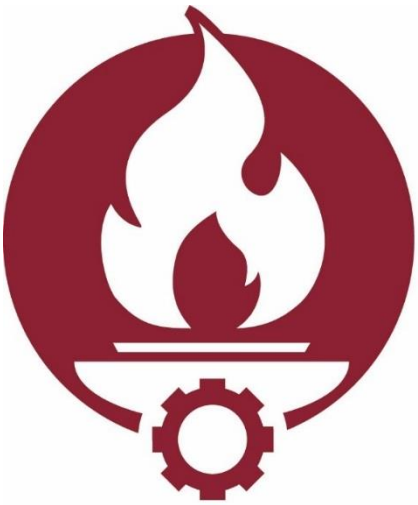

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RICHMOND

COMMUNITY COLLEGE

2015-2016

Effective Fall 2015 – Summer 2016

Revised Spring 2016

Program and Course Catalog

Table of Contents

Richmond Community College offers curricular programs leading to an associate degree, a diploma, or a certificate. Certificates may be awarded through certain curricula upon the satisfactory completion of prescribed courses selected and identified by the College. For more information, see your academic advisor.

The Academic Success Center, tutorial services, and developmental education courses are available for students who need to enhance or review basic skills prior to entering a curriculum. New programs and courses are added in response to student and community needs. All course syllabi are available on the college website. This general catalog represents the most accurate information available concerning Richmond Community College at the time of its publication. However, the College reserves the right to delete or change programs and courses as may be required.

The curricular programs are designed so all students who complete requirements for a degree or diploma will meet required competencies in reading, writing, oral communication, computing and general math skills.

Curricular programs are arranged in alphabetical order and described in detail on the following pages.

Degrees, Diplomas, and Certificates

The Board of Trustees of Richmond Community College, under the authority of the State Board of Community Colleges, is authorized to award the following degrees, diplomas, and certificates:

1. An Associate in Arts or Associate in Science degree is awarded for successful completion of the college transfer curriculum.
2. An Associate in Applied Science degree is awarded for successful completion of a 64-76 semester hour curriculum.
3. A diploma is awarded for successful completion of a 36-48 semester hour curriculum.
4. A certificate is awarded for successful completion of programs that are 12-18 semester hours credit in length. The courses will be determined by Richmond Community College.

Courses of Study

College Transfer Programs

These programs are offered through the Associate in Arts (A.A.) and Associate in Science (A.S.) degrees. The Associate in Arts and the Associate in Science programs are part of the Comprehensive Articulation Agreement (CAA). This agreement addresses the transfer of students between institutions in the North Carolina Community College System and the constituent institutions of the University of North Carolina.

Associate in Arts (A10100)
RCC – N.C. State University Agricultural Sciences (A10100AH)
Associate in Engineering (A10500)
Associate in Science (A10400)
RCC – N.C. State University Poultry Science (A10400P)
RCC – Wingate University Pre-Pharmacy Pathway (A10400WP)

Associate in Applied Science Programs

These programs range from 64 to 76 semester hour credits. A full-time student can typically complete one of these programs within two years. In addition to major course work, associate in applied science degree programs require a minimum of 15 semester hour credits of general education. General education requirements include course work in communications, humanities/ fine arts, social/behavioral sciences and natural sciences/mathematics. Certain courses in associate degree programs may be accepted by a four-year college or university for transfer credit in an associated field.

Accounting (A25100)
Air Conditioning, Heating, and Refrigeration Technology (A35100)
Associate Degree Nursing (A45110)
Business Administration (A25120)
Business Administration: Public Administration (A2512H)
Computer Engineering Technology (A40160)
Computer Information Technology (A25260)
Criminal Justice Technology (A55180)
Early Childhood Education (A55220)

Electric Utility Substation and Relay Technology (A50510)
Electronics Engineering Technology (A40200)
Health Information Technology (A45360)
Healthcare Business Informatics (A25510)
Healthcare Management Technology (A25200)
Human Services Technology (A45380)
Industrial Systems Technology (A50240)
Mechanical Engineering Technology (A40320)
Mechatronics Engineering (A40350)
Medical Assisting (A45400)
Office Administration (A25370)
School-Age Education (A55440)

Note: Associate in Applied Science Degree students considering transfer to a senior institution should substitute a higher-level mathematics course for the required mathematics course listed in their curriculum.

Diploma Programs

These programs range from 36 to 48 semester hour credits and can usually be completed by a full-time student within two semesters and one summer term. Associate degree level courses within a diploma program may also be applied toward an Associate in Applied Science degree.

Air Conditioning, Heating, and Refrigeration Technology (D35100)
Computer Information Technology (D25260)
Computer-Integrated Machining (D50210)
Criminal Justice Technology (D55180)
Dialysis Technology (D45300)
Early Childhood Education: Special Education (D55220)
Electric Utility Transformer Test Specialist (D50510)
Electrical Systems Technology (D35130)
Industrial Systems Technology (D50240)
Mechanical Engineering Technology (D40320)
Practical Nursing (D45660)
Therapeutic & Diagnostic Services: Nurse Aide (D45970)
Welding Technology (D50420)

Certificate Programs

These programs range from 12 to 18 semester hour credits and can usually be completed within one semester by a full-time student. Associate degree level courses within a certificate program may also be applied toward a diploma or an associate in applied science degree.

Accounting (C25100A)
Accounting/Bookkeeper (C25100B)
Air Conditioning, Heating, and Refrigeration Technology: Air Conditioning (C35100C)
Air Conditioning, Heating, and Refrigeration Technology: Heating (C35100H)
Business Administration (C25120)

Business Administration: Entrepreneurship (C25120E)
Business Administration: Project Management (C25120PM)
Business Administration: Public Administration (C2512H)
Computer Information Technology (C25260)
Computer-Integrated Machining (C50210)
Computer-Integrated Machining: Machining Technology (C50210M)
Criminal Justice Technology: Corrections (C55180C)
Criminal Justice Technology: Law Enforcement (C55180L)
Early Childhood Education (C55220)
Electrical Systems Technology (C35130)
Healthcare Management Technology (C25200)
Human Services Technology: At-Risk Youth Technician (C45380Y)
Human Services Technology: Social Gerontology (C45380G)
Human Services Technology: Social Services (C45380SC)
Human Services Technology: Substance Abuse (C45380SA)
Industrial Systems Technology (C50240)
Infant/Toddler Care (C55290)
Lateral Entry (C55430)
Mechanical Engineering Technology: Computer-Aided Drafting (C40320)
Medical Assisting (C45400)
Office Administration (C25370R)
Therapeutic & Diagnostic Services: Nurse Aide (C45970)
Welding Technology (C50420)

Types of Instruction

Web-assisted courses: web-assisted courses are delivered 100% face-to-face on campus. There may be up to 24% online course work using the college learning management system. The instructor will provide online resources that will be available to students throughout the entire duration of the course.

Asynchronous online courses: asynchronous online courses are independent of time and location. Rather than gathering in a classroom, students meet online and communicate with the instructor and classmates using the college learning management system (LMS), e-mail and/or other web tools. Students are required to complete 100% of the course online. While there are no required on-campus class meetings, instructors may require a proctored exam.

Synchronous online courses: synchronous online courses are delivered completely online but have set virtual meeting times. Students will have regularly scheduled online meeting times in addition to online assignments. While students are not required to physically come to campus, synchronous courses do require students to meet virtually with their classmates and instructor using web-conferencing tools, web-cam, and a microphone. The required virtual course meeting times will be designated on the course schedule.

Hybrid courses: hybrid courses combine traditional face-to-face learning with online learning. Hybrid courses will require at least 25% but not more than 75% of the course work to be completed online using the college learning management system (LMS), e-mail and/or other web tools. The required traditional course meeting times will be designated on the course schedule.

Interactive television courses: interactive television (ITV) courses are taught by an RCC instructor who teaches traditionally from one campus location and synchronously delivers the class to other campus location(s) using advanced web-conference tools and a large TV monitor. The instructor and students can interact with each other just as they would in a traditional classroom, and students are able to interact with their peers who are enrolled at other campus locations. ITV courses provide opportunities for students to take courses that mirror a traditional classroom setting but from a different more convenient campus location.

Section indicators on RCC Course Schedule

"W" = Online courses
- Asynchronous courses will have "TBA" listed for days and times
- Synchronous courses will have scheduled days and times listed for online virtual meetings

"H" = Hybrid courses
"V" = ITV courses

Developmental Education

Students scoring below the official cutoff scores on the Computerized Placement Tests will be assigned to the appropriate developmental course(s). These courses are designed to provide the student with the reading, writing, mathematics, and keyboarding skills needed to enter a one or two-year program.

Because most curriculum courses have developmental prerequisites, the following restrictions apply: (1) Students will not be allowed to register for those curriculum courses until the prerequisite courses are passed. (2) Students required to take DRE 096 or DRE 097 should postpone taking any curriculum courses until they progress to DRE 098. (3) Students required to take more than one developmental course should limit their enrollment in curriculum courses to those requiring the least reading, writing and computational competencies.

DEVELOPMENTAL COURSES
(DAY/EVENING)

			Class	Lab	Work/ Clinical	Credit
BIO	094	Concepts of Human Biology	3	2	0	4
CIS	070	Fundamentals of Computing	0	2	0	1
DMA	010	Operations with Integers	.75	.50	0	1
DMA	020	Fractions and Decimals	.75	.50	0	1
DMA	030	Proportions/Ratio/Rate/Percent	.75	.50	0	1
DMA	040	Expressions/Linear Equations and Inequalities	.75	.50	0	1
DMA	050	Graphs/Equations of Lines	.75	.50	0	1
DMA	060	Polynomials/Quadratic Equations	.75	.50	0	1
DMA	070	Rational Expressions/Equations	.75	.50	0	1
DMA	080	Radical Expressions/Equations	.75	.50	0	1
DRE	096	Integrated Reading and Writing	2.5	1	0	3
DRE	097	Integrated Reading Writing II	2.5	1	0	3
DRE	098	Integrated Reading Writing III	2.5	1	0	3
SCI	090	Skills for the Sciences	2	2	0	3

Exit Requirements

Final Grades for all DMA and DRE courses will be "P' (Pass) or "R" (Re-enroll). Students must have an 80% pass rate for each course to progress to the next course.

Associate Degree Curricula

Associate in Arts (A10100)

(College Transfer Curricula)

Richmond Community College offers two associate degree programs designed to allow seamless transition to four-year institutions: Associate in Arts (A.A.) and Associate in Science (AS). These programs are designed to offer students the freshman and sophomore years of a baccalaureate-track program.

The Associate in Arts program is designed for students desiring a bachelor's degree and/or pre-professional training in areas other than fine arts and natural/biological/mathematical sciences. Students who plan to major in such disciplines as art, business, economics, history, humanities, liberal arts, liberal arts education, music, political science, psychology, and sociology should consult a counselor about enrolling in the A.A. program.

The Associate in Arts degree is granted for a planned program of study consisting of a minimum of 60 semester hours of credit (SHC) of college transfer courses. Within the A.A. degree program, students have the opportunity to achieve competency in reading, writing, oral communication, fundamental mathematical skills, and basic computer use.

Courses are approved for transfer through the Comprehensive Articulation Agreement (CAA). The CAA enables North Carolina community college graduates of two-year associate in arts programs who are admitted to constituent institutions of The University of North Carolina to transfer with junior status.

Community college graduates must obtain a grade of "C" or better in each course and an overall GPA of at least 2.0 on a 4.0 scale in order to transfer with a junior status. Courses may also transfer through bilateral agreements between institutions.

ACADEMIC PRE-MAJORS

Counselors and advisors can help students design a program of study. See http://www.northcarolina.edu/?q=content/nc-community-college-transfer for additional information.

A. UNIVERSAL GENERAL EDUCATION TRANSFER COMPONENT (45 SHC)

(All courses in this component are required and will transfer for equivalency credit.)

				Class	Lab	Work/ Clinical	Credit
1.	**English Composition (6 SHC)**						
	ENG	111	Writing & Inquiry	3	0	0	3
	ENG	112	Writing/Research in the Disciplines	3	0	0	3
2.	**Communications and Humanities/Fine Arts (9 SHC)**						
	Choose three (3) courses from the following from at least two (2) different disciplines:						
	ART	111	Art Appreciation	3	0	0	3
	ART	114	Art History Survey I	3	0	0	3
	ART	115	Art History Survey II	3	0	0	3
	COM	231	Public Speaking	3	0	0	3
	ENG	231	American Literature I	3	0	0	3
	ENG	232	American Literature II	3	0	0	3
	MUS	110	Music Appreciation	3	0	0	3
	MUS	112	Introduction to Jazz	3	0	0	3

PHI	215	Philosophical Issues	3	0	0	3
PHI	240	Introduction to Ethics	3	0	0	3

3. Social/Behavioral Sciences (9 SHC)

Choose three (3) courses from the following from at least two (2) different disciplines.

ECO	251	Principles of Microeconomics	3	0	0	3
ECO	252	Principles of Macroeconomics	3	0	0	3
HIS	111	World Civilization I	3	0	0	3
HIS	112	World Civilization II	3	0	0	3
HIS	131	American History I	3	0	0	3
HIS	132	American History II	3	0	0	3
POL	120	American Government	3	0	0	3
PSY	150	General Psychology	3	0	0	3
SOC	210	Introduction to Sociology	3	0	0	3

4. Mathematics (3-4 SHC)

Select one course from the following:

MAT	143	Quantitative Literacy	2	2	0	3
MAT	152	Statistical Methods I	3	2	0	4
MAT	171	Precalculus Algebra	3	2	0	4

5. Natural Sciences (4 SHC)

Select from the following course(s):

AST	111	Descriptive Astronomy	3	0	0	3
and						
AST	111A	Descriptive Astronomy Lab	0	2	0	1
AST	151	General Astronomy I	3	0	0	3
and						
AST	151A	General Astronomy I Lab	0	2	0	1
BIO	110	Principles of Biology	3	3	0	4
BIO	111	General Biology I	3	3	0	4
CHM	151	General Chemistry I	3	3	0	4
GEL	111	Introductory Geology	3	2	0	4
PHY	110	Conceptual Physics	3	0	0	3
and						
PHY	110A	Conceptual Physics Lab	0	2	0	1

6. Additional General Education hours (13-14 SHC)*

Select 13-14 semester hours of additional general education courses from the preceding Humanities/Fine Arts, Social/Behavioral Sciences, Mathematics, and Natural Sciences or any of the courses listed below. Students should select these courses based on their intended major and transfer university.

B. OTHER REQUIRED HOURS (15 SHC)

1. Academic Transition

ACA	122	College Transfer Success	0	2	0	1

2. Electives (14 SHC)**

Select a minimum of fourteen (14) semester hours. Students may take additional general education courses from the preceding general education sections or courses classified as a pre-major and/or elective course within the Comprehensive Articulation Agreement

listed below. Students should select these courses based on their intended major and transfer university.

Students must meet the receiving university's foreign language and/or health and physical education requirements, if applicable, prior to or after transfer to the senior institution.

Total Credit Hours **60-61**

***Courses approved to meet the General Education requirement under the Comprehensive Articulation Agreement**.

			Class	Lab	Work/ Clinical	Credit
ANT	220	Cultural Anthropology	3	0	0	3
BIO	112	General Biology II	3	3	0	4
BIO	120	Introductory Botany	3	3	0	4
BIO	130	Introductory Zoology	3	3	0	4
BIO	140	Environmental Biology	3	0	0	3
BIO	140A	Environmental Biology Lab	0	3	0	1
ENG	113	Literature-Based Research	3	0	0	3
ENG	114	Professional Research & Reporting	3	0	0	3
CHI	111	Elementary Chinese I	3	0	0	3
CHI	112	Elementary Chinese II	3	0	0	3
CHM	132	Organic and Biochemistry	3	3	0	4
CHM	152	General Chemistry II	3	3	0	4
CIS	110	Introduction to Computers	2	2	0	3
CIS	115	Introduction to Programming & Logic	2	3	0	3
COM	110	Introduction to Communication	3	0	0	3
COM	120	Interpersonal Communication	3	0	0	3
DRA	111	Theatre Appreciation	3	0	0	3
ENG	131	Introduction to Literature	3	0	0	3
ENG	233	Major American Writers	3	0	0	3
ENG	241	British Literature I	3	0	0	3
ENG	242	British Literature II	3	0	0	3
ENG	243	Major British Writers	3	0	0	3
ENG	261	World Literature I	3	0	0	3
ENG	262	World Literature II	3	0	0	3
FRE	111	Elementary French I	3	0	0	3
FRE	112	Elementary French II	3	0	0	3
GEL	120	Physical Geology	3	2	0	4
GEO	111	World Regional Geography	3	0	0	3
GEO	112	Cultural Geography	3	0	0	3
GER	111	Elementary German I	3	0	0	3
GER	112	Elementary German II	3	0	0	3
HIS	121	Western Civilization I	3	0	0	3
HIS	122	Western Civilization II	3	0	0	3
HUM	110	Technology and Society	3	0	0	3

HUM	115	Critical Thinking	3	0	0	3
HUM	120	Cultural Studies	3	0	0	3
HUM	122	Southern Culture	3	0	0	3
HUM	130	Myth in Human Culture	3	0	0	3
HUM	150	American Women's Studies	3	0	0	3
HUM	160	Introduction to Film	2	2	0	3
HUM	211	Humanities I	3	0	0	3
HUM	212	Humanities II	3	0	0	3
MAT	172	Precalculus Trigonometry	3	2	0	4
MAT	271	Calculus I	3	2	0	4
MAT	272	Calculus II	3	2	0	4
MAT	273	Calculus III	3	2	0	4
PHI	210	History of Philosophy	3	0	0	3
PHY	151	College Physics I	3	2	0	4
PHY	152	College Physics II	3	2	0	4
PHY	251	General Physics I	3	3	0	4
PHY	252	General Physics II	3	3	0	4
POL	110	Introduction to Political Science	3	0	0	3
POL	220	International Relations	3	0	0	3
PSY	237	Social Psychology	3	0	0	3
PSY	241	Developmental Psychology	3	0	0	3
PSY	281	Abnormal Psychology	3	0	0	3
REL	110	World Religions	3	0	0	3
REL	111	Eastern Religions	3	0	0	3
REL	112	Western Religions	3	0	0	3
REL	211	Introduction to Old Testament	3	0	0	3
REL	212	Introduction to New Testament	3	0	0	3
REL	221	Religion in America	3	0	0	3
SOC	213	Sociology of the Family	3	0	0	3
SOC	220	Social Problems	3	0	0	3
SOC	225	Social Diversity	3	0	0	3
SOC	240	Social Psychology	3	0	0	3
SPA	111	Elementary Spanish I	3	0	0	3
SPA	112	Elementary Spanish II	3	0	0	3
SPA	211	Intermediate Spanish I	3	0	0	3
SPA	212	Intermediate Spanish II	3	0	0	3

****<u>Courses approved as pre-major and/or elective courses under the Comprehensive Articulation Agreement</u>.**

			Class	Lab	Work/ Clinical	Credit
ACC	120	Principles of Financial Accounting	3	2	0	4
ACC	121	Principles of Managerial Accounting	3	2	0	4
ART	131	Drawing I	0	6	0	3
BIO	163	Basic Anatomy and Physiology	4	2	0	5
BIO	165	Anatomy and Physiology I	3	3	0	4

BIO	166	Anatomy and Physiology II	3	3	0	4
BIO	275	Microbiology	3	3	0	4
BUS	110	Introduction to Business	3	0	0	3
BUS	115	Business Law I	3	0	0	3
BUS	137	Principles of Management	3	0	0	3
BUS	228	Business Statistics	2	2	0	3
CHM	251	Organic Chemistry I	3	3	0	4
CHM	252	Organic Chemistry II	3	3	0	4
CJC	111	Introduction to Criminal Justice	3	0	0	3
CJC	141	Corrections	3	0	0	3
CSC	139	Visual BASIC Programming	2	3	0	3
CSC	151	JAVA Programming	2	3	0	3
EDU	216	Foundations of Education	3	2	0	4
ENG	125	Creative Writing I	3	0	0	3
ENG	272	Southern Literature	3	0	0	3
ENG	273	African-American Literature	3	0	0	3
HEA	110	Personal Health/Wellness	3	0	0	3
HEA	112	First Aid & CPR	1	2	0	2
HEA	120	Community Health	3	0	0	3
HIS	162	Women and History	3	0	0	3
HIS	221	African-American History	3	0	0	3
HIS	226	The Civil War	3	0	0	3
HIS	227	Native American History	3	0	0	3
HIS	236	North Carolina History	3	0	0	3
MAT	167	Discrete Mathematics	3	2	0	4
MAT	280	Linear Algebra	3	0	0	3
MAT	285	Differential Equations	3	2	0	4
PED	110	Fit and Well for Life	1	2	0	2
PED	120	Walking for Fitness	0	3	0	1
PED	142	Lifetime Sports	0	2	0	1
PED	210	Team Sports	0	3	0	1
SPA	161	Cultural Immersion	2	3	0	3
SPA	181	Spanish Lab 1	0	2	0	1
SPA	182	Spanish Lab 2	0	2	0	1

ASSOCIATE IN ARTS (A10100AH)

RCC – N.C. State University Agricultural Sciences

(College Transfer Curricula)

An articulation agreement between N.C. State University and Richmond Community College guarantees students who have successfully completed selected courses in RCC's Associate in Arts program admission into N.C. State University's Bachelor of Science in Agricultural Sciences curriculum as juniors. RCC advisors will assist students in selecting courses which will transfer. Graduates must have a minimum cumulative grade point average of 3.0 at RCC to be eligible to transfer.

Contact the Student Services Department to speak with an advisor. Below is a suggested schedule.

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
BIO	111	General Biology 1	3	3	0	4
ENG	111	Writing and Inquiry	3	0	0	3
MAT	171	Precalculus Algebra	3	2	0	4
COM		Communication Elective*	3	0	0	3
			12	7	0	15
		First Year – Spring Semester				
BIO	112	General Biology II	3	3	0	4
ECO	251	Principles of Microeconomics	3	0	0	3
ENG	112	Writing/Research in the Disciplines	3	0	0	3
MAT	172	Precalculus Trigonometry	3	2	0	4
HIS		History Elective+	3	0	0	3
			15	5	0	17
		Second Year – Fall Semester				
CHM	151	General Chemistry I	3	3	0	4
MAT	271	Calculus I	3	2	0	4
ENG		Literature Elective++	3	0	0	3
		Humanities/Fine Arts**	3	0	0	3
		Social/Behavioral Sciences***	3	0	0	3
			12	5	0	17
		Second Year – Spring Semester				
CHM	132	Organic and Biochemistry	3	3	0	4
		Humanities/Fine Arts**	3	0	0	3
		Social/Behavioral Sciences***	3	0	0	3
		Free Elective	3	0	0	3
		Free Elective	3	0	0	3
			12	3	0	16

*Communication Electives
COM 120 Interpersonal Communication
COM 231 Public Speaking

+History Electives
HIS 111 or 112 World Civilizations I or II
HIS 121 or 122 Western Civilization I or II
HIS 131 or 132 American History I or II

++Literature Electives
ENG 131 Introduction to Literature
ENG 231 or 232 American Literature I or II
ENG 233 Major American Writers
ENG 241 or 242 British Literature I or II
ENG 243 Major British Writers
ENG 261 or 262 World Literature I or II

**Humanities/Fine Arts
Four (4) courses from at least three (3) different discipline areas are required. At least one (1) course must be a communications course and one (1) must be a literature course. Select other courses from the Associate in Arts Humanities/Fine Arts electives listed in the previous section for the Humanities/Fine Arts electives.

***Social/Behavioral Sciences
Four (4) courses from at least three (3) different discipline areas are required. At least one (1) course must be ECO 251 and one (1) must be a history course. Select other courses from the Associate in Arts Social Sciences electives listed in the previous section for the Social/Behavioral Sciences electives.

Associate in Engineering (A10500)

(College Transfer Curricula)

The Associate in Engineering (AE) degree shall be granted for a planned program of study consisting of a minimum of 60 semester hours of credit (SHC) of courses. Within the degree program, the institution shall include opportunities for the achievement of competence in reading, writing, oral communication, fundamental mathematical skills, and basic computer use.

The degree plan includes required general education and prerequisite courses that are acceptable to all state funded Bachelor of Engineering programs. Students who follow the degree progression plan will meet the entrance requirements at all of the North Carolina public Bachelor of Science Engineering programs. Associate in Engineering graduates may then apply to any of these programs without taking additional and sometimes duplicative courses. Admission to Engineering programs is highly competitive and admission is not guaranteed.

To be eligible for the transfer of credits under the AE to the Bachelor of Science in Engineering Articulation Agreement, community college graduates must obtain a grade of "C" or better in each course and an overall GPA of at least 2.5 on a 4.0 scale.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

	Class	Lab	Work/ Clinical	Credit
A. General Education Courses				
1. English Composition (6 SHC)				
ENG 111 Writing and Inquiry	3	0	0	3
ENG 112 Writing/Research in the Disciplines	3	0	0	3
2. Humanities (3 SHC)				
Select one course from the following:				
ENG 231 American Literature I	3	0	0	3
ENG 232 American Literature II	3	0	0	3
PHI 240 Introduction to Ethics	3	0	0	3
REL 110 World Religions	3	0	0	3
3. Fine Arts and Communication (3 SHC)				
Select one course from the following:				
ART 111 Art Appreciation	3	0	0	3
COM 231 American Literature I	3	0	0	3
MUS 110 Music Appreciation	3	0	0	3
4. Social/Behavioral Sciences (6 SHC)				

Required

ECO	251	Principles of Microeconomics	3	0	0	3

Select one course from the following:

HIS	111	World Civilizations I	3	0	0	3
HIS	112	World Civilizations II	3	0	0	3
HIS	131	American History I	3	0	0	3
HIS	132	American History II	3	0	0	3
POL	120	American Government	3	0	0	3
PSY	150	General Psychology	3	0	0	3
SOC	210	Introduction to Sociology	3	0	0	3

5. Mathematics (12 SHC)

MAT	271	Calculus I	3	2	0	4
MAT	272	Calculus II	3	2	0	4
MAT	273	Calculus III	3	2	0	4

6. Natural Sciences (12 SHC)

CHM	151	General Chemistry I	3	3	0	4
PHY	251	General Physics I	3	3	0	4
PHY	252	General Physics II	3	3	0	4

B. Other Required Courses

1. Academic Transition (1 SHC)

ACA	122	College Transfer Success	0	2	0	1

2. Pre-major Elective (2 SHC)

EGR	150	Introduction to Engineering	1	2	0	2

Other General Education and Pre-Major Elective Hours (16 SHC)

BIO	111	General Biology I	3	3	0	4
CHM	152	General Chemistry II	3	3	0	4
COM	110	Introduction to Communication	3	0	0	3
ECO	252	Principles of Macroeconomics	3	0	0	3
PED	110	Fitness and Wellness for Life	1	2	0	2

Total Credit Hours **61**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
ENGINEERING (DAY)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ENG	111	Writing and Inquiry	3	0	0	3
MAT	271	Calculus I	3	2	0	4
CHM	151	General Chemistry I	3	3	0	4
ACA	122	College Transfer Success	0	2	0	1
BIO	111	General Biology I	3	3	0	4
			12	10	0	16
		First Year – Spring Semester				
ENG	112	Writing/Research in the Disciplines	3	0	0	3
MAT	272	Calculus II	3	2	0	4
PHY	251	General Physics I	3	3	0	4
CHM	152	General Chemistry II	3	3	0	4
			12	8	0	15
		Second Year – Fall Semester				
MAT	273	Calculus III	3	2	0	4
PHY	252	General Physics II	3	3	0	4
EGR	150	Introduction to Engineering	1	2	0	2
ECO	251	Principles of Microeconomics	3	0	0	3
PED	110	Fitness and Wellness for Life	1	2	0	2
			11	9	0	15
		Second Year – Spring Semester				
COM	110	Introduction to Communications	3	0	0	3
ECO	252	Principles of Macroeconomics	3	0	0	3
		Fine Arts/Communication	3	0	0	3
		Humanities	3	0	0	3
		Social/Behavioral Sciences	3	0	0	3
			15	0	0	15

Total Credit Hours **61**

Associate in Science (A10400)

(College Transfer Curricula)

Richmond Community College offers two associate degree programs designed to allow seamless transition to four-year institutions: Associate in Arts (A.A.) and Associate in Science (AS). These programs are designed to offer students the freshman and sophomore years of a baccalaureate-track program.

The Associate in Science program is designed for students desiring a bachelor's degree and/or pre-professional training in biological, mathematical, or natural science disciplines.

The Associate in Science degree is granted for a planned program of study consisting of a minimum of 60 semester hours of credit (SHC) of college transfer courses. Within the AS degree program, students have the opportunity to achieve competency in reading, writing, oral communication, fundamental mathematical skills, and basic computer use.

Courses are approved for transfer through the Comprehensive Articulation Agreement (CAA). The CAA enables North Carolina community college graduates of two-year associate in arts programs who are admitted to constituent institutions of The University of North Carolina to transfer with junior status.

Community college graduates must obtain a grade of "C" or better in each course and an overall GPA of at least 2.0 on a 4.0 scale in order to transfer with a junior status. Courses may also transfer through bilateral agreements between institutions.

ACADEMIC PRE-MAJORS

Counselors and advisors can help students design a program of study. See http://www.northcarolina.edu/?q=content/nc-community-college-transfer for additional information.

A. UNIVERSAL GENERAL EDUCATION TRANSFER COMPONENT (45 SHC)

(All courses in this component are required and will transfer for equivalency credit.)

				Class	Lab	Work/ Clinical	Credit
1.	**English Composition (6 SHC)**						
	ENG	111	Writing & Inquiry	3	0	0	3
	ENG	112	Writing/Research in the Disciplines	3	0	0	3
2.	**Communications and Humanities/Fine Arts (6 SHC)**						
	Choose two (2) courses from the following from at least two different disciplines.						
	ART	111	Art Appreciation	3	0	0	3
	ART	114	Art History Survey I	3	0	0	3
	ART	115	Art History Survey II	3	0	0	3
	COM	231	Public Speaking	3	0	0	3
	ENG	231	American Literature I	3	0	0	3
	ENG	232	American Literature II	3	0	0	3
	MUS	110	Music Appreciation	3	0	0	3
	MUS	112	Introduction to Jazz	3	0	0	3
	PHI	215	Philosophical Issues	3	0	0	3
	PHI	240	Introduction to Ethics	3	0	0	3
3.	**Social/Behavioral Sciences (6 SHC)**						

Choose two (2) courses from the following from at least two (2) different disciplines.

ECO	251	Principles of Microeconomics	3	0	0	3
ECO	252	Principles of Macroeconomics	3	0	0	3
HIS	111	World Civilizations I	3	0	0	3
HIS	112	World Civilizations II	3	0	0	3
HIS	131	American History I	3	0	0	3
HIS	132	American History II	3	0	0	3
POL	120	American Government	3	0	0	3
PSY	150	General Psychology	3	0	0	3
SOC	210	Introduction to Sociology	3	0	0	3

4. Mathematics (8 SHC)

Select two courses from the following:

MAT	171	Precalculus Algebra	3	2	0	4
MAT	172	Precalculus Trigonometry	3	2	0	4
MAT	263	Brief Calculus	3	2	0	4
MAT	271	Calculus I	3	2	0	4

5. Natural Sciences (8 SHC)

Select two courses from the following:

AST	151	General Astronomy I	3	0	0	3
and						
AST	151A	General Astronomy I Lab	0	2	0	1
BIO	110	Principles of Biology	3	3	0	4
BIO	111	General Biology I	3	3	0	4
and						
BIO	112	General Biology II	3	3	0	4
CHM	151	General Chemistry I	3	3	0	4
and						
CHM	152	General Chemistry II	3	3	0	4
GEL	111	Introductory Geology	3	2	0	4
PHY	110	Conceptual Physics	3	0	0	3
and						
PHY	110A	Conceptual Physics Lab	0	2	0	1
PHY	151	College Physics I	3	2	0	4
and						
PHY	152	College Physics II	3	2	0	4
PHY	251	General Physics I	3	3	0	4
and						
PHY	252	General Physics II	3	3	0	4

6. Additional General Education hours (11 SHC)*

Select 11 semester hours of additional general education courses from the preceding Humanities/Fine Arts, Social/Behavioral Sciences, Mathematics, and Natural Sciences or any of the courses listed below. Students should select these courses based on their intended major and transfer university.

B. OTHER REQUIRED HOURS (15 SHC)

1. Academic Transition

ACA	122	College Transfer Success	0	2	0	1

2. Electives (14 SHC)**

Select a minimum of fourteen (14) semester hours. Students may take additional general education courses from the preceding general education sections or courses classified as a pre-major/and or elective course within the Comprehensive Articulation Agreement listed below. Students should select these courses based on their intended major and transfer university.

Students must meet the receiving university's foreign language and/or health and physical education requirements, if applicable, prior to or after transfer to the senior institution.

Total Credit Hours 60-61

***Courses approved to meet the General Education requirement under the Comprehensive Articulation Agreement.**

			Class	Lab	Work/ Clinical	Credit
ANT	220	Cultural Anthropology	3	0	0	3
AST	111	Descriptive Astronomy	3	0	0	3
AST	111A	Descriptive Astronomy Lab	0	2	0	1
BIO	112	General Biology II	3	3	0	4
BIO	120	Introductory Botany	3	3	0	4
BIO	130	Introductory Zoology	3	3	0	4
BIO	140	Environmental Biology	3	0	0	3
BIO	140A	Environmental Biology Lab	0	3	0	1
ENG	113	Literature-Based Research	3	0	0	3
ENG	114	Professional Research & Reporting	3	0	0	3
CHI	111	Elementary Chinese I	3	0	0	3
CHI	112	Elementary Chinese II	3	0	0	3
CHM	131	Introduction to Chemistry	3	0	0	3
CHM	131A	Introduction to Chemistry Lab	0	3	0	1
CHM	132	Organic and Biochemistry	3	3	0	4
CIS	110	Introduction to Computers	2	2	0	3
CIS	115	Introduction to Programming & Logic	2	3	0	3
COM	110	Introduction to Communication	3	0	0	3
COM	120	Interpersonal Communication	3	0	0	3
DRA	111	Theatre Appreciation	3	0	0	3
ENG	131	Introduction to Literature	3	0	0	3
ENG	233	Major American Writers	3	0	0	3
ENG	241	British Literature I	3	0	0	3
ENG	242	British Literature II	3	0	0	3
ENG	243	Major British Writers	3	0	0	3
ENG	261	World Literature I	3	0	0	3
ENG	262	World Literature II	3	0	0	3
FRE	111	Elementary French I	3	0	0	3
FRE	112	Elementary French II	3	0	0	3
GEL	120	Physical Geology	3	2	0	4

GEO	111	World Regional Geography	3	0	0	3
GEO	112	Cultural Geography	3	0	0	3
GER	111	Elementary German I	3	0	0	3
GER	112	Elementary German II	3	0	0	3
HIS	121	Western Civilization I	3	0	0	3
HIS	122	Western Civilization II	3	0	0	3
HUM	110	Technology and Society	3	0	0	3
HUM	115	Critical Thinking	3	0	0	3
HUM	120	Cultural Studies	3	0	0	3
HUM	122	Southern Culture	3	0	0	3
HUM	130	Myth in Human Culture	3	0	0	3
HUM	150	American Women's Studies	3	0	0	3
HUM	160	Introduction to Film	2	2	0	3
HUM	211	Humanities I	3	0	0	3
HUM	212	Humanities II	3	0	0	3
MAT	152	Statistical Methods I	3	2	0	4
MAT	272	Calculus II	3	2	0	4
MAT	273	Calculus III	3	2	0	4
PHI	210	History of Philosophy	3	0	0	3
POL	110	Introduction to Political Science	3	0	0	3
POL	220	International Relations	3	0	0	3
PSY	237	Social Psychology	3	0	0	3
PSY	241	Developmental Psychology	3	0	0	3
PSY	281	Abnormal Psychology	3	0	0	3
REL	110	World Religions	3	0	0	3
REL	111	Eastern Religions	3	0	0	3
REL	112	Western Religions	3	0	0	3
REL	211	Introduction to Old Testament	3	0	0	3
REL	212	Introduction to New Testament	3	0	0	3
REL	221	Religion in America	3	0	0	3
SOC	213	Sociology of the Family	3	0	0	3
SOC	220	Social Problems	3	0	0	3
SOC	225	Social Diversity	3	0	0	3
SOC	240	Social Psychology	3	0	0	3
SPA	111	Elementary Spanish I	3	0	0	3
SPA	112	Elementary Spanish II	3	0	0	3
SPA	211	Intermediate Spanish I	3	0	0	3
SPA	212	Intermediate Spanish II	3	0	0	3

****<u>Courses approved as pre-major and/or elective courses under the Comprehensive Articulation Agreement</u>**.

			Class	Lab	Work/ Clinical	Credit
ACC	120	Principles of Financial Accounting	3	2	0	4
ACC	121	Principles of Managerial Accounting	3	2	0	4
ART	131	Drawing I	0	6	0	3

BIO	163	Basic Anatomy and Physiology	4	2	0	5
BIO	165	Anatomy and Physiology I	3	3	0	4
BIO	166	Anatomy and Physiology II	3	3	0	4
BIO	275	Microbiology	3	3	0	4
BUS	110	Introduction to Business	3	0	0	3
BUS	115	Business Law I	3	0	0	3
BUS	137	Principles of Management	3	0	0	3
BUS	228	Business Statistics	2	2	0	3
CHM	251	Organic Chemistry I	3	3	0	4
CHM	252	Organic Chemistry II	3	3	0	4
CJC	111	Introduction to Criminal Justice	3	0	0	3
CJC	141	Corrections	3	0	0	3
CSC	139	Visual BASIC Programming	2	3	0	3
CSC	151	JAVA Programming	2	3	0	3
EDU	216	Foundations of Education	3	2	0	4
ENG	125	Creative Writing I	3	0	0	3
ENG	272	Southern Literature	3	0	0	3
ENG	273	African-American Literature	3	0	0	3
HEA	110	Personal Health/Wellness	3	0	0	3
HEA	112	First Aid & CPR	1	2	0	2
HEA	120	Community Health	3	0	0	3
HIS	162	Women and History	3	0	0	3
HIS	221	African-American History	3	0	0	3
HIS	226	The Civil War	3	0	0	3
HIS	227	Native American History	3	0	0	3
HIS	236	North Carolina History	3	0	0	3
MAT	167	Discrete Mathematics	3	0	0	3
MAT	280	Linear Algebra	3	0	0	0
MAT	285	Differential Equations	3	2	0	4
PED	110	Fit and Well for Life	1	2	0	2
PED	120	Walking for Fitness	0	3	0	1
PED	142	Lifetime Sports	0	2	0	1
PED	210	Team Sports	0	3	0	1
SPA	161	Cultural Immersion	2	3	0	3
SPA	181	Spanish Lab 1	0	2	0	1
SPA	182	Spanish Lab 2	0	2	0	1

ASSOCIATE IN SCIENCE (A10400P)

RCC – N.C. State University Poultry Science

(College Transfer Curricula)

An articulation agreement between N.C. State University and Richmond Community College guarantees students who have successfully completed selected courses in RCC's Associate in Science program admission into N.C. State University's Bachelor of Science in Poultry Science Technology curriculum as juniors. RCC advisors will assist students in selecting courses which will transfer. Graduates must have a minimum cumulative grade point average of 3.0 at RCC to be eligible to transfer.

Contact the Student Services Department to speak with an advisor. Below is a suggested schedule.

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
ACC	120	Principles of Financial Acct	3	2	0	4
BIO	111	General Biology I	3	3	0	4
ENG	111	Writing and Inquiry	3	0	0	3
MAT	171	Precalculus Algebra	3	2	0	4
			12	9	0	16
		First Year – Spring Semester				
BIO	112	General Biology II	3	3	0	4
ECO	252	Principles of Macroeconomics	3	0	0	3
ENG	112	Writing/Research in the Disciplines	3	0	0	3
HIS		History Elective*	3	0	0	3
MAT	172	Precalculus Trigonometry	3	2	0	4
			15	5	0	17
		Second Year – Fall Semester				
AST/BIO/CHM/PHY Science Elective**			3	2/3	0	4
CHM	151	General Chemistry I	3	3	0	4
ENG		Literature Elective+	3	0	0	3
MAT	271	Calculus I	3	2	0	4
			12	7/8	0	15
		Second Year – Spring Semester				
BIO	275	Microbiology	3	3	0	4
CHM	132	Organic and Biochemistry	3	3	0	4
COM		Communication Elective++	3	0	0	3
		Humanities/Fine Arts***	3	0	0	3
		Social/Behavioral Science***	3	0	0	3
			15	6	0	17

*History Electives

HIS	111 or 112	World Civilizations I or II
HIS	121 or 122	Western Civilization I or II
HIS	131 or 132	American History I or II

+Literature Electives

ENG	131	Introduction to Literature
ENG	231 or 232	American Literature I or II
ENG	233	Major American Writers
ENG	241 or 242	British Literature I or II
ENG	243	Major British Writers
ENG	261 or 262	World Literature I or II

**Science Electives

AST	111/A	Descriptive Astronomy and Lab
BIO	140/A	Environmental Biology and Lab
BIO	165	Anatomy and Physiology I
CHM	152	General Chemistry II
PHY	110/A	Conceptual Physics and Lab
PHY	151	College Physics I
PHY	251	General Physics I

++Communication Electives

COM	120	Interpersonal Communication
COM	231	Public Speaking

***Humanities/Fine Arts and Social/Behavioral Science

Select any course without a COM or ENG prefix from the Associate in Science Humanities/Fine Arts electives listed in the previous section for the Humanities/Fine Arts elective. Select any course without an ECO or HIS prefix from the Associate in Science Social Sciences electives listed in the previous section for the Social/Behavioral Science elective.

ASSOCIATE IN SCIENCE (A10400WP)

RCC – Wingate University Pre-Pharmacy Pathway

(College Transfer Curricula)

Students seeking entry into the Wingate University School of Pharmacy will meet all pre-requisite course requirements for application by completing this Associate in Science Degree - Pre-Pharmacy Pathway. Additionally, this curriculum adheres to the North Carolina Community College System guidelines for an Associate in Science degree. If a student is not admitted to the Wingate University School of Pharmacy, the Associate of Science degree can also be used to transfer to a Bachelor's degree program.

Completion of the Associate of Science degree does not guarantee admission to the Wingate University School of Pharmacy. Program completion through this partnership ensures that prerequisites have been met; however, the following are additional criteria for admission to the School of Pharmacy:

- minimum 3.0 GPA in prerequisite courses (average GPA for accepted Wingate Pharmacy students is 3.5)
- earn a competitive composite score on the Pharmacy College Admissions Test (PCAT)
- complete an application through PharmCAS
- complete the Wingate University School of Pharmacy supplemental application
- complete the interview process
- complete criminal background check

All pharmacy prerequisites must be completed by the end of spring semester of the year in which pharmacy school enrollment is requested. Admission decisions will be made upon consideration of the course work completed by December 31 of the year prior to prospective matriculation. It is acknowledged that several requirements may be in-progress during the spring semester prior to matriculation into the School of Pharmacy. The grades for in-progress courses will not be taken into account in determination of pre-pharmacy grade point averages.

The Wingate University School of Pharmacy requires that science and communications courses be taken in a seated classroom setting. Science courses taken more than 5 years prior to one's desired enrollment date may not be accepted.

Take a Virtual Tour of the Wingate University School of Pharmacy at http://pharmacy.wingate.edu. Additional information about Wingate University's School of Pharmacy and application process can be found at http://pharmacy.wingate.edu/admissions. RCC's Pathway correlation to course requirements can be viewed below.

The Wingate University School of Pharmacy and Richmond Community College have agreed to partner in an effort to outline a specific pathway for students to obtain an Associate in Science degree that also meets the prerequisite coursework requirements for application to the Wingate University School of Pharmacy. The following are the details of the pathway curriculum.

					Class	Lab	Work/ Clinical	Credit
1.	**English Composition (6 SHC)**							
	ENG	111	Writing & Inquiry		3	0	0	3
	ENG	112	Writing/Research in the Disciplines**		3	0	0	3
2.	**Literature (3 SHC)****							
	Choose one course from the following:							
	ENG	231	American Literature I		3	0	0	3
	ENG	232	American Literature II		3	0	0	3
	ENG	261	World Literature I		3	0	0	3
	ENG	262	World Literature II		3	0	0	3
3.	**Communications (3 SHC)***							
	COM	231	Public Speaking		3	0	0	3
4.	**Humanities/Fine Arts (3 SHC)**							
	Choose one course from the following:							
	REL	211	Introduction to Old Testament		3	0	0	3
	REL	212	Introduction to New Testament		3	0	0	3
	SPA	111	Elementary Spanish I		3	0	0	3
5.	**History (3 SHC)**							
	Choose one course from the following:							
	HIS	112	World Civilizations II		3	0	0	3
	HIS	132	American History II		3	0	0	3
6.	**Social/Behavioral Sciences (3 SHC)**							
	Choose one course from the following:							
	PSY	150	General Psychology		3	0	0	3
	SOC	210	Introduction to Sociology		3	0	0	3
	SOC	213	Sociology of the Family		3	0	0	3
7.	**Additional History, Humanities, Social Behavioral Science (3 SHC)**							
	Choose one course from above not taken previously.							
8.	**Economics (3 SHC)**							
	Choose one course from the following:							
	ECO	251	Principles of Microeconomics		3	0	0	3
	ECO	252	Principles of Macroeconomics		3	0	0	3
9.	**Mathematics (8 SHC)**							
	MAT	152	Statistical Methods I		3	2	0	4
	MAT	271	Calculus I		3	2	0	4
10.	**Natural Sciences (33-36 SHC)***							
	BIO	111	General Biology I		3	3	0	4
	BIO	163	Basic Anatomy and Physiology		4	2	0	5
			or					
	BIO	165	Anatomy and Physiology I		3	3	0	4

	and					
BIO	166	Anatomy and Physiology II	3	3	0	4
BIO	275	Microbiology	3	3	0	4
CHM	151	General Chemistry I	3	3	0	4
CHM	152	General Chemistry II	3	3	0	4
CHM	251	Organic Chemistry I	3	3	0	4
CHM	252	Organic Chemistry II	3	3	0	4
PHY	151	College Physics I	3	2	0	4
	or					
PHY	251	General Physics I	3	3	0	4
11. Other Required RCC hours (1 SHC)						
ACA	122	College Transfer Success	0	2	0	1

**Science and communications courses must be taken in a seated classroom setting. Science courses taken more than five (5) years prior to one's desired enrollment date may not be accepted.*
***The higher grade will be used in calculating the GPA for the application to Wingate's School of Pharmacy.*

Total Credit Hours **69-72**

Associate in Applied Science Degrees, Diplomas and Certificates

Accounting (A25100)

The Accounting curriculum is designed to provide students with the knowledge and skills necessary for employment and growth in the accounting profession. Using the "language of business," accountants assemble and analyze, process and communicate essential information about financial operations.

In addition to course work in accounting principles, theories, and practice, students will study business law, finance, management, and economics. Related skills are developed through the study of communications, computer applications, financial analysis, critical thinking skills, and ethics.

Graduates should qualify for entry-level accounting positions in many types of organizations including accounting firms, small businesses, manufacturing firms, banks, hospitals, school systems, and governmental agencies. With work experience and additional education, an individual may advance in the accounting profession.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

			Class	Lab	Work/ Clinical	Credit
A. General Education Courses						
1. Required Courses						
ECO	252	Principles of Macroeconomics	3	0	0	3
ENG	111	Writing and Inquiry	3	0	0	3
MAT	143	Quantitative Literacy	2	2	0	3
COM	231	Public Speaking	3	0	0	3
or						
ENG	112	Writing/Research in the Disciplines	3	0	0	3
		Humanities/Fine Arts Elective*	3	0	0	3
B. Major Courses						
1. Core Courses						
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.						
ACC	120	Principles of Financial Accounting	3	2	0	4
ACC	121	Principles of Managerial Accounting	3	2	0	4
ACC	129	Individual Income Taxes	2	2	0	3
ACC	220	Intermediate Accounting I	3	2	0	4
BUS	115	Business Law I	3	0	0	3
CIS	110	Introduction to Computers	2	2	0	3
ECO	251	Principles of Microeconomics	3	0	0	3
2. Other Major Courses						

ACC	122	Principles of Financial Accounting II	3	0	0	3
ACC	130	Business Income Taxes	2	2	0	3
ACC	149	Intro to Accounting Spreadsheets	1	2	0	2
ACC	150	Accounting Software Applications	1	2	0	2
ACC	221	Intermediate Accounting II	3	2	0	4
ACC	225	Cost Accounting	3	0	0	3
BUS	137	Principles of Management	3	0	0	3
		Business Elective**	2-3	0-3	0	2-4
ACC	151	Accounting Spreadsheet Applications	1	2	0	2
or						
WBL	112	Work-Based Learning I	0	0	20	2

C. Other Required Courses

ACA	122	College Transfer Success	0	2	0	1

Total Credit Hours **65-66**

*Approved Electives are listed on the page before the Course Descriptions.

**Business elective may be selected from the following courses:

ACC	111	Financial Accounting	3	0	0	3
ACC	115	College Accounting	3	2	0	4
BUS	110	Introduction to Business	3	0	0	3
BUS	116	Business Law II	3	0	0	3
BUS	121	Business Mathematics	2	2	0	3
BUS	125	Personal Finance	3	0	0	3
BUS	153	Human Resource Management	3	0	0	3
BUS	228	Business Statistics	2	2	0	3
BUS	230	Small Business Management	3	0	0	3
BUS	260	Business Communication	3	0	0	3
BUS	261	Diversity in Management	3	0	0	3
DBA	110	Database Concepts	2	3	0	3
INT	110	International Business	3	0	0	3
MKT	120	Principles of Marketing	3	0	0	3
MKT	221	Consumer Behavior	3	0	0	3
MKT	223	Customer Service	3	0	0	3
MKT	224	International Marketing	3	0	0	3
MKT	228	Service Marketing	3	0	0	3
OST	122	Office Computations	1	2	0	2
OST	286	Professional Development	3	0	0	3
SPA	111	Elementary Spanish I	3	0	0	3
SPA	120	Spanish for the Workplace	3	0	0	3

Note: Only 3 SHC of SPA are allowed towards the Accounting degree.

SEMESTER SCHEDULE
ACCOUNTING (DAY)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
ACC	120	Principles of Financial Accounting	3	2	0	4
CIS	110	Introduction to Computers	2	2	0	3
ECO	252	Principles of Macroeconomics	3	0	0	3
ENG	111	Writing and Inquiry	3	0	0	3
MAT	143	Quantitative Literacy	2	2	0	3
			13	8	0	17
		First Year – Spring Semester				
ACC	122	Principles of Financial Accounting II	3	0	0	3
ACC	129	Individual Income Taxes	2	2	0	3
ACC	150	Accounting Software Applications	1	2	0	2
ECO	251	Principles of Microeconomics	3	0	0	3
COM	231	Public Speaking	3	0	0	3
or						
ENG	112	Writing/Research in the Disciplines	3	0	0	3
			15	4	0	17
		Second Year – Fall Semester				
ACC	121	Principles of Managerial Accounting	3	2	0	4
ACC	130	Business Income Taxes	2	2	0	3
ACC	149	Intro to Accounting Spreadsheets	1	2	0	2
ACC	220	Intermediate Accounting I	3	2	0	4
BUS	115	Business Law I	3	0	0	3
			12	8	0	16
		Second Year – Spring Semester				
ACC	151	Accounting Spreadsheet Applications***	1	2	0	2
ACC	221	Intermediate Accounting II	3	2	0	4
ACC	225	Cost Accounting	3	0	0	3
BUS	137	Principles of Management	3	0	0	3
		Business Elective**	2-3	0-3	0	2-4
		Humanities/Fine Arts Elective*	3	0	0	3
			15-16	4-7	0	17-19

Total Credit Hours **65-66**

*Approved Electives are listed on the page before the Course Descriptions.

***WBL 112, Work-Based Learning I, may be substituted for ACC 151, Accounting Spreadsheet Applications. See the course requirements for Accounting (A25100) for details.

SEMESTER SCHEDULE
ACCOUNTING (EVENING)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
ACC	120	Principles of Financial Accounting	3	2	0	4
CIS	110	Introduction to Computers	2	2	0	3
MAT	143	Quantitative Literacy	2	2	0	3
			7	8	0	11
		First Year – Spring Semester				
ACC	121	Principles of Managerial Accounting	3	2	0	4
ACC	122	Principles of Financial Accounting II	3	0	0	3
ENG	111	Writing and Inquiry	3	0	0	3
			9	2	0	10
		Second and Third Years (Alternating Sequences) Even Years – Fall Semester				
ACC	129	Individual Income Taxes	2	2	0	3
ACC	225	Cost Accounting	3	0	0	3
BUS	137	Principles of Management	3	0	0	3
ECO	252	Principles of Macroeconomics	3	0	0	3
			11	2	0	12
		Even Years – Spring Semester				
ACC	151	Accounting Spreadsheet Applications***	1	2	0	2
ACC	221	Intermediate Accounting II	3	2	0	4
COM	231	Public Speaking	3	0	0	3
or						
ENG	112	Writing/Research in the Disciplines	3	0	0	3
		Business Elective**	2-3	0-3	0	2-4
			9-10	4-7	0	11-13
		Odd Years – Spring Semester				
ACC	130	Business Income Taxes	2	2	0	3
ACC	150	Accounting Software Applications	1	2	0	2
ECO	251	Principles of Microeconomics	3	0	0	3
		Humanities/Fine Arts Elective*	3	0	0	3
			9	4	0	11
		Odd Years – Fall Semester				
ACC	220	Intermediate Accounting I	3	2	0	4
ACC	149	Intro to Accounting Spreadsheets	1	2	0	2
BUS	115	Business Law I	3	0	0	3
			7	4	0	9

Total Credit Hours **65-66**

*Approved Electives are listed on the page before the Course Descriptions.

ACCOUNTING (CERTIFICATE) (C25100A)
COURSE REQUIREMENTS

			Class	Lab	Work/ Clinical	Credit
ACA	122	College Transfer Success	0	2	0	1
ACC	120	Principles of Financial Accounting	3	2	0	4
ACC	121	Principles of Managerial Accounting	3	2	0	4
CIS	110	Introduction to Computers	2	2	0	3
ECO	251	Principles of Microeconomics	3	0	0	3
MAT	143	Quantitative Literacy	2	2	0	3

Total Credit Hours **18**

ACCOUNTING/BOOKKEEPER (CERTIFICATE) (C25100B)
COURSE REQUIREMENTS

			Class	Lab	Work/ Clinical	Credit
ACA	122	College Transfer Success	0	2	0	1
ACC	120	Principles of Financial Accounting	3	2	0	4
ACC	122	Principles of Financial Accounting II	3	0	0	3
ACC	150	Accounting Software Applications	1	2	0	2
CIS	110	Introduction to Computers	2	2	0	3
MAT	143	Quantitative Literacy	2	2	0	3
OST	122	Office Computations	1	2	0	2

Total Credit Hours **18**

Air Conditioning, Heating, and Refrigeration Technology (A35100)

The Air Conditioning, Heating, and Refrigeration Technology curriculum provides the basic knowledge to develop skills necessary to work with residential and light commercial systems.

Topics include mechanical refrigeration, heating and cooling theory, electricity, controls, and safety. The diploma program covers air conditioning, furnaces, heat pumps, tools and instruments. In addition, the A.A.S. degree covers residential building codes, residential system sizing, and advanced comfort systems.

Diploma graduates should be able to assist in the start-up, preventive maintenance, service, repair, and/or installation of residential and light commercial systems. A.A.S. degree graduates should be able to demonstrate an understanding of system selection and balance and advanced systems.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

				Class	Lab	Work/ Clinical	Credit
A. General Education Courses							
1. Required Courses							
	COM	231	Public Speaking	3	0	0	3
	ENG	111	Writing and Inquiry	3	0	0	3
	MAT	143	Quantitative Literacy	2	2	0	3
			Humanities/Fine Arts Elective*	3	0	0	3
			Social/Behavioral Sciences Elective*	3	0	0	3
B. Major Courses							
1. Core Courses							
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.							
	AHR	110	Intro to Refrigeration	2	6	0	5
	AHR	111	HVACR Electricity	2	2	0	3
	AHR	112	Heating Technology	2	4	0	4
	AHR	113	Comfort Cooling	2	4	0	4
	AHR	114	Heat Pump Technology	2	4	0	4
	AHR	130	HVAC Controls	2	2	0	3
	AHR	211	Residential Systems Design	2	2	0	3
	AHR	212	Advanced Comfort Systems	2	6	0	4
	AHR	213	HVACR Building Code	1	2	0	2
2. Other Major Courses							
	AHR	115	Refrigeration Systems	1	3	0	2

AHR	120	HVACR Maintenance	1	3	0	2
AHR	151	HVAC Duct Systems I	1	3	0	2
AHR	160	Refrigerant Certification	1	0	0	1
AHR	180	HVACR Customer Relations	1	0	0	1
AHR	235	Refrigeration Design	2	2	0	3
BUS	110	Introduction to Business	3	0	0	3
or						
BUS	230	Small Business Management	3	0	0	3
CIS	110	Introduction to Computers	2	2	0	3

C. Other Required Courses

ACA	122	College Transfer Success	0	2	0	1

Total Credit Hours **65**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
AIR CONDITIONING, HEATING, AND REFRIGERATION TECHNOLOGY

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
AHR	110	Intro to Refrigeration	2	6	0	5
AHR	111	HVACR Electricity	2	2	0	3
AHR	113	Comfort Cooling	2	4	0	4
AHR	180	HVACR Customer Relations	1	0	0	1
CIS	110	Introduction to Computers	2	2	0	3
			9	16	0	17
		First Year – Spring Semester				
AHR	112	Heating Technology	2	4	0	4
AHR	114	Heat Pump Technology	2	4	0	4
AHR	151	HVAC Duct Systems I	1	3	0	2
AHR	160	Refrigerant Certification	1	0	0	1
BUS	110	Introduction to Business	3	0	0	3
or						
BUS	230	Small Business Management	3	0	0	3
ENG	111	Writing and Inquiry	3	0	0	3
			12	11	0	17
		Second Year – Fall Semester				
AHR	115	Refrigeration Systems	1	3	0	2
AHR	211	Residential System Design	2	2	0	3
AHR	213	HVACR Building Code	1	2	0	2
COM	231	Public Speaking	3	0	0	3
MAT	143	Quantitative Literacy	2	2	0	3

		Humanities Fine Arts Elective*	3	0	0	3
			12	9	0	16
		Second Year – Spring Semester				
AHR	120	HVACR Maintenance	1	3	0	2
AHR	130	HVAC Controls	2	2	0	3
AHR	212	Advanced Comfort Systems	2	6	0	4
AHR	235	Refrigeration Design	2	2	0	3
		Social /Behavioral Sciences Elective*	3	0	0	3
			10	13	0	15

Total Credit Hours **65**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
AIR CONDITIONING, HEATING, AND REFRIGERATION TECHNOLOGY (DIPLOMA) (D35100)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
AHR	110	Intro to Refrigeration	2	6	0	5
AHR	111	HVACR Electricity	2	2	0	3
AHR	113	Comfort Cooling	2	4	0	4
AHR	180	HVACR Customer Relations	1	0	0	1
CIS	110	Introduction to Computers	2	2	0	3
			9	16	0	17
		First Year – Spring Semester				
AHR	112	Heating Technology	2	4	0	4
AHR	114	Heat Pump Technology	2	4	0	4
AHR	151	HVAC Duct Systems I	1	3	0	2
AHR	160	Refrigerant Certification	1	0	0	1
BUS	110	Introduction to Business	3	0	0	3
or						
BUS	230	Small Business Management	3	0	0	3
ENG	111	Writing and Inquiry	3	0	0	3
MAT	143	Quantitative Literacy	2	2	0	3
			14	13	0	20

Total Credit Hours **37**

AIR CONDITIONING (CERTIFICATE) (C35100C)
COURSE REQUIREMENTS

			Class	Lab	Work/ Clinical	Credit
AHR	110	Intro to Refrigeration	2	6	0	5
AHR	111	HVACR Electricity	2	2	0	3
AHR	113	Comfort Cooling	2	4	0	4
AHR	160	Refrigerant Certification	1	0	0	1
		Total Credit Hours				**13**

HEATING (CERTIFICATE) (C35100H)
COURSE REQUIREMENTS

			Class	Lab	Work/ Clinical	Credit
AHR	110	Intro to Refrigeration	2	6	0	5
AHR	111	HVACR Electricity	2	2	0	3
AHR	112	Heating Technology	2	4	0	4
AHR	114	Heat Pump Technology	2	4	0	4
AHR	160	Refrigerant Certification	1	0	0	1
		Total Credit Hours				**17**

Associate Degree Nursing (A45110)

The Associate Degree Nursing curriculum provides knowledge, skills, and strategies to integrate safety and quality into nursing care, to practice in a dynamic environment, and to meet individual needs which impact health, quality of life, and achievement of potential.

Course work includes and builds upon the domains of healthcare, nursing practice, and the holistic individual. Content emphasizes the nurse as a member of the interdisciplinary team providing safe, individualize care while employing evidence-based practice, quality improvement, and informatics.

Graduates of this program are eligible to apply to take the National Council Licensure Examination (NCLEX-RN). Employment opportunities are vast within the global health care system and may include positions within acute, chronic, extended, industrial, and community health care facilities.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

The Associate Degree Nursing program is approved by the North Carolina Board of Nursing.

			Class	Lab	Work/ Clinical	Credit
A. General Education Courses						
1. Required Courses						
BIO	165	Anatomy and Physiology I	3	3	0	4
ENG	111	Writing and Inquiry	3	0	0	3
ENG	112	Writing/Research in the Disciplines	3	0	0	3
SOC	210	Introduction to Sociology	3	0	0	3
		Humanities/Fine Arts Elective*	3	0	0	3
		(See page 122 for approved courses)				
B. Major Courses						
1. Core Courses						
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.						
NUR	111	Intro to Health Concepts	4	6	6	8
NUR	112	Health-Illness Concepts	3	0	6	5
NUR	113	Family Health Concepts	3	0	6	5
NUR	114	Holistic Health Concepts	3	0	6	5
NUR	211	Health Care Concepts	3	0	6	5
NUR	212	Health Systems Concepts	3	0	6	5
NUR	213	Complex Health Concepts	4	3	15	10
2. Other Major Courses						
BIO	166	Anatomy and Physiology II	3	3	0	4

BIO	275	Microbiology	3	3	0	4
CIS	110	Introduction to Computers	2	2	0	3
PSY	150	General Psychology	3	0	0	3
PSY	241	Developmental Psychology	3	0	0	3

Total Credit Hours **76**

*Approved electives are listed on the page before Course Descriptions.

SEMESTER SCHEDULE
ASSOCIATE DEGREE NURSING

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
BIO	165	Anatomy and Physiology I	3	3	0	4
CIS	110	Introduction to Computers	2	2	0	3
NUR	111	Intro to Health Concepts	4	6	6	8
PSY	150	General Psychology	3	0	0	3
			12	11	6	18
		First Year – Spring Semester				
BIO	166	Anatomy and Physiology II	3	3	0	4
ENG	111	Writing and Inquiry	3	0	0	3
NUR	112	Health-Illness Concepts	3	0	6	5
NUR	114	Holistic Health Concepts	3	0	6	5
PSY	241	Developmental Psychology	3	0	0	3
			15	3	12	20
		First Year – Summer Semester				
NUR	113	Family Health Concepts	3	0	6	5
			3	0	6	5
		Second Year – Fall Semester				
BIO	275	Microbiology	3	3	0	4
ENG	112	Writing/Research in the Disciplines	3	0	0	3
NUR	211	Health Care Concepts	3	0	6	5
NUR	212	Health System Concepts	3	0	6	5
		Humanities/Fine Arts Elective*	3	0	0	3
			15	3	12	20
		Second Year – Spring Semester				
NUR	213	Complex Health Concepts	4	3	15	10
SOC	210	Introduction to Sociology	3	0	0	3
			7	3	15	13

Total Credit Hours **76**

*Approved Electives are listed on the page before the Course Descriptions.

Business Administration (A25120)

The Business Administration curriculum is designed to introduce students to the various aspects of the free enterprise system. Students will be provided with a fundamental knowledge of business functions, processes, and an understanding of business organizations in today's global economy.

Course work includes business concepts such as accounting, business law, economics, management, and marketing. Skills related to the application of these concepts are developed through the study of computer applications, communication, team building, and decision making.

Through these skills, students will have a sound business education base for lifelong learning. Graduates are prepared for employment opportunities in government agencies, financial institutions, and large to small business or industry.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

				Class	Lab	Work/ Clinical	Credit
A. General Education Courses							
1. Required Courses							
ENG	111	Writing and Inquiry		3	0	0	3
ENG	112	Writing/Research in the Disciplines		3	0	0	3
		Humanities/Fine Arts Elective*		3	0	0	3
		Social/Behavioral Sciences Elective*		3	0	0	3
2. Required Subject Area							
MAT	143	Quantitative Literacy		2	2	0	3
or							
MAT	171	Precalculus Algebra		3	2	0	4
B. Major Courses							
1. Core Courses							
To receive a degree, diploma, or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.							
ACC	120	Principles of Financial Accounting		3	2	0	4
BUS	110	Introduction to Business		3	0	0	3
BUS	115	Business Law I		3	0	0	3
BUS	137	Principles of Management		3	0	0	3
CIS	110	Introduction to Computers		2	2	0	3
ECO	252	Principles of Macroeconomics		3	0	0	3
MKT	120	Principles of Marketing		3	0	0	3

2. Concentration Requirements (12 SHC)
Choose either General Business Admin or Public Admin Track:

a. General Business Administration Track

BUS	121	Business Mathematics	2	2	0	3
BUS	125	Personal Finance	3	0	0	3
BUS	153	Human Resource Management	3	0	0	3
BUS	230	Small Business Management	3	0	0	3

b. Public Administration Track

PAD	151	Intro to Public Admin	3	0	0	3
PAD	152	Ethics in Government	3	0	0	3
PAD	251	Public Finance & Budgeting	3	0	0	3
PAD	252	Public Policy Analysis	3	0	0	3

3. Other Major Courses

ACC	121	Principles of Managerial Accounting	3	2	0	4
BUS	239	Business Applications Seminar	1	2	0	2
CTS	130	Spreadsheet	2	2	0	3
ECO	251	Principles of Microeconomics	3	0	0	3

4. Required Subject Area

Business Electives (Select 6 hours from the following courses)

ACC	122	Principles of Financial Accounting II	3	0	0	3
ACC	129	Individual Income Taxes	2	2	0	3
ACC	130	Business Income Taxes	2	2	0	3
ACC	225	Cost Accounting	3	0	0	3
BUS	116	Business Law II	3	0	0	3
BUS	139	Entrepreneurship I	3	0	0	3
BUS	228	Business Statistics	2	2	0	3
BUS	260	Business Communication	3	0	0	3
BUS	261	Diversity in Management	3	0	0	3
BUS	280	REAL Small Business	4	0	0	4
INT	110	International Business	3	0	0	3
MKT	221	Consumer Behavior	3	0	0	3
MKT	223	Customer Service	3	0	0	3
MKT	224	International Marketing	3	0	0	3
MKT	228	Service Marketing	3	0	0	3
PAD	151	Intro to Public Admin	3	0	0	3
PAD	152	Ethics in Government	3	0	0	3
PAD	251	Public Finance & Budgeting	3	0	0	3
PAD	252	Public Policy Analysis	3	0	0	3
PMT	110	Intro to Project Management	3	0	0	3
PMT	210	Project Management Issues	2	2	0	3
PMT	215	Project Management Leadership	3	0	0	3
SPA	111	Elementary Spanish I	3	0	0	3
SPA	120	Spanish for the Workplace	3	0	0	3

Note: Only 3 SHC of SPA are allowed towards the Business Administration degree.

C. Other Required Courses

ACA	122	College Transfer Success	0	2	0	1

Total Credit Hours **68-69**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
BUSINESS ADMINISTRATION (DAY)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
BUS	110	Introduction to Business	3	0	0	3
BUS	115	Business Law I	3	0	0	3
CIS	110	Introduction to Computers	2	2	0	3
ENG	111	Writing and Inquiry	3	0	0	3
MAT	143	Quantitative Literacy	2	2	0	3
	or					
MAT	171	Precalculus Algebra	3	2	0	4
			13-14	6	0	16-17
		First Year – Spring Semester				
BUS	137	Principles of Management	3	0	0	3
CTS	130	Spreadsheet	2	2	0	3
ENG	112	Writing/Research in the Disciplines	3	0	0	3
MKT	120	Principles of Marketing	3	0	0	3
		Business Elective I	3	0	0	3
		Humanities/Fine Arts Elective*	3	0	0	3
			17	2	0	18
		Second Year – Fall Semester				
ACC	120	Principles of Financial Accounting	3	2	0	4
BUS	153	Human Resource Management	3	0	0	3
BUS	121	Business Mathematics	2	2	0	3
ECO	252	Principles of Macroeconomics	3	0	0	3
		Business Elective II	3	0	0	3
			14	4	0	16
		Second Year – Spring Semester				
ACC	121	Principles of Managerial Accounting	3	2	0	4
BUS	230	Small Business Management	3	0	0	3
BUS	239	Business Applications Seminar	1	2	0	2
ECO	251	Principles of Microeconomics	3	0	0	3
BUS	125	Personal Finance	3	0	0	3
		Social/Behavioral Sciences Elective*	3	0	0	3
			16	4	0	18

Total Credit Hours **68-69**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
BUSINESS ADMINISTRATION (ONLINE)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
BUS	110	Introduction to Business	3	0	0	3
BUS	137	Principles of Management	3	0	0	3
ENG	111	Writing and Inquiry	3	0	0	3
MKT	120	Principles of Marketing	3	0	0	3
		Business Elective I	3	0	0	3
			15	2	0	16
		First Year – Spring Semester				
BUS	115	Business Law I	3	0	0	3
CIS	110	Introduction to Computers	2	2	0	3
ECO	252	Principles of Macroeconomics	3	0	0	3
ENG	112	Writing/Research in the Disciplines	3	0	0	3
MAT	143	Quantitative Literacy	2	2	0	3
		Humanities/Fine Arts Elective*	3	0	0	3
			16	4	0	18
		Second Year – Fall Semester				
ACC	120	Principles of Financial Accounting	3	2	0	4
BUS	230	Small Business Management	3	0	0	3
CTS	130	Spreadsheet	2	2	0	3
ECO	251	Principles of Microeconomics	3	0	0	3
BUS	125	Personal Finance	3	0	0	3
			14	4	0	16
		Second Year – Spring Semester				
ACC	121	Principles of Managerial Accounting	3	2	0	4
BUS	153	Human Resource Management	3	0	0	3
BUS	121	Business Mathematics	2	2	0	3
BUS	239	Business Applications Seminar	1	2	0	2
		Business Elective II	3	0	0	3
		Social/Behavioral Sciences Elective*	3	0	0	3
			15	6	0	18

Total Credit Hours **68**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
PUBLIC ADMINISTRATION (A2512H) (DAY)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
PAD	151	Intro to Public Administration	3	0	0	3
BUS	115	Business Law I	3	0	0	3
CIS	110	Introduction to Computers	2	2	0	3
ENG	111	Writing and Inquiry	3	0	0	3
MAT	143	Quantitative Literacy	2	2	0	3
	or					
MAT	171	Precalculus Algebra	3	2	0	4
			13-14	6	0	16-17
		First Year – Spring Semester				
BUS	110	Introduction to Business	3	0	0	3
CTS	130	Spreadsheet	2	2	0	3
ENG	112	Writing/Research in the Disciplines	3	0	0	3
PAD	152	Ethics in Government	3	0	0	3
MKT	120	Principles of Marketing	3	0	0	3
		Humanities/Fine Arts Elective*	3	0	0	3
			17	2	0	18
		Second Year – Fall Semester				
ACC	120	Principles of Financial Accounting	3	2	0	4
BUS	137	Principles of Management	3	0	0	3
PAD	251	Public Finance & Budgeting	3	0	0	3
ECO	252	Principles of Macroeconomics	3	0	0	3
		Business Elective	3	0	0	3
			14	4	0	16
		Second Year – Spring Semester				
ACC	121	Principles of Managerial Accounting	3	2	0	4
BUS	239	Business Application Seminar	1	2	0	2
PAD	252	Public Policy Analysis	3	0	0	3
ECO	251	Principles of Microeconomics	3	0	0	3
		Social/Behavioral Sciences Elective*	3	0	0	3
			13	4	0	15

Total Credit Hours **65-66**

*Approved Electives are listed on the page before the Course Descriptions.

BUSINESS ADMINISTRATION (CERTIFICATE) (C25120)
COURSE REQUIREMENTS

			Class	Lab	Work/ Clinical	Credit
BUS	110	Introduction to Business	3	0	0	3
BUS	115	Business Law I	3	0	0	3
BUS	137	Principles of Management	3	0	0	3
CIS	110	Introduction to Computers	2	2	0	3
BUS	125	Personal Finance	3	0	0	3
	or					
CTS	130	Spreadsheet	2	2	0	3
MKT	120	Principles of Marketing	3	0	0	3
		Total Credit Hours			**18**	

ENTREPRENEURSHIP (CERTIFICATE) (C25120E)
COURSE REQUIREMENTS

			Class	Lab	Work/ Clinical	Credit
BUS	110	Introduction to Business	3	0	0	3
BUS	139	Entrepreneurship I	3	0	0	3
BUS	280	REAL Small Business	4	0	0	4
ECO	251	Principles of Microeconomics	3	0	0	3
		Total Credit Hours			**13**	

PROJECT MANAGERMENT (CERTIFICATE) (C25120PM)
COURSE REQUIREMENTS

			Class	Lab	Work/ Clinical	Credit
BUS	137	Principles of Management	3	0	0	3
PMT	110	Intro to Project Management	3	0	0	3
PMT	210	Project Management Issues	2	2	0	3
PMT	215	Project Management Leadership	3	0	0	3
		Total Credit Hours			**12**	

PUBLIC ADMINISTRATION (CERTIFICATE) (C2512H)
COURSE REQUIREMENTS

			Class	Lab	Work/ Clinical	Credit
BUS	137	Principles of Management	3	0	0	3
BUS	153	Human Resource Management	3	0	0	3
PAD	151	Intro to Public Administration	3	0	0	3
PAD	152	Ethics in Government	3	0	0	3

PAD	251	Public Finance & Budgeting	3	0	0	3
PAD	252	Public Policy Analysis	3	0	0	3

Total Credit Hours **18**

Computer Engineering Technology (A40160)

ENGINEERING AND TECHNOLOGY PATHWAYS

These curriculums are designed to prepare students through the study and application of principles from mathematics, natural sciences, and technology and applied processes based on these subject areas.

Course work includes mathematics, natural sciences, and engineering sciences and technology.

Graduates should qualify to obtain occupations such as technical service providers, materials and technologies testing services, process improvement technicians, engineering technicians, construction technicians and mangers, industrial and technology managers, or research technicians.

PROGRAM DESCRIPTION

A course of study that prepares the students to use basic engineering principles and technical skills for installing, servicing, and maintaining computers, peripherals, networks, and microprocessor and computer controlled equipment. Includes instruction in mathematics, computer electronics and programming, prototype development and testing, systems installation and testing, solid state and microminiature circuitry, peripheral equipment, and report preparation. Graduates should qualify for employment opportunities in electronics technology, computer service, computer networks, server maintenance, programming, and other areas requiring knowledge of electronic and computer systems. Graduates may also qualify for certification in electronics, computers, or networks.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

				Class	Lab	Work/ Clinical	Credit
A. General Education Courses							
1. Required Courses							
ENG	111	Writing and Inquiry		3	0	0	3
COM	231	Public Speaking		3	0	0	3
	or						
ENG	112	Writing/Research in the Disciplines		3	0	0	3
MAT	171	Precalculus Algebra		3	2	0	4
		Humanities/Fine Arts Elective*		3	0	0	3
		Social/Behavioral Sciences Elective*		3	0	0	3
B. Major Courses							
1. Core Courses							
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.							
CSC	139	Visual BASIC Programming		2	3	0	3
CET	111	Computer Upgrade/Repair I		2	3	0	3

ELC	131	Circuit Analysis I	3	3	0	4
ELN	131	Analog Electronics I	3	3	0	4
ELN	133	Digital Electronics	3	3	0	4
ELN	232	Introduction to Microprocessors	3	3	0	4
NOS	110	Operating System Concepts	2	3	0	3
C. Other Major Courses						
ATR	112	Intro to Automation	2	3	0	3
CIS	115	Introduction to Programming & Logic	2	3	0	3
DFT	151	CAD I	2	3	0	3
EGR	285	Design Project	0	4	0	2
ELN	260	Prog Logic Controllers	3	3	0	4
MAT	172	Precalculus Trigonometry	3	2	0	4
NET	125	Networking Basics	1	4	0	3
NOS	120	Linux/Unix Single User	2	2	0	3
D. Other Required Courses						
ACA	122	College Transfer Success	0	2	0	1
		Total Credit Hours				**67**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
COMPUTER ENGINEERING TECHNOLOGY (DAY)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
CIS	115	Introduction to Programming & Logic	2	3	0	3
ELC	131	Circuit Analysis I	3	3	0	4
ENG	111	Writing and Inquiry	3	0	0	3
MAT	171	Precalculus Algebra	3	2	0	4
NOS	110	Operating System Concepts	2	3	0	3
			13	13	0	18
		First Year – Spring Semester				
CET	111	Computer Upgrade/Repair I	2	3	0	3
COM	231	Public Speaking	3	0	0	3
or						
ENG	112	Argument-Based Research	3	0	0	3
ELN	131	Analog Electronics I	3	3	0	4
ELN	133	Digital Electronics	3	3	0	4
MAT	172	Precalculus Trigonometry	3	2	0	4
			14	11	0	18
		Second Year – Fall Semester				
DFT	151	CAD I	2	3	0	3
ELN	232	Introduction to Microprocessors	3	3	0	4

ELN	260	Prog Logic Controllers	3	3	0	4
NOS	120	Linux/Unix Single User	2	2	0	3
		Social/Behavioral Sciences Elective*	3	0	0	3
			13	11	0	17
		Second Year – Spring Semester				
ATR	112	Intro to Automation	2	3	0	3
CSC	139	Visual BASIC Programming	2	3	0	3
EGR	285	Design Project	0	4	0	2
NET	125	Networking Basics	1	4	0	3
		Humanities/Fine Arts Elective*	3	0	0	3
			8	14	0	14

Total Credit Hours **67**

*Approved Electives are listed on the page before the Course Descriptions.

Computer Information Technology (A25260)

The Computer Information Technology curriculum is designed to prepare graduates for employment with organizations that use computers to process, manage, and communicate information. This is a flexible curriculum that can be customized to meet community information systems needs.

Course work will develop a student's ability to communicate complex technical issues related to computer hardware, software, and networks in a manner that computer users can understand. Classes cover computer operations and terminology, operating systems, database, networking, security, and technical support.

Graduates should qualify for employment in entry-level positions with businesses, educational systems, and governmental agencies which rely on computer systems to manage information. Graduates should be prepared to sit for industry-recognized certification exams.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

				Class	Lab	Work/ Clinical	Credit
A. General Education Courses							
1. Required Courses							
ENG	111	Writing and Inquiry		3	0	0	3
ENG	112	Writing/Research in the Disciplines		3	0	0	3
MAT	143	Quantitative Literacy		2	2	0	3
		Humanities/Fine Arts Elective*		3	0	0	3
		Social/Behavioral Sciences Elective*		3	0	0	3
B. Major Courses							
1. Core Courses							
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.							
BUS	110	Introduction to Business		3	0	0	3
CIS	110	Introduction to Computers		2	2	0	3
CIS	115	Introduction to Programming & Logic		2	3	0	3
CTS	120	Hardware/Software Support		2	3	0	3
CTS	285	Systems Analysis & Design		3	0	0	3
CTS	289	System Support Project		1	4	0	3
DBA	110	Database Concepts		2	3	0	3
NET	125	Networking Basics		1	4	0	3
NOS	110	Operating System Concepts		2	3	0	3
NOS	130	Windows Single User		2	2	0	3
NOS	230	Windows Administration I		2	2	0	3
SEC	110	Security Concepts		2	2	0	3
2. Other Major Courses							

CSC	139	Visual BASIC Programming	2	3	0	3
NOS	120	Linux/UNIX Single User	2	2	0	3
WEB	140	Web Development Tools	2	2	0	3
WEB	230	Implementing Web Serv	2	2	0	3
WEB	250	Database Driven Websites	2	2	0	3

C. Other Required Courses

ACA	122	College Transfer Success	0	2	0	1

Total Credit Hours **67**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
COMPUTER INFORMATION TECHNOLOGY (DAY)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
CIS	110	Introduction to Computers	2	2	0	3
CIS	115	Introduction to Programming & Logic	2	3	0	3
ENG	111	Writing and Inquiry	3	0	0	3
NET	125	Networking Basics	1	4	0	3
NOS	110	Operating System Concepts	2	3	0	3
			10	14	0	16
		First Year – Spring Semester				
CSC	139	Visual BASIC Programming	2	3	0	3
DBA	110	Database Concepts	2	3	0	3
ENG	112	Writing/Research in the Disciplines	3	0	0	3
MAT	143	Quantitative Literacy	2	2	0	3
NOS	130	Windows Single User	2	2	0	3
			11	10	0	15
		Second Year – Fall Semester				
BUS	110	Introduction to Business	3	0	0	3
CTS	285	Systems Analysis & Design	3	0	0	3
NOS	120	Linux/UNIX Single User	2	2	0	3
NOS	230	Windows Administration I	2	2	0	3
SEC	110	Security Concepts	2	2	0	3
WEB	140	Web Development Tools	2	2	0	3
			14	8	0	18
		Second Year – Spring Semester				
CTS	120	Hardware/Software Support	2	3	0	3
CTS	289	System Support Project	1	4	0	3
WEB	230	Implementing Web Serv	2	2	0	3
WEB	250	Database Driven Websites	2	2	0	3
		Humanities/Fine Arts Elective*	3	0	0	3

		Social/Behavioral Sciences Elective*	3	0	0	3
			13	11	0	18

Total Credit Hours **67**

*Approved Electives are listed on the page before the Course Descriptions.

COMPUTER INFORMATION TECHNOLOGY (DIPLOMA) (D25260)
COURSE REQUIREMENTS

			Class	Lab	Work/ Clinical	Credit
ACA	122	College Transfer Success	0	2	0	1
CIS	110	Introduction to Computers	2	2	0	3
CIS	115	Introduction to Programming & Logic	2	3	0	3
CSC	139	Visual BASIC Programming	2	3	0	3
CTS	120	Hardware/Software Support	2	3	0	3
DBA	110	Database Concepts	2	3	0	3
ENG	111	Writing and Inquiry	3	0	0	3
ENG	112	Writing/Research in the Disciplines	3	0	0	3
NET	125	Networking Basics	1	4	0	3
NOS	110	Operating System Concepts	2	3	0	3
NOS	120	Linux/UNIX Single User	2	2	0	3
NOS	130	Windows Single User	2	2	0	3
SEC	110	Security Concepts	2	2	0	3
WEB	140	Web Development Tools	2	2	0	3

Total Credit Hours **40**

SEMESTER SCHEDULE
COMPUTER INFORMATION TECHNOLOGY (CERTIFICATE) (C25260)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
CIS	110	Introduction to Computers	2	2	0	3
NET	125	Networking Basics	1	4	0	3
NOS	110	Operating System Concepts	2	3	0	3
			5	9	0	9
		First Year – Spring Semester				
CTS	120	Hardware/Software Support	2	3	0	3
DBA	110	Database Concepts	2	3	0	3
NOS	130	Windows Single User	2	2	0	3
			6	8	0	9

Total Credit Hours **18**

Computer-Integrated Machining (Diploma) (D50210)

The Computer-Integrated Machining curriculum prepares students with the analytical, creative and innovative skills necessary to take a production idea from an initial concept through design, development and production, resulting in a finished product.

Coursework may include manual machining, computer applications, engineering design, computer-aided drafting (CAD), computer-aided machining (CAM), blueprint interpretation, advanced computerized numeric control (CNC) equipment, basic and advanced machining operations, precision measurement and high-speed multi-axis machining.

Graduates should qualify for employment as machining technicians in high-tech manufacturing, rapid-prototyping and rapid-manufacturing industries, specialty machine shops, fabrication industries, and high-tech or emerging industries such as aerospace, aviation, medical, and renewable energy, and to sit for machining certification examinations.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

			Class	**Lab**	**Work/ Clinical**	**Credit**
A. General Education Courses						
1. Required Courses						
ENG	111	Writing and Inquiry	3	0	0	3
		Social/Behavioral Sciences Elective*	3	0	0	3
B. Major Courses						
1. Core Courses						
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.						
BPR	111	Print Reading	1	2	0	2
MAC	111	Machining Technology I	2	12	0	6
MAC	112	Machining Technology II	2	12	0	6
MAC	122	CNC Turning	1	3	0	2
2. Other Major Courses						
BPR	121	Blueprint Reading: Mechanical	1	2	0	2
MAC	113	Machining Technology III	2	12	0	6
MAC	124	CNC Milling	1	3	0	2
MAC	151	Machining Calculations	1	2	0	2
MEC	142	Physical Metallurgy	1	2	0	2
or						
WBL	112	Work-Based Learning I	0	0	20	2
C. Other Required Courses						
ACA	122	College Transfer Success	0	2	0	1

Total Credit Hours **37**

*Approved Electives are listed on the page before Course Descriptions.

SEMESTER SCHEDULE
COMPUTER-INTEGRATED MACHINING (DIPLOMA)
(EVENING)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
BPR	111	Print Reading	1	2	0	2
MAC	111	Machining Technology I	2	12	0	6
			3	16	0	9
		First Year – Spring Semester				
ENG	111	Writing and Inquiry	3	0	0	3
MAC	122	CNC Turning	1	3	0	2
MAC	124	CNC Milling	1	3	0	2
		Social/Behavioral Sciences Elective*	3	0	0	3
			8	6	0	10
		First Year – Summer Semester				
MAC	151	Machining Calculations	1	2	0	2
MEC	142	Physical Metallurgy	1	2	0	2
or						
WBL	112	Work-Based Learning I	0	0	20	2
			3	4	20	4
		Second Year – Fall Semester				
BPR	121	Blueprint Reading: Mechanical	1	2	0	2
MAC	112	Machining Technology II	2	12	0	6
			3	14	0	8
		Second Year – Spring Semester				
MAC	113	Machining Technology III	2	12	0	6
			2	12	0	6

Total Credit Hours **37**

*Approved Electives are listed on the page before Course Descriptions.

COMPUTER-INTEGRATED MACHINING TECHNOLOGY (CERTIFICATE) (C50210) (EVENING)
COURSE REQUIREMENTS

			Class	Lab	Work/ Clinical	Credit
BPR	111	Print Reading	1	2	0	2
MAC	111	Machining Technology I	2	12	0	6
MAC	122	CNC Turning	1	3	0	2
MAC	124	CNC Milling	1	3	0	2
Total Credit Hours					**12**	

MACHINING TECHNOLOGY (CERTIFICATE) (C50210M)
COURSE REQUIREMENTS

			Class	Lab	Work/ Clinical	Credit
MAC	111	Machining Technology I	2	12	0	6
MAC	112	Machining Technology II	2	12	0	6
MAC	113	Machining Technology III	2	12	0	6
Total Credit Hours					**18**	

Criminal Justice Technology (A55180)

The Criminal Justice curriculum is designed to provide knowledge of criminal justice systems and operations. Study will focus on local, state, and federal law enforcement, judicial processes, corrections and security services. The criminal justice system's role within society will be explored.

Emphasis is on criminal justice systems, criminology, juvenile justice, criminal and constitutional law, investigative principles, ethics and community relations. Additional study may include issues and concepts of government, counseling, communications, computers and technology.

Employment opportunities exist in a variety of local, state, and federal law enforcement, corrections, and security fields. Examples include police officer, deputy sheriff, county detention officer, state trooper, intensive probation/parole surveillance officer, correctional officer, and loss prevention specialist.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

The Criminal Justice A.A.S. Degree Program at Richmond Community College is certified as meeting the educational and program requirements of the North Carolina Criminal Justice Education and Training Standards Commission.

				Class	Lab	Work/ Clinical	Credit
A. General Education Courses							
1. Required Courses							
	ENG	111	Writing and Inquiry	3	0	0	3
	ENG	112	Writing/Research in the Disciplines	3	0	0	3
	MAT	143	Quantitative Literacy	2	2	0	3
	PSY	150	General Psychology	3	0	0	3
			Humanities/Fine Arts Elective*	3	0	0	3
B. Major Courses							
1. Core Courses							
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.							
	CJC	111	Introduction to Criminal Justice	3	0	0	3
	CJC	112	Criminology	3	0	0	3
	CJC	113	Juvenile Justice	3	0	0	3
	CJC	131	Criminal Law	3	0	0	3
	CJC	212	Ethics & Community Relations	3	0	0	3
	CJC	221	Investigative Principles	3	2	0	4
	CJC	231	Constitutional Law	3	0	0	3
2. Other Major Courses							
	CIS	110	Introduction to Computers	2	2	0	3

	CJC	132	Court Procedure & Evidence	3	0	0	3
	CJC	141	Corrections	3	0	0	3
	CJC	160	Terrorism: Underlying Issues	3	0	0	3
	CJC	215	Organization & Administration	3	0	0	3
	CJC	222	Criminalistics	3	0	0	3
	CJC	233	Correctional Law	3	0	0	3
	SOC	210	Introduction to Sociology	3	0	0	3
3.	Elective Course (Select one of the following courses)**						
	HIS	131	American History I	3	0	0	3
	HIS	132	American History II	3	0	0	3
	HSE	225	Crisis Intervention	3	0	0	3
	POL	120	American Government	3	0	0	3
	SPA	111	Elementary Spanish I	3	0	0	3
	SPA	120	Spanish for the Workplace	3	0	0	3
A.	**Other Required Courses**						
	ACA	122	College Transfer Success	0	2	0	1
			Total Credit Hours			**65**	

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
CRIMINAL JUSTICE TECHNOLOGY (DAY)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
CIS	110	Introduction to Computers	2	2	0	3
CJC	111	Introduction to Criminal Justice	3	0	0	3
ENG	111	Writing and Inquiry	3	0	0	3
MAT	143	Quantitative Literacy	2	2	0	3
PSY	150	General Psychology	3	0	0	3
			13	6	0	16
		First Year – Spring Semester				
ENG	112	Writing/Research in the Disciplines	3	0	0	3
CJC	112	Criminology	3	0	0	3
CJC	131	Criminal Law	3	0	0	3
CJC	132	Court Procedure & Evidence	3	0	0	3
CJC	141	Corrections	3	0	0	3
SOC	210	Introduction to Sociology	3	0	0	3
			18	0	0	18
		Second Year – Fall Semester				
CJC	113	Juvenile Justice	3	0	0	3
CJC	160	Terrorism: Underlying Issues	3	0	0	3
CJC	221	Investigative Principles	3	2	0	4

CJC	231	Constitutional Law	3	0	0	3
		Elective Course**	3	0	0	3
			15	2	0	16
		Second Year – Spring Semester				
CJC	212	Ethics & Community Relations	3	0	0	3
CJC	215	Organization & Administration	3	0	0	3
CJC	222	Criminalistics	3	0	0	3
CJC	233	Correctional Law	3	0	0	3
		Humanities/Fine Arts Elective*	3	0	0	3
			15	0	0	15

Total Credit Hours **65**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
CRIMINAL JUSTICE TECHNOLOGY (EVENING)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
CJC	111	Introduction to Criminal Justice	3	0	0	3
CJC	131	Criminal Law	3	0	0	3
CJC	141	Corrections	3	0	0	3
ENG	111	Writing and Inquiry	3	0	0	3
			12	2	0	13
		First Year – Spring Semester				
CIS	110	Introduction to Computers	2	2	0	3
CJC	112	Criminology	3	0	0	3
CJC	113	Juvenile Justice	3	0	0	3
ENG	112	Writing/Research in the Disciplines	3	0	0	3
			11	2	0	12
		Second and Third Years (Alternating Sequences) Even Years – Fall Semester				
CJC	221	Investigative Principles	3	2	0	4
CJC	233	Correctional Law	3	0	0	3
		Humanities/Fine Arts Elective*	3	0	0	3
			9	2	0	10
		Odd Years – Spring Semester				
CJC	160	Terrorism: Underlying Issues	3	0	0	3
CJC	222	Criminalistics	3	0	0	3
MAT	143	Quantitative Literacy	2	2	0	3
PSY	150	General Psychology	3	0	0	3

			11	2	0	12
		Odd Years – Fall Semester				
CJC	132	Court Procedure & Evidence	3	0	0	3
CJC	231	Constitutional Law	3	0	0	3
		Elective Course**	3	0	0	3
			9	0	0	9
		Even Years – Spring Semester				
CJC	212	Ethics & Community Relations	3	0	0	3
CJC	215	Organization & Administration	3	0	0	3
SOC	210	Introduction to Sociology	3	0	0	3
			9	0	0	9

Total Credit Hours **65**

*Approved Electives are listed on the page before the Course Descriptions.

CRIMINAL JUSTICE TECHNOLOGY (DIPLOMA) (D55180)
COURSE REQUIREMENTS

Required:			**Class**	**Lab**	**Work/ Clinical**	**Credit**
CIS	110	Introduction to Computers	2	2	0	3
CJC	111	Introduction to Criminal Justice	3	0	0	3
CJC	112	Criminology	3	0	0	3
CJC	113	Juvenile Justice	3	0	0	3
CJC	221	Investigative Principles	3	2	0	4
CJC	231	Constitutional Law	3	0	0	3
ENG	111	Writing and Inquiry	3	0	0	3
ENG	112	Writing/Research in the Disciplines	3	0	0	3
MAT	143	Quantitative Literacy	2	2	0	3
Any Five (5) of the Following Criminal Justice Courses:						
CJC	131	Criminal Law	3	0	0	3
CJC	132	Court Procedure & Evidence	3	0	0	3
CJC	141	Corrections	3	0	0	3
CJC	160	Terrorism: Underlying Issues	3	0	0	3
CJC	212	Ethics & Community Relations	3	0	0	3
CJC	215	Organization & Administration	3	0	0	3
CJC	233	Correctional Law	3	0	0	3

Total Credit Hours **43**

LAW ENFORCEMENT (CERTIFICATE) (C55180L)
COURSE REQUIREMENTS

			Class	Lab	Work/ Clinical	Credit
CJC	111	Introduction to Criminal Justice	3	0	0	3
CJC	112	Criminology	3	0	0	3
CJC	221	Investigative Principles	3	2	0	4
CJC	222	Criminalistics	3	0	0	3
CJC	231	Constitutional Law	3	0	0	3
		Total Credit Hours			**16**	

CORRECTIONS (CERTIFICATE) (C55180C)
COURSE REQUIREMENTS

			Class	Lab	Work/ Clinical	Credit
CJC	111	Introduction to Criminal Justice	3	0	0	3
CJC	112	Criminology	3	0	0	3
CJC	113	Juvenile Justice	3	0	0	3
CJC	141	Corrections	3	0	0	3
CJC	212	Ethics and Community Relations	3	0	0	3
CJC	233	Correctional Law	3	0	0	3
		Total Credit Hours			**18**	

Dialysis Technology (Diploma) (D45300)

The Dialysis Technology curriculum provides individuals with the theoretical/clinical skills to care for patients/clients being treated for acute/chronic renal diseases.
Students will care for patients/clients undergoing dialysis and will maintain dialysis equipment.

Graduates of this program may be eligible to take the Certification Examination for Nephrology Technicians following one year of work experience.

Employment opportunities include hospitals, renal dialysis facilities, and clinics.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

				Class	Lab	Work/ Clinical	Credit
A. General Education Courses							
1. Required Courses							
ENG	111	Expository Writing		3	0	0	3
BIO	163	Basic Anatomy & Physiology		4	2	0	5
B. Major Courses							
1. Core Courses							
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.							
DIA	101	Introduction to Dialysis Technology		5	6	12	11
DIA	102	Dialysis for Special Populations		5	3	15	11
DIA	103	Ethical/Legal Issues in Dialysis		3	0	0	3
DIA	104	Care of the Complex Renal Patient		1	0	12	5
2. Other Major Courses							
CIS	110	Introduction to Computers		2	2	0	3
MED	121	Medical Terminology I		3	0	0	3
C. Other Required Courses							
ACA	122	College Transfer Success		0	2	0	1
Total Credit Hours							**45**

SEMESTER SCHEDULE
DIALYSIS TECHNOLOGY

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
DIA	101	Introduction to Dialysis Technology	5	6	12	11
MED	121	Medical Terminology I	3	0	0	3
			8	6	12	15
		First Year – Spring Semester				
BIO	163	Basic Anatomy & Physiology	4	2	0	5
DIA	102	Dialysis for Special Populations	5	3	15	11
			9	5	15	16
		First Year – Summer Semester				
CIS	110	Introduction to Computers	2	2	0	3
DIA	103	Ethical/Legal Issues in Dialysis	3	0	0	3
DIA	104	Care of the Complex Renal Patient	1	0	12	5
ENG	111	Writing and Inquiry	3	0	0	3
			9	2	12	14
		Total Credit Hours			**45**	

Early Childhood Education (A55220)

The Early Childhood Education curriculum prepares individuals to work with children from birth through eight in diverse learning environments. Students will combine learned theories with practice in actual settings with young children under the supervision of qualified teachers.

Course work includes child growth and development; physical/nutritional needs of children; care and guidance of children; and communication skills with families and children. Students will foster the cognitive/language, physical/motor, social/emotional, and creative development of young children.

Graduates are prepared to plan and implement developmentally appropriate programs in early childhood settings. Employment opportunities include child development and child care programs, preschools, public and private schools, recreational centers, Head Start Programs, and school-age programs.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

				Class	Lab	Work/ Clinical	Credit
A. General Education Courses							
1. Required Courses							
	ENG	111	Writing and Inquiry	3	0	0	3
	COM	231	Public Speaking	3	0	0	3
or							
	ENG	112	Writing/Research in the Disc	3	0	0	3
	MAT	143	Quantitative Literacy	2	2	0	3
	PSY	150	General Psychology	3	0	0	3
			Humanities/Fine Arts Elective*	3	0	0	3
B. Major Courses							
1. Core Courses							
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.							
	EDU	119	Intro to Early Childhood Education	4	0	0	4
	EDU	131	Child, Family, & Community	3	0	0	3
	EDU	144	Child Development I	3	0	0	3
	EDU	145	Child Development II	3	0	0	3
	EDU	146	Child Guidance	3	0	0	3
	EDU	151	Creative Activities	3	0	0	3
	EDU	153	Health, Safety, & Nutrition	3	0	0	3
	EDU	221	Children with Exceptionalities	3	0	0	3

EDU	234	Infants, Toddlers, & Twos	3	0	0	3
EDU	271	Educational Technology	2	2	0	3
EDU	280	Language & Literacy Experiences	3	0	0	3
EDU	284	Early Child Capstone Practicum	1	9	0	4

2. Other Major Courses

EDU Electives (Select a minimum of 11 credit hours from the following)**

CIS	110	Introduction to Computers	2	2	0	3
EDU	114	Intro to Family Childcare	3	0	0	3
EDU	154	Social/Emotional/Behavioral Dev	3	0	0	3
EDU	158	Healthy Lifestyles-Youth	3	0	0	3
EDU	162	Observation & Assessment in ECE	3	0	0	3
EDU	163	Classroom Mgt & Instruction	3	0	0	3
EDU	173	Becoming a Professional in ECE	3	0	0	3
EDU	216	Foundations of Education	4	0	0	4
EDU	223	Specific Learning Disabilities	3	0	0	3
EDU	235	School-Age Dev & Programs	3	0	0	3
EDU	247	Sensory & Physical Disabilities	3	0	0	3
EDU	248	Developmental Delays	3	0	0	3
EDU	250	PRAXIS I Preparation	1	0	0	1
EDU	259	Curriculum Planning	3	0	0	3
EDU	261	Early Childhood Administration I	3	0	0	3
EDU	262	Early Childhood Administration II	3	0	0	3
EDU	263	School-Age Program Administration	2	0	0	2
EDU	275	Effective Teacher Training	2	0	0	2
EDU	289	Advance Issues/School-Age	2	0	0	2
WBL	111	Work-Based Learning I	0	0	10	1
WBL	115	Work-Based Learning Seminar I	1	0	0	1

C. Other Required Courses

ACA	122	College Transfer Success	0	2	0	1

Total Credit Hours **65**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
EARLY CHILDHOOD EDUCATION (DAY)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
EDU	119	Intro to Early Childhood Education	4	0	0	4
EDU	131	Child, Family, & Community	3	0	0	3
EDU	144	Child Development I	3	0	0	3
ENG	111	Writing and Inquiry	3	0	0	3
		EDU Elective I	1-4	0-2	0	1-4
			14-17	0-2	0	14-17

		First Year – Spring Semester				
EDU	145	Child Development II	3	0	0	3
EDU	146	Child Guidance	3	0	0	3
EDU	151	Creative Activities	3	0	0	3
EDU	153	Health. Safety. & Nutrition	3	0	0	3
EDU	234	Infants, Toddlers, & Twos	3	0	0	3
COM	231	Public Speaking	3	0	0	3
or						
ENG	112	Writing/Research in the Disc	3	0	0	3
			18	0	0	18
		Second Year – Fall Semester				
EDU	221	Children with Exceptionalities	3	0	0	3
EDU	280	Language & Literacy Experiences	3	0	0	3
PSY	150	General Psychology	3	0	0	3
		EDU Elective II	1-4	0-2	0	1-4
		EDU Elective III	1-4	0-2	0	1-4
		Humanities/Fine Arts Elective*	3	0	0	3
			14-20	0-4	0	14-20
		Second Year – Spring Semester				
EDU	271	Educational Technology	2	2	0	3
EDU	284	Early Child Capstone Practicum	1	9	0	4
MAT	143	Quantitative Literacy	2	2	0	3
		EDU Elective IV	1-4	0-2	0	1-4
			6-9	13-15	0	11-14

Total Credit Hours **65**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
EARLY CHILDHOOD EDUCATION (EVENING)

			Class	**Lab**	**Work/ Clinical**	**Credit**
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
EDU	119	Intro to Early Childhood Education	4	0	0	4
EDU	144	Child Development I	3	0	0	3
ENG	111	Writing and Inquiry	3	0	0	3
			10	2	0	11
		First Year – Spring Semester				
EDU	145	Child Development II	3	0	0	3
EDU	146	Child Guidance	3	0	0	3

COM	231	Public Speaking	3	0	0	3
or						
ENG	112	Writing/Research in the Disc	3	0	0	3
		EDU Elective I	1-4	0-2	0	1-4
			10-13	0-2	0	10-13
		Second and Third Years (Alternating Sequences) Even Years – Fall Semester				
EDU	131	Child, Family, & Community	3	0	0	3
EDU	221	Children with Exceptionalities	3	0	0	3
PSY	150	General Psychology	3	0	0	3
		EDU Elective II	1-4	0-2	0	1-4
			10-13	0-2	0	10-13
		Odd Years – Spring Semester				
EDU	151	Creative Activities	3	0	0	3
EDU	153	Health, Safety, & Nutrition	3	0	0	3
EDU	234	Infants, Toddlers, & Twos	3	0	0	3
EDU	271	Educational Technology	2	2	0	3
			12	2	0	12
		Odd Years – Fall Semester				
EDU	280	Language & Literacy Experiences	3	0	0	3
MAT	143	Quantitative Literacy	2	2	0	3
		EDU Elective III	1-4	0-2	0	1-4
		Humanities/Fine Arts Elective*	3	0	0	3
			9-12	2-4	0	10-13
		Even Years – Spring Semester				
EDU	284	Early Child Capstone Practicum	1	9	0	4
		EDU Elective IV	1-4	0-2	0	1-4
			2-5	9-11	0	5-8

Total Credit Hours **65**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
EARLY CHILDHOOD EDUCATION (CERTIFICATE) (C55220)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
EDU	119	Intro to Early Childhood Education	4	0	0	4
EDU	131	Child, Family, & Community	3	0	0	3
EDU	144	Child Development I	3	0	0	3

			10	2	0	11
		First Year – Spring Semester				
EDU	145	Child Development II	3	0	0	3
EDU	173	Becoming a Professional in ECE	3	0	0	3
			6	0	0	6
		Total Credit Hours				**17**

SEMESTER SCHEDULE
SPECIAL EDUCATION (DIPLOMA) (D55220)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
CIS	110	Introduction to Computers	2	2	0	3
EDU	119	Intro to Early Childhood Education	4	0	0	4
EDU	131	Child, Family, & Community	3	0	0	3
EDU	144	Child Development I	3	0	0	3
ENG	111	Writing and Inquiry	3	0	0	3
			15	4	0	17
		First Year – Spring Semester				
EDU	145	Child Development II	3	0	0	3
EDU	146	Child Guidance	3	0	0	3
EDU	151	Creative Activities	3	0	0	3
EDU	153	Health, Safety, & Nutrition	3	0	0	3
COM	231	Public Speaking	3	0	0	3
or						
ENG	112	Writing/Research in the Disciplines	3	0	0	3
			15	0	0	15
		Second Year – Fall Semester				
EDU	154	Social/Emotional/Behavioral Development	3	0	0	3
EDU	221	Children with Exceptionalities	3	0	0	3
EDU	223	Specific Learning Disabilities	3	0	0	3
EDU	247	Sensory/Physical Disabilities	3	0	0	3
EDU	248	Developmental Delays	3	0	0	3
			15	0	0	15
		Total Credit Hours				**47**

Electric Utility Substation and Relay Technology (A50510)

The Electric Utility Substation and Relay Technology curriculum provides the skills to maintain high voltage equipment and protective systems for the electric utility transmission system. Training in operation and maintenance of critical infrastructure associated with the transmission grid is included.

Courses will develop an understanding of maintenance/troubleshooting on transmission equipment. Courses include theory in three phase power, protective relaying, power transformers, voltage regulators, capacitors, and power circuit breakers. The skills apply to the electric utility industry and numerous other industries.

Graduates should qualify for entry-level employment in the electric utility industry and industrial power facilities. Employment opportunities include: control systems, instrumentation and control in general industry, electric utility industry, green energy markets, or positions with equipment related to power transmission.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

				Class	Lab	Work/ Clinical	Credit
A. General Education Courses							
1. Required Courses							
	ECO	252	Principles of Macroeconomics	3	0	0	3
	ENG	111	Writing and Inquiry	3	0	0	3
	ENG	112	Writing/Research in the Disciplines	3	0	0	3
	MAT	171	Precalculus Algebra	3	2	0	4
			Humanities/Fine Arts Elective*	3	0	0	3
B. Major Courses							
1. Core Courses							
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.							
	CIS	110	Introduction to Computers	2	2	0	3
	EUS	110	Intro to Electric Utility Industry	3	3	0	4
	EUS	130	Electric Utility Print Reading	3	2	0	4
	EUS	210	Large High Voltage Power Transformer I	2	3	0	3
	EUS	215	Large High Voltage Power Transformer II	2	3	0	3
	EUS	220	High Voltage Power Circuit Breakers	2	3	0	3
	EUS	230	Electric Utility Protective Relaying I	2	3	0	3
	EUS	235	Electric Utility Protective Relaying II	2	3	0	3
	EUS	240	Substation Ancillary Systems	2	3	0	3

	EUS	260	Capstone & Case Studies in EUSRT	0	4	0	2
2.	Other Major Courses						
	ELC	128	Introduction to PLC	2	3	0	3
	ELC	131	Circuit Analysis I	3	3	0	4
	ELN	229	Industrial Electronics	3	3	0	4
	EUS	225	Electrical Utility Safety & Human Perf.	2	0	0	2
	EUS	255	Electrical Utility Troubleshooting	1	3	0	2
	MAT	172	Precalculus Trigonometry	3	2	0	4
	PHY	122	Applied Physics II	3	2	0	4
	Other Major Choice (1 course required)						
	ELC	117	Motors and Controls	2	6	0	4
	or						
	ELN	231	Industrial Controls	2	3	0	3
C.	**Other Required Courses**						
	ACA	122	College Transfer Success	0	2	0	1
			Total Credit Hours			**74-75**	

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
ELECTRIC UTILITY SUBSTATION AND RELAY TECHNOLOGY

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
CIS	110	Introduction to Computers	2	2	0	3
ELC	131	Circuit Analysis I	3	3	0	4
ENG	111	Writing and Inquiry	3	0	0	3
EUS	110	Intro to Electric Utility Industry	3	3	0	4
MAT	171	Precalculus Algebra	3	2	0	4
			14	12	0	19
		First Year – Spring Semester				
ELC	117	Motors and Controls	2	6	0	4
or						
ELN	231	Industrial Controls	2	3	0	3
ENG	112	Writing/Research in the Disciplines	3	0	0	3
EUS	130	Electric Utility Print Reading	3	2	0	4
EUS	210	Large High Voltage Power Transformers I	2	3	0	3
MAT	172	Precalculus Trigonometry	3	2	0	4
PHY	122	Applied Physics II	3	2	0	4
			16	12-15	0	21-22

		Second Year – Fall Semester				
ECO	252	Principles of Macroeconomics	3	0	0	3
ELN	229	Industrial Electronics	3	3	0	4
EUS	215	Large High Voltage Power Transformers II	2	3	0	3
EUS	225	Electric Utility Safety & Human Performance	2	0	0	2
EUS	230	Electric Utility Protective Relaying I	2	3	0	3
EUS	240	Substation Ancillary Systems	2	3	0	3
			14	12	0	18
		Second Year – Spring Semester				
ELC	128	Intro to PLC	2	3	0	3
EUS	220	High Voltage Power Circuit Breakers	2	3	0	3
EUS	235	Electric Utility Protective Relaying II	2	3	0	3
EUS	255	Electric Utility Troubleshooting	1	3	0	2
EUS	260	Caps & Case Stud in EUSRT	0	4	0	2
		Humanities/Fine Arts Elective*	3	0	0	3
			10	16	0	16

Total Credit Hours **74-75**

*Approved Electives are listed on the page before the Course Descriptions.

ELECTRIC UTILITY TRANSFORMER TEST SPECIALIST (DIPLOMA) (D50510)
COURSE REQUIREMENTS

					Class	Lab	Work/ Clinical	Credit
A.	**General Education Courses**							
	1. Required Courses							
		ENG	111	Writing and Inquiry	3	0	0	3
		MAT	171	Precalculus Algebra	3	2	0	4
				*Humanities/Fine Arts Elective	3	0	0	3
B.	**Major Courses**							
	1. Core Courses							
	To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.							
		EUS	110	Intro to Electric Utility Industry	3	3	0	4
		EUS	130	Electric Utility Print Reading	3	2	0	4
		EUS	210	Large High Voltage Power Trans I	2	3	0	3
		EUS	215	Large High Voltage Power Trans II	2	3	0	3
		EUS	240	Substation Ancillary Systems	2	3	0	3
	2. Other Major Courses							
		ELC	131	Circuit Analysis I	3	3	0	4
		EUS	225	Electric Utility Transmission Safety & Human Performance	2	0	0	2
		PHY	122	Applied Physics II	3	2	0	4

C. Other Required Courses

ACA	122	College Transfer Success	0	2	0	1

Total Credit Hours **38**

*Approved Humanities/Fine Arts Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
ELECTRIC UTILITY TRANSFORMER TEST SPECIALIST (DIPLOMA) (D50510)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
ELC	131	Circuit Analysis I	3	3	0	4
EUS	110	Intro to Electric Utility Industry	3	3	0	4
			6	8	0	9
		First Year – Spring Semester				
EUS	130	Electric Utility Print Reading	3	2	0	4
EUS	210	Large High Voltage Power Transformers I	2	3	0	3
EUS	225	Electric Util. Safety & Human Performance	2	0	0	2
		Humanities/Fine Arts Elective*	3	0	0	3
			10	2	0	12
		First Year – Summer Semester				
EUS	215	Large High Voltage Power Transformers II	2	3	0	3
EUS	240	Substation Ancillary Systems	2	3	0	3
			4	6	0	6
		Second Year – Fall Semester				
ENG	111	Writing and Inquiry	3	0	0	3
PHY	122	Applied Physics II	3	2	0	4
MAT	171	Precalculus	3	2	0	4
			9	4	0	11

Total Credit Hours **38**

Electrical Systems Technology (Diploma) (D35130)

The Electrical Systems Technology curriculum is designed to provide training for persons interested in the installation and maintenance of electrical/electronic systems found in residential, commercial and industrial facilities.

Coursework, most of which is hands-on, will include such topics as AC/DC theory, basic wiring practices, programmable logic controllers, industrial motor controls, applications of the National Electric Code, and other subjects as local needs require.

Graduates should qualify for a variety of jobs in the electrical field as an on-the-job trainee or apprentice, assisting in the layout, installation and maintenance of electrical systems.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

			Class	Lab	Work/ Clinical	Credit
A. General Education Courses						
1. Required Courses						
ENG	111	Writing and Inquiry	3	0	0	3
		Social/Behavioral Sciences Elective*	3	0	0	3
B. Major Courses						
1. Core Courses						
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.						
ELC	112	DC/AC Electricity	3	6	0	5
ELC	113	Residential Wiring	2	6	0	4
ELC	117	Motors and Controls	2	6	0	4
ELC	128	Introduction to PLC	2	3	0	3
2. Other Major Courses						
ELC	114	Commercial Wiring	2	6	0	4
ELC	118	National Electric Code	1	2	0	2
ELC	119	NEC Calculations	1	2	0	2
ELC	125	Diagrams and Schematics	1	2	0	2
ELC	134	Transformer Applications	1	2	0	2
ELN	229	Industrial Electronics	3	3	0	4
C. Other Required Courses						
ACA	122	College Transfer Success	0	2	0	1
Total Credit Hours						**39**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
ELECTRICAL SYSTEMS TECHNOLOGY (EVENING)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
ELC	112	DC/AC Electricity	3	6	0	5
ELC	118	National Electric Code	1	2	0	2
ELC	119	NEC Calculations	1	2	0	2
			5	12	0	10
		First Year – Spring Semester				
ELC	113	Residential Wiring	2	6	0	4
ELC	125	Diagrams and Schematics	1	2	0	2
ELC	134	Transformer Applications	1	2	0	2
			4	10	0	8
		First Year – Summer Semester				
ENG	111	Writing and Inquiry	3	0	0	3
		Social/Behavioral Sciences Elective*	3	0	0	3
			6	0	0	6
		Second Year – Fall Semester				
ELC	114	Commercial Wiring	2	6	0	4
ELN	229	Industrial Electronics	3	3	0	4
			5	9	0	8
		Second Year – Spring Semester				
ELC	117	Motors and Controls	2	6	0	4
ELC	128	Introduction to PLC	2	3	0	3
			4	9	0	7

Total Credit Hours **39**

*Approved Electives are listed on the page before the course descriptions.

SEMESTER SCHEDULE
ELECTRICAL SYSTEMS TECHNOLOGY (CERTIFICATE) (C35130)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ELC	112	DC/AC Electricity	3	6	0	5
ELC	118	National Electric Code	1	2	0	2
			4	8	0	7

First Year – Spring Semester

ELC	113	Residential Wiring	2	6	0	4
ELC	114	Commercial Wiring	2	6	0	4
or						
ELC	117	Motors and Controls	2	6	0	4
ELC	125	Diagrams and Schematics	1	2	0	2
			5	14	0	10

Total Credit Hours **17**

Electronics Engineering Technology (A40200)

ENGINEERING AND TECHNOLOGY PATHWAYS

These curriculums are designed to prepare students through the study and application of principles from mathematics, natural sciences, and technology and applied processes based on these subject areas.

Course work includes mathematics, natural sciences, and engineering sciences and technology.

Graduates should qualify to obtain occupations such as technical service providers, materials and technologies testing services, process improvement technicians, engineering technicians, construction technicians and mangers, industrial and technology managers, or research technicians.

PROGRAM DESCRIPTION

A course of study that prepares the students to use basic engineering principles and technical skills to become technicians who design, build, install, test, troubleshoot, repair, and modify developmental and production electronic components, equipment, and systems such as industrial/computer controls, manufacturing systems, communication systems, and power electronic systems. Includes instruction in mathematics, basic electricity, solid-state fundamentals, digital concepts, and microprocessors or programmable logic controllers. Graduates should qualify for employment as electronics engineering technician, field service technician, instrumentation technician, maintenance technician, electronic tester, electronic systems integrator, bench technician, and production control technician.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

					Class	Lab	Work/ Clinical	Credit
A. General Education Courses								
1. Required Courses								
	ENG	111	Writing and Inquiry		3	0	0	3
	ENG	112	Writing/Research in the Disciplines		3	0	0	3
	MAT	171	Precalculus Algebra		3	2	0	4
			Humanities/Fine Arts Elective*		3	0	0	3
			Social/Behavioral Sciences Elective*		3	0	0	3
B. Major Courses								
1. Core Courses								
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.								
	ELC	131	Circuit Analysis I		3	3	0	4

	ELN	131	Analog Electronics I	3	3	0	4
	ELN	132	Analog Electronics II	3	3	0	4
	ELN	133	Digital Electronics	3	3	0	4
	ELN	232	Introduction to Microprocessors	3	3	0	4
	ELN	260	Prog Logic Controllers	3	3	0	4
2.	Other Major Courses						
	ATR	112	Intro to Automation	2	3	0	3
	CET	111	Computer Upgrade/Repair I	2	3	0	3
	CIS	110	Introduction to Computers	2	2	0	3
	DFT	151	CAD I	2	3	0	3
	EGR	285	Design Project	0	4	0	2
	ELC	213	Instrumentation	3	2	0	4
	HYD	110	Hydraulics/Pneumatics I	2	3	0	3
	MAT	172	Precalculus Trigonometry	3	2	0	4
	NET	125	Networking Basics	1	4	0	3
C.	**Other Required Courses**						
	ACA	122	College Transfer Success	0	2	0	1
			Total Credit Hours				**69**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
ELECTRONICS ENGINEERING TECHNOLOGY (DAY)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
CIS	110	Introduction to Computers	2	2	0	3
ELC	131	Circuit Analysis I	3	3	0	4
ENG	111	Writing and Inquiry	3	0	0	3
MAT	171	Precalculus Algebra	3	2	0	4
			11	9	0	15
		First Year – Spring Semester				
CET	111	Computer Upgrade/Repair I	2	3	0	3
ELN	131	Analog Electronics I	3	3	0	4
ELN	133	Digital Electronics	3	3	0	4
COM	231	Public Speaking	3	0	0	3
or						
ENG	112	Writing/Research in the Disciplines	3	0	0	3
MAT	172	Precalculus Trigonometry	3	2	0	4
			14	11	0	18
		First Year – Summer Term				
		Humanities/Fine Arts Elective*	3	0	0	3

		Social/Behavioral Sciences Elective*	3	0	0	3
			6	0	0	6
		Second Year – Fall Semester				
DFT	151	Computer Aided Drafting I	2	3	0	3
ELN	132	Analog Electronics II	3	3	0	4
ELN	232	Introduction to Microprocessors	3	3	0	4
ELN	260	Programmable Logic Controllers	3	3	0	4
			14	14	0	19
		Second Year – Spring Semester				
ATR	112	Intro to Automation	2	3	0	3
EGR	285	Design Project	0	4	0	2
ELC	213	Instrumentation	3	2	0	4
HYD	110	Hydraulics/Pneumatics I	2	3	0	3
NET	125	Networking Basics	1	4	0	3
			8	16	0	15

Total Credit Hours **69**

*Approved Electives are listed on the page before the Course Descriptions.

Health Information Technology (A45360)

The Health Information Technology curriculum provides individuals with the knowledge and skills to process, analyze, abstract, compile, maintain, manage, and report health information.

Students will supervise departmental functions; classify, code, and index diagnoses and procedures; coordinate information for cost control, quality management, statistics, marketing, and planning; monitor governmental and non-governmental standards; facilitate research; and design system controls to monitor patient information security.

Graduates of this program may be eligible to write the national certification examination to become a Registered Health Information Technician (RHIT). Employment opportunities include hospitals, rehabilitation facilities, nursing homes, health insurance organizations, outpatient clinics, physicians' offices, hospice, and mental health facilities.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

				Class	Lab	Work/ Clinical	Credit
A. General Education Courses							
1. Required Courses							
ENG	111	Writing and Inquiry		3	0	0	3
COM	231	Public Speaking		3	0	0	3
or							
ENG	112	Writing/Research in the Disciplines		3	0	0	3
MAT	143	Quantitative Literacy		2	2	0	3
PSY	150	General Psychology		3	0	0	3
		Humanities/Fine Arts Elective*		3	0	0	3
B. Major Courses							
1. Core Courses							
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.							
BIO	165	Anatomy and Physiology I		3	3	0	4
BIO	166	Anatomy and Physiology II		3	3	0	4
BUS	137	Principles of Management		3	0	0	3
HIT	110	Fundamentals of HIM		3	0	0	3
HIT	112	Health Law and Ethics		3	0	0	3
HIT	114	Health Data Sys/Standards		2	3	0	3
HIT	210	Healthcare Statistics		2	2	0	3
HIT	211	ICD Coding		2	6	0	4
HIT	214	CPT/Other Coding Systems		1	3	0	2

	HIT	216	Quality Management	1	3	0	3
	HIT	222	Prof. Practice Exp III	0	0	6	2
	HIT	226	Principles of Disease	3	0	0	3
	HIT	280	Professional Issues	2	0	0	2
	MED	121	Medical Terminology I	3	0	0	3
	MED	122	Medical Terminology II	3	0	0	3
2.	Other Major Courses						
	CIS	110	Introduction to Computers	2	2	0	3
	DBA	110	Database Concepts	2	3	0	3
	HIT	215	Reimbursement Methodology	1	2	0	2
	HIT	220	Health Informatics & EHRs	1	2	0	2
C.	**Other Required Courses**						
	ACA	122	College Transfer Success	0	2	0	1
	Total Credit Hours					**70**	

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
HEALTH INFORMATION TECHNOLOGY

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
BIO	165	Anatomy and Physiology I	3	3	0	4
CIS	110	Introduction to Computers	2	2	0	3
ENG	111	Writing and Inquiry	3	0	0	3
HIT	110	Fundamentals of HIM	3	0	0	3
HIT	112	Health Law and Ethics	3	0	0	3
MED	121	Medical Terminology I	3	0	0	3
			17	7	0	20
		First Year – Spring Semester				
BIO	166	Anatomy and Physiology II	3	3	0	4
DBA	110	Database Concepts	2	3	0	3
COM	231	Public Speaking	3	0	0	3
or						
ENG	112	Writing/Research in the Disciplines	3	0	0	3
HIT	114	Health Data Sys/Standards	2	3	0	3
MAT	143	Quantitative Literacy	2	2	0	3
MED	122	Medical Terminology II	3	0	0	3
			15	11	0	19
		Second Year – Fall Semester				
HIT	210	Healthcare Statistics	2	2	0	3
HIT	211	ICD Coding	2	6	0	4

HIT	216	Quality Management	1	3	0	2
HIT	220	Health Informatics & EHRs	1	2	0	2
HIT	226	Principles of Disease	3	0	0	3
PSY	150	General Psychology	3	0	0	3
			12	13	0	17
		Second Year – Spring Semester				
BUS	137	Principles of Management	3	0	0	3
HIT	214	CPT/Other Coding Systems	1	3	0	2
HIT	215	Reimbursement Methodology	1	2	0	2
HIT	222	Prof. Practice Exp III	0	0	6	2
HIT	280	Professional Issues	2	0	0	2
		Humanities/Fine Arts Elective*	3	0	0	3
			10	8	6	14

Total Credit Hours **70**

*Approved Electives are listed on the page before the Course Descriptions.

Healthcare Business Informatics (A25510)

The Healthcare Business Informatics curriculum prepares individuals for employment as specialists in installation, data management, data archiving/retrieval, system design and support, and computer training for medical information systems.

Students learn about the field through multidisciplinary coursework including the study of terminology relating to informatics, systems analysis, networking technology, computer/network security, data warehousing, archiving and retrieval of information, and healthcare computer infrastructure support.

Graduates should qualify for employment as database/data warehouse analysts, technical support professionals, informatics technology professionals, systems analysts, networking and security technicians, and computer maintenance professionals in the healthcare field.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

				Class	Lab	Work/ Clinical	Credit
A. General Education Courses							
1. Required Courses							
	ENG	111	Writing and Inquiry	3	0	0	3
	ENG	112	Writing/Research in the Disciplines	3	0	0	3
	MAT	143	Quantitative Literacy	2	2	0	3
			Humanities/Fine Arts Elective*	3	0	0	3
			Social/Behavioral Sciences Elective*	3	0	0	3
B. Major Courses							
1. Core Courses							
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.							
	BUS	110	Introduction to Business	3	0	0	3
	CIS	110	Introduction to Computers	2	2	0	3
	CTS	120	Hardware/Software Support	2	3	0	3
	DBA	110	Database Concepts	2	3	0	3
	HBI	110	Issues and Trends in HBI	3	0	0	3
	HBI	113	Survey of Med Insurance	3	0	0	3
	HBI	250	Data Mgmt and Utilization	2	2	0	3
	MED	118	Medical Law and Ethics	2	0	0	2
	MED	121	Medical Terminology I	3	0	0	3
	MED	122	Medical Terminology II	3	0	0	3
	NET	125	Networking Basics	1	4	0	3

	NOS	110	Operating System Concepts	2	3	0	3
	SEC	110	Security Concepts	2	2	0	3
2.	Other Major Courses						
	CIS	115	Intro to Prog & Logic	2	3	0	3
	NOS	120	Linux/UNIX Single User	2	2	0	3
	NOS	130	Windows Single User	2	2	0	3
	NOS	230	Windows Administration I	2	2	0	3
C.	**Other Required Courses**						
	ACA	122	College Transfer Success	0	2	0	1
	Total Credit Hours					**66**	

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
HEALTHCARE BUSINESS INFORMATICS

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
BUS	110	Introduction to Business	3	0	0	3
CIS	110	Introduction to Computers	2	2	0	3
ENG	111	Writing and Inquiry	3	0	0	3
MED	118	Medical Law and Ethics	2	0	0	2
NET	125	Networking Basics	1	4	0	3
NOS	110	Operating Systems Concepts	2	3	0	3
			13	11	0	18
		First Year – Spring Semester				
DBA	110	Database Concepts	2	3	0	3
ENG	112	Writing/Research in the Disciplines	3	0	0	3
HBI	110	Issues and Trends in HBI	3	0	0	3
HBI	113	Survey of Med Insurance	3	0	0	3
MAT	143	Quantitative Literacy	2	2	0	3
NOS	130	Windows Single User	2	2	0	3
			15	7	0	18
		Second Year – Fall Semester				
CIS	115	Introduction to Prog & Logic	2	3	0	3
HBI	250	Data Mgmt and Utilization	2	2	0	3
MED	121	Medical Terminology I	3	0	0	3
NOS	120	Linux/UNIX Single User	2	2	0	3
NOS	230	Windows Administration I	2	2	0	3
SEC	110	Security Concepts	2	2	0	3
			13	11	0	18

Second Year – Spring Semester

CTS	120	Hardware/Software Support	2	3	0	3
MED	122	Medical Terminology II	3	0	0	3
		Humanities/Fine Arts Elective*	3	0	0	3
		Social/Behavioral Sciences Elective*	3	0	0	3
			11	3	0	12

Total Credit Hours **66**

*Approved Electives are listed on the page before the Course Descriptions.

Healthcare Management Technology (A25200)

The Healthcare Management Technology curriculum is designed to prepare students for employment in healthcare business and financial operations. Students will gain a comprehensive understanding of the application of management principles to the healthcare environment.

The curriculum places emphasis on planning, organizing, directing, and controlling tasks related to healthcare organizational objectives including the legal and ethical environment. Emphasis is placed on the development of effective communication, managerial, and supervisory skills.

Graduates may find employment in healthcare settings including hospitals, medical offices, clinics, long-term care facilities, and insurance companies. Graduates are eligible to sit for various certification exams upon completion of the degree with a combination of a minimum of two years administrative experience. Eligible certifications include, but are not limited to, the Professional Association of Healthcare Office Managers (PAHCOM), the Healthcare Financial Management Association (HFMA), the Certified Patient Account Manager (CPAM) and the Certified Manager of Patient Accounts (CMPA) examinations.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

			Class	Lab	Work/ Clinical	Credit
A. General Education Courses						
1. Required Courses						
ENG	111	Writing and Inquiry	3	0	0	3
ENG	112	Writing/Research in the Disciplines	3	0	0	3
MAT	143	Quantitative Literacy	2	2	0	3
		Humanities/Fine Arts Elective*	3	0	0	3
		Social/Behavioral Sciences Elective*	3	0	0	3
B. Major Courses						
1. Core Courses						
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.						
ACC	120	Principles of Financial Accounting	3	2	0	4
ACC	121	Principles of Managerial Accounting	3	2	0	4
HMT	110	Intro to Healthcare Management	3	0	0	3
HMT	210	Medical Insurance	3	0	0	3
HMT	211	Long-Term Care Administration	3	0	0	3
HMT	220	Healthcare Financial Management	4	0	0	4
MED	118	Medical Law and Ethics	2	0	0	2
MED	121	Medical Terminology I	3	0	0	3

	MED	122	Medical Terminology II	3	0	0	3
2.	Other Major Courses						
	ACC	225	Cost Accounting	3	0	0	3
	BUS	137	Principles of Management	3	0	0	3
	BUS	153	Human Resource Management	3	0	0	3
	CIS	110	Introduction to Computers	2	2	0	3
	CTS	130	Spreadsheet	2	2	0	3
	HMT	225	Practice Mgmt Simulation	2	2	0	3
	OST	131	Keyboarding	1	2	0	2
	WBL	111	Work-Based Learning I	0	0	10	1
	WBL	115	Work-Based Learning Seminar I	1	0	0	1
C.	**Other Required Courses**						
	ACA	122	College Transfer Success	0	2	0	1
			Total Credit Hours				**67**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
HEALTHCARE MANAGEMENT TECHNOLOGY (DAY)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
ACC	120	Principles of Financial Accounting	3	2	0	4
BUS	137	Principles of Management	3	0	0	3
ENG	111	Writing and Inquiry	3	0	0	3
MAT	143	Quantitative Literacy	2	2	0	3
MED	121	Medical Terminology I	3	0	0	3
			14	6	0	17
		First Year – Spring Semester				
ACC	121	Principles of Managerial Accounting	3	2	0	4
CIS	110	Introduction to Computers	2	2	0	3
ENG	112	Writing/Research in the Disciplines	3	0	0	3
HMT	110	Intro to Healthcare Management	3	0	0	3
MED	122	Medical Terminology II	3	0	0	3
OST	131	Keyboarding	1	2	0	2
			15	6	0	18
		Second Year – Fall Semester				
BUS	153	Human Resource Management	3	0	0	3
HMT	210	Medical Insurance	3	0	0	3
HMT	211	Long-Term Care Administration	3	0	0	3
MED	118	Medical Law and Ethics	2	0	0	2
		Humanities/Fine Arts Elective*	3	0	0	3

		Social/Behavioral Sciences Elective*	3	0	0	3
			17	0	0	17
		Second Year – Spring Semester				
ACC	225	Cost Accounting	3	0	0	3
CTS	130	Spreadsheet	2	2	0	3
HMT	220	Healthcare Financial Management	4	0	0	4
HMT	225	Practice Mgmt Simulation	2	2	0	3
WBL	111	Work-Based Learning I	0	0	10	1
WBL	115	Work-Based Learning Seminar I	1	0	0	1
			12	4	10	15

Total Credit Hours **67**

*Approved Electives are listed on the page before the Course Descriptions.

HEALTHCARE MANAGEMENT TECHNOLOGY (CERTIFICATE) (C25200)
COURSE REQUIREMENTS

			Class	Lab	Work/ Clinical	Credit
CIS	110	Introduction to Computers	2	2	0	3
HMT	110	Introduction to Healthcare Management	3	0	0	3
HMT	210	Medical Insurance	3	0	0	3
MED	118	Medical Law and Ethics	2	0	0	2
MED	121	Medical Terminology I	3	0	0	3
MED	122	Medical Terminology II	3	0	0	3
			16	2	0	17

Total Credit Hours **17**

Human Services Technology (A45380)

The Human Services Technology curriculum prepares students for entry-level positions in institutions and agencies which provide social, community, and educational services. Along with core courses, students take courses which prepare them for specialization in specific human service areas.

Students will take courses from a variety of disciplines. Emphasis in core courses is placed on development of relevant knowledge, skills, and attitudes in human services. Fieldwork experience will provide opportunities for application of knowledge and skills learned in the classroom.

Graduates should qualify for positions in mental health, child care, family services, social services, rehabilitation, correction, and educational agencies. Graduates choosing to continue their education may select from a variety of transfer programs at senior public and private institutions.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

				Class	Lab	Work/ Clinical	Credit
A. General Education Courses							
1. Required Courses							
	ENG	111	Writing and Inquiry	3	0	0	3
	ENG	112	Writing/Research in the Disciplines	3	0	0	3
	MAT	143	Quantitative Literacy	2	2	0	3
	SOC	210	Introduction to Sociology	3	0	0	3
			Humanities/Fine Arts Elective*	3	0	0	3
B. Major Courses							
1. Core Courses							
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.							
	HSE	110	Introduction to Human Services	2	2	0	3
	HSE	112	Group Process I	1	2	0	2
	HSE	123	Interviewing Techniques	2	2	0	3
	HSE	125	Counseling	2	2	0	3
	HSE	210	Human Services Issues	2	0	0	2
	HSE	225	Crisis Intervention	3	0	0	3
	PSY	150	General Psychology	3	0	0	3
	PSY	241	Developmental Psychology	3	0	0	3
	SOC	213	Sociology of the Family	3	0	0	3
2. Other Major Courses							
	CIS	110	Introduction to Computers	2	2	0	3

	HSE	155	Community Resources Management	2	0	0	2
	HSE	220	Case Management	2	2	0	3
	HSE	227	Children & Adolescents in Crisis	3	0	0	3
	HSE	250	Financial Services	3	0	0	3
	HSE	251	Activities Therapy	3	0	0	3
	SWK	113	Working with Diversity	3	0	0	3
	WBL	121	Work-Based Learning II	0	0	10	1
	WBL	125	Work-Based Learning Seminar II	1	0	0	1
3.	Elective courses (Select three of the following)**						
	GRO	120	Gerontology	3	0	0	3
	HSE	127	Conflict Resolution	2	2	0	3
	HSE	242	Family Systems	3	0	0	3
	HSE	250	Financial Services	2	0	0	2
	HSE	251	Activities Therapy	3	0	0	3
	HSE	255	Health Problems and Prevention	3	0	0	3
	SAB	110	Substance Abuse Overview	3	0	0	3
	SAB	135	Addictive Processes	3	0	0	3
	SOC	255	Social Diversity	3	0	0	3
	SWK	110	Introduction to Social Work	3	0	0	3
C.	**Other Required Courses**						
	ACA	122	College Transfer Success	0	2	0	1
			Total Credit Hours			**65**	

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
HUMAN SERVICES TECHNOLOGY (DAY)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
ENG	111	Writing and Inquiry	3	0	0	3
HSE	110	Introduction to Human Services	2	2	0	3
HSE	123	Interviewing Techniques	2	2	0	3
HSE	155	Community Resources Management	2	0	0	2
PSY	150	General Psychology	3	0	0	3
SOC	210	Introduction to Sociology	3	0	0	3
			15	6	0	18
		First Year – Spring Semester				
CIS	110	Introduction to Computers	2	2	0	3
ENG	112	Writing/Research in the Disciplines	3	0	0	3
HSE	112	Group Process I	1	2	0	2
HSE	125	Counseling	2	2	0	3
MAT	143	Quantitative Literacy	2	2	0	3

		Elective course**	2-3	0-2	0	3
			12-13	8-10	0	17
		Second Year – Fall Semester				
HSE	227	Children & Adolescents in Crisis	3	0	0	3
PSY	241	Developmental Psychology	3	0	0	3
SOC	213	Sociology of the Family	3	0	0	3
SWK	113	Working with Diversity	3	0	0	3
		Elective course**	2-3	0-2	0	3
			14-15	0-2	10	15
		Second Year – Spring Semester				
HSE	210	Human Services Issues	2	0	0	2
HSE	220	Case Management	2	2	0	3
HSE	225	Crisis Intervention	3	0	0	3
WBL	121	Work-Based Learning II	0	0	10	1
WBL	125	Work-Based Learning Seminar II	1	0	0	1
		Humanities/Fine Arts Elective*	3	0	0	3
		Elective course**	2-3	0-2	0	3
			13-14	2-4	10	16

Total Credit Hours **66**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
HUMAN SERVICES TECHNOLOGY (EVENING)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
CIS	110	Introduction to Computers	2	2	0	3
ENG	111	Writing and Inquiry	3	0	0	3
HSE	110	Introduction to Human Services	2	2	0	3
			7	6	0	10
		First Year – Spring Semester				
ENG	112	Writing/Research in the Disciplines	3	0	0	3
HSE	123	Interviewing Techniques	2	2	0	3
PSY	150	General Psychology	3	0	0	3
SOC	210	Introduction to Sociology	3	0	0	3
			11	2	0	12
		Even Years – Fall Semester				
HSE	227	Children & Adolescents in Crisis	3	0	0	3

SWK	113	Working with Diversity	3	0	0	3
		Elective course**	2-3	0-2	0	3
		Elective course**	2-3	0-2	0	3
			10-12	0-4	0	12
		Odd Years – Spring Semester				
HSE	210	Human Services Issues	2	0	0	2
HSE	220	Case Management	2	2	0	3
MAT	143	Quantitative Literacy	2	2	0	3
SOC	213	Sociology of the Family	3	0	0	3
WBL	121	Work-Based Learning II	0	0	10	1
WBL	125	Work-Based Learning Seminar II	1	0	0	1
			11	2	10	13
		Odd Years – Fall Semester				
HSE	112	Group Process I	1	2	0	2
HSE	125	Counseling	2	2	0	3
HSE	225	Crisis Intervention	3	0	0	3
		Humanities/Fine Arts Elective*	3	0	0	3
			9	4	0	11
		Even Years – Spring Semester				
HSE	155	Community Resources Management	2	0	0	2
PSY	241	Developmental Psychology	3	0	0	3
		Elective course**	2-3	0-2	0	3
			7-8	0-2	0	8

Total Credit Hours **66**

*Approved Electives are listed on the page before the Course Descriptions.

SOCIAL GERONTOLOGY (CERTIFICATE) (C45380G)
COURSE REQUIREMENTS

			Class	Lab	Work/ Clinical	Credit
GRO	120	Gerontology	3	0	0	3
HSE	110	Introduction to Human Services	2	2	0	3
HSE	125	Counseling	2	2	0	3
PSY	150	General Psychology	3	0	0	3
SOC	213	Sociology of the Family	3	0	0	3
			13	4	0	15

Total Credit Hours **15**

AT-RISK YOUTH TECHNICIAN (CERTIFICATE) (C45380Y)
COURSE REQUIREMENTS

			Class	Lab	Work/ Clinical	Credit
HSE	110	Introduction to Human Services	2	2	0	3
HSE	125	Counseling	2	2	0	3
HSE	225	Crisis Intervention	3	0	0	3
HSE	227	Children & Adolescents in Crisis	3	0	0	3
PSY	150	General Psychology	3	0	0	3
PSY	241	Developmental Psychology	3	0	0	3
			16	4	0	18

Total Credit Hours **18**

SOCIAL SERVICES (CERTIFICATE) (C45380SC)
COURSE REQUIREMENTS

			Class	Lab	Work/ Clinical	Credit
HSE	110	Introduction to Human Services	2	2	0	3
HSE	123	Interviewing Techniques	2	2	0	3
HSE	155	Community Resources	2	0	0	2
HSE	225	Crisis Intervention	3	0	0	3
SWK	110	Introduction to Social Work	3	0	0	3
SWK	113	Working with Diversity	3	0	0	3
			15	4	0	17

Total Credit Hours **17**

SUBSTANCE ABUSE (CERTIFICATE) (C45380SA)
COURSE REQUIREMENTS

			Class	Lab	Work/ Clinical	Credit
HSE	110	Introduction to Human Services	2	2	0	3
HSE	112	Group Process I	1	2	0	2
HSE	123	Interviewing Techniques	2	2	0	3
HSE	220	Case Management	2	2	0	3
SAB	110	Substance Abuse Overview	3	0	0	3
SAB	135	Addictive Processes	3	0	0	3
			13	8	0	17

Total Credit Hours **17**

Industrial Systems Technology (A50240)

The Industrial Systems Technology curriculum is designed to prepare or upgrade individuals to safely service, maintain, repair, or install equipment. Instruction includes theory and skill training needed for inspecting, testing, troubleshooting, and diagnosing industrial systems.

Students will learn multi-craft technical skills in blueprint reading, mechanical systems maintenance, electricity, hydraulics/pneumatics, welding, machining or fabrication, and includes various diagnostic and repair procedures. Practical application in these industrial systems will be emphasized and additional advanced course work may be offered.

Upon completion of this curriculum, graduates should be able to individually, or with a team, safely install, inspect, diagnose, repair, and maintain industrial process and support equipment. Students will also be encouraged to develop their skills as life-long learners.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

				Class	Lab	Work/ Clinical	Credit
A. General Education Courses							
1. Required Courses							
	ENG	111	Writing and Inquiry	3	0	0	3
	COM	231	Public Speaking	3	0	0	0
or							
	ENG	112	Writing/Research in the Disciplines	3	0	0	3
	MAT	143	Quantitative Literacy	2	2	0	3
			Humanities/Fine Arts Elective*	3	0	0	3
			Social/Behavioral Sciences Elective*	3	0	0	3
B. Major Courses							
1. Core Courses							
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.							
	BPR	111	Print Reading	1	2	0	2
	ELC	112	DC/AC Electricity	3	6	0	5
	ELC	120	Introduction to Wiring	2	2	0	3
	ELC	128	Introduction to PLC	2	3	0	3
	HYD	110	Hydraulics/Pneumatics I	2	3	0	3
	HYD	180	Fluid Power in Automation	2	3	0	3
	ISC	112	Industrial Safety	2	0	0	2
	MEC	111	Machine Processes I	1	4	0	3
	MEC	130	Mechanisms	2	2	0	3

	MNT	110	Intro to Maintenance Procedures	1	3	0	2
	WLD	112	Basic Welding Processes	1	3	0	2
2.	Other Major Courses						
	CIS	110	Introduction to Computers	2	2	0	3
	ELC	117	Motors and Controls	2	6	0	4
	ELC	125	Diagrams and Schematics	1	2	0	2
	ELN	229	Industrial Electronics	3	3	0	4
	MAC	114	Introduction to Metrology	2	0	0	2
	MNT	230	Pumps & Piping Systems	1	3	0	2
	MNT	240	Industrial Equipment Troubleshooting	1	3	0	2
B.	**Other Required Courses**						
	ACA	122	College Transfer Success	0	2	0	1

Total Credit Hours **66**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
INDUSTRIAL SYSTEMS TECHNOLOGY (DAY)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
CIS	110	Introduction to Computers	2	2	0	3
ELC	112	DC/AC Electricity	3	6	0	5
ENG	111	Writing and Inquiry	3	0	0	3
MAT	143	Quantitative Literacy	2	2	0	3
			10	12	0	15
		First Year – Spring Semester				
BPR	111	Print Reading	1	2	0	2
ELC	125	Diagrams and Schematics	1	2	0	2
COM	231	Public Speaking	3	0	0	3
or						
ENG	112	Writing/Research in the Disciplines	3	0	0	3
ELN	229	Industrial Electronics	3	3	0	4
HYD	110	Hydraulics/Pneumatics I	2	3	0	3
ISC	112	Industrial Safety	2	0	0	2
		Humanities/Fine Arts Elective*	3	0	0	3
			15	10	0	19
		Second Year – Fall Semester				
ELC	120	Introduction to Wiring	2	2	0	3
HYD	180	Fluid Power in Automation	2	3	0	3
MEC	111	Machine Processes I	1	4	0	3
MEC	130	Mechanisms	2	2	0	3

MNT	230	Pumps & Piping Systems	1	3	0	2
WLD	112	Basic Welding Processes	1	3	0	2
			9	17	0	16
		Second Year – Spring Semester				
ELC	117	Motors and Controls	2	6	0	4
ELC	128	Introduction to PLC	2	3	0	3
MAC	114	Introduction to Metrology	2	0	0	2
MNT	110	Intro to Maintenance Procedures	1	3	0	2
MNT	240	Industrial Equipment Troubleshooting	1	3	0	2
		Social/Behavioral Sciences Elective*	3	0	0	3
			11	15	0	16

Total Credit Hours **66**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
INDUSTRIAL SYSTEMS TECHNOLOGY (DIPLOMA) (D50240) (EVENING)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
BPR	111	Print Reading	1	2	0	2
ELC	112	DC/AC Electricity	3	6	0	5
			4	10	0	8
		First Year – Spring Semester				
ELC	125	Diagrams and Schematics	1	2	0	2
ISC	112	Industrial Safety	2	0	0	2
MEC	111	Machine Processes I	1	4	0	3
MNT	110	Intro to Maintenance Procedures	1	3	0	2
			5	9	0	9
		First Year – Summer Semester				
ENG	111	Writing and Inquiry	3	0	0	3
		Social/Behavioral Sciences Elective*	3	0	0	3
			6	0	0	6
		Second Year – Fall Semester				
HYD	110	Hydraulics/Pneumatics I	2	3	0	3
MEC	130	Mechanisms	2	2	0	3
WLD	112	Basic Welding Processes	1	3	0	2
			5	8	0	8

		Second Year – Spring Semester				
ELC	117	Motors and Controls	2	6	0	4
ELC	128	Introduction to PLC	2	3	0	3
			4	9	0	7

Total Credit Hours **38**

SEMESTER SCHEDULE
INDUSTRIAL SYSTEMS TECHNOLOGY (CERTIFICATE) (C50240)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
BPR	111	Print Reading	1	2	0	2
ELC	112	DC/AC Electricity	3	6	0	5
or						
MEC	111	Machine Processes I	1	4	0	3
WLD	112	Basic Welding Processes	1	3	0	2
			3-5	9-11	0	7-9
		First Year – Spring Semester				
HYD	110	Hydraulics/Pneumatics I	2	3	0	3
ISC	112	Industrial Safety	2	0	0	2
MNT	110	Intro to Maintenance Procedures	1	3	0	2
			5	6	0	7

Total Credit Hours **14-16**

Infant/Toddler Care (Certificate) (C55290)

The curriculum prepares individuals to work with children from infancy to three years of age in diverse learning environments. Students will combine learned theories, competency-based knowledge, and practice in actual settings with infants and toddlers.

Course work includes infant/toddler growth and development: physical/nutritional needs of infants and toddlers; safety issues in the care of infants and toddlers; care and guidance; communication skills with families and children; design and implementation of appropriate curriculum; and other related topics.

Graduates should be prepared to plan and implement developmentally appropriate infant/toddler programs in early childhood settings. Employment opportunities include child development and child care programs, preschools, public and private schools, recreational centers, Early Head Start Programs, and other infant/toddler programs.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

A. Major Courses

1. Core Courses

To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.

			Class	Lab	Work/ Clinical	Credit
EDU	119	Intro to Early Childhood Education	4	0	0	4
EDU	131	Child, Family, & Community	3	0	0	3
EDU	144	Child Development I	3	0	0	3
EDU	153	Health, Safety, & Nutrition	3	0	0	3
EDU	234	Infants, Toddlers, & Twos	3	0	0	3
		Total Credit Hours				**16**

SEMESTER SCHEDULE
INFANT/TODDLER CARE (CERTIFICATE)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
EDU	119	Intro to Early Childhood Education	4	0	0	4
EDU	131	Child, Family, & Community	3	0	0	3
EDU	144	Child Development I	3	0	0	3

			10	0	0	10
		First Year – Spring Semester				
EDU	153	Health, Safety, & Nutrition	3	0	0	3
EDU	234	Infants, Toddlers, & Twos	3	0	0	3
			6	0	0	6

Total Credit Hours **16**

Lateral Entry (Certificate) (C55430)

The Lateral Entry curriculum provides a course of study leading to the development of the general pedagogy competencies needed to become certified to teach by the North Carolina Department of Public Instruction.

Course work includes human growth and development, learning theory, instructional technology, school policies and procedures, home, school, and community collaborations, and classroom organization and management to enhance learning. Courses offered by partnering senior institutions include instructional methods, literacy, and diversity.

Graduates should meet the general pedagogy competencies within the first three years of teaching, including a minimum of six semester hours per school year. Additional requirements, such as pre-service training and passing the PRAXIS, are required for licensure.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

			Class	Lab	Work/ Clinical	Credit
A. Major Courses						
1. Core Courses						
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.						
EDU	131	Child, Family, & Community	3	0	0	3
EDU	163	Classroom Mgt & Instruction	3	0	0	3
EDU	243	Learning Theory	3	0	0	3
EDU	244	Human Growth/Development	3	0	0	3
EDU	245	Policies and Procedures	3	0	0	3
EDU	271	Educational Technology	2	2	0	3
Total Credit Hours					**18**	

SEMESTER SCHEDULE
LATERAL ENTRY (CERTIFICATE)

			Class	Lab	Work/ Clinical	Credit
First Year – Fall Semester						
EDU	131	Child, Family, & Community	3	0	0	3
EDU	163	Classroom Mgt & Instruction	3	0	0	3
EDU	271	Educational Technology	2	2	0	3

			8	2	0	9
		First Year – Spring Semester				
EDU	243	Learning Theory	3	0	0	3
EDU	244	Human Growth/Development	3	0	0	3
EDU	245	Policies and Procedures	3	0	0	3
			9	0	0	9

Total Credit Hours **18**

A cohort model will be utilized. Courses will be offered in a hybrid and/or online format during monthly mini-semesters. The courses will be offered annually allowing students the flexibility of entering and completing courses throughout the year.

The courses that are required to be offered in conjunction with a four-year college will be offered during the summer terms. They will be offered on the Richmond Community College campus or made available through distance learning.

Each student enrolled in the Lateral Entry Certificate program will have a documented plan of study on file. Applicants for this certificate program must hold at least a bachelor's degree from an accredited institution.

Mechanical Engineering Technology (A40320)

ENGINEERING AND TECHNOLOGY PATHWAYS

These curriculums are designed to prepare students through the study and application of principles from mathematics, natural sciences, and technology and applied processes based on these subjects.

Course work includes mathematics, natural sciences, engineering sciences and technology.

Graduates should qualify to obtain occupations such as technical service providers, materials and technologies testing services, process improvement technicians, engineering technicians, industrial and technology managers, or research technicians.

PROGRAM DESCRIPTION

A course of study that prepares the students to use basic engineering principles and technical skills to design, develop, test, and troubleshoot projects involving mechanical systems. Includes instruction in principles of mechanics, applications to specific engineering systems, design testing procedures, prototype and operational testing and inspection procedures, manufacturing system-testing procedures, test equipment operation and maintenance, computer applications, critical thinking, planning and problem solving, and oral and written communications. Graduates of the curriculum will find employment opportunities in the manufacturing or service sectors of engineering technology. Engineering technicians may obtain professional certification by application to organizations such as ASQC, SME, and NICET.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

			Class	Lab	Work/ Clinical	Credit
A. General Education Courses						
1. Required Courses						
ENG	111	Writing and Inquiry	3	0	0	3
ENG	112	Writing/Research in the Disciplines	3	0	0	3
MAT	171	Precalculus Algebra	3	2	0	4
		Humanities/Fine Arts Elective*	3	0	0	3
		Social/Behavioral Sciences Elective*	3	0	0	3
B. Major Courses						
1. Core Courses						
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.						
DFT	151	CAD I	2	3	0	3
DFT	153	CAD III	2	3	0	3

EGR	250	Statics/Strengths of Materials	4	3	0	5
HYD	110	Hydraulics/Pneumatics I	2	3	0	3
MEC	161	Manufacturing Process I	3	0	0	3
MEC	180	Engineering Materials	2	3	0	3
PHY	151	College Physics I	3	2	0	4
2. Other Major Courses						
DFT	110	Basic Drafting	1	2	0	2
DFT	115	Architectural Drafting	1	2	0	2
DFT	152	CAD II	2	3	0	3
ISC	132	Manufacturing Quality Control	2	3	0	3
MAT	172	Precalculus Trigonometry	3	2	0	4
MAT	271	Calculus I	3	2	0	4
MEC	110	Introduction to CAD/CAM	1	2	0	2
MEC	270	Machine Design	3	3	0	4
MEC	271	Machine Design Project	0	3	0	1
PLA	120	Injection Molding	2	3	0	3
C. Other Required Courses						
ACA	122	College Transfer Success	0	2	0	1
		Total Credit Hours				**69**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
MECHANICAL ENGINEERING TECHNOLOGY (DAY)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
DFT	110	Basic Drafting	1	2	0	2
DFT	151	CAD I	2	3	0	3
ENG	111	Writing and Inquiry	3	0	0	3
MEC	161	Manufacturing Process I	3	0	0	3
MAT	171	Precalculus Algebra	3	2	0	4
			12	9	0	16
		First Year – Spring Semester				
DFT	115	Architectural Drafting	1	2	0	2
DFT	152	CAD II	2	3	0	3
ENG	112	Writing/Research in the Disciplines	3	0	0	3
MAT	172	Precalculus Trigonometry	3	0	0	3
MEC	180	Engineering Materials	2	3	0	3
		Humanities/Fine Arts Elective*	3	0	0	3
			14	10	0	18

		Second Year – Fall Semester				
DFT	153	CAD III	2	3	0	3
EGR	250	Statics & Strength of Materials	4	3	0	5
MAT	271	Calculus I	3	2	0	4
ISC	132	Manufacturing Quality Control	2	2	0	3
PHY	151	College Physics I	3	2	0	4
PLA	120	Injection Molding	2	3	0	3
			16	15	0	22
		Second Year – Spring Semester				
HYD	110	Hydraulics/Pneumatics I	2	3	0	3
MEC	110	Introduction to CAD/CAM	1	2	0	2
MEC	270	Machine Design	3	3	0	4
MEC	271	Machine Design Project	0	3	0	1
		Social/Behavioral Sciences Elective*	3	0	0	3
			9	11	0	13

Total Credit Hours **69**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
MECHANICAL ENGINEERING TECHNOLOGY (DIPLOMA) (D40320) (DAY)

			Class	**Lab**	**Work/ Clinical**	**Credit**
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
DFT	110	Basic Drafting	1	2	0	2
DFT	151	CAD I	2	3	0	3
ENG	111	Writing and Inquiry	3	0	0	3
MEC	161	Manufacturing Processes I	3	0	0	3
MAT	171	Precalculus Algebra	3	2	0	4
			12	9	0	16
		First Year – Spring Semester				
DFT	115	Architectural Drafting	1	2	0	2
DFT	152	CAD II	2	3	0	3
MAT	172	Precalculus Trigonometry	3	2	0	4
MEC	180	Engineering Materials	2	3	0	3
		Humanities/Fine Arts Elective*	3	0	0	3
			11	10	0	15
		Second Year – Fall Semester				
DFT	153	CAD III	2	3	0	3
ISC	132	Manufacturing Quality Control	2	3	0	3

PHY	151	College Physics I	3	2	0	4
			7	8	0	10

Total Credit Hours **41**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
COMPUTER-AIDED DRAFTING (CERTIFICATE) (C40320)

			Class	Lab	Work/ Clinical	Credit
DFT	110	Basic Drafting	1	2	0	2
DFT	115	Architectural Drafting I	1	2	0	2
DFT	151	CAD I	2	3	0	3
DFT	152	CAD II	2	3	0	3
DFT	153	CAD III	2	3	0	3
			8	13	0	13

Total Credit Hours **13**

Mechatronics Engineering Technology (A40350)

ENGINEERING AND TECHNOLOGY PATHWAYS

These curriculums are designed to prepare students through the study and application of principles from mathematics, natural sciences, and technology and applied processes based on these subjects.

Course work includes mathematics, natural sciences, engineering sciences and technology.

Graduates should qualify to obtain occupations such as technical service providers, materials and technologies testing services, process improvement technicians, engineering technicians, industrial and technology managers, or research technicians.

PROGRAM DESCRIPTION

A course of study that prepares the students to use basic engineering principles and technical skills in developing and testing automated, servo-mechanical, and other electromechanical systems. Includes instruction in prototype testing, manufacturing and operational testing, systems analysis and maintenance procedures. Graduates should be qualified for employment in industrial maintenance and manufacturing including assembly, testing, startup, troubleshooting, repair, process improvement, and control systems, and should qualify to sit for Packaging Machinery Manufacturers Institute (PMMI) mechatronics or similar industry examinations.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

				Class	Lab	Work/ Clinical	Credit
A. General Education Courses							
1. Required Courses							
	ENG	111	Writing and Inquiry	3	0	0	3
	ENG	112	Writing/Research in the Disciplines	3	0	0	3
	MAT	171	Precalculus Algebra	3	2	0	4
			Humanities/Fine Arts Elective*	3	0	0	3
			Social/Behavioral Sciences Elective*	3	0	0	3
B. Major Courses							
1. Core Courses							
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.							
	ATR	112	Intro to Automation	2	3	0	3
	CIS	110	Introduction to Computers	2	2	0	3
	DFT	151	CAD I	2	3	0	3
	ELC	112	DC/AC Electricity	3	6	0	5

	or					
	ELC	131	Circuit Analysis I	3	3	0	4
	ELC	117	Motors and Controls	2	6	0	4
	ELC	213	Instrumentation	3	2	0	4
	ELN	260	Prog Logic Controllers	3	3	0	4
	HYD	110	Hyrdraulics/Pneumatics I	2	3	0	3
	ISC	112	Industrial Safety	2	0	0	2
	MEC	130	Mechanisms	2	2	0	3
	PHY	151	College Physics I	3	2	0	4
2.	Other Major Courses						
	ELN	133	Digital Electronics	3	3	0	4
	ISC	132	Manufacturing Quality Control	2	2	0	3
	MAT	172	Precalculus Trigonometry	3	2	0	4
	MEC	110	Intro to CAD/CAM	1	2	0	2
	MEC	180	Engineering Materials	2	3	0	3
	MNT	240	Industrial Equip Troubleshooting	1	3	0	2
C.	**Other Required Hours**						
	ACA	122	College Transfer Success	0	2	0	1

Total Credit Hours **72-73**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
MECHATRONICS ENGINEERING TECHNOLOGY (DAY)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
CIS	110	Introduction to Computers	2	2	0	3
ELC	112	DC/AC Electricity	3	6	0	5
or						
ELC	131	Circuit Analysis I	3	3	0	4
ENG	111	Writing and Inquiry	3	0	0	3
MAT	171	Precalculus Algebra	3	2	0	4
			11	9-12	0	15-16
		First Year – Spring Semester				
ELC	117	Motors and Controls	2	6	0	4
HYD	110	Hydraulics/Pneumatics I	2	3	0	3
ISC	112	Industrial Safety	2	0	0	2
ELN	133	Digital Electronics	3	3	0	4
MAT	172	Precalculus Trigonometry	3	2	0	4
			12	14	0	17

		First Year – Summer Semester				
ENG	112	Writing/Research in the Disciplines	3	0	0	3
		Humanities/Fine Arts Elective*	3	0	0	3
		Social/Behavioral Sciences Elective*	3	0	0	3
			9	0	0	9
		Second Year – Fall Semester				
DFT	151	CAD I	2	3	0	3
ISC	132	Manufacturing Quality Control	2	2	0	3
MEC	130	Mechanisms	2	2	0	3
PHY	151	College Physics I	3	2	0	4
ELN	260	Prog Logic Controllers	3	3	0	4
			12	12	0	17
		Second Year – Spring Semester				
ATR	112	Intro to Automation	2	3	0	3
ELC	213	Instrumentation	3	2	0	4
MEC	110	Intro to CAD/CAM	1	2	0	2
MEC	180	Engineering Materials	2	3	0	3
MNT	240	Industrial Equip Troubleshooting	1	3	0	2
			9	13	0	14

Total Credit Hours **72-73**

*Approved Electives are listed on the page before the Course Descriptions.

Medical Assisting (A45400)

The Medical Assisting curriculum prepares multi-skilled health care professionals qualified to perform administrative, clinical, and laboratory procedures.

Course work includes instruction in scheduling appointments, coding and processing insurance accounts, billing, collections, computer operations; assisting with examinations/treatments, performing routine laboratory procedures, electrocardiography, supervised medication administration; and ethical/legal issues associated with patient care.

Graduates of CAAHEP-accredited medical assisting programs may be eligible to sit for the American Association of Medical Assistants' Certification Examination to become Certified Medical Assistants. Employment opportunities include physicians' offices, health maintenance organizations, health departments, and hospitals.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

				Class	Lab	Work/ Clinical	Credit
A. General Education Courses							
1. Required Courses							
	ENG	111	Writing and Inquiry	3	0	0	3
	ENG	112	Writing/Research in the Disciplines	3	0	0	3
	MAT	143	Quantitative Literacy	2	2	0	3
	PSY	150	General Psychology	3	0	0	3
			Humanities/Fine Arts Elective*	3	0	0	3
B. Major Courses							
1. Core Courses							
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.							
	BIO	163	Basic Anatomy and Physiology	4	2	0	5
	MED	110	Orientation to Medical Assisting	1	0	0	1
	MED	118	Medical Law and Ethics	2	0	0	2
	MED	121	Medical Terminology I	3	0	0	3
	MED	122	Medical Terminology II	3	0	0	3
	MED	130	Administrative Office Procedures I	1	2	0	2
	MED	131	Administrative Office Procedures II	1	2	0	2
	MED	140	Exam Room Procedures I	3	4	0	5
	MED	150	Laboratory Procedures I	3	4	0	5
	MED	260	MED Clinical Practicum	0	0	15	5
2. Other Major Courses							

ACC	115	College Accounting	3	2	0	4
CIS	110	Introduction to Computers	2	2	0	3
MED	112	Orientation to Clinical Setting I	0	0	3	1
MED	114	Professional Interaction in Health Care	1	0	0	1
MED	232	Medical Insurance Coding	1	3	0	2
MED	270	Symptomatology	2	2	0	3
MED	272	Drug Therapy	3	0	0	3
OST	131	Keyboarding	1	2	0	2

C. Other Required Courses

ACA	122	College Transfer Success	0	2	0	1

Total Credit Hours **68**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
MEDICAL ASSISTING (DAY)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
CIS	110	Introduction to Computers	2	2	0	3
ENG	111	Writing and Inquiry	3	0	0	3
MED	110	Orientation to Medical Assisting	1	0	0	1
MED	118	Medical Law and Ethics	2	0	0	2
MED	121	Medical Terminology I	3	0	0	3
MED	130	Administrative Office Procedures I	1	2	0	2
OST	131	Keyboarding	1	2	0	2
			13	8	0	17
		First Year – Spring Semester				
BIO	163	Basic Anatomy and Physiology	4	2	0	5
ENG	112	Writing/Research in the Disciplines	3	0	0	3
MAT	143	Quantitative Literacy	2	2	0	3
MED	112	Orientation to Clinical Setting I	0	0	3	1
MED	122	Medical Terminology II	3	0	0	3
MED	131	Administrative Office Procedures II	1	2	0	2
MED	232	Medical Insurance Coding	1	3	0	2
			14	9	3	19
		First Year – Summer Semester				
MED	140	Exam Room Procedures I	3	4	0	5
			3	4	0	5
		Second Year – Fall Semester				
ACC	115	College Accounting	3	2	0	4

MED	114	Professional Interaction in Health Care	1	0	0	1
MED	150	Laboratory Procedures I	3	4	0	5
MED	270	Symptomatology	2	2	0	3
MED	272	Drug Therapy	3	0	0	3
			12	8	0	16
		Second Year – Spring Semester				
MED	260	MED Clinical Practicum	0	0	15	5
PSY	150	General Psychology	3	0	0	3
		Humanities/Fine Arts Elective*	3	0	0	3
			6	0	15	11

Total Credit Hours **68**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
MEDICAL ASSISTING (CERTIFICATE) (C45400)

			Class	Lab	Work/ Clinical	Credit
		Fall Semester				
MED	110	Orientation to Medical Assisting I	1	0	0	1
MED	118	Medical Law and Ethics	2	0	0	2
MED	121	Medical Terminology I	3	0	0	3
MED	130	Administrative Office Procedures I	1	2	0	2
			7	2	0	8
		Spring Semester				
MED	112	Orientation to Clinical Setting I	0	0	3	1
MED	122	Medical Terminology II	3	0	0	3
MED	131	Administrative Office Procedures II	1	2	0	2
MED	232	Medical Insurance Coding	1	3	0	2
			5	5	3	8

Total Credit Hours **16**

Office Administration (A25370)

The Office Administration curriculum prepares individuals for positions in administrative support careers. It equips office professionals to respond to the demands of a dynamic computerized workplace.

Students will complete courses designed to develop proficiency in the use of integrated software, oral and written communication, analysis and coordination of office duties and systems, and other support topics. Emphasis is placed on non-technical as well as technical skills.

Graduates should qualify for employment in a variety of positions in business, government, and industry. Job classifications range from entry-level to supervisor to middle management.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

			Class	Lab	Work/ Clinical	Credit
A. General Education Courses						
1. Required Courses						
COM	231	Public Speaking	3	0	0	3
ENG	111	Writing and Inquiry	3	0	0	3
ENG	112	Writing/Research in the Disciplines	3	0	0	3
MAT	143	Quantitative Literacy	2	2	0	3
		Humanities/Fine Arts Elective*	3	0	0	3
		Social/Behavioral Sciences Elective*	3	0	0	3
B. Major Courses						
1. Core Courses						
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.						
CIS	110	Introduction to Computers	2	2	0	3
OST	136	Word Processing	2	2	0	3
OST	164	Text Editing Applications	3	0	0	3
OST	184	Records Management	2	2	0	3
OST	289	Administrative Office Mgt	2	2	0	3
2. Other Major Courses						
ACC	115	College Accounting	3	2	0	4
CTS	130	Spreadsheet	2	2	0	3
DBA	110	Database Concepts	2	3	0	3
OST	122	Office Computations	1	2	0	2
OST	131	Keyboarding	1	2	0	2
OST	132	Keyboard Skill Building	1	2	0	2

OST	133	Advanced Keyboard Skill Building	1	2	0	2
OST	134	Text Entry & Formatting	2	2	0	3
OST	137	Office Software Applications	2	2	0	3
OST	233	Office Publications Design	2	2	0	3
OST	236	Adv Word/Information Processing	2	2	0	3
OST	286	Professional Development	3	0	0	3
or						
WBL	112	Work-Based Learning I	0	0	20	2
		Elective**	1-4	0-3	0	2-4

C. Other Required Courses

ACA	122	College Transfer Success	0	2	0	1

Total Credit Hours **68-71**

*Approved Electives are listed on the page before the Course Descriptions.

**Approved Elective may be selected from the following courses:

ACC	150	Accounting Software Applications	1	2	0	2
BUS	110	Introduction to Business	3	0	0	3
BUS	121	Business Management	2	2	0	3
BUS	125	Personal Finance	3	0	0	3
BUS	137	Principles of Management	3	0	0	3
BUS	153	Human Resource Management	3	0	0	3
BUS	228	Business Statistics	2	2	0	3
BUS	230	Small Business Management	3	0	0	3
BUS	261	Diversity in Management	3	0	0	3
BUS	280	REAL Small Business	4	0	0	4
CIS	115	Intro to Prog & Logic	2	3	0	3
CTS	120	Hardware/Software Support	2	3	0	3
ECO	251	Principles of Microeconomics	3	0	0	3
ECO	252	Principles of Macroeconomics	3	0	0	3
MED	121	Medical Terminology I	3	0	0	3
MKT	120	Principles of Marketing	3	0	0	3
MKT	221	Consumer Behavior	3	0	0	3
MKT	223	Customer Service	3	0	0	3
MKT	224	International Marketing	3	0	0	3
MKT	228	Service Marketing	3	0	0	3
PSY	150	General Psychology	3	0	0	3
WEB	110	Internet/Web Fundamentals	2	2	0	3
WEB	140	Web Development Tools	2	2	0	3

SEMESTER SCHEDULE
OFFICE ADMINISTRATION (DAY)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
CIS	110	Introduction to Computers	2	2	0	3
ENG	111	Writing and Inquiry	3	0	0	3
MAT	143	Quantitative Literacy	3	0	0	3
OST	122	Office Computations	1	2	0	2
OST	131	Keyboarding	1	2	0	2
OST	184	Records Management	2	2	0	3
			12	10	0	17
		First Year – Spring Semester				
CTS	130	Spreadsheet	2	2	0	3
ENG	112	Writing/Research in the Disciplines	3	0	0	3
OST	132	Keyboard Skill Building	1	2	0	2
OST	134	Text Entry & Formatting	2	2	0	3
OST	136	Word Processing	2	2	0	3
OST	164	Text Editing Applications	3	0	0	3
			13	8	0	17
		Second Year – Fall Semester				
ACC	115	College Accounting	3	2	0	4
OST	133	Advanced Keyboard Skill Building	1	2	0	2
OST	137	Office Software Applications	2	2	0	3
OST	236	Adv Word/Information Processing	2	2	0	3
		Elective**	1-4	0-3	0	2-4
		Humanities/Fine Arts Elective*	3	0	0	3
			12-15	8-11	0	15-19
		Second Year – Spring Semester				
COM	231	Public Speaking	3	0	0	3
DBA	110	Database Concepts	2	3	0	3
OST	233	Office Publications Design	2	2	0	3
OST	286	Professional Development	3	0	0	3
or						
WBL	112	Work-Based Learning I	0	0	20	2
OST	289	Administrative Office Mgt	2	2	0	3
		Social/Behavioral Sciences Elective*	3	0	0	3
			15	7	0-20	17-18

Total Credit Hours **68-71**

*Approved Electives are listed on the page before the Course Descriptions.

OFFICE ADMINISTRATION (CERTIFICATE) (C25370R)
COURSE REQUIREMENTS

			Class	Lab	Work/ Clinical	Credit
OST	131	Keyboarding	1	2	0	2
OST	136	Word Processing	2	2	0	3
OST	164	Text Editing Applications	3	0	0	3
OST	184	Records Management	2	2	0	3
OST	137	Office Software Apps	2	2	0	3
			10	8	0	14

Total Credit Hours **14**

Practical Nursing (Diploma) (D45660)

The Practical Nursing curriculum prepares individuals with the knowledge and skills to provide nursing care to children and adults.

Students will participate in assessment, planning, implementing, and evaluating nursing care.

Graduates are eligible to apply to take the National Council Licensure Examination (NCLEX-PN) which is required for practice as a Licensed Practical Nurse. Employment opportunities include hospitals, rehabilitation/long term care/home health facilities, clinics, and physicians' offices.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

			Class	Lab	Work/ Clinical	Credit
A. General Education Courses						
1. Required Courses						
ENG	111	Writing and Inquiry	3	0	0	3
PSY	150	General Psychology	3	0	0	3
B. Major Courses						
1. Core Courses						
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.						
NUR	101	Practical Nursing I	7	6	6	11
NUR	102	Practical Nursing II	8	0	12	12
NUR	103	Practical Nursing III	6	0	12	10
2. Other Major Courses						
*BIO	163	Basic Anatomy and Physiology	4	2	0	5
*CIS	110	Introduction to Computers	2	2	0	3
Total Credit Hours						**47**

NOTE: EFFECTIVE FALL 2016 BIO-163 AND CIS-110 WILL BE REPLACED BY BIO-165 AND BIO-166.

SEMESTER SCHEDULE
PRACTICAL NURSING (DIPLOMA) (D45660)

			Class	Lab	Work/ Clinical	Credit
		Fall – Semester				
BIO	163	Basic Anatomy and Physiology	4	2	0	5
NUR	101	Practical Nursing I	7	6	6	11
PSY	150	General Psychology	3	0	0	3
			14	8	6	19
		Spring – Semester				
CIS	110	Introduction to Computers	2	2	0	3
ENG	111	Writing and Inquiry	3	0	0	3
NUR	102	Practical Nursing II	8	0	12	12
			13	2	12	18
		Summer – Semester				
NUR	103	Practical Nursing III	6	0	12	10
			6	0	12	10
		Total Credit Hours				**47**

School-Age Education (A55440)

This curriculum prepares individuals to work with children in elementary through middle grades in diverse learning environments. Students will combine learned theories with practice in actual settings with school-age children under the supervision of qualified teachers.

Course work includes child growth/development; computer technology in education; physical/nutritional needs of school-age children; care and guidance of school-age children; and communication skills with families and children. Students will foster the cognitive/language, physical/motor, social/emotional, and creative development of school-age populations.

Graduates are prepared to plan and implement developmentally appropriate programs in school-aged environments. Employment opportunities include school-age teachers in child care programs, before/after-school programs, paraprofessional positions in public/private schools, recreational centers, and other programs that work with school-age populations.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

			Class	Lab	Work/ Clinical	Credit
A. General Education Courses						
1. Required Courses						
ENG	111	Writing and Inquiry	3	0	0	3
COM	231	Public Speaking	3	0	0	3
or						
ENG	112	Writing/Research in the Disc	3	0	0	3
MAT	143	Quantitative Literacy	2	2	0	3
PSY	150	General Psychology	3	0	0	3
		Humanities/Fine Arts Elective*	3	0	0	3
B. Major Courses						
1. Core Courses						
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.						
EDU	131	Child, Family, & Community	3	0	0	3
EDU	144	Child Development I	3	0	0	3
EDU	145	Child Development II	3	0	0	3
EDU	163	Classroom Mgt & Instruct	3	0	0	3
EDU	216	Foundations of Education	4	0	0	4
EDU	221	Children with Exceptionalities	3	0	0	3
EDU	271	Educational Technology	2	2	0	3
EDU	285	Internship Experiences-School Age	1	9	0	4

	EDU	289	Adv Issues/School Age	2	0	0	2
2.	Other Major Hours						
	EDU	119	Intro to Early Childhood Education	4	0	0	4
	EDU	158	Healthy Lifestyles-Youth	3	0	0	3
	EDU	275	Effective Teacher Training	2	0	0	2
3.	EDU Electives (Select 12 credit hours from the following)						
	CIS	110	Introduction to Computers	2	2	0	3
	EDU	114	Intro to Family Childcare	3	0	0	3
	EDU	146	Child Guidance	3	0	0	3
	EDU	151	Creative Activities	3	0	0	3
	EDU	153	Health, Safety, & Nutrition	3	0	0	3
	EDU	154	Social/Emotional/Behavioral Development	3	0	0	3
	EDU	162	Observation & Assessment in ECE	3	0	0	3
	EDU	173	Becoming a Professional in ECE	3	0	0	3
	EDU	223	Specific Learning Disabilities	3	0	0	3
	EDU	235	School-Age Development & Programs	3	0	0	3
	EDU	247	Sensory & Physical Disabilities	3	0	0	3
	EDU	248	Developmental Delays	3	0	0	3
	EDU	250	Praxis I Preparation	1	0	0	1
	EDU	252	Math & Science Activities	3	0	0	3
	EDU	256	Inst Strat/Social Studies	2	2	0	3
	EDU	259	Curriculum Planning	3	0	0	3
	EDU	261	Early Childhood Administration I	3	0	0	3
	EDU	262	Early Childhood Administration II	3	0	0	3
	EDU	263	School-Age Program Admin	2	0	0	2
	EDU	280	Language & Literacy Experiences	3	0	0	3
	EDU	281	Instruc Strat/Read & Writ	2	2	0	3
	WBL	111	Work-Based Learning I	0	0	10	1
	WBL	115	Work-Based Learning Seminar I	1	0	0	1
C.	**Other Required Courses**						
	ACA	122	College Transfer Success	0	2	0	1

Total Credit Hours **65**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
SCHOOL-AGE EDUCATION (DAY)

			Class	Lab	Work/ Clinical	Credit
First Year – Fall Semester						
ACA	122	College Transfer Success	0	2	0	1
EDU	119	Intro to Early Childhood Education	4	0	0	4
EDU	131	Child, Family, & Community	3	0	0	3
EDU	144	Child Development I	3	0	0	3
ENG	111	Writing and Inquiry	3	0	0	3

		EDU Elective I	1-3	0-2	0	1-3
			14-16	2-4	0	15-17
		First Year – Spring Semester				
EDU	145	Child Development II	3	0	0	3
EDU	158	Healthy Lifestyles-Youth	3	0	0	3
EDU	216	Foundations of Education	4	0	0	4
COM	231	Public Speaking	3	0	0	3
or						
ENG	112	Writing/Research in the Disc	3	0	0	3
PSY	150	General Psychology	3	0	0	3
			16	0	0	16
		Second Year – Fall Semester				
EDU	163	Classroom Mgt & Instruct	3	0	0	3
EDU	221	Children with Exceptionalities	3	0	0	3
EDU	289	Adv Issues/School Age	2	0	0	2
		EDU Elective II	1-3	0-2	0	1-3
		EDU Elective III	1-3	0-2	0	1-3
		EDU Elective IV	1-3	0-2	0	1-3
			11-17	0-6	0	11-17
		Second Year – Spring Semester				
EDU	271	Educational Technology	2	2	0	3
EDU	275	Effective Teacher Training	2	0	0	2
EDU	285	Internship Experiences-School Age	1	9	0	4
MAT	143	Quantitative Literacy	2	2	0	3
		Humanities/Fine Arts Elective*	3	0	0	3
			10	13	0	15

Total Credit Hours **65**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
SCHOOL-AGE EDUCATION (EVENING)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
EDU	119	Intro to Early Childhood Education	4	0	0	4
EDU	144	Child Development I	3	0	0	3
ENG	111	Writing and Inquiry	3	0	0	3
			10	2	0	11

		First Year – Spring Semester				
EDU	145	Child Development II	3	0	0	3
COM	231	Public Speaking	3	0	0	3
or						
ENG	112	Writing/Research in the Disc	3	0	0	3
		EDU Elective I	1-3	0-2	0	1-3
		EDU Elective II	1-3	0-2	0	1-3
			8-12	0-4	0	8-12
		Second and Third Years (Alternating Sequences)				
		Even Years – Fall Semester				
EDU	131	Child, Family, & Community	3	0	0	3
EDU	163	Classroom Mgt & Instruct	3	0	0	3
PSY	150	General Psychology	3	0	0	3
			9	0	0	9
		Odd Years – Spring Semester				
EDU	158	Healthy Lifestyles-Youth	3	0	0	3
EDU	216	Foundations of Education	4	0	0	4
EDU	271	Educational Technology	2	2	0	3
			9	2	0	10
		Odd Years – Fall Semester				
EDU	221	Children with Exceptionalities	3	0	0	3
EDU	289	Adv Issues/School Age	2	0	0	2
		EDU Elective III	1-3	0-2	0	1-3
		EDU Elective IV	1-3	0-2	0	1-3
			7-11	0-4	0	7-11
		Even Years – Spring Semester				
EDU	275	Effective Teacher Training	2	0	0	2
EDU	285	Internship Experiences-School Age	1	9	0	4
MAT	143	Quantitative Literacy	2	2	0	3
		Humanities/Fine Arts Elective*	3	0	0	3
			9	9	0	12

Total Credit Hours **65**

*Approved Electives are listed on the page before the Course Descriptions.

Therapeutic and Diagnostic Services: Nurse Aide (Diploma) (D45970)

A program that prepares individuals to work under the supervision of licensed health care professionals in performing nursing care and services for persons of all ages. Course work emphasizes growth and development throughout the lifespan, personal care, vital signs, communication, nutrition, medical asepsis, therapeutic activities, accident and fire safety, household environment and equipment management; family resources and services; and employment skills. Graduates of this program may be eligible to be listed on the Division of Health Service Regulation (DHSR) Nurse Aide registry as a Nursing Assistant I and the N.C. Board of Nursing Nurse Aide II registry as a Nursing Assistant II. They may be employed in home health agencies, hospitals, clinics, nursing homes, extended care facilities, and doctor's offices.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

			Class	Lab	Work/ Clinical	Credit
A. General Education Courses						
1. Required Courses						
ENG	111	Writing and Inquiry	3	0	0	3
PSY	150	General Psychology	3	0	0	3
B. Major Courses						
1. Core Courses						
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.						
MED	121	Medical Terminology I	3	0	0	3
MED	122	Medical Terminology II	3	0	0	3
NAS	101	Nursing Assistant I	3	4	3	6
NAS	102	Nursing Assistant II	3	2	6	6
2. Other Major Courses						
BIO	165	Anatomy and Physiology I	3	3	0	4
BIO	166	Anatomy and Physiology II	3	3	0	4
CIS	110	Introduction to Computers	2	2	0	3
SOC	210	Introduction to Sociology	3	0	0	3
C. Other Required						
ACA	122	College Transfer Success	0	2	0	1
Total Credit Hours						**39**

SEMESTER SCHEDULE
THERAPEUTIC & DIAGNOSTIC SERVICES: NURSE AIDE (DIPLOMA)

			Class	Lab	Work/ Clinical	Credit
		Fall Semester				
BIO	165	Anatomy and Physiology I	3	3	0	4
CIS	110	Intro to Computers	2	2	0	3
NAS	101	Nursing Assistant I	3	4	3	6
PSY	150	General Psychology	3	0	0	3
ACA	122	College Transfer Success	0	2	0	1
			11	11	3	17
		Spring Semester				
BIO	166	Anatomy and Physiology II	3	3	0	4
ENG	111	Writing and Inquiry	3	0	0	3
NAS	102	Nursing Assistant II	3	2	6	6
MED	121	Medical Terminology I	3	0	0	3
			12	5	6	16
		Summer Semester				
MED	122	Medical Terminology II	3	0	0	3
SOC	210	Introduction to Sociology	3	0	0	3
			3	0	0	3
		Total Credit Hours				**39**

NURSE AIDE (CERTIFICATE) (C45970)
COURSE REQUIREMENTS

			Class	Lab	Work/ Clinical	Credit
NAS	101	Nursing Assistant I	3	4	3	6
NAS	102	Nursing Assistant II	3	2	6	6
		Total Credit Hours				**12**

Welding Technology (Diploma) (D50420)

The Welding Technology curriculum provides students with a sound understanding of the science, technology, and applications essential for successful employment in the welding and metal working industry.

Instruction includes consumable and non-consumable electrode welding and cutting processes. Courses may include math, blueprint reading, metallurgy, welding inspection, and destructive and non-destructive testing providing the student with industry-standard skills developed through classroom training and practical application.

Graduates of the Welding Technology curriculum may be employed as entry-level technicians in welding and metalworking industries. Career opportunities also exist in construction, manufacturing, fabrication, sales, quality control, supervision, and welding-related self-employment.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

				Class	Lab	Work/ Clinical	Credit
A. General Education Courses							
1. Required Courses							
ENG	111	Writing and Inquiry		3	0	0	3
MAT	143	Quantitative Literacy		2	2	0	3
B. Major Courses							
1. Core Courses							
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.							
WLD	110	Cutting Processes		1	3	0	2
WLD	115	SMAW (Stick) Plate		2	9	0	5
WLD	121	GMAW (MIG) FCAW/Plate		2	6	0	4
WLD	131	GTAW (TIG) Plate		2	6	0	4
WLD	141	Symbols & Specifications		2	2	0	3
2. Other Major Courses							
DFT	151	CAD I		2	3	0	3
WLD	132	GTAW (TIG) Plate/Pipe		1	6	0	3
WLD	151	Fabrication I		2	6	0	4
WLD	215	SMAW (Stick) Pipe		1	9	0	4
C. Other Required							
ACA	122	College Transfer Success		0	2	0	1
		Total Credit Hours					**39**

SEMESTER SCHEDULE
WELDING TECHNOLOGY (EVENING)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
WLD	110	Cutting Processes	1	3	0	2
WLD	115	SMAW (Stick) Plate	2	9	0	5
WLD	141	Symbols & Specifications	2	2	0	3
			5	16	0	11
		First Year – Spring Semester				
WLD	121	GMAW (MIG) FCA W/Plate	2	6	0	4
WLD	131	GTAW (TIG) Plate	2	6	0	4
WLD	215	SMAW (Stick) Pipe	1	9	0	4
			5	21	0	12
		First Year – Summer Semester				
WLD	132	GTAW (TIG) Plate/Pipe	1	6	0	3
WLD	151	Fabrication I	2	6	0	4
			3	12	0	7
		Second Year – Fall Semester				
DFT	151	CAD I	2	3	0	3
ENG	111	Writing and Inquiry	3	0	0	3
MAT	143	Quantitative Literacy	2	2	0	3
			7	5	0	9
		Total Credit Hours			**39**	

SEMESTER SCHEDULE
WELDING TECHNOLOGY (CERTIFICATE) (C50420) (EVENING)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
WLD	110	Cutting Processes	1	3	0	2
WLD	115	SMAW (Stick) Plate	2	9	0	5
WLD	141	Symbols & Specifications	2	2	0	3
			5	14	0	10
		First Year – Spring Semester				
WLD	121	GMAW (MIG) FCAW/Plate	2	6	0	4
WLD	131	GTAW (TIG) Plate	2	6	0	4
			4	12	0	8
		Total Credit Hours			**18**	

Approved Electives

***APPROVED HUMANITIES/FINE ARTS ELECTIVES**

Students in A.A.S. programs may select a humanities elective from any of these prefix areas: ART, DRA, ENG (Literature courses only), HUM, MUS, PHI, REL, and SPA (Intermediate Spanish I only).

*Associate Degree Nursing Majors who plan to obtain a BSN should take one of the following Humanities/Fine Arts electives: ART-111, MUS-110, or PHI-240

***APPROVED SOCIAL/BEHAVIORAL SCIENCES ELECTIVES**

Students in A.A.S. programs may select a social/behavioral sciences elective from any of these prefix areas: ANT, ECO+, GEO, HIS, POL, PSY, and SOC.

+Some business and accounting curricula require economics and do not accept ECO courses as fulfillment of the social/behavioral sciences elective requirement.

A.A.S. programs do not allow the use of COM courses as a humanities elective.

Course Descriptions

COURSE NUMBERING SYSTEM

Course designations consist of a three-letter course prefix followed by a three-digit number. The course number is followed by the title of the course. Course titles are followed by a sequence of four numbers: (1) class lecture hours per week; (2) lab hours per week; (3) clinical or shop or work experience hours per week; and (4) semester-hour credits (SHC) earned when the course is successfully completed.

Developmental education courses have numbers between 010-099. Examples: DRE 096, DMA 010.

Courses that can only be used for diploma and certificate curriculum have numbers between 100-109 and 200-209. Examples: ENG 102, PSY 101.

All associate degree, diploma, and certificate curriculum courses have numbers between 110-199 and 210-299. Examples: ENG 112, SOC 210.

College Transfer courses are identified in course descriptions with the statements: "This course has been approved to satisfy the Comprehensive Articulation agreement general education core requirement." or "This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement." These courses are approved for transfer to the 16 universities of The University of North Carolina System.

PREREQUISITES AND COREQUISITES

Many courses have prerequisites--other courses that must be completed prior to enrollment. For example, a student must complete PSY 150 before enrolling in PSY 241.

Many courses have developmental English, mathematics, or reading course Prerequisites: for example, DMA 010-050 and DRE 098 must be completed before taking MAT 143. To gain admission to the curriculum courses, students must either pass the appropriate developmental prerequisites or make appropriate scores on the Accuplacer® tests that measure skills in English, mathematics, and reading.

Corequisites are courses that are generally taken at the same time as other related courses: for example, BIO 140 with BIO 140A. In many cases, corequisites may be taken at the same time or earlier. For example, DRE 098 is a corequisite for BUS 110. Students may either complete DRE 098 before taking BUS 110 or they may take DRE 098 at the same time as BUS 110.

REQUIRED ACA COURSES

Students enrolled in programs of study requiring an ACA course will be required to enroll in that course during the first semester enrolled at Richmond Community College. Exceptions from this requirement will be given only upon written approval by the Vice President for Instruction/Chief Academic Officer or the Vice President of Student Services.

		Class	Lab	Work/ Clinical	Credit
ACA 115	**Success & Study Skills**	**0**	**2**	**0**	**1**

Prerequisites: None
Corequisites: None
This course provides an orientation to the campus resources and academic skills necessary to achieve educational objectives. Emphasis is placed on an exploration of facilities and services, study skills, library skills, self-assessment, wellness, goal-setting, and critical thinking. Upon completion, students should be able to manage their learning experiences to successfully meet educational goals.

ACA 118	**College Study Skills**	**1**	**2**	**0**	**2**

Prerequisites: None
Corequisites: None
This course covers skills and strategies designed to improve study behaviors. Topics include time management, note taking, test taking, memory techniques, active reading strategies, critical thinking, communication skills, learning styles, and other strategies for effective learning. Upon completion, students should be able to apply appropriate study strategies and techniques to the development of an effective study plan.

ACA 122	**College Transfer Success**	**0**	**2**	**0**	**1**

Prerequisites: None
Corequisites: None
This course provides information and strategies necessary to develop clear academic and professional goals beyond the community college experience. Topics include the CAA, college policies and culture, career exploration, gathering information on senior institutions, strategic planning, critical thinking, and communications skills for a successful academic transition. Upon completion, students should be able to develop an academic plan to transition successfully to senior institutions.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

ACA 115, ACA 118 and ACA 122 are interchangeable. ACA 118 or ACA 122 may be substituted for ACA 115. Only one ACA course can be used to fulfill graduation requirements.

ACC 111	**Financial Accounting**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: None
This course introduces the basic framework of accounting. Emphasis is placed on the accounting cycle and financial statement preparation and analysis. Upon completion, students should be able to demonstrate an understanding of the principles involved and display an analytical problem-solving ability for the topics covered.

		Class	Lab	Work/ Clinical	Credit
ACC 115	**College Accounting**	**3**	**2**	**0**	**4**

Prerequisites: DMA 010-040 or MAT 070, DRE 097 or RED 080
Corequisites: DRE 098
This course introduces basic accounting principles for a business. Topics include the complete accounting cycle with end-of-period statements, bank reconciliation, payrolls, and petty cash. Upon completion, students should be able to demonstrate an understanding of accounting principles and apply those skills to a business organization. This course is not intended as a substitute for ACC 120.

ACC 120	**Principles of Financial Accounting**	**3**	**2**	**0**	**4**

Prerequisites: DMA 010-040 or MAT 070, DRE 098 or RED 090
Corequisites: MAT 143
This course introduces business decision-making accounting information systems. Emphasis is placed on analyzing, summarizing, reporting, and interpreting financial information. Upon completion, students should be able to prepare financial statements, understand the role of financial information in decision-making and address ethical considerations.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

ACC 121	**Principles of Managerial Accounting**	**3**	**2**	**0**	**4**

Prerequisites: ACC 120 with minimum grade of "C"
Corequisites: None
This course includes a greater emphasis on managerial and cost accounting skills. Emphasis is placed on managerial accounting concepts for external and internal analysis, reporting and decision-making. Upon completion, students should be able to analyze and interpret transactions relating to managerial concepts including product-costing systems.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

ACC 122	**Principles of Financial Acct II**	**3**	**0**	**0**	**3**

Prerequisites: ACC 120 with minimum grade of "C"
Corequisites: None
This course provides additional instruction in the financial accounting concepts and procedures introduced in ACC 120. Emphasis is placed on the analysis of specific balance sheet accounts, with in-depth instruction of the accounting principles applied to these accounts. Upon completion, students should be able to analyze data, prepare journal entries, and prepare reports in compliance with generally accepted accounting principles.

		Class	Lab	Clinical	Work/ Credit
ACC 129	**Individual Income Taxes**	**2**	**2**	**0**	**3**

Prerequisites: DMA 010-040 or MAT 070, DRE 098 or RED 090
Corequisites: None
This course introduces the relevant laws governing individual income taxation. Topics include tax law, electronic research and methodologies, and the use of technology for preparation of individual tax returns. Upon completion, students should be able to analyze basic tax scenarios, research applicable tax law, and complete various individual tax forms.

ACC 130	**Business Income Taxes**	**2**	**2**	**0**	**3**

Prerequisites: ACC 120 with minimum grade of "C"
Corequisites: None
This course introduces the relevant laws governing business and fiduciary income taxes. Topics include tax law relating to business organizations, electronic research and methodologies, and the use of technology for the preparation of business tax returns. Upon completion, students should be able to analyze basic tax scenarios, research applicable tax law, and complete various business tax forms.

ACC 149	**Intro to Accounting Spreadsheets**	**1**	**2**	**0**	**2**

Prerequisites: ACC 115 or ACC 120
Corequisites: None
This course provides a working knowledge of computer spreadsheets and their use in accounting. Topics include pre-programmed problems, model-building problems, beginning-level macros, graphics, and what-if analysis enhancements of template problems. Upon completion, students should be able to use a computer spreadsheet to complete many of the tasks required in accounting.

ACC 150	**Accounting Software Applications**	**1**	**2**	**0**	**2**

Prerequisites: ACC 115 or ACC 120, CIS 110
Corequisites: None
This course introduces microcomputer applications related to accounting systems. Topics include general ledger, accounts receivable, accounts payable, inventory, payroll, and correcting, adjusting, and closing entries. Upon completion, students should be able to use a computer accounting package to solve accounting problems.

ACC 151	**Accounting Spreadsheet Applications**	**1**	**2**	**0**	**2**

Prerequisites: ACC 149
Corequisites: None
This course is designed to facilitate the use of spreadsheet technology as applied to accounting principles. Emphasis is placed on using spreadsheet software as a problem-solving and decision-making tool. Upon completion, students should be able to demonstrate an understanding of the principles involved and display an analytical problem-solving ability for the topics covered.

		Class	Lab	Work/ Clinical	Credit
ACC 220	**Intermediate Accounting I**	**3**	**2**	**0**	**4**

Prerequisites: ACC 120 and ACC 121 or ACC 122 with minimum grade of "C"
Corequisites: None
This course is a continuation of the study of accounting principles with in-depth coverage of theoretical concepts and financial statements. Topics include generally accepted accounting principles and an extensive analyses of financial statements. Upon completion, students should be able to demonstrate competence in the conceptual framework underlying financial accounting, including the application of financial standards.

ACC 221	**Intermediate Accounting II**	**3**	**2**	**0**	**4**

Prerequisites: ACC 220 with minimum grade of "C"
Corequisites: None
This course is a continuation of ACC 220. Emphasis is placed on special problems which may include leases, bonds, investments, ratio analyses, present value applications, accounting changes, and corrections. Upon completion, students should be able to demonstrate an understanding of the principles involved and display an analytical problem-solving ability for the topics covered.

ACC 225	**Cost Accounting**	**3**	**0**	**0**	**3**

Prerequisites: ACC 121
Corequisites: None
This course introduces the nature and purposes of cost accounting as an information system for planning and control. Topics include direct materials, direct labor, factory overhead, process, job order, and standard cost systems. Upon completion, students should be able to demonstrate an understanding of the principles involved and display an analytical problem-solving ability for the topics covered.

AHR 110	**Intro to Refrigeration**	**2**	**6**	**0**	**5**

Prerequisites: None
Corequisites: None
This course introduces the basic refrigeration process used in mechanical refrigeration and air conditioning systems. Topics include terminology, safety, and identification and function of components; refrigeration cycle; and tools and instrumentation used in mechanical refrigeration systems. Upon completion, students should be able to identify refrigeration systems and components, explain the refrigeration process, and use the tools and instrumentation of the trade.

AHR 111	**HVACR Electricity**	**2**	**2**	**0**	**3**

Prerequisites: None
Corequisites: None
This course introduces electricity as it applies to HVACR equipment. Emphasis is placed on power sources, interaction of electrical components, wiring of simple circuits, and the use of electrical test equipment. Upon completion, students should be able to demonstrate good wiring practices and the ability to read simple wiring diagrams.

		Class	Lab	Work/ Clinical	Credit
AHR 112	**Heating Technology**	**2**	**4**	**0**	**4**

Prerequisites: None
Corequisites: None
This course covers the fundamentals of heating including oil, gas, and electric heating systems. Topics include safety, tools and instrumentation, system operating characteristics, installation techniques, efficiency testing, electrical power, and control systems. Upon completion, students should be able to explain the basic oil, gas, and electrical heating systems and describe the major components of a heating system.

AHR 113	**Comfort Cooling**	**2**	**4**	**0**	**4**

Prerequisites: None
Corequisites: None
This course covers the installation procedures, system operations, and maintenance of residential and light commercial comfort cooling systems. Topics include terminology, component operation, and testing and repair of equipment used to control and produce assured comfort levels. Upon completion, students should be able to use psychometrics, manufacturer specifications, and test instruments to determine proper system operation.

AHR 114	**Heat Pump Technology**	**2**	**4**	**0**	**4**

Prerequisites: AHR 110 or AHR 113
Corequisites: None
This course covers the principles of air source and water source heat pumps. Emphasis is placed on safety, modes of operation, defrost systems, refrigerant charging, and system performance. Upon completion, students should be able to understand and analyze system performance and perform routine service procedures.

AHR 115	**Refrigeration Systems**	**1**	**3**	**0**	**2**

Prerequisites: AHR 110
Corequisites: None
This course introduces refrigeration systems and applications. Topics include defrost methods, safety and operational control, refrigerant piping, refrigerant recovery and charging, and leak testing. Upon completion, students should be able to assist in installing and testing refrigeration systems and perform simple repairs.

AHR 120	**HVACR Maintenance**	**1**	**3**	**0**	**2**

Prerequisites: None
Corequisites: None
This course introduces the basic principles of industrial air conditioning and heating systems. Emphasis is placed on preventive maintenance procedures for heating and cooling equipment and related components. Upon completion, students should be able to perform routine preventive maintenance tasks, maintain records, and assist in routine equipment repairs.

		Class	Lab	Work/ Clinical	Credit
AHR 130	**HVAC Controls**	**2**	**2**	**0**	**3**

Prerequisites: AHR 111 or ELC 111 or ELC 112
Corequisites: None
This course covers the types of controls found in residential and commercial comfort systems. Topics include electrical and electronic controls, control schematics and diagrams, test instruments, and analysis and troubleshooting of electrical systems. Upon completion, students should be able to diagnose and repair common residential and commercial comfort system controls.

AHR 151	**HVAC Duct Systems I**	**1**	**3**	**0**	**2**

Prerequisites: None
Corequisites: None
This course introduces the techniques used to lay out and fabricate duct work commonly found in HVAC systems. Emphasis is placed on the skills required to fabricate duct work. Upon completion, students should be able to layout and fabricate simple duct work.

AHR 160	**Refrigerant Certification**	**1**	**0**	**0**	**1**

Prerequisites: None
Corequisites: None
This course covers the requirements for the EPA certification examinations. Topics include small appliances, high pressure systems, and low pressure systems. Upon completion, students should be able to demonstrate knowledge of refrigerants and be prepared for the EPA certification examinations.

AHR 180	**HVACR Customer Relations**	**1**	**0**	**0**	**1**

Prerequisites: None
Corequisites: None
This course introduces common business and customer relation practices that may be encountered in HVACR. Topics include business practices, appearance of self and vehicle, ways of handling customer complaints, invoices, telephone communications, and warranties. Upon completion, students should be able to present themselves to customers in a professional manner, understand how the business operates, complete invoices, and handle complaints.

AHR 210	**Residential Building Code**	**1**	**2**	**0**	**2**

Prerequisites: None
Corequisites: None
This course covers the residential building codes that are applicable to the design and installation of HVAC systems. Topics include current residential codes as applied to HVAC design, service, and installation. Upon completion, students should be able to demonstrate the correct usage of residential building codes that apply to specific areas of the HVAC trade.

		Class	Lab	Work/ Clinical	Credit
AHR 211	**Residential System Design**	**2**	**2**	**0**	**3**

Prerequisites: None
Corequisites: None
This course introduces the principles and concepts of conventional residential heating and cooling system design. Topics include heating and cooling load estimating, basic psychometrics, equipment selection, duct system selection, and system design. Upon completion, students should be able to design a basic residential heating and cooling system.

		Class	Lab	Work/ Clinical	Credit
AHR 212	**Advanced Comfort Systems**	**2**	**6**	**0**	**4**

Prerequisites: AHR 114
Corequisites: None
This course covers water-cooled comfort systems, water-source/geothermal heat pumps, and high efficiency heat pump systems including variable speed drives and controls. Emphasis is placed on the application, installation, and servicing of water-source systems and the mechanical and electronic control components of advanced comfort systems. Upon completion, students should be able to test, analyze, and troubleshoot water-cooled comfort systems, water-source/geothermal heat pumps, and high efficiency heat pumps.

		Class	Lab	Work/ Clinical	Credit
AHR 213	**HVACR Building Code**	**1**	**2**	**0**	**2**

Prerequisites: None
Corequisites: None
This course covers the North Carolina codes that are applicable to the design and installation of HVACR systems. Topics include current North Carolina codes as applied to HVACR design, service, and installation. Upon completion, students should be able to demonstrate the correct usage of North Carolina codes that apply to specific areas of the HVACR trade.

		Class	Lab	Work/ Clinical	Credit
AHR 235	**Refrigeration Design**	**2**	**2**	**0**	**3**

Prerequisites: AHR 110
Corequisites: None
This course covers the principles of commercial refrigeration system operation and design. Topics include walk-in coolers, walk-in freezers, system components, load calculations, equipment selection, defrost systems, refrigerant line sizing, and electric controls. Upon completion, students should be able to design, adjust, and perform routine service procedures on a commercial refrigeration system.

		Class	Lab	Work/ Clinical	Credit
AHR 250	**HVAC System Diagnostics**	**0**	**4**	**0**	**2**

Prerequisites: None
Corequisites: AHR 212
This course is a comprehensive study of air conditioning, heating, and refrigeration system diagnostics and corrective measures. Topics include advanced system analysis, measurement of operating efficiency, and inspection and correction of all major system components. Upon completion, students should be able to restore a residential or commercial AHR system so that it operates at or near manufacturers' specifications.

		Class	Lab	Work/ Clinical	Credit
AHR 255	**Indoor Air Quality**	**1**	**2**	**0**	**2**

Prerequisites: None
Corequisites: None
This course introduces the techniques of assessing and maintaining the quality of the indoor environment in residential and commercial structures. Topics include handling and investigating complaints, filter selection, humidity control, testing for sources of carbon monoxide, impact of mechanical ventilation, and building and duct pressures. Upon completion, students should be able to assist in investigating and solving common indoor air quality problems.

ANT 220	**Cultural Anthropology**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course introduces the nature of human culture. Emphasis is placed on cultural theory, methods of fieldwork, and cross-cultural comparisons in the areas of ethnology, language, and the cultural past. Upon completion, students should be able to demonstrate an understanding of basic cultural processes and how cultural data are collected and analyzed.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for social/behavioral sciences in A.A. and A.S. degree programs. This course has been approved to meet the social/behavioral sciences requirement for A.A.S. degree programs.

ART 111	**Art Appreciation**	**3**	**0**	**0**	**3**

Prerequisites: DRE 097 or RED 090
Corequisites: DRE 098
This course introduces the origins and historical development of art. Emphasis is placed on the relationship of design principles to various art forms including but not limited to sculpture, painting, and architecture. Upon completion, students should be able to identify and analyze a variety of artistic styles, periods, and media.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for humanities/fine arts in A.A. and A.S. degree programs. This course has been approved to meet the humanities/fine arts requirement for A.A.S. degree programs.

ART 131	**Drawing I**	0	6	0	3

Prerequisites: None
Corequisites: None
This course introduces the language of drawing and the use of various drawing materials. Emphasis is placed on drawing techniques, media, and graphic principles. Upon completion, students should be able to demonstrate competence in the use of graphic form and various drawing processes.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs. This course has been approved to meet the humanities/fine arts requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
AST 111	**Descriptive Astronomy**	**3**	**0**	**0**	**3**

Prerequisites: DMA 010-060 or MAT 070, DRE 097 or RED 090
Corequisites: AST 111A, DRE 098 or ENG 090
This course introduces an overall view of modern astronomy. Topics include an overview of the solar system, the sun, stars, galaxies, and the larger universe. Upon completion, students should be able to demonstrate an understanding of the universe around them.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for natural sciences in the A.A. degree program. This course has been approved to meet the natural sciences requirement in A.A.S. degree programs.

AST 111A	**Descriptive Astronomy Lab**	**0**	**2**	**0**	**1**

Prerequisites: None
Corequisites: AST 111
The course is a laboratory to accompany AST 111. Emphasis is placed on laboratory experiences which enhance the materials presented in AST 111 and which provide practical experience. Upon completion, students should be able to demonstrate an understanding of the universe around them.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for natural sciences in the A.A. degree program. This course has been approved to meet the natural sciences requirement in A.A.S. degree programs.

ATR 112	**Intro to Automation**	**2**	**3**	**0**	**3**

Prerequisites: ELN 260
Corequisites: None
This course introduces the basic principles of automated systems and describes the tasks that technicians perform on the job. Topics include the history, development, and current applications of robots and automated systems including their configuration, operation, components, and controls. Upon completion, students should be able to understand the basic concepts of automation and robotic systems.

BIO 094	**Concepts of Human Biology**	**3**	**2**	**0**	**4**

Prerequisites: None
Corequisites: DRE 098
This course focuses on fundamental concepts of human biology. Topics include terminology, biochemistry, cell biology, tissues, body systems, and other related topics. Upon completion, students should be able to demonstrate preparedness for college-level anatomy and physiology courses.

			Class	Lab	Work/ Clinical	Credit
BIO	**110**	**Principles of Biology**	**3**	**3**	**0**	**4**

Prerequisites: DRE 098 or ENG 090 and RED 090, DMA 010-050 or MAT 070
Corequisites: None
This course provides a survey of fundamental biological principles for non-science majors. Emphasis is placed on basic chemistry, cell biology, metabolism, genetics, evolution, ecology, diversity, and other related topics. Upon completion, students should be able to demonstrate increased knowledge and better understanding of biology as it applies to everyday life.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for natural sciences in A.A. and A.S. degree programs. This course has been approved to meet the natural sciences requirement in A.A.S. degree programs.

			Class	Lab	Work/ Clinical	Credit
BIO	**111**	**General Biology I**	**3**	**3**	**0**	**4**

Prerequisites: DRE 098 or ENG 090 and RED 090, DMA 010-050 or MAT 070
Corequisites: None
This course introduces the principles and concepts of biology. Emphasis is placed on basic biological chemistry, molecular and cellular biology, metabolism and energy transformation, genetics, evolution, and other related topics. Upon completion, students should be able to demonstrate understanding of life at the molecular and cellular levels.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for natural sciences in A.A. and A.S. degree programs. This course has been approved to meet the natural sciences requirement in A.A.S. degree programs.

			Class	Lab	Work/ Clinical	Credit
BIO	**112**	**General Biology II**	**3**	**3**	**0**	**4**

Prerequisites: BIO 111
Corequisites: None
This course is a continuation of BIO 111. Emphasis is placed on organisms, evolution, biodiversity, plant and animal systems, ecology, and other related topics. Upon completion, students should be able to demonstrate comprehension of life at the organismal and ecological levels.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for natural sciences in the A.S. degree program. This course has been approved to meet the natural sciences requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
BIO 120	**Introductory Botany**	**3**	**3**	**0**	**4**

Prerequisites: BIO 110 or BIO 111
Corequisites: None
This course provides an introduction to the classification, relationships, structure, and function of plants. Topics include reproduction and development of seed and non-seed plants, levels of organization, form and function of systems, and a survey of major taxa. Upon completion, students should be able to demonstrate comprehension of plant form and function, including selected taxa of both seed and non-seed plants.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for natural sciences in A.A., A.S., and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
BIO 130	**Introductory Zoology**	**3**	**3**	**0**	**4**

Prerequisites: BIO 110 or BIO 111
Corequisites: None
This course provides an introduction to the classification, relationships, structure, and function of major animal phyla. Emphasis is placed on levels of organization, reproduction and development, comparative systems, and a survey of selected phyla. Upon completion, students should be able to demonstrate comprehension of animal form and function including comparative systems of selected groups.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for natural sciences in A.A., A.S., and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
BIO 140	**Environmental Biology**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090, DMA 010-050 or MAT 070
Corequisites: BIO 140A
This course introduces environmental processes and the influence of human activities upon them. Topics include ecological concepts, population growth, natural resources, and a focus on current environmental problems from scientific, social, political, and economic perspectives. Upon completion, students should be able to demonstrate an understanding of environmental interrelationships and of contemporary environmental issues.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for natural sciences in A.A., A.S., and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
BIO 140A	**Environmental Biology Lab**	**0**	**3**	**0**	**1**

Prerequisites: None
Corequisites: BIO 140
This course provides a laboratory component to complement BIO 140. Emphasis is placed on laboratory and field experience. Upon completion, students should be able to demonstrate a practical understanding of environmental interrelationships and of contemporary environmental issues.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for natural sciences in A.A., A.S., and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
BIO 163	**Basic Anatomy and Physiology**	**4**	**2**	**0**	**5**

Prerequisites: DRE 098 or ENG 090 and RED 090, DMA 010-050 or MAT 070
Corequisites: None
This course provides a basic study of the structure and function of the human body. Topics include a basic study of the body systems as well as an introduction to homeostasis, cells, tissues, nutrition, acid-base balance, and electrolytes. Upon completion, students should be able to demonstrate a basic understanding of the fundamental principles of anatomy and physiology and their interrelationships.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs. This course has been approved to meet the natural sciences requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
BIO 165	**Anatomy and Physiology I**	**3**	**3**	**0**	**4**

Prerequisites: DRE 098 or ENG 090 and RED 090, DMA 010-050 or MAT 070
Corequisites: None
This course is the first of a two-course sequence which provides a comprehensive study of the anatomy and physiology of the human body. Topics include the structure, function, and interrelationship of organ systems with emphasis on the processes which maintain homeostasis. Upon completion, students should be able to demonstrate an in-depth understanding of principles of anatomy and physiology and their interrelationships.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs. This course has been approved to meet the natural sciences requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
BIO 166	**Anatomy and Physiology II**	**3**	**3**	**0**	**4**

Prerequisites: BIO 165
Corequisites: None
This course is the second in a two-course sequence which provides a comprehensive study of the anatomy and physiology of the human body. Topics include the structure, function, and interrelationship of organ systems with emphasis on the processes which maintain homeostasis. Upon completion, students should be able to demonstrate an in-depth understanding of principles of anatomy and physiology and the interrelationships of all body systems.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs. This course has been approved to meet the natural sciences requirement in A.A.S. degree programs.

BIO 275	**Microbiology**	**3**	**3**	**0**	**4**

Prerequisites: BIO 110, BIO 111, BIO 163, BIO 165 or BIO 168
Corequisites: None
This course covers principles of microbiology and the impact these organisms have on man and the environment. Topics include the various groups of microorganisms, their structure, physiology, genetics, microbial pathogenicity, infectious diseases, immunology, and selected practical applications. Upon completion, students should be able to demonstrate knowledge and skills including microscopy, aseptic technique, staining, culture methods, and identification of microorganisms.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs. This course has been approved to meet the natural sciences requirement in A.A.S. degree programs.

BPR 111	**Print Reading**	**1**	**2**	**0**	**2**

Prerequisites: DMA 010-020
Corequisites: None
This course introduces the basic principles of print reading. Topics include line types, orthographic projections, dimensioning methods, and notes. Upon completion, students should be able to interpret basic prints and visualize the features of a part or system.

BPR 121	**Blueprint Reading: Mechanical**	**1**	**2**	**0**	**2**

Prerequisites: BPR 111
Corequisites: None
This course covers the interpretation of intermediate blueprints. Topics include tolerancing, auxiliary views, sectional views, and assembly drawings. Upon completion, students should be able to read and interpret a mechanical working drawing.

		Class	Lab	Clinical	Work/ Credit
BPR 130	**Blueprint Reading-Construction**	**1**	**2**	**0**	**2**

Prerequisites: None
Corequisites: None
This course covers the interpretation of blueprints and specifications that are associated with the construction trades. Emphasis is placed on interpretation of details for foundations, floor plans, elevations, and schedules. Upon completion, students should be able to read and interpret a set of construction blueprints.

BTC 181	**Basic Lab Techniques**	**3**	**3**	**0**	**4**

Prerequisites: None
Corequisites: None
This course introduces the basic skills and knowledge necessary in a biological or chemical laboratory. Emphasis is placed on good manufacturing practices, safety, solution preparation, and equipment operation and maintenance following standard operating procedures. Upon completion, students should be able to prepare and perform basic laboratory procedures using labware, solutions, and equipment according to prescribed protocols.

BUS 110	**Introduction to Business**	**3**	**0**	**0**	**3**

Prerequisites: DRE 097
Corequisites: DRE 098
This course provides a survey of the business world. Topics include the basic principles and practices of contemporary business. Upon completion, students should be able to demonstrate an understanding of business concepts as a foundation for studying other business subjects.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

BUS 115	**Business Law I**	**3**	**0**	**0**	**3**

Prerequisites: DRE 097
Corequisites: DRE 098
This course introduces the ethics and legal framework of business. Emphasis is placed on contracts, negotiable instruments, Uniform Commercial Code, and the working of the court systems. Upon completion, students should be able to apply ethical issues and laws covered to selected business decision-making situations.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

BUS 116	**Business Law II**	**3**	**0**	**0**	**3**

Prerequisites: BUS 115
Corequisites: None
This course continues the study of ethics and business law. Emphasis is placed on bailments, sales, risk-bearing, forms of business ownership, and copyrights. Upon completion, students should be able to apply ethical issues and laws covered to selected business decision-making situations.

		Class	Lab	Work/ Clinical	Credit
BUS 121	**Business Mathematics**	**2**	**2**	**0**	**3**

Prerequisites: DMA 010-040 or MAT 070, DRE 097
Corequisites: DRE 098
This course covers fundamental mathematical operations and their application to business problems. Topics include payroll, pricing, interest and discount, commission, taxes, and other pertinent uses of mathematics in the field of business. Upon completion, students should be able to apply mathematical concepts to business.

BUS 125	**Personal Finance**	**3**	**0**	**0**	**3**

Prerequisites: DMA 010-030 or MAT 060, DRE 098 or RED 090
Corequisites: None
This course provides a study of individual and family financial decisions. Emphasis is placed on building useful skills in buying, managing finances, increasing resources, and coping with current economic conditions. Upon completion, students should be able to develop a personal financial plan.

BUS 137	**Principles of Management**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course is designed to be an overview of the major functions of management. Emphasis is placed on planning, organizing, controlling, directing, and communicating. Upon completion, students should be able to work as contributing members of a team utilizing these functions of management.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

BUS 139	**Entrepreneurship I**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: None
This course provides an introduction to the principles of entrepreneurship. Topics include self-analysis of entrepreneurship readiness, the role of entrepreneur in economic development, legal problems, organizational structure, sources of financing, budgeting, and cash flow. Upon completion, students should have an understanding of the entrepreneurial process and issues faced by entrepreneurs.

BUS 153	**Human Resource Management**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or RED 090
Corequisites: None
This course introduces the functions of personnel/human resource management within an organization. Topics include equal opportunity and the legal environment, recruitment and selection, performance appraisal, employee development, compensation planning, and employee relations. Upon completion, students should be able to anticipate and resolve human resource concerns.

		Class	Lab	Work/ Clinical	Credit
BUS 228	**Business Statistics**	**2**	**2**	**0**	**3**

Prerequisites: MAT 143
Corequisites: None
This course introduces the use of statistical methods and tools in evaluating research data for business applications. Emphasis is placed on basic probability, measures of spread and dispersion, central tendency, sampling, regression analysis, and inductive inference. Upon completion, students should be able to apply statistical problem solving to business.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
BUS 230	**Small Business Management**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or RED 090
Corequisites: None
This course introduces the challenges of entrepreneurship including the startup and operation of a small business. Topics include market research techniques, feasibility studies, site analysis, financing alternatives, and managerial decision making. Upon completion, students should be able to develop a small business plan.

		Class	Lab	Work/ Clinical	Credit
BUS 239	**Business Applications Seminar**	**1**	**2**	**0**	**2**

Prerequisites: ACC 120, BUS 115, BUS 137, ECO 151 or 251 or 252, MKT 120
Corequisites: None
This course is designed as a capstone course for Business Administration majors. Emphasis is placed on decision making in the areas of management, marketing, production, purchasing, and finance. Upon completion, students should be able to apply the techniques, processes, and vital professional skills needed in the work place.

		Class	Lab	Work/ Clinical	Credit
BUS 260	**Business Communication**	**3**	**0**	**0**	**3**

Prerequisites: ENG 111
Corequisites: None
This course is designed to develop skills in writing business communications. Emphasis is placed on business reports, correspondence, and professional presentations. Upon completion, students should be able to communicate effectively in the workplace.

		Class	Lab	Work/ Clinical	Credit
BUS 261	**Diversity in Management**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or RED 090
Corequisites: None
This course is designed to help managers recognize the need to incorporate diversity into all phases of organizational management. Topics include self-evaluation, management, sexual harassment, workforce diversity, dual careers, role conflict, and communication issues. Upon completion, students should be able to implement solutions that minimize policies, attitudes, and stereotypical behaviors that block effective team building.

		Class	Lab	Work/ Clinical	Credit
BUS 280	**REAL Small Business**	**4**	**0**	**0**	**4**

Prerequisites: None
Corequisites: None
This course introduces hands-on techniques and procedures for planning and opening a small business, including the personal qualities needed for entrepreneurship. Emphasis is placed on market research, finance, time management, and day-to-day activities of owning/operating a small business. Upon completion, students should be able to write and implement a viable business plan and seek funding.

CET 111	**Computer Upgrade/Repair I**	**2**	**3**	**0**	**3**

Prerequisites: None
Corequisites: None
This course covers repairing, servicing, and upgrading computers and peripherals in preparation for industry certification. Topics include CPU/memory/bus identification, disk subsystems, hardware/software installation/configuration, common device drivers, data recovery, system maintenance, and other related topics. Upon completion, students should be able to safely repair and/or upgrade computer systems to perform within specifications.

CET 222	**Computer Architecture**	**2**	**0**	**0**	**2**

Prerequisites: CET 111
Corequisites: None
This course introduces the organization and design philosophy of computer systems with respect to resource management, throughput, and operating system interaction. Topics include instruction sets, registers, data types, memory management, virtual memory, cache, storage management, multiprocessing, and pipelining. Upon completion, students should be able to evaluate system hardware and resources for installation and configuration purposes.

CHI 111	**Elementary Chinese I**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: None
This course introduces the fundamental elements of the Chinese language within a cultural context. Emphasis is placed on the development of basic listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written Chinese and demonstrate cultural awareness. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A. and A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
CHI 112	**Elementary Chinese II**	**3**	**0**	**0**	**3**

Prerequisites: CHI 111
Corequisites: CHI 182
This course includes the basic fundamentals of the Chinese language within a cultural context of the Chinese people and its history. Emphasis is placed on the progressive development of listening, speaking, reading, and writing skills. Upon completion, student should be able to comprehend and respond with increasing proficiency to spoken and written Chinese and demonstrate further cultural awareness.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A. and A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
CHI 181	**Chinese Lab I**	**0**	**2**	**0**	**1**

Prerequisites: None
Corequisites: None
This course provides an opportunity to enhance acquisition of the fundamental elements of the Chinese language. Emphasis is placed on the progressive development of basic learning, speaking, reading, and writing skills through the use of various supplementary learning media and materials. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written Chinese and demonstrate cultural awareness.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
CHI 182	**Chinese Lab II**	**0**	**2**	**0**	**1**

Prerequisites: CHI 181
Corequisites: CHI 112
This course provides an opportunity to enhance acquisition of the fundamental elements of the Chinese language. Emphasis is placed on the progressive development of basic learning, speaking, reading, and writing skills through the use of various supplementary learning media and materials. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written Chinese and demonstrate cultural awareness.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
CHM 131	**Introduction to Chemistry**	**3**	**0**	**0**	**3**

Prerequisites: DMA 010-060 or MAT 070, DRE 097 or RED 090
Corequisites: CHM 131A, DRE 098 or ENG 090
This course introduces the fundamental concepts of inorganic chemistry. Topics include measurement, matter and energy, atomic and molecular structure, nuclear chemistry, stoichiometry, chemical formulas and reactions, chemical bonding, gas laws, solutions, and acids and bases. Upon completion, students should be able to demonstrate a basic understanding of chemistry as it applies to other fields.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for natural sciences in A.A., A.S., and A.A.S. degree programs.

CHM 131A	**Introduction to Chemistry Lab**	**0**	**3**	**0**	**1**

Prerequisites: None
Corequisites: CHM 131
This course is a laboratory to accompany CHM 131. Emphasis is placed on laboratory experiences that enhance materials presented in CHM 131. Upon completion, students should be able to utilize basic laboratory procedures and apply them to chemical principles presented in CHM 131.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for natural sciences in A.A., A.S., and A.A.S. degree programs.

CHM 132	**Organic and Biochemistry**	**3**	**3**	**0**	**4**

Prerequisites: CHM 131 & 131A, or CHM 151
Corequisites: None
This course provides a survey of major functional classes of compounds in organic and biochemistry. Topics include structure, properties, and reactions of the major organic and biological molecules and basic principles of metabolism. Upon completion, students should be able to demonstrate an understanding of fundamental chemical concepts needed to pursue studies in related professional fields.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for natural sciences in A.A., A.S., and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
CHM 151	**General Chemistry I**	**3**	**3**	**0**	**4**

Prerequisites: DRE 098 or ENG 090 and RED 090, DMA 010-060 or MAT 070
Corequisites: None
This course covers fundamental principles and laws of chemistry. Topics include measurement, atomic and molecular structure, periodicity, chemical reactions, chemical bonding, stoichiometry, thermochemistry, gas laws, and solutions. Upon completion, students should be able to demonstrate an understanding of fundamental chemical laws and concepts as needed in CHM 152. *Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for natural sciences in A.A. and A.S. degree programs. This course has been approved to meet the natural sciences requirement in A.A.S. degree programs.*

		Class	Lab	Work/ Clinical	Credit
CHM 152	**General Chemistry II**	**3**	**3**	**0**	**4**

Prerequisites: CHM 151
Corequisites: None
This course provides a continuation of the study of the fundamental principles and laws of chemistry. Topics include kinetics, equilibrium, ionic and redox equations, acid-base theory, electrochemistry, thermodynamics, introduction to nuclear and organic chemistry, and complex ions. Upon completion, students should be able to demonstrate an understanding of chemical concepts as needed to pursue further study in chemistry and related professional fields**.**
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for natural sciences in the A.S. degree program. This course has been approved to meet the natural sciences requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
CHM 251	**Organic Chemistry I**	**3**	**3**	**0**	**4**

Prerequisites: CHM 152
Corequisites: None
This course provides a systematic study of the theories, principles, and techniques of organic chemistry. Topics include nomenclature, structure, properties, reactions, and mechanisms of hydrocarbons, alkyl halides, alcohols, and ethers; further topics include isomerization, sterochemistry, and spectroscopy. Upon completion, students should be able to demonstrate an understanding of the fundamental concepts of covered organic topics as needed in CHM 252. *Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.*

		Class	Lab	Clinical	Work/ Credit
CHM 252	**Organic Chemistry II**	**3**	**3**	**0**	**4**

Prerequisites: CHM 251
Corequisites: None
This course provides continuation of the systematic study of the theories, principles, and techniques of organic chemistry. Topics include nomenclature, structure, properties, reactions, and mechanisms of aromatics, aldehydes, ketones, carboxylic acids and derivatives, amines and heterocyclics; multi-step synthesis will be emphasized. Upon completion, students should be able to demonstrate an understanding of organic concepts as needed to pursue further study in chemistry and related professional fields.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

CIS 070	**Fundamentals of Computing**	**0**	**2**	**0**	**1**

Prerequisites: None
Corequisites: None
This course covers fundamental functions and operations of the computer. Topics include identification of components, overview of operating systems, and other basic computer operations. Upon completion, students should be able to operate computers, access files, print documents and perform basic applications operations.

CIS 110	**Introduction to Computers**	**2**	**2**	**0**	**3**

Prerequisites: DRE 097
Corequisites: DRE 098
This course introduces computer concepts, including fundamental functions and operations of the computer. Topics include identification of hardware components, basic computer operations, security issues, and use of software applications. Upon completion, students should be able to demonstrate an understanding of the role and function of computers and use the computer to solve problems.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for mathematics in A.A. and A.S. degree programs.

CIS 115	**Introduction to Programming & Logic**	**2**	**3**	**0**	**3**

Prerequisites: DMA 010-040 or MAT 070, DRE 097
Corequisites: DRE 098
This course introduces computer programming and problem solving in a structured program logic environment. Topics include language syntax, data types, program organization, problem solving methods, algorithm design, and logic control structures. Upon completion, students should be able to manage files with operating system commands, use top-down algorithm design, and implement algorithmic solutions in a programming language.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for mathematics in A.A. and A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
CJC 111	**Introduction to Criminal Justice**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: None
This course introduces the components and processes of the criminal justice system. Topics include history, structure, functions, and philosophy of the criminal justice system and their relationship to life in our society. Upon completion, students should be able to define and describe the major system components and their interrelationships and evaluate career options. *Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.*

CJC 112	**Criminology**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: None
This course introduces deviant behavior as it relates to criminal activity. Topics include theories of crime causation; statistical analysis of criminal behavior; past, present, and future social control initiatives; and other related topics. Upon completion, students should be able to explain and discuss various theories of crime causation and societal response.

CJC 113	**Juvenile Justice**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: DRE 098
This course covers the juvenile justice system and related juvenile issues. Topics include an overview of the juvenile justice system, treatment and prevention programs, special areas and laws unique to juveniles, and other related topics. Upon completion, students should be able to identify/discuss juvenile court structure/procedures, function and jurisdiction of juvenile agencies, processing/detention of juveniles, and case disposition.

CJC 131	**Criminal Law**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: DRE 098
This course covers the history/evolution/principles and contemporary applications of criminal law. Topics include sources of substantive law, classification of crimes, parties to crime, elements of crimes, matters of criminal responsibility, and other related topics. Upon completion, students should be able to discuss the sources of law and identify, interpret, and apply the appropriate statutes/elements.

		Class	Lab	Work/ Clinical	Credit
CJC 132	**Court Procedure & Evidence**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: DRE 098
This course covers judicial structure/process/procedure from incident to disposition, kinds and degrees of evidence, and the rules governing admissibility of evidence in court. Topics include consideration of state and federal courts, arrest, search and seizure laws, exclusionary and statutory rules of evidence, and other related issues. Upon completion, students should be able to identify and discuss procedures necessary to establish a lawful arrest/search, proper judicial procedures, and the admissibility of evidence.

CJC 141	**Corrections**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: None
This course covers the history, major philosophies, components, and current practices and problems of the field of corrections. Topics include historical evolution, functions of the various components, alternatives to incarceration, treatment programs, inmate control, and other related topics. Upon completion, students should be able to explain the various components, processes, and functions of the correctional system.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

CJC 160	**Terrorism: Underlying Issues**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: DRE 098
This course identifies the fundamental reasons why America is a target for terrorists, covering various domestic/international terrorist groups and ideologies from a historical aspect. Emphasis is placed upon recognition of terrorist crime scene; weapons of mass destruction; chemical, biological, and nuclear terrorism; and planning consideration involving threat assessments. Upon completion, the student should be able to identify and discuss the methods used in terrorists' activities and complete a threat assessment for terrorists' incidents.

CJC 212	**Ethics & Community Relations**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course covers ethical considerations and accepted standards applicable to criminal justice organizations and professionals. Topics include ethical systems; social change, values, and norms; cultural diversity; citizen involvement in criminal justice issues; and other related topics. Upon completion, students should be able to apply ethical considerations to the decision-making process in identifiable criminal justice situations.

		Class	Lab	Work/ Clinical	Credit
CJC 215	**Organization & Administration**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course introduces the components and functions of organization and administration as it applies to the agencies of the criminal justice system. Topics include operations/functions of organizations; recruiting, training, and retention of personnel; funding and budgeting; communications; span of control and discretion; and other related topics. Upon completion, students should be able to identify and discuss the basic components and functions of a criminal justice organization and its administrative operations.

CJC 221	**Investigative Principles**	**3**	**2**	**0**	**4**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course introduces the theories and fundamentals of the investigative process. Topics include crime scene/incident processing, information gathering techniques, collection/preservation of evidence, preparation of appropriate reports, court presentations, and other related topics. Upon completion, students should be able to identify, explain, and demonstrate the techniques of the investigative process, report preparation, and courtroom presentation.

CJC 222	**Criminalistics**	**3**	**0**	**0**	**3**

Prerequisites: CJC 221
Corequisites: None
This course covers the functions of the forensic laboratory and its relationship to successful criminal investigations and prosecutions. Topics include advanced crime scene processing, investigative techniques, current forensic technologies, and other related topics. Upon completion, students should be able to identify and collect relevant evidence at simulated crime scenes and request appropriate laboratory analysis of submitted evidence.

CJC 231	**Constitutional Law**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
The course covers the impact of the Constitution of the United States and its amendments on the criminal justice system. Topics include the structure of the Constitution and its amendments, court decisions pertinent to contemporary criminal justice issues, and other related topics. Upon completion, students should be able to identify/discuss the basic structure of the United States Constitution and the rights/procedures as interpreted by the courts.

		Class	Lab	Work/ Clinical	Credit
CJC 233	**Correctional Law**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course introduces statutory/case law pertinent to correctional concepts, facilities, and related practices. Topics include examination of major legal issues encompassing incarceration, probation, parole, restitution, pardon, restoration of rights, and other related topics. Upon completion, students should be able to identify/discuss legal issues which directly affect correctional systems and personnel.

		Class	Lab	Work/ Clinical	Credit
COM 110	**Introduction to Communication**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course provides an overview of the basic concepts of communication and the skills necessary to communicate in various contexts. Emphasis is placed on communication theories and techniques used in interpersonal, group, public, intercultural, and mass communication situations. Upon completion, students should be able to explain and illustrate the forms and purposes of human communication in a variety of contexts.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for communications in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
COM 120	**Interpersonal Communication**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course introduces the practices and principles of interpersonal communication in both dyadic and group settings. Emphasis is placed on the communication process, perception, listening, self-disclosure, speech apprehension, ethics, nonverbal communication, conflict, power, and dysfunctional communication relationships. Upon completion, students should be able to demonstrate interpersonal communication skills, apply basic principles of group discussion, and manage conflict in interpersonal communication situations.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for communications in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
COM 231	**Public Speaking**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course provides instruction and experience in preparation and delivery of speeches within a public setting and group discussion. Emphasis is placed on research, preparation, delivery, and evaluation of informative, persuasive, and special occasion public speaking. Upon completion, students should be able to prepare and deliver well-organized speeches and participate in group discussion with appropriate audiovisual support.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for communications in A.A. and A.S. degree programs. This course has been approved to meet the communications requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
CSC 139	**Visual BASIC Programming**	**2**	**3**	**0**	**3**

Prerequisites: CIS 115
Corequisites: None
This course introduces computer programming using the Visual BASIC programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, code, test and debug at a beginning level.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
CSC 151	**JAVA Programming**	**2**	**3**	**0**	**3**

Prerequisites: CIS 115
Corequisites: None
This course introduces computer programming using the JAVA programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion students should be able to design, code, test, debug JAVA language programs.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
CTS 120	**Hardware/Software Support**	**2**	**3**	**0**	**3**

Prerequisites: CIS 110
Corequisites: None
This course covers the basic hardware of a personal computer, including installation, operations and interactions with software. Topics include component identification, memory-system, peripheral installation and configuration, preventive maintenance, hardware diagnostics/repair, installation and optimization of system software, commercial programs, system configuration, and device-drivers. Upon completion, students should be able to select appropriate computer equipment and software, upgrade/maintain existing equipment and software, and troubleshoot/repair non-functioning personal computers.

CTS 130	**Spreadsheet**	**2**	**2**	**0**	**3**

Prerequisites: CIS 110 or OST 137
Corequisites: None
This course introduces basic spreadsheet design and development. Topics include writing formulas, using functions, enhancing spreadsheets, creating charts, and printing. Upon completion, students should be able to design and print basic spreadsheets and charts.

CTS 285	**Systems Analysis & Design**	**3**	**0**	**0**	**3**

Prerequisites: CIS 115
Corequisites: None
This course introduces established and evolving methodologies for the analysis, design, and development of an information system. Emphasis is placed on system characteristics, managing projects, prototyping, CASE/OOM tools, and systems development life cycle phases. Upon completion, students should be able to analyze a problem and design an appropriate solution using a combination of tools and techniques.

CTS 289	**System Support Project**	**1**	**4**	**0**	**3**

Prerequisites: CSC 139, CTS 285, DBA 110, NOS 120, NOS 230, SEC 110
Corequisites: None
This course provides an opportunity to complete a significant support project with minimal instructor assistance. Emphasis is placed on written and oral communication skills, project definition, documentation, installation, testing, presentation, and user training. Upon completion, students should be able to complete a project from the definition phase through implementation.

DBA 110	**Database Concepts**	**2**	**3**	**0**	**3**

Prerequisites: CIS 110
Corequisites: None
This course introduces database design and creation using a DBMS product. Emphasis is placed on data dictionaries, normalization, data integrity, data modeling, and creation of simple tables, queries, reports, and forms. Upon completion, students should be able to design and implement normalized database structures by creating simple database tables, queries, reports, and forms.

		Class	Lab	Work/ Clinical	Credit
DFT 110	**Basic Drafting**	**1**	**2**	**0**	**2**

Prerequisites: None
Corequisites: None
This course introduces basic drafting skills, terminology, and applications. Topics include basic mathematics; sketching; introduction to CAD, ANSI, and ISO drafting standards; and a survey of various drafting applications. Upon completion, students should be able to perform basic calculations for CAD drafting, sketch drawings using appropriate standards, and recognize drawings from different drafting fields.

DFT 111	**Technical Drafting I**	**1**	**3**	**0**	**2**

Prerequisites: DMA 010-030 or MAT 060, DRE 098 or RED 090
Corequisites: None
This course introduces basic drafting skills, equipment, and applications. Topics include sketching, measurements, lettering, dimensioning, geometric construction, orthographic projections and pictorials drawings, sections, and auxiliary views. Upon completion, students should be able to understand and apply basic drawing principles and practices.

DFT 115	**Architectural Drafting**	**1**	**2**	**0**	**2**

Prerequisites: DFT 151
Corequisites: None
This course introduces basic drafting practices used in residential and light commercial design. Topics include floor plans, foundations, details, electrical components, elevations, and dimensioning practice. Upon completion, students should be able to complete a set of working drawings for a simple structure.

DFT 151	**CAD I**	**2**	**3**	**0**	**3**

Prerequisites: DMA 010-030 or MAT 060, DRE 097 or RED 080
Corequisites: None
This course introduces CAD software as a drawing tool. Topics include drawing, editing, file management, and plotting. Upon completion, students should be able to produce and plot a CAD drawing.

DFT 152	**CAD II**	**2**	**3**	**0**	**3**

Prerequisites: DFT 151
Corequisites: None
This course introduces extended CAD applications. Emphasis is placed upon intermediate applications of CAD skills. Upon completion, students should be able to use extended CAD applications to generate and manage drawings.

		Class	Lab	Work/ Clinical	Credit
DFT 153	**CAD III**	**2**	**3**	**0**	**3**

Prerequisites: DFT 151
Corequisites: None
This course introduces advanced CAD applications. Emphasis is placed upon advanced applications of CAD skills. Upon completion, students should be able to use advanced CAD applications to generate and manage data.

DIA 101	**Introduction to Dialysis Technology**	**5**	**6**	**12**	**11**

Prerequisites: DMA 010-050, DRE 098
Corequisites: None
This course introduces the theory and techniques of dialysis. Topics include the principles of dialysis, nutritional needs, patient preparation and interaction, diagnostic tests, and measurement of the effectiveness and adequacy of dialysis. Upon completion, students should be able to demonstrate beginning theoretical, technical, and clinical skills needed to provide patient care techniques in the dialysis unit.

DIA 102	**Dialysis for Special Populations**	**5**	**3**	**15**	**11**

Prerequisites: DIA 101
Corequisites: None
This course emphasizes the maintenance and use of hemodialysis equipment and alternative dialysis procedures. Topics include the water treatment system, types of contaminants, monitoring of clients being treated for acute/chronic renal diseases, and renal pharmacology. Upon completion, students should be able to demonstrate clinical skills necessary for the acute/chronic setting for the patient with specialized dialysis treatment plans.

DIA 103	**Ethical/Legal Issues in Dialysis**	**3**	**0**	**0**	**3**

Prerequisites: DIA 102
Corequisites: None
This course provides the theoretical application of the principles and practices involved in the care of the complex renal client. Topics include ethical/legal aspects in dialysis, contracts, professional liability, malpractice, health insurance, and choice to terminate therapy. Upon completion, student should be able to demonstrate a basic knowledge of ethical/legal issues required in a client care setting.

DIA 104	**Care-Complex Renal Client**	**1**	**0**	**12**	**5**

Prerequisites: DIA 102
Corequisites: None
This course provides the clinical opportunity for care of the complex renal client. Emphasis is placed on gaining independence in care techniques and documentation. Upon completion, students should be able to care for a variety of renal clients and manage time effectively for multiple client assignments.

		Class	Lab	Clinical	Work/ Credit
DMA 010	**Operations with Integers**	**0.75**	**0.50**	**0**	**1**

Prerequisites: None
Corequisites: None
This course provides a conceptual study of integers and integer operations. Topics include integers, absolute value, exponents, square roots, perimeter and area of basic geometric figures, Pythagorean Theorem, and use of the correct order of operations. Upon completion, students should be able to demonstrate an understanding of pertinent concepts and principles and apply this knowledge in the evaluation of expressions.

DMA 020	**Fractions and Decimals**	**0.75**	**0.50**	**0**	**1**

Prerequisites: DMA 010
Corequisites: None
This course provides a conceptual study of the relationship between fractions and decimals and covers related problems. Topics include application of operations and solving contextual application problems, including determining the circumference and area of circles with the concept of pi. Upon completion, student should be able to demonstrate an understanding of the connections between fractions and decimals.

DMA 030	**Propor/Ratio/Rate/Percent**	**0.75**	**0.50**	**0**	**1**

Prerequisites: DMA 010-020
Corequisites: None
This course provides a conceptual study of the problems that are represented by rates, ratios, percent, and proportions. Topics include rates, ratios, percent, proportion, conversion of English and metric units, and applications of the geometry of similar triangles. Upon completion, students should be able to use their understanding to solve conceptual application problems.

DMA 040	**Express/Lin Equat/Inequal**	**0.75**	**0.50**	**0**	**1**

Prerequisites: DMA 010-030 or MAT 060
Corequisites: None
The course provides a conceptual study of problems involving linear expressions, equations, and inequalities. Emphasis is placed on solving contextual application problems. Upon completion, students should be able to distinguish between simplifying expressions and solving equations and apply this knowledge to problems involving linear expressions, equations, and inequalities.

DMA 050	**Graphs/Equations of Lines**	**0.75**	**0.50**	**0**	**1**

Prerequisites: DMA 010-040 or DMA 040 and MAT 060
Corequisites: None
This course provides a conceptual study of problems involving graphic and algebraic representations of lines. Topics include slope, equations of lines, interpretation of basic graphs, and linear modeling. Upon completion, students should be able to solve contextual application problems and represent real-world situations as linear equations in two variables.

		Class	Lab	Clinical	Work/ Credit
DMA 060	**Polynomial/Quadratic Appl**	**0.75**	**0.50**	**0**	**1**

Prerequisites: DMA 010-050 or MAT 060 and MAT 070
Corequisites: None
This course provides a conceptual study of problems involving graphic and algebraic representations of quadratics. Topics include basic polynomial operations, factoring polynomials, and solving polynomial equations by means of factoring. Upon completion, students should be able to find algebraic solutions to contextual problems with quadratic applications.

DMA 070	**Rational/Express/Equation**	**0.75**	**0.50**	**0**	**1**

Prerequisites: DMA 010-060 or MAT 060 and MAT 070
Corequisites: None
This course provides a conceptual study of problems involving graphic and algebraic representations of rational equations. Topics include simplifying and performing operations with rational expressions and questions, understanding the domain, and determining the reasonableness of an answer. Upon completion, students should be able to find algebraic solutions to contextual problems with rational applications.

DMA 080	**Radical Express/Equations**	**0.75**	**0.50**	**0**	**1**

Prerequisites: DMA 010-070 or MAT 060 and MAT 070
Corequisites: None
This course provides a conceptual study of the manipulation of radicals and the application of radical equations to real-world problems. Topics include simplifying and performing operations with radical expressions and rational exponents, solving equations, and determining the reasonableness of an answer. Upon completion, students should be able to find algebraic solutions to contextual problems with radical applications.

DRA 111	**Theatre Appreciation**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: None
This course provides a study of the art, craft, and business of the theatre. Emphasis is placed on the audience's appreciation of the work of the playwright, director, actor, designer, producer, and critic. Upon completion, students should be able to demonstrate a vocabulary of theatre terms and to recognize the contributions of various theatre artists.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A., A.S., and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
DRE 096	**Integrated Reading and Writing**	**2.5**	**1**	**0**	**3**

Prerequisites: None
Corequisites: None
This course is designed to develop proficiency in specific integrated and contextualized reading and writing skills and strategies. Topics include reading and writing processes, critical thinking strategies, and recognition and composition of well-developed, coherent, and unified texts; these topics and primarily taught at the introductory level using texts primarily in a Lexile ™ range of 960 to 1115. Upon completion, students should be able to apply those skills toward understanding a variety of academic and career-related texts and composing effective paragraphs.

DRE 097	**Integrated Reading Writing II**	**2.5**	**1**	**0**	**3**

Prerequisites: DRE 096
Corequisites: None
This course is designed to develop proficiency in integrated and contextualized reading and writing skills and strategies. Topics include reading and writing processes, critical thinking strategies, and recognition and composition of well-developed, coherent, and unified texts; except where noted, these topics are taught at a reinforcement level using texts primarily in a Lexile ™ range of 1070 to 1220. Upon completion, students should be able demonstrate and apply those skills toward understanding a variety of complex academic and career texts and composing essays incorporating relevant, valid evidence.

DRE 098	**Integrated Reading Writing III**	**2.5**	**1**	**0**	**3**

Prerequisites: DRE 097
Corequisites: None
This course is designed to develop proficiency in integrated and contextualized reading and writing skills and strategies. Topics include reading and writing processes, critical thinking strategies, and recognition and composition of well-developed, coherent, and unified texts; these topics are taught using texts primarily in a Lexile ™ range of 1185 to 1385. Upon completion, students should be able demonstrate and apply those skills toward understanding a variety of texts at the career and college ready level and toward composing a documented essays.

DRE 099 Integrated Reading Writing III
Prerequisites: DRE 097
Corequisites: ENG 111
This course is designed to develop proficiency in integrated and contextualized reading and writing skills and strategies by complementing, supporting and reinforcing material covered in ENG 111. Topics include reading and writing processes, critical thinking strategies, and recognition and composition of well-developed, coherent, and unified texts; except where noted, these topics are taught using texts primarily in the Lexile® range of 1185 to 1385. Upon completion, students should be able to apply those skills toward understanding a variety of texts at the career and college ready level and toward composing a documented essay.

		Class	Lab	Work/ Clinical	Credit
ECO 151	**Survey of Economics**	**3**	**0**	**0**	**3**

Prerequisites: DMA 010-020 or MAT 060, DRE 097 or RED 090
Corequisites: DRE 098
This course introduces basic concepts of micro- and macroeconomics. Topics include supply and demand, optimizing economic behavior, prices and wages, money, interest rates, banking system, unemployment, inflation, taxes, government spending, and international trade. Upon completion, students should be able to explain alternative solutions for economic problems faced by private and government sectors.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for social/behavioral sciences in A.A., A.S., and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
ECO 251	**Principles of Microeconomics**	**3**	**0**	**0**	**3**

Prerequisites: DMA 010-020 or MAT 060, DRE 097 or RED 090
Corequisites: DRE 098
This course introduces economic analysis of individual, business, and industry choices in the market economy. Topics include the price mechanism, supply and demand, optimizing economic behavior, costs and revenue, market structures, factor markets, income distribution, market failure, and government intervention. Upon completion, students should be able to identify and evaluate consumer and business alternatives in order to efficiently achieve economic objectives.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for social/behavioral sciences in A.A. and A.S. degree programs. This course has been approved to meet the social/behavioral sciences requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
ECO 252	**Principles of Macroeconomics**	**3**	**0**	**0**	**3**

Prerequisites: DMA 010-020 or MAT 060, DRE 097 or RED 090
Corequisites: DRE 098
This course introduces economic analysis of aggregate employment, income, and prices. Topics include major schools of economic thought; aggregate supply and demand; economic measures, fluctuations, and growth; money and banking; stabilization techniques; and international trade. Upon completion, students should be able to evaluate national economic components, conditions, and alternatives for achieving socioeconomic goals.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for social/behavioral science in A.A. and A.S. degree programs. This course has been approved to meet the social/behavioral sciences requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
EDU 114	**Intro to Family Childcare**	**3**	**0**	**0**	**3**

Prerequisites: DMA 010, DMA 020, and DMA 030
Corequisites: DRE 097
This course introduces the student to family child care home environments with emphasis on standards and developmentally effective approaches for supporting diverse children and families. Topics include standards for quality, curriculum for multiple age groups, authentic assessment methods, business practices, building positive family and community partnerships, and professionalism. Upon completion, students should be able to design a family child care handbook that reflects a healthy, respectful, supportive, and stimulating learning environment.

		Class	Lab	Work/ Clinical	Credit
EDU 119	**Intro to Early Childhood Education**	**4**	**0**	**0**	**4**

Prerequisites: None
Corequisites: None
This course covers the foundations of the education profession, the diverse educational settings for young children, professionalism and planning developmentally appropriate programs for all children. Topics include historical foundations, program types, career options, professionalism and creating inclusive environments and curriculum responsive to the needs of all children and families. Upon completion, students should be able to design career plans and develop schedules, environments and activity plans appropriate for all children.

		Class	Lab	Work/ Clinical	Credit
EDU 131	**Child, Family, & Community**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: DRE 097 or ENG 080 and RED 080
This course covers the development of partnerships between culturally and linguistically diverse families, children, schools and communities. Emphasis is placed on developing skills and identifying benefits for establishing, supporting, and maintaining respectful, collaborative relationships between diverse families, programs/schools, and community agencies/resources. Upon completion, students should be able to explain appropriate relationships between families, educators, and professionals that enhance development and educational experiences of all children.

		Class	Lab	Work/ Clinical	Credit
EDU 144	**Child Development I**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: DRE 097 or ENG 080 and RED 080
This course includes the theories of child development, needs, milestones, and factors that influence development, from conception through approximately 36 months. Emphasis is placed on developmental sequences in physical/motor, emotional/social, cognitive, and language domains and the impact of multiple influences on development and learning. Upon completion, students should be able to compare/contrast typical/atypical developmental characteristics, explain environmental factors that impact development, and identify strategies for enhancing development.

		Class	Lab	Work/ Clinical	Credit
EDU 145	**Child Development II**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: DRE 097 or ENG 080 and RED 080
This course includes the theories of child development, needs, milestones, and factors that influence development, from preschool through middle childhood. Emphasis is placed on developmental sequences in physical/motor, emotional/social, cognitive, and language domains and the impact of multiple influences on development and learning. Upon completion, students should be able to compare/contrast typical/atypical developmental characteristics, explain environmental factors that impact development, and identify strategies for enhancing development.

EDU 146	**Child Guidance**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: DRE 097 or ENG 080 and RED 080
This course introduces principles and practical techniques including the design of learning environments for providing developmentally appropriate guidance for all children, including those at risk. Emphasis is placed on observation skills, cultural influences, underlying causes of behavior, appropriate expectations, development of self-control and the role of communication and guidance. Upon completion, students should be able to demonstrate direct/indirect strategies for preventing problem behaviors, teaching appropriate/acceptable behaviors, negotiation, setting limits and recognizing at risk behaviors.

EDU 151	**Creative Activities**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: DRE 097 or ENG 080 and RED 080
This course covers planning, creation and adaptation of developmentally supportive learning environments with attention to curriculum, interactions, teaching practices and learning materials. Emphasis is placed on creating and adapting integrated, meaningful, challenging and engaging developmentally supportive learning experiences in art, music, movement and dramatics for all children. Upon completion, students should be able to create, adapt, implement and evaluate developmentally supportive learning materials, experiences and environments.

EDU 153	**Health, Safety & Nutrition**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: DRE 097 or ENG 080 and RED 080
This course covers promoting and maintaining the health and well-being of all children. Topics include health and nutritional guidelines, common childhood illnesses, maintaining safe and healthy learning environments, recognition and reporting of abuse and neglect and state regulations. Upon completion, students should be able to demonstrate knowledge of health, safety, and nutritional needs, safe learning environments, and adhere to state regulations.

		Class	Lab	Work/ Clinical	Credit
EDU 154	**Social/Emotional/Behavioral Development**	**3**	**0**	**0**	**3**

Prerequisites: EDU 144, EDU 145
Corequisites: DRE 097 or ENG 080 and RED 080
This course covers the emotional/social development of children and the causes, expressions, prevention and management of challenging behaviors in all children. Emphasis is placed on caregiver/family/child relationships, positive emotional/social environments, developmental concerns, risk factors, and intervention strategies. Upon completion, students should be able to identify factors influencing emotional/social development, utilizing screening measures, and designing positive behavioral supports.

EDU 158	**Healthy Lifestyles–Youth**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: DRE 097 or ENG 080 and RED 080
This course introduces the topics of health, safety, nutrition, physical activities and environments for the school-age child/youth that promote development, fitness and healthy lifestyles. Topics include the use of physical and nutritional/cooking activities (indoor/outdoor, teacher-directed/youth-directed) appropriate for youth developing typically/atypically; safe/healthy menu planning; safe/healthy environmental design, assessment and supervision. Upon completion, students should be able to plan/facilitate safe/healthy physical and nutritional/cooking activities, discuss safety policies/regulations and identify health/safety/nutritional needs of youth.

EDU 162	**Observation & Assessment in ECE**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: DRE 097 or ENG 080 and RED 080
This course introduces the research, benefits, goals, and ethical considerations associated with observation and assessment in Early Childhood environments. Emphasis is placed on the implementation of multiple observation/assessment strategies including anecdotal records, event samples, rating scales, and portfolios to create appropriate learning experiences. Upon completion, students should be able to practice responsible assessment and use assessments to enhance programming and collaboration for children and families.

EDU 163	**Classroom Management & Instruction**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: DRE 097 or ENG 080 and RED 080
This course covers management and instructional techniques with school-age populations. Topics include classroom management and organization, teaching strategies, individual student differences and learning styles, and developmentally appropriate classroom guidance techniques. Upon completion, students should be able to utilize developmentally appropriate behavior management and instructional strategies that enhance the teaching/learning process and promote students' academic success.

		Class	Lab	Work/ Clinical	Credit
EDU 173	**Becoming a Professional in ECE**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: DRE 097 or ENG 080 and RED 080
This course is an introduction to the early childhood profession. Emphasis is placed on the NAEYC Ethical Code, professional growth through involvement in professional organizations, and development of a professional portfolio. Upon complete, student should be able to identify professional resources and community partners in order to involve oneself in the early childhood field.

EDU 216	**Foundations of Education**	**4**	**0**	**0**	**4**

Prerequisites: None
Corequisites: DRE 098
This course introduces the American educational system and the teaching profession. Topics include historical and philosophical foundations of education; contemporary educational, structural, legal, and financial issues, and experiences in public school classrooms. Upon completion, students should be able to relate classroom observations to the roles of teachers and schools and the process of teacher education.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

EDU 221	**Children with Exceptionalities**	**3**	**0**	**0**	**3**

Prerequisites: EDU 144, EDU 145
Corequisites: DRE 098
This course introduces children with exceptionalities, their families, support services, inclusive/diverse settings, and educational/family plans based on the foundations of child development. Emphasis is placed on the characteristics of exceptionalities, observation and assessment of children, strategies for adapting the learning environment, and identification of community resources. Upon completion, students should be able to recognize diverse abilities, describe the referral process, and depict collaboration with families/professionals to plan/implement, and promote best practices.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

EDU 223	**Specific Learning Disabilities**	**3**	**0**	**0**	**3**

Prerequisites: EDU 144, EDU 145
Corequisites: DRE 098
This course provides a comprehensive study of characteristics, alternative assessments, teaching strategies, placement options, inclusion, and family intervention for children with specific learning disabilities. Topics include causes, assessment instruments, learning strategies, and collaborative/inclusion methods for children with specific learning disabilities. Upon completion, students should be able to assist in identifying, assessing, and providing educational interventions for children with specific learning disabilities and their families.

		Class	Lab	Work/ Clinical	Credit
EDU 234	**Infants, Toddlers, & Twos**	**3**	**0**	**0**	**3**

Prerequisites: EDU 119
Corequisites: DRE 098
This course covers the unique needs and rapid changes that occur in the first three years of life and the inter-related factors that influence development. Emphasis is placed on recognizing and supporting developmental milestones through purposeful strategies, responsive care routines and identifying elements of quality, inclusive early care and education. Upon completion, students should be able to demonstrate respectful relationships that provide a foundation for healthy infant/toddler/twos development, plan/select activities/materials, and partner with diverse families.

		Class	Lab	Work/ Clinical	Credit
EDU 235	**School-Age Development & Program**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: DRE 098
This course includes developmentally appropriate practices in group settings for school-age children. Emphasis is placed on principles of development, environmental planning, and positive guidance techniques. Upon completion, students should be able to discuss developmental principles for all children ages 5 to 12 and plan and implement developmentally-appropriate activities.

		Class	Lab	Work/ Clinical	Credit
EDU 243	**Learning Theory**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: DRE 098
This course provides lateral entry teachers an introduction to learning theory, various styles of learning, and motivational factors involved in the learning process. Emphasis is placed on the development of cognitive skills using the eight types of intelligence and applying these to practical classroom situations. Upon completion, students should be able to describe theories and styles of learning and discuss the relationship between different types of intelligence to learning motivation.

		Class	Lab	Work/ Clinical	Credit
EDU 244	**Human Growth/Development**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: DRE 098
This course introduces lateral entry teachers to theories and ages and stages related to human growth and development from birth through adolescence. Emphasis is placed on development through the stages of a child's life in the areas of physical, emotional, social, intellectual, and moral development. Upon completion, students should be able to identify and describe milestones of each stage in all areas of development and discuss factors that influence growth.

		Class	Lab	Work/ Clinical	Credit
EDU 245	**Policies and Procedures**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: DRE 098
This course is designed to introduce new lateral entry teachers to the policies and procedures established by the local education agency. Topics include emergency situation procedures, acceptable discipline, chain of command, role of mentors, evaluation procedures, employment requirements, dress codes, and other policies and procedures. Upon completion, students should be able to explain the policies and procedures to students, parents, or others and discuss the purpose of each policy category.

EDU 247	**Sensory & Physical Disabilities**	**3**	**0**	**0**	**3**

Prerequisites: EDU 144, EDU 145
Corequisites: DRE 098
This course covers characteristics, intervention strategies, assistive technologies, and inclusive practices for children with sensory and physical disabilities. Topics include inclusive placement options, utilization of support services, other health impairments and family involvement for children with sensory and physical disabilities. Upon completion, students should be able to identify and utilize intervention strategies and service delivery options for those specific disabilities.

EDU 248	**Developmental Delays**	**3**	**0**	**0**	**3**

Prerequisites: EDU 144, EDU 145
Corequisites: DRE 098
This course covers the causes and assessment of developmental delays and individualized instruction and curriculum for children with developmental delays. Emphasis is placed on definition, characteristics, assessment, educational strategies, inclusion, family involvement, and services for children with developmental delays. Upon completion, students should be able to identify, assess, and plan educational intervention strategies for children with developmental delays and their families.

EDU 250	**Praxis I Preparation**	**1**	**0**	**0**	**1**

Prerequisites: None
Corequisites: DRE 098
This course is designed to prepare potential teachers for the PRAXIS I exam that is necessary to enter the field of education. Emphasis is placed on content specifications of the PRAXIS I exam, study skills and simulated examinations. Upon completion, students should be able to demonstrate an understanding of the content necessary for successful completion of the PRAXIS I exam.

		Class	Lab	Work/ Clinical	Credit
EDU 251	**Exploration Activities**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: DRE 098
This course covers discovery experiences in science, math, and social studies. Emphasis is placed on developing concepts for each area and encouraging young children to explore, discover, and construct concepts. Upon completion, students should be able to discuss the discovery approach to teaching, explain major concepts in each area, and plan appropriate experiences for children.

EDU 252	**Math & Science Activities**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: DRE 098
This course introduces discovery experiences in math and science. Topics include concepts, facts, phenomena, and skills in each area. Upon completion, student should be able to identify, plan, select materials and equipment, and implement and evaluate developmentally appropriate curriculum materials.

EDU 256	**Instructional Strategies/Social Studies**	**2**	**2**	**0**	**3**

Prerequisites: None
Corequisites: DRE 098
This course covers objectives, content, materials, and instructional approaches to social studies. Topics include the integration of history, geography, economics, and governmental materials; research/study techniques; and critical thinking. Upon completion, students should be able to assess, plan, implement, and evaluate developmentally appropriate experiences as it relates to the NC Standard Course of Study.

EDU 259	**Curriculum Planning**	**3**	**0**	**0**	**3**

Prerequisites: EDU 119
Corequisites: DRE 098
This course is designed to focus on curriculum planning for three to five year olds. Topics include philosophy, curriculum models, indoor and outdoor environments, scheduling, authentic assessment, and planning developmentally appropriate experiences. Upon completion, students should be able to evaluate children's development, critique curriculum, plan for individual and group needs, and assess and create quality environments.

EDU 261	**Early Childhood Administration I**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: DRE 098, EDU 119
This course introduces principles of basic programming and staffing, budgeting/financial management and marketing, and rules and regulations of diverse early childhood programs. Topics include program structure and philosophy, standards of NC child care programs, finance, funding resources, and staff and organizational management. Upon completion, students should be able to develop components of program/personnel handbooks, a program budget, and demonstrate knowledge of fundamental marketing strategies and NC standards.

		Class	Lab	Work/ Clinical	Credit
EDU 262	**Early Childhood Administration II**	**3**	**0**	**0**	**3**

Prerequisites: EDU 261
Corequisites: DRE 098, EDU 119
This course focuses on advocacy/leadership, public relations/community outreach and program quality/evaluation for diverse early childhood programs. Topics include program evaluation/accreditation, involvement in early childhood professional organizations, leadership/mentoring, family, volunteer and community involvement and early childhood advocacy. Upon completion, students should be able to define and evaluate all components of early childhood programs, develop strategies for advocacy and integrate community into programs.

EDU 263	**School-Age Program Administration**	**2**	**0**	**0**	**2**

Prerequisites: None
Corequisites: DRE 098
This course introduces the methods and procedures for development and administration of school-age programs in the public or proprietary setting. Emphasis is placed on the construction and organization of the physical environment. Upon completion, student should be able to plan, develop and administer a quality school-age program.

EDU 271	**Educational Technology**	**2**	**2**	**0**	**3**

Prerequisites: None
Corequisites: DRE 098
This course introduces the use of technology to enhance teaching and learning in all educational settings. Topics include technology concepts, instructional strategies, materials and adaptive technology for children with exceptionalities, facilitation of assessment/evaluation, and ethical issues surrounding the use of technology. Upon completion, students should be able to apply technology enhanced instructional strategies, use a variety of technology resources and demonstrate appropriate technology skills in educational environments.

EDU 275	**Effective Teacher Training**	**2**	**0**	**0**	**2**

Prerequisites: None
Corequisites: DRE 098
This course provides specialized training using an experienced-based approach to learning. Topics include instructional preparation and presentation, student interaction, time management, learning expectations, evaluation, and curriculum principles and planning. Upon completion, students should be able to prepare and present a six-step lesson plan and demonstrate ways to improve students' time-on-task.

		Class	Lab	Work/ Clinical	Credit
EDU 280	**Language & Literacy Experiences**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: DRE 098
This course is designed to expand students' understanding of children's language and literacy development and provides strategies for enhancing language/literacy experiences in an enriched environment. Topics include selection of diverse literature and interactive media, the integration of literacy concepts throughout the curriculum, appropriate observations/assessments and inclusive practices. Upon completion, students should be able to select, plan, implement and evaluate developmentally appropriate and diverse language/literacy experiences.

		Class	Lab	Work/ Clinical	Credit
EDU 281	**Instructional Strategies/Reading & Writing**	**2**	**2**	**0**	**3**

Prerequisites: None
Corequisites: DRE 098
This course covers concepts, resources, and methods for teaching reading and writing to elementary through middle-grade children. Topics include the importance of literacy, learning styles, skills assessment, various reading and writing approaches and instructional strategies. Upon completion, students should be able to assess, plan, implement and evaluate school-age literacy experiences as related to the North Carolina Standard Course of Study.

		Class	Lab	Work/ Clinical	Credit
EDU 282	**Early Childhood Literature**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: DRE 098
This course covers the history, selection, and integration of literature and language in the early childhood curriculum. Topics include the history and selection of developmentally appropriate children's literature and the use of books and other media to enhance language and literacy in the classroom. Upon completion, students should be able to select appropriate books for storytelling, reading aloud, puppetry, flannel board use, and other techniques.

		Class	Lab	Work/ Clinical	Credit
EDU 284	**Early Child Capstone Practices**	**1**	**9**	**0**	**4**

Prerequisites: EDU 119, EDU 144, EDU 145, EDU 146, EDU 151
Corequisites: DRE 098
This course is designed to allow students to apply skills in a three star (minimum) or NAEYC accredited or equivalent, quality early childhood environment. Emphasis is placed on designing, implementing and evaluating developmentally appropriate activities and environments for all children; supporting/involving families; and modeling reflective and professional practices. Upon completion, students should be able to demonstrate developmentally appropriate plans/assessments, appropriate guidance techniques and ethical/professional behaviors as indicated by assignments and onsite faculty visits.

		Class	Lab	Work/ Clinical	Credit
EDU 285	**Internship Experiences-School Age**	**1**	**9**	**0**	**4**

Prerequisites: EDU 144, EDU 145, EDU 163, EDU 216
Corequisites: DRE 098
This course is designed to allow students to apply skills in a quality public or private school environment. Emphasis is placed on designing, implementing and evaluating developmentally appropriate activities and environments for all children; supporting/involving families; and modeling reflective and professional practices. Upon completion, students should be able to demonstrate developmentally appropriate lesson plans/assessments, appropriate guidance techniques, ethical/professional behaviors as indicated by assignments and onsite faculty visits.

EDU 289	**Advanced Issues/School Age**	**2**	**0**	**0**	**2**

Prerequisites: None
Corequisites: DRE 098
This course covers advanced topics and issues that relate to school-age programs. Emphasis is placed on current advocacy issues, emerging technology, professional growth, ethics, and organizations for providers/teachers working with school-age populations. Upon completion, students should be able to list, discuss, and explain advanced current topics and issues surrounding school-aged populations.

EGR 250	**Statics/Strength of Materials**	**4**	**3**	**0**	**5**

Prerequisites: MAT 171
Corequisites: None
This course includes vector analysis, equilibrium of force systems, friction, sectional properties, stress/strain, and deformation. Topics include resultants and components of forces, moments and couples, free-body diagrams, shear and moment diagrams, trusses, frames, beams, columns, connections, and combined stresses. Upon completion, students should be able to analyze simple structures.

EGR 285	**Design Project**	**0**	**4**	**0**	**2**

Prerequisites: ELN 133, ELN 260, ELN 131
Corequisites: None
This course provides the opportunity to design an instructor-approved project using previously acquired skills. Emphasis is placed on selection, proposal, design, testing, and documentation of the approved project. Upon completion, students should be able to present and demonstrate projects.

ELC 112	**DC/AC Electricity**	**3**	**6**	**0**	**5**

Prerequisites: DMA 010
Corequisites: None
This course introduces the fundamental concepts of and computations related to DC/AC electricity. Emphasis is placed on DC/AC circuits, components, operation of test equipment; and other related topics. Upon completion students should be able to construct, verify, and analyze simple DC/AC circuits.

		Class	Lab	Work/ Clinical	Credit
ELC 113	**Residential Wiring**	**2**	**6**	**0**	**4**

Prerequisites: ELC 112
Corequisites: None
This course introduces the care/usage of tools and materials used in residential electrical installations and the requirements of the National Electrical Code. Topics include NEC, electrical safety, and electrical print reading; planning; layout; and installation of electrical distribution equipment; lighting; overcurrent protection; conductors; branch circuits; and conduits. Upon completion, students should be able to properly install conduits, wiring, and electrical distribution equipment associated with residential electrical installations.

ELC 114	**Commercial Wiring**	**2**	**6**	**0**	**4**

Prerequisites: ELC 113
Corequisites: None
This course provides additional instruction in the application of electrical tools, materials, and test equipment associated with commercial electrical installations. Topics include the NEC; safety; electrical blueprints; planning, layout, and installation of equipment and conduits; and wiring devices such as panels and overcurrent devices. Upon completion, students should be able to properly install equipment and conduit associated with commercial electrical installations.

ELC 117	**Motors and Controls**	**2**	**6**	**0**	**4**

Prerequisites: ELC 112 or ELC 131
Corequisites: None
This course introduces the fundamental concepts of motors and motor controls. Topics include ladder diagrams, pilot devices, contactors, motor starters, motors, and other control devices. Upon completion, students should be able to properly select, connect, and troubleshoot motors and control circuits.

ELC 118	**National Electric Code**	**1**	**2**	**0**	**2**

Prerequisites: None
Corequisites: DRE 096 or RED 070
This course covers the use of the current National Electrical Code. Topics include the NEC history, wiring methods, overcurrent protection, materials, and other related topics. Upon completion, students should be able to effectively use the NEC.

ELC 119	**NEC Calculations**	**1**	**2**	**0**	**2**

Prerequisites: DMA 010
Corequisites: None
This course covers branch circuit, feeder, and service calculations. Emphasis is placed on sections of the National Electrical Code related to calculations. Upon completion, students should be able to use appropriate code sections to size wire, conduit, and overcurrent devices for branch circuits, feeders, and service.

		Class	Lab	Work/ Clinical	Credit
ELC 120	**Introduction to Wiring**	**2**	**2**	**0**	**3**

Prerequisites: None
Corequisites: None
This course is an introduction to wiring concepts for non-electricians. Topics include safety, tools, materials, techniques and terminology associated with electrical wiring. Upon completion, students should be able to use and/or identify wiring tools, materials and procedures at an introductory level.

ELC 125	**Diagrams and Schematics**	**1**	**2**	**0**	**2**

Prerequisites: None
Corequisites: None
This course covers the interpretation of electrical diagrams, schematics, and drawings common to electrical applications. Emphasis is placed on reading and interpreting electrical diagrams and schematics. Upon completion, students should be able to read and interpret electrical diagrams and schematics.

ELC 128	**Intro to PLC**	**2**	**3**	**0**	**3**

Prerequisites: ELC 112 or ELC 131
Corequisites: None
This course introduces the programmable logic controller (PLC) and its associated applications. Topics include ladder logic diagrams, input/output modules, power supplies, surge protection, selection/installation of controllers, and interfacing of controllers with equipment. Upon completion, students should be able to understand basic PLC systems and create simple programs.

ELC 131	**Circuit Analysis I**	**3**	**3**	**0**	**4**

Prerequisites: DMA 010-050 or MAT 070
Corequisites: DRE 096 or ENG 080 and RED 080
This course introduces DC and AC electricity with an emphasis on circuit analysis, measurements, and operation of test equipment. Topics include DC and AC principles, circuit analysis laws and theorems, components, test equipment operation, circuit simulation, and other related topics. Upon completion, students should be able to interpret circuit schematics; design, construct, verify, and analyze DC/AC circuits; and properly use test equipment.

ELC 134	**Transformer Applications**	**1**	**2**	**0**	**2**

Prerequisites: ELC 112
Corequisites: None
This course covers single- and three-phase transformer applications as found in industrial/commercial buildings and machinery. Topics include transformer principles, single- and three-phase calculations, and connections. Upon completion, students should be able to understand single-and three-phase transformers, make transformer connections, and make calculations.

		Class	Lab	Work/ Clinical	Credit
ELC 213	**Instrumentation**	**3**	**2**	**0**	**4**

Prerequisites: ELC 112 or ELC 131
Corequisites: None
This course covers the fundamentals of instrumentation used in industry. Emphasis is placed on electric, electronic, and other instruments. Upon completion, students should be able to install, maintain, and calibrate instrumentation.

ELN 131	**Analog Electronics I**	**3**	**3**	**0**	**4**

Prerequisites: ELC 131
Corequisites: None
This course introduces the characteristics and applications on semiconductor devices and circuits. Emphasis is placed on analysis, selection, biasing, and applications. Upon completion, students should be able to construct, analyze, verify, and troubleshoot analog circuits using appropriate techniques and test equipment.

ELN 132	**Analog Electronics II**	**3**	**3**	**0**	**4**

Prerequisites: ELN 131
Corequisites: None
This course covers additional applications of analog electronic circuits with an emphasis on analog and mixed signal integrated circuits (IC). Topics include amplification, filtering, oscillation, voltage regulation, and other analog circuits. Upon completion, students should be able to construct, analyze, verify and troubleshoot analog electronic circuits using appropriate techniques and test equipment.

ELN 133	**Digital Electronics**	**3**	**3**	**0**	**4**

Prerequisites: ELC 112 or ELC 131
Corequisites: None
This course covers combinational and sequential logic circuits. Topics include number systems, Boolean algebra, logic families, medium scale integration (MSI) and large scale integration (LSI) circuits, analog to digital (AD) and digital to analog (DA) conversion, and other related topics. Upon completion, students should be able to construct, analyze, verify, and troubleshoot digital circuits using appropriate techniques and test equipment.

ELN 229	**Industrial Electronics**	**3**	**3**	**0**	**4**

Prerequisites: ELC 112 or ELC 131
Corequisites: None
This course covers semiconductor devices used in industrial applications. Topics include the basic theory, application, and operating characteristics of semiconductor devices. Upon completion, students should be able to construct and/or troubleshoot these devices for proper operation in an industrial electronic circuit.

		Class	Lab	Clinical	Work/ Credit
ELN 231	**Industrial Controls**	**2**	**3**	**0**	**3**

Prerequisites: ELC 131
Corequisites: None
This course introduces the fundamental concepts of control of rotating machinery and associated peripheral devices. Topics include rotating machine theory, ladder logic, electromechanical and solid state relays, motor controls, pilot devices, three-phase power systems, and other related topics. Upon completion, students should be able to interpret schematics and demonstrate an understanding of electromechanical and electronic control of rotating machinery.

ELN 232	**Introduction to Microprocessors**	**3**	**3**	**0**	**4**

Prerequisites: ELN 133
Corequisites: None
This course introduces microprocessor architecture and microcomputer systems including memory and input/output interfacing. Topics include low-level language programming, bus architecture, I/O systems, memory systems, interrupts, and other related topics. Upon completion, students should be able to interpret, analyze, verify, and troubleshoot fundamental microprocessor circuits and programs using appropriate techniques and test equipment.

ELN 260	**Programmable Logic Controllers**	**3**	**3**	**0**	**4**

Prerequisites: ELC 112 or ELC 131
Corequisites: None
This course provides a detailed study of PLC applications, with a focus on design of industrial controls using the PLC. Topics include PLC components, memory organization, math instructions, documentation, input/output devices, and applying PLCs in industrial control systems. Upon completion, students should be able to select and program a PLC system to perform a wide variety of industrial control functions.

ENG 111	**Writing and Inquiry**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: ACA 115 or ACA 122
This course is designed to develop the ability to produce clear writing in a variety of genres and formats using a recursive process. Emphasis includes inquiry, analysis, effective use of rhetorical strategies, thesis development, audience awareness, and revision. Upon completion, students should be able to produce unified, coherent, well-developed essays using standard written English. *Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for English Composition in A.A. and A.S. degree programs. This course has been approved to meet the communications requirement in A.A.S. degree programs.*

		Class	Lab	Work/ Clinical	Credit
ENG 112	**Writing/Research in the Disciplines**	**3**	**0**	**0**	**3**

Prerequisites: ENG 111
Corequisites: None
This course, the second in a series of two, introduces research techniques, documentation styles, and writing strategies. Emphasis is placed on analyzing information and ideas and incorporating research findings into documented writing and research projects. Upon completion, students should be able to evaluate and synthesize information from primary and secondary sources using documentation appropriate to various disciplines.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for English Composition in A.A. and A.S. degree programs. This course has been approved to meet the communications requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
ENG 125	**Creative Writing I**	**3**	**0**	**0**	**3**

Prerequisites: ENG 111
Corequisites: None
This course is designed to provide students with the opportunity to practice the art of creative writing. Emphasis is placed on writing, fiction, poetry, and sketches. Upon completion, students should be able to craft and critique their own writing and critique the writing of others.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs. This course has been approved to meet the humanities/fine arts requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
ENG 131	**Introduction to Literature**	**3**	**0**	**0**	**3**

Prerequisites: ENG 111
Corequisites: ENG 112 or ENG 113 or ENG 114
This course introduces the principal genres of literature. Emphasis is placed on literary terminology, devices, structure, and interpretation. Upon completion, students should be able to analyze and respond to literature.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A., A.S., and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
ENG 231	**American Literature I**	**3**	**0**	**0**	**3**

Prerequisites: ENG 112 or ENG 113 or ENG 114
Corequisites: None
This course covers selected works in American Literature from its beginnings to 1865. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to analyze and interpret literary works in their historical and cultural contexts.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for humanities/fine arts in A.A. and A.S. degree programs. This course has been approved to meet the humanities/fine arts requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
ENG 232	**American Literature II**	**3**	**0**	**0**	**3**

Prerequisites: ENG 112 or ENG 113, or ENG 114
Corequisites: None
This course covers selected works in American literature from 1865 to the present. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to analyze and interpret literary works in their historical and cultural contexts.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for humanities/fine arts in A.A. and A.S. degree programs. This course has been approved to meet the humanities/fine arts requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
ENG 233	**Major American Writers**	**3**	**0**	**0**	**3**

Prerequisites: ENG 112 or ENG 113 or ENG 114
Corequisites: None
This course provides an intensive study of the works of several major American authors. Emphasis is placed on American history, culture, and the literary merits. Upon completion, students should be able to interpret, analyze, and evaluate the works studied.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A., A.S., and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
ENG 241	**British Literature I**	**3**	**0**	**0**	**3**

Prerequisites: ENG 112 or ENG 113 or ENG 114
Corequisites: None
This course covers selected works in British literature from its beginnings to the Romantic Period. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for humanities/fine arts in A.A. and A.S. degree programs. This course has been approved to meet the humanities/fine arts requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
ENG 242	**British Literature II**	**3**	**0**	**0**	**3**

Prerequisites: ENG 112 or ENG 113 or ENG 114
Corequisites: None
This course covers selected works in British literature from the Romantic Period to the present. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for humanities/fine arts in A.A. and A.S. degree programs. This course has been approved to meet the humanities/fine arts requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
ENG 243	**Major British Writers**	**3**	**0**	**0**	**3**

Prerequisites: ENG 112 or ENG 113 or ENG 114
Corequisites: None
This course provides an intensive study of the works of several major British authors. Emphasis is placed on British history, culture, and the literary merits. Upon completion, students should be able to interpret, analyze, and evaluate the works studied.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A., A.S., and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
ENG 261	**World Literature I**	**3**	**0**	**0**	**3**

Prerequisites: ENG 112 or ENG 113 or ENG 114
Corequisites: None
This course introduces selected works from the Pacific, Asia, Africa, Europe, and the Americas from their literary beginnings through the seventeenth century. Emphasis is placed on historical background, cultural contexts, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to selected works.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for humanities/fine arts in A.A. and A.S. degree programs. This course has been approved to meet the humanities/fine arts requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
ENG 262	**World Literature II**	**3**	**0**	**0**	**3**

Prerequisites: ENG 112 or ENG 113 or ENG 114
Corequisites: None
This course introduces selected works from the Pacific, Asia, Africa, Europe, and the Americas from the eighteenth century to the present. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to selected works.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for humanities/fine arts in A.A. and A.S. degree programs. This course has been approved to meet the humanities/fine arts requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
ENG 272	**Southern Literature**	**3**	**0**	**0**	**3**

Prerequisites: ENG 112 or ENG 113 or ENG 114
Corequisites: None
This course provides an analytical study of the works of several Southern authors. Emphasis is placed on the historical and cultural contexts, themes, aesthetic features of individual works, and biographical backgrounds of the authors. Upon completion, students should be able to interpret, analyze, and discuss selected works.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs. This course has been approved to meet the humanities/fine arts requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
ENG 273	**African-American Literature**	**3**	**0**	**0**	**3**

Prerequisites: ENG 112 or ENG 113 or ENG 114
Corequisites: None
This course provides a survey of the development of African-American literature from its beginnings to the present. Emphasis is placed on historical and cultural context, themes, literary traditions, and backgrounds of the authors. Upon completion, students should be able to interpret, analyze, and respond to selected texts.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs. This course has been approved to meet the humanities/fine arts requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
EUS 110	**Intro to Electric Utility Industry**	**3**	**3**	**0**	**4**

Prerequisites: DMA 010-080 or MAT 080, DRE 098 or ENG 090 and RED 090
Corequisites: None
This course provides the student with an overview of the electric (power) utility industry. Topics include electric utility regulation and its scope, regulatory agencies and codes, general safety, electric system overview, electric generation, electric transmission, and electric distribution. Upon completion, students should be able to understand the need for electric utilities, their structure, and regulatory requirements on electric utilities.

		Class	Lab	Work/ Clinical	Credit
EUS 130	**Electric Utility Print Reading**	**3**	**2**	**0**	**4**

Prerequisites: ELC 131 and EUS 110
Corequisites: None
This course introduces the basic principles of reading electrical drawings used in the utility industry. Topics include functional diagrams, AC and DC control schematics, wiring diagrams, control wiring diagrams, and logic diagrams. Upon completion, the student should be able understand the purpose of each type of drawing and answer questions based on the information in the drawings.

		Class	Lab	Work/ Clinical	Credit
EUS 210	**Large High Voltage Power Transformers I**	**2**	**3**	**0**	**3**

Prerequisites: EUS 110
Corequisites: None
This course introduces the fundamentals of large power transformers used in the electrical utility industry with emphasis on function and criticality. Topics include understanding the various designs, load calculations, dissolved gas analysis, assembly, commissioning tests, available accessories, bushings, maintenance, and trouble shooting. Upon completion, students should be able to identify the various winding configurations and connections, interpret nameplate information, and perform various tests on transformers.

		Class	Lab	Work/ Clinical	Credit
EUS 215	**Large High Voltage Power Transformers II**	**2**	**3**	**0**	**3**

Prerequisites: EUS 210
Corequisites: None
This course covers complex electrical testing of power transformers. This course will focus primarily on the complex electrical testing of power transformers. Topics include understanding of power factor testing, winding resistance testing and trouble shooting. Upon completion, students should be able to perform various tests on transformers.

EUS 220	**High Voltage Power Circuit Breakers**	**2**	**3**	**0**	**3**

Prerequisites: ELC 117 or ELN 231, EUS 130
Corequisites: None
This course introduces the fundamentals of high voltage power circuit breakers used in the electrical utility industry with emphasis on function and criticality. Topics include understanding the various designs and interrupting mediums, how circuit breakers interrupt fault currents, Sulfur Hexafluoride gas (SF6), breaker timing, and maintenance. Upon completion, students should be able to identify various types of circuit breakers, interpret nameplate information, and perform various tests on these devices.

EUS 225	**Electric Utility Safety & Human Performance**	**2**	**0**	**0**	**2**

Prerequisites: EUS 110 and EUS 130
Corequisites: EUS 230
This course introduces students to the basic safe work practices and power system safety equipment which are used in utility substations and generating plants. Topics include personal safety for working on or around high voltage AC power systems up to 500 kV, procedures for clearing high voltage substation equipment, personal protective grounding and procedