagnostic radiography and basic radiation therapy principles; focus on the following pararadiologic 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. [F]

RT 234,235 Radiology Seminar I,II (4,4)
Advanced radiographic science; integrated coverage of radiation protection, equipment operation and maintenance, image production and evaluation, radiographic positioning and procedures, patient care and management, and quality assurance; focus on development of 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 and evaluation of performance of radiologic systems to effect best diagnostic results with the least cost and radiation exposure to patients; 234 includes film process quality assurance; 235 includes x-ray equipment and analysis and quality control and development of an exposure guide. [234–F, 235–S]

RT 250 Advanced Patient Care and
Management (6)
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. [F]

Reading

DSPR 0690 Individualized Instruction in
Reading Skills (2)
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. Prereq: Assessment test recommendation or Department Head's consent. ** [E]

DSPR 0700 Basic/Developmental Reading (4)
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 reasoning skill. Prereq: COMPASS Placement. ** [E]

DSPR 0800 Developmental Reading: Reading
Analysis and Reasoning (3)
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. Prereq: DSPR 0700 or COMPASS Placement. ** [E]

DSPR 0870 Topics in Reading (1)
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. Prereq: Assessment test or instructor's recommendation. ** [on demand]

Real Estate

RS 101 Basic Principles of Real Estate (4)
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. [on demand]

Religious Studies

◆ RELS 2030 Religions of the World (3)
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. Prereq: ENGL 1010. [E]

◆ RELS 2230 Religion in America (3)
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. Prereq: ENGL 1010. [on demand]

◆ RELS 2610,2620 Biblical Studies I,II (3,3)
Philosophical, religious, socio-political, and literary aspects of the Bible and its impact on Western Culture. 2610–Old Testament. 2620–New Testament. Prereq: ENGL 1010. [F,S]

RELS 2990 Special Topics in Religious
Studies (3)

Special topics of traditional and current relevance in Religious Studies; repeatable for credit on different topics. Prereq: ENGL 1010. [on demand]

***Transitional studies course (not generally transferable; not applicable to credit hours required for a degree or certificate)*

Renaissance Institute

RI 100 The College Experience (2)

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. [E]

RI 120 Chattanooga's African-American Experience—Contemporary Issues (2)

Study of the African-American experience in Chattanooga; focus on issues of identity, diversity, conflict, and community. [F]

RI 135 Special Topics—Renaissance Institute (1-3)

Study of contemporary, social, political, and/or cultural issues; repeatable for credit on different topics. [F,S]

Respiratory Care

Admission to the Respiratory Care Program is a prerequisite to all RC courses. Please consult the SUMMARY OF REQUIRED HOURS. All RC courses shown in the same term are corequisites and all RC courses shown in the preceding term(s) are RC prerequisites.

RC 111,112,113 Principles of Respiratory Care Procedures I,II,III (3,3,4)

111—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 law, relative humidity and pulmonary values. 112—Equipment and therapy modalities of humidity and aerosol therapy; intro to oxygen therapy. 113—Oxygen therapy, hyperinflation therapy (SMI, IPPB), and airway management; indications and contraindications; series of pre-clinical check-offs required for course completion; class 3 hours, lab 3 hours. [111–F, 112–S, 113–Su]

RC 141,142,143 Technical Foundations of Respiratory Care I,II,III (3,3,3)

141—Overview of the development of respiratory care, role of the therapist, medical vocabulary. 142—Functioning of heart and lungs; physiologic principles of pulmonary mechanics, O₂ and CO₂ transport, acid-base homeostasis, general principles of drug action focusing on the effects on renal and cardiopulmonary systems. 143—Focus on neural and chemical control of cardiopulmonary function, drug administration, respiratory care and systemic drugs, and recognition and management of adverse reactions. [141–F, 142–S, 143–Su]

RC 210,212,213 Fundamentals of Respiratory Care I,II,III (3,3,3)

210—In-depth study of mechanical ventilation through didactic and guided lab experiences; critical care medicine principles as applied to rationale, institution and discontinuance of mechanical ventilation; basic ventilator operation and modification; class 2 hours, lab 3 hours. 212—Cardiopulmonary diagnostic testing and monitoring, major cardiovascular monitoring and supportive therapy concepts; EKG and pulmonary testing and interpretation, transcutaneous O₂ monitoring, oximetry, end tidal CO₂ monitoring; class 2 hours, lab 2 hours. 213—Ad-

vanced topics including fluid and electrolyte balance, pulmonary rehabilitation, hemodynamics, and new techniques in respiratory care; practice exams to prepare for NBRC entry level and advanced practitioner exams. [210–F, 212–S, 213–Su]

RC 221,222,223 Clinical Practicum I,II,III (6,6,7)

Respiratory care procedures in hospital settings; clinical rotations may be scheduled during evening or night hours; clinical fee and liability insurance required; 24 lab hours; Satisfactory/No Credit grading. 221—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. 222—Emphasis on patient evaluation and clinical judgment; pediatric therapy, blood gas instrumentation and quality control procedures, EKG testing and interpretation, endotracheal intubation, pulmonary function testing, chest radiographs interpretation and home care. 223—Emphasis on critical care procedures; initiation, monitoring and discontinuation of mechanical ventilation; neonatal-pediatric intensive care; hemodynamic monitoring and lab test interpretation. [221–F, 222–S, 223–Su]

RC 241,242 Clinical Pathophysiology I,II (3,3)

241—General concepts of disease, human pathology, arterial blood gases, and acid-base concepts. 242—Etiology, pathology, pathophysiology, symptoms, diagnosis, course, treatment, and prognosis of selected diseases that affect the cardiopulmonary system. [241–F, 242–S]

RC 243 Pediatric/Perinatal Respiratory Care (3)

Intro to common pediatric and neonatal cardiopulmonary disorders; intro to therapeutic modalities used in the treatment of infants and children, including critical care procedures. [S]

Secretarial Science, See "Office Administration"

Sociology

SO 110 Introduction to Sociology (3)

Intro to field of sociology; focus on basic concepts, principles, and processes used to study the structure and function of society. [E]

SO 120 Social Problems (3)

Study of social problems in the U.S.; provides sociological perspective for making sense of future developments in our society. Prereq: ENGL 1010. [S]

SO 214 Criminology (3)

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. [F]

SO 215 Marriage and Family (3)

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. [F,S]

SO 216 Cultural Anthropology (3)

Comparative study of culture, social organization, economics, government, education, religion, language, and arts in various primitive and present societies. [E]

SO 217 Sociology of Aging (3)

Basic course in social gerontology; focus on the aging process and the problems of the aged. [on demand]

SO 235 Special Topics in Sociology (1-3)

Specific topics of traditional and current sociological interest; repeatable for credit on different topics. Prereq: ENGL 1010. [on demand]

Sonography, See "Diagnostic Medical Sonography"

Spanish

SPAN 1010,1020 Elementary Spanish I,II (4,4)

Elementary grammar, vocabulary, reading, idiomatic conversation, and Spanish culture. Must be taken in sequence. [F,S]

SPAN 2010,2020 Intermediate Spanish I,II (3,3)

Intermediate grammar, reading and conversation. Must be taken in sequence. 2010—Focus on oral skills and Spanish culture. 2020—Focus on reading and translation. Prereq: SPAN 1020 or 2 years of high school Spanish. [2010–F, 2020–S]

SPAN 2990 Special Topics in Spanish (1-3)

Specific topics pertaining to Spanish language and culture; repeatable for credit on different topics. Prereq: Instructor's consent. [on demand]

Speech

SP 110 Fundamentals of Public Speaking (3)

Introductory public speaking course stressing organization and presentation of the extemporaneous speech in a variety of formats. Prereq: ENGL 1010. [E]

SP 120 Interpersonal Communication Skills in the Workplace (3)

Covers basic interpersonal communication skills, including listening, nonverbal awareness, interviewing, and conflict management; focus on application in the workplace. Prereq: ENGL 1010. [F,S]

SP 235 Special Topics in Speech (1-3)

Specific topics in speech communication and forensics; repeatable for credit on different topics. Prereq: ENGL 1010 with grade of C or better. [on demand]

Surgical Technology

OR 000 Surgical Technology

32.5 clock hours/week. Must be taken in sequence.

First Semester

Intro to basic operative procedures and techniques, principles of asepsis; human anatomy and physiology, microbiology, medical terminology; clinical experience in campus practice lab. [F]

Second Semester

Continued study of surgical operative procedures and techniques; clinical experience in surgical areas of affiliated hospitals. [S]

Third Semester

Intensive clinical practice experience in a variety of surgical settings; review for national certification examination. [Su]

Sustainability, See "Environmental Science"

Technical Drafting

DF 000 Technical Drafting

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. [E]

Theatre

◆ THEA 1030 Introduction to the Theatre (3)

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. [F]

THEA 1110,1120,2110,2120 Acting I,II,III,IV (3,3,3,3)

1110–Fundamentals of formal stage performance, stressing both voice and movement. 1120–Focus on building characters; auditioning techniques for stage and screen. 2110–Explores acting styles within different theatrical genres; character analysis and development using scene study and monologues. 2120–Applied study in scene performance/production, including self-direction; explores acting styles in historical theatrical periods. Must be taken in sequence. Prereq for 2110: THEA 1230, 1240. Prereq for 2120: THEA 1990. [F,S]

THEA 1230 Movement (2)

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. [on demand]

THEA 1240 Voice and Diction for the Stage (2)

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. [on demand]

THEA 1990 Performance and Production (2)

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. [on demand]

THEA 2210,2220 Technical Theatre I,II (3,3)

2210–Principles and techniques of theatrical production; stagecraft, lighting, costuming, and sound; hands-on application in actual theatrical productions. 2220–Drafting, welding, scenery rigging, and 2- and 3-dimensional scenery construction introduced. Must be taken in sequence. [F,S]

THEA 2430 Musical Theatre (2)

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. Prereq: THEA 1110, 1240. [on demand]

THEA 2990 Special Topics in Drama (3)

Study of topics relating to the historical and cultural significance of theatre; repeatable for credit on different topics. [on demand]

Tomography, See "Computed Tomography"

Truck Driving, See "Commercial Truck Driving"

Ultrasound, See "Diagnostic Medical Sonography"

Welding

WD 000 Welding Technology

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. [E]

Wellness, See "Physical Education"

X-Ray Technology, See "Radiologic Technology"

Governance/Accreditation

Chattanooga State Technical Community College

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Transform Your Life!

Governance

Tennessee Higher Education Commission

The Honorable Don Sundquist
Governor of the State of Tennessee

Richard Rhoda, Executive Director

Steve Adams, Nashville

Riley C. Darnell, Nashville

Fred Patrick Gattas, Memphis

Dale Kelley, Huntingdon

Wm. Ransom Jones, Murfreesboro

Joe E. Lancaster, Columbia

Wanda McMahan, Knoxville

John Morgan, Nashville

Debby Patterson-Koch, Nashville

June Scobee Rodgers, Signal Mtn.

Nathan Tudor, Cookeville

Lisa Verble, Sevierville

A. C. Wharton, Jr., Memphis

Brad Windley, Tullahoma

Douglas E. Wood, Nashville

Board of Regents The State University and Community College System of Tennessee

The Honorable Don Sundquist,
Governor of the State of Tennessee (Ex-Officio)

Dr. Charles Manning, Chancellor

Dr. Richard Rhoda, Executive Director,
THEC (Ex-Officio)

The Honorable Faye Taylor, Commissioner of
Education (Ex-Officio)

The Honorable Dan Wheeler, Commissioner of
Agriculture (Ex-Officio)

Frank Barnett

Edgar Bowers

Demetra G. Boyd

Noble Cody

Cynthia Davis

Robert Jack Fishman

Arles B. Greene

Jane Kisber

W. Keith McCord

Leslie Parks Pope

J. Stanley Rogers

Maxine A. Smith

Arrita Summers

William H. Watkins, Jr.

Administrative and Professional Staff

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Professor, Philosophy, Western Civilization—
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Deborah A. Adams, (1981-86, 1988) Dean,
Business and Community Development. B.S.,
University of Tennessee, 1976.

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Designer, Marketing. B.S., University of
Tennessee at Chattanooga, 1995.

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Sabrina B. Fancher, (2001) Adviser,
Educational Planning and Advising; B.A.,
University of Mississippi, 1996.

M. Allison Fetters, (2000) Manager,
Writing Center—Humanities. M.A.,
University of Tennessee at Chattanooga, 1995.

Juanita B. Finnell, (1992) Adviser,
Educational Planning and Advising. 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) Director,
Educational Planning and Advising. M.B.A.,
University of Tennessee at Chattanooga, 1991.

P. Andrew Forrester, (1986) Assistant
Dean—TN Technology Center. M.A.,
Tennessee Technological University, 2000.

Deborah Ann Franks, (2001) Adviser,
Educational Planning and Advising. M.B.A.,
Drexel University, 1992.

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- 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) Manager, Personal Interest, 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.
- 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.
- Kita L. Graham, (1998) Specialist, Transitional Studies and Workforce Development Testing—Academic Affairs. B.S., Middle Tennessee State University, 1994.
- Judy D. Green, (1999) Director, TECTA Program—Social and Behavioral Sciences. B.S., University of Tennessee at Chattanooga, 1999.
- James Hallewell, (2001) Coach, Tennis/Outreach Counselor. B.S., Berry College, 2001.
- Douglas P. Hampton, (1996) Technician, Aviation—Business and Information Systems. B.S., University of Tennessee at Chattanooga, 1999.
- Lisa G. Hancock, (1993) Bursar, Business Office.
- Ellen Hardy, (1980) Coordinator, Payroll and Personnel Budget—Business Office. A.S., Chattanooga State Technical Community College, 1978.
- Craig T. Harston, (2000) Counselor, Small Business Development Center. Ph.D., Tulane University, 1977.
- Robert C. Hawfield, (1986) Technician, Industrial Technology—TN Technology Center. M.A., University of Tennessee, 1994.
- Donna K. Hawk, (1993) Computer Programmer Analyst 1—Library Services. B.S., University of Tennessee at Chattanooga, 1986.
- Jerry L. Hendrix, (1997) Manager, Dayton Site—Extended Services. B.S., University of Tennessee at Chattanooga, 1975.
- John Henry, (2001) Coordinator, Artist-in-Residence Program—Humanities.
- Marcella P. Henry, (1983) Librarian 1—Library Services. M.L.S., Louisiana State University, 1980.
- Alan D. Herweyer, (1989) Interim Dean, Social and Behavioral Sciences, Associate Professor, Mathematics—M.A.T., Calvin College, 1985; M.S., Purdue University, Illinois, 1973.
- Fannie D. Hewlett, (1979) Interim 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.
- Robert E. Hobgood, (1996) Manager, Auditorium—Media Services. B.A., University of Tennessee at Chattanooga, 1985.
- Linda R. Homa, (1997) Adviser, Educational Planning and Advising. B.S., Covenant College, 1997.
- Tisa M. Houck, (1983) Librarian 1—Library Services. M.S., University of Tennessee, 2000.
- 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.
- Sherry Hutton, (2001) Specialist, TECTA Program—Social and Behavioral Sciences. M.A., Carson-Newman College, 1999.
- Vicki M. Jackson, (1976) Coordinator, Testing Center—Basic Skills. B.S., Covenant College, 1992.
- Steve Jaecks, (2001) Director, Athletics and Wellness. M.S., University of Tennessee at Chattanooga, 1982.
- 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.
- Beth Keylon-Randolph, (2001) Coach, Women's Softball/Outreach Counselor. B.S., Tennessee Technological University, 1995.
- Saundra K. King, (2001) Director, Transitional Studies. M.S., University of Tennessee, 1988.
- Sandra J. Kluttz, (1991) Director, Student Life—Student Affairs. M.S., University of Tennessee, 1978.
- Mary E. Knaff, (1990) Director, Financial Aid. M.S., University of Tennessee at Chattanooga, 1993.
- Georgiana C. Kotarski, (2000) Director, Special Projects—Economic and Community Development. M.S., University of Tennessee at Chattanooga, 1994.
- Johnetta B. Lane, (2001) Counselor, Financial Aid. M.A., Tusculum College, 1997.
- Cathey W. Law, (2001) Coordinator, Benefits and Information Research—Human Resources. B.S., Kansas State University, 1996.
- 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.
- Margaret L. Lennon, (2001) Producer, Media Services. B.A., University of Tennessee at Chattanooga, 1986.
- Aleta F. Lenyard, (2001) Manager, Math Center. B.S., Tulane University, 1970.
- 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, 1979.
- 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 1, Computer Services. B.S., Florida A & M University, 1988.
- Lisa C. McWherter, (2001) Associate Vice President, Leadership and Fund Development—Institutional Advancement. M.A., Middle Tennessee State University, 1997.
- C. Suzette Melville, (1998) Accountant 1, Business Office. M.B.A., University of Tennessee at Chattanooga, 2001.
- Rosemary C. Milburn, (1988) Library Associate, Library Services. B.A., Smith College, 1973.
- 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.
- 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.
- Jennifer A. Peet, (2000) Technician, Biology—Math and Sciences. B.S., Troy State University, 1994.
- Daniel L. Peterson, (1998) Computer Programmer Analyst 1, Computer Services. B.S., University of Wisconsin at LaCrosse, 1982.

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Darryl J. Pirtle, (1994) Programmer/Analyst 2, Computer Services. B.S., Freed-Hardeman University, 1983.

Betty R. Proctor, (1991) Designer, Marketing. A.A.S., Chattanooga State Technical Community College, 1992.

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Michael E. Ricketts, (1983) Director, Basic Skills; 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.

Gregory C. Schuck, (2001) Director, Food Services.

Randolph C. Schulte, (1995) Interim Dean, Business and Information Systems; Assistant Professor, Management. M.A.T., Colgate University, 1977.

Tiffany C. Scruggs, (2001) Counselor, Outreach—Recruiting. M.S., University of Tennessee at Chattanooga, 1997.

Richard M. Seehuus, (1995) Associate Dean, Distance Education Instruction—Distance Education. M.A., Indiana University, 1992.

Gregory A. Shook, (2001) Director, Sports Information; Coach, Men's Baseball. B.S., University of Tennessee at Chattanooga, 1996.

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.

Joyce G. Stakely, (1984) Director, Institutional Development—Institutional Advancement. B.S., Covenant College, 2000.

Cynthia W. Swafford, (1987) Director, Nursing—Nursing/Allied Health. Ed.D., University of Tennessee, 1992.

Elaine Swafford, (1988) Vice President, Economic and Community Development. Ed.D., University of Sarasota, 1999.

Carol Swayze, (2001) Coordinator, Tech Prep—Academic Affairs. M.A., Tusculum College, 1992.

Tammy L. Swenson, (1987) Vice President, Business and Finance. M.B.A., University of Tennessee at Chattanooga, 1991.

Pamela P. Temple, (1980) Librarian 3, Library Services. M.L.S., George Peabody College, 1968.

Vickie M. Thomason, (1999) Coordinator, Web Services—Alternate Delivery Systems. B.S., Governor's State University, 2001.

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 Analyst 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, 1996.

Nancy V. Watts, (1997) Director, Pharmacy Technician Program—Math and Sciences. Pharm.D., Mercer University, 1990.

Melvin J. Williams, (1999) Coach, Men's and Women'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. Woyalik, (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

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Marcia E. Abernathy, (1997) Assistant Professor, 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.

Bertha L. Alford, (1983) Associate Professor, Office Administration—Business and Information Systems. M.Ed., University of Tennessee at Chattanooga, 1985.

Ebrahim M. Alipour, (1997) Assistant Professor, Mechanical Engineering Technology—Engineering, Environmental, and Emergency Technologies. M.E., Lamar University, 1981.

Kenneth D. Allen, (1997) Associate Professor/Program Director, Nuclear Medicine—Nursing/Allied Health. M.S., Belmont University, 1995.

Truman G. Anderson, (1976) Professor, Management—Business and Information Systems. Ed.D., University of Tennessee, 1980.

Ruth I. Armstrong, (2000) Instructor, Psychology—Social and Behavioral Sciences. M.S., University of Tennessee at Chattanooga, 1991.

Jody Arnold, (1993) Assistant Professor/Program Director, Diagnostic Medical Sonography—Nursing/Allied Health. B.S., Tennessee Wesleyan, 1994.

Curtis E. Aukerman, (2001) Instructor/Director, Emergency Medical Services Program—Allied Health. B.S., Lee University, 1996.

Vernon F. Ball, (1978) Professor, English—Humanities. Ph.D., Ball State University, 1976.

Sherri L. Barnes, (1993) Associate Professor, Mathematics—Math and Sciences. M.S., University of Tennessee, 1992.

Sharon V. Baum, (1983) Vocational Teacher, Cosmetology—TN Technology Center. Ray Reed Beauty College, 1965. Tennessee Instructors and Aesthetics License.

Paula Benford, (1987) Instructor, Adult Education—Basic Skills. B.A., University of Tennessee at Chattanooga, 1975.

Cindy D. Birchell, (1993) Instructor, Physical Therapist Assistant—Nursing/Allied Health. A.S., Chattanooga State Technical Community College, 1981.

Michael E. Brennan, (1992) Associate Professor/Department Head, Chemistry—Math and Sciences. Ph.D., University of Florida, 1967.

Dee K. Browder, (1967) Associate Professor, English—Humanities. M.A., West Georgia College, 1971.

Marilyn B. Brown, (1979) Associate Professor/Department Head, Mathematics—Math and Sciences. M.Ed., University of Tennessee at Chattanooga, 1975.

Pamela M. Brune, (2001) Associate Professor, Office Administration—Business and Information Systems. M.S., University of Tennessee, 1989.

Joyce B. Campbell, (1988) Associate Professor, Nursing—Nursing/Allied Health. M.S.N., University of Tennessee, 1982.

Tina R. Cannon, (1993) Assistant Professor, Mathematics—Math and Sciences. M.Ed., Tusculum College, 1993.

Deborah T. Cantrell, (1999) Assistant Professor, Mathematics—Math and Sciences. M.Ed., University of Tennessee at Chattanooga, 1985.

Rebecca A. Cantrell, (1988) Associate Professor, Writing—Humanities. M.A., University of Tennessee at Chattanooga, 1990.

Mary Lee Carder, (1999) Instructor, Practical Nursing—TN Technology Center. A.S., State University of West Georgia, 1979.

Kenneth F. Cardillo, (1999) Instructor, Music—Humanities. D.Phil., Oxford Graduate School, 1992.

Maria Delourdes Carlone, (2000) Assistant Professor, Spanish—Humanities. Ph.D., University of Massachusetts, 1999.

Ben W. Carr, Jr., (1975) Associate Professor, Aviation—Business and Information Systems. M.Ed., Middle Tennessee State University, 1972.

Karen W. Castleberry, (1976) Assistant Professor, Dental Assisting—Nursing/Allied Health. B.S., Covenant College, 1996.

R. Foster Chason, (1976) Professor/Department Head, Behavioral Sciences—Social and Behavioral Sciences. D.A., Middle Tennessee State University, 1984.

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- Robert O. Chavous, Jr., (2001) Instructor, Maintenance Technology—Engineering, Environmental and Emergency Technologies. B.S.Ag., University of Tennessee, 1982.
- Shirley M. Clark, (1992) Associate Professor/Program Coordinator, Human Services—Social and Behavioral Sciences. M.S.S.W., University of Tennessee, 1978.
- Richard K. Clements, (1994) Associate Professor, Biology—Math and Sciences. Ph.D., University of Kentucky, 1995.
- Charles L. Cofer, (1988) Assistant Professor, Electrical/Electronic Engineering Technology—Engineering, Environmental, and Emergency Technologies. B.S.E., University of Tennessee at Chattanooga, 1986.
- Cheryl D. Coffman, (2000) Instructor, Early Childhood Education—Social and Behavioral Sciences. M.E., Southwestern Baptist Theological Seminary, 1976.
- Gay D. Cohen, (1991) Associate Professor, Nursing—Nursing/Allied Health. M.S.N., University of Tennessee, 1981.
- Peter A. Collins, (1983) Associate Professor, Mathematics—Math and Sciences. M.A., Eastern Michigan University, 1971.
- John E. Cousino, (1991) Associate Professor, Respiratory Care—Nursing/Allied Health. M.A., University of South Florida, 1986.
- Albert R. Covington, (1983) Senior Vocational Teacher, Industrial Electronics—TN Technology Center. B.S., University of New York, 1986.
- Jarvis G. Dean, Jr., (1979) Associate Professor, Accounting—Business and Information Systems. M.S., University of Tennessee, 1963.
- Kenneth J. DeLorey, (2000) Instructor, Machine Tool Technology—TN Technology Center. SPC 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. M.S., Arizona State University, 1970.
- T. Scott Douglass, (1991) Professor, English; Department Head, English, Humanities, and Philosophy—Humanities. Ph.D., Florida State University, 1982.
- Jennifer M. Duncan, (2001) Instructor, English—Humanities. M.A., University of South Carolina, 1999.
- Louie J. Edmundson, (1979) Professor, English—Humanities. D.A., Middle Tennessee State University, 1975.
- Linda S. Edwards, (1985) Associate Professor, Reading—Humanities. M.S., University of Tennessee at Chattanooga, 1982.
- Ann R. Ehmling, (1988) Assistant Professor, Emergency Medical Services—Nursing/Allied Health. B.S., Covenant College, 1993.
- Joseph P. Everett, (1976) Professor, Mathematics—Math and Sciences. Ed.D., Florida State University, 1972.
- Lisa L. Evers, (1998) Assistant Professor, Nursing—Nursing/Allied Health. M.S., Southern Illinois University, 1994.
- Jerry L. Faulkner, (1994) Associate Professor, Environmental Science—Math and Sciences. Ph.D., University of Tennessee, 1994.
- D. Clay Ferguson, (1976) Associate Professor, Management—Business and Information Systems. M.Ed., University of Tennessee at Chattanooga, 1974.
- Arlene Flerchinger, (2000) Instructor, Information Systems—Business and Information Systems. M.A., University of Denver, 1974.
- Toni W. Fountain, (1992) Associate Professor, Mathematics—Math and Sciences. M.Ed., University of Tennessee at Chattanooga, 1991.
- Jean H. Gammon, (1981) Associate Professor, Reading—Humanities. M.Ed., University of Tennessee at Chattanooga, 1977.
- James E. Garner, (1983) Associate Professor, Mathematics—Math and Sciences. M.A., University of Mississippi, 1964.
- George G. Glass, Jr., (1977) Associate Professor, Mathematics, Environmental Science—Math and Sciences. M.S., North Carolina State University, 1974.
- Hisel H. Gobble, (1978) Associate Professor, Accounting—Business and Information Systems. M.B.A., East Tennessee State University, 1974.
- R. Clifford Goodlet, (1998) Instructor, Office Administration—Business and Information Systems. B.S., Tennessee Wesleyan College, 1972.
- Efrem K. Graham, (1997) Assistant Professor, Communications/Broadcasting—Business and Information Systems. M.S., Columbia University, 1994.
- 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.
- Jason K. Green, (2001) Instructor, French—Humanities. M.A., University of Missouri at Columbia, 1999.
- Yolanda J. Green, (1988) Associate Professor, Nursing—Nursing/Allied Health. M.S.N., University of Alabama in Birmingham, 1983.
- 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.
- M. David Haddock, Jr., (1979) Professor, Accounting—Business and Information Systems. Ed.D., Auburn University, 1976.
- Sharon E. Hall, (1988) Assistant Professor, Respiratory Therapy—Nursing/Allied Health. Mount Marty College, 1978.
- Lucy W. Hampton, (1995) Vocational Teacher, Surgical Technology—TN Technology Center. B.S.N., University of Tennessee at Chattanooga, 1983.
- Darrin J. Hassevoort, (2000) Instructor, Music—Humanities. M.A., Bob Jones University, 1996.
- Kelley M. Hayton, (2001) Instructor, English—Humanities. M.A., Eastern Michigan University, 2001.
- Betsy K. Headrick, (1983) Associate Professor, Information Systems; Department Head, Advertising Arts, Information Systems, Mass Communications, and Office Administration—Business and Information Systems. M.S., University of Tennessee at Chattanooga, 1992.
- Denise I. Frank Heinly, (1979) Associate Professor, Art—Humanities. M.A., University of Tennessee at Chattanooga, 1991; M.Ed., University of Florida, 1977.
- William J. Helseth, (1980-83, 1992) Associate Professor, Art; Department Head, Fine Arts—Humanities. M.S., Florida State University, 1976; M.F.A., Pennsylvania State University, 1973.
- Joel B. Henderson, (1998) Assistant Professor, English—Humanities. M.S., Harding University, 1993.
- Marian A. Higginbotham, (1999) Assistant Professor, Mathematics—Math and Sciences. M.Ed., Alabama State University, 1990.
- C. Bruce Hilbert, (2000) Instructor, Mathematics—Math and Sciences. B.S., Samford University, 1998.
- Sara J. Hill (Jackie), (1990) Associate Professor/Program Coordinator, Early Childhood Education—Social and Behavioral Sciences. M.Ed., University of Tennessee at Chattanooga, 1987.
- Stuart R. Hilton, (1989) Associate Professor, CAD/CAM Engineering Technology—Engineering, Environmental, and Emergency Technologies. M.S., University of Tennessee at Chattanooga, 1994.
- Constance C. Hitchcock, (1999) Instructor, Management—Business and Information Systems. M.B.A., Vanderbilt University, 1987.
- Gregory D. Holcomb, (1999) Assistant Professor, Electrical/Electronic Engineering Technology—Engineering, Environmental, and Emergency Technologies. M.S., University of Tennessee, 1987.
- Max T. Holland, (1989) Senior Vocational Teacher, Industrial Electricity—TN Technology Center. M.S., University of Southern Mississippi, 1965.
- 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—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.

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- James C. Johnson, (1996) Vocational Instructor, Machine Tool Technology—TN Technology Center. Certificate, Chattanooga State Technical Community College, 1991.
- William A. Johnson, (1990) Professor/Program Director, Dental Assisting & Hygiene—Nursing/Allied Health. D.M.D., University of Oregon Dental School, 1969.
- Debra S. Jones, (1998) Assistant Professor, Speech; Department Head, Speech, Foreign Language, and Reading—Humanities. M.S., Texas Christian University, 1978.
- Jimmy E. Jones, (1996) Vocational Teacher, Marine Engine Technology—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.
- Angela L. Jordan, (1997) Assistant Professor, Mathematics—Math and Sciences. M.S., Middle Tennessee State University, 1997.
- Patricia W. Kato, (1980) Associate Professor, Writing—Humanities. M.A., East Tennessee State University, 1980.
- Pamela J. Keystone, (2001) Instructor, Information Systems—Business and Information Systems. M.B.A., University of Tennessee at Chattanooga, 1995.
- Denis O. Kiely, (2000) Instructor, English—Humanities. M.A., Western Kentucky University, 1983.
- Shirley A. Kilgore, (1985) Associate Professor, Nursing—Nursing/Allied Health. M.S.N., University of Tennessee, 1986.
- 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.
- Michael D. Krogman, (1999) Instructor, Philosophy—Humanities. Ph.D., University of Tennessee, 1998.
- Sara E. Kuhn, (1980) Professor, English—Humanities. Ed.D., University of Georgia, 1979.
- Richard K. Lamerand, (1980-87, 1992) Interim Assistant Dean/Department Head; Associate Professor, Pre-Engineering—Engineering, Environmental, and Emergency Technologies. M.S., University of Houston, 1977.
- Billie S. Lane, (1989) Associate Professor, Biology—Math and Sciences. M.S., Louisiana State University, 1966.
- K. Labron Lawson, (1989) Vocational Intermediate Teacher, Auto Body Repair—TN Technology Center. B.S., Tennessee Wesleyan College, 1997; 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.
- Charles L. Lewis, (1975) Associate Professor, Study Skills—Social and Behavioral Sciences. Ed.S., Mississippi State University, 1971.
- Marie P. Loisy, (1999) Assistant Professor, Nursing—Nursing/Allied Health. M.S., Michigan State University, 1997.
- Kathy L. Long, (1988) Associate Professor/Department Head, Social Sciences—Social and Behavioral Sciences. M.S., M.A., Florida State University, 1973, 1974.
- Sandra K. Lowery, (1996) Associate Professor, Nursing—Nursing/Allied Health. M.S., Indiana University, 1978.
- Beatrice R. Lyons, (1974) Associate Professor/Program Coordinator, American Sign Language Studies—Social and Behavioral Sciences. M.S., University of Tennessee, 1965.
- Judy L. Mabe, (2000) Instructor, Dental Hygiene—Nursing/Allied Health. B.S., University of Tennessee at Martin, 1974.
- Warren C. Mackey, (1976) Professor, History—Social and Behavioral Sciences. D.A., Middle Tennessee State University, 1980.
- Teresa T. Marcus, (1998) Assistant Professor, Dietary Manager—Math and Sciences. M.S., University of Tennessee, 1974.
- 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.
- Grace G. Medley, (1988) Vocational Intermediate Teacher, Practical Nursing—TN Technology Center. M.S., University of Tennessee at Chattanooga, 1987.
- Walter Mickulick, (2001) Instructor, Psychology—Social and Behavioral Sciences. M.P.A., University of Tennessee at Chattanooga, 1995; M.A., Middle Tennessee State University, 1972.
- Carolyn S. Miller, (1989) Associate Professor—Humanities. M.Ed., University of Tennessee at Chattanooga, 1976.
- Cheryl L. Miller, (1988) Associate Professor, Nursing—Nursing/Allied Health. Ed.D., University of Tennessee, 2001.
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2002-03 Faculty

For more information see the "Chattanooga State Digital Directory" online at <http://de.cstcc.cc.tn.us/facultypages/>

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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

Court Reporting

APPROVED BY THE NATIONAL COURT REPORTERS ASSOCIATION
8224 Old Courthouse Road, Vienna, Virginia 22182-3808
(800) 272-6272 FAX (703) 556-6291

Dental Hygiene

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211 East Chicago Avenue, Chicago, Illinois 60641-2678
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Diagnostic Medical Sonography

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(312) 787-2672 FAX (312) 787-9793

Legal Assisting Technology

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Nursing

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Surgical Technology

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OF ALLIED HEALTH EDUCATION PROGRAMS (CAAHEP)
35 East Wacker Drive, Suite 1970, Chicago, Illinois 60601-2208
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Chattanooga State Technical Community College Official Bulletin, Volume XXVII, January 2002

Chattanooga State Technical Community College does not discriminate on the basis of race, sex, color, religion, national origin, age, disability or veteran status in provision of educational programs and services or employment opportunities and benefits. This policy extends to both employment by and admission to Chattanooga State Technical Community College.

Chattanooga State Technical Community College does not discriminate on the basis of race, sex, or disability in its education programs and activities pursuant to the requirements of Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act (ADA) of 1990.

Inquiries and charges of violation concerning Title VI, Title IX, Section 504, ADA or the Age Discrimination in Employment Act (ADEA) or any of the other above

referenced policies should be directed to the College's Affirmative Action Officer. Requests for accommodation of a disability should be directed to the ADA Coordinator at Chattanooga State Technical Community College.

Chattanooga State Technical Community College is one of 45 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, thirteen 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 infor-

mational 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 2002 academic term.

**CHATTANOOGA
STATE
TECHNICAL COMMUNITY COLLEGE**

Pub. No. 11-67-65100-11-10/01/mktg/jdd

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 “Information Systems,” “Insurance,” “Legal Assisting,”
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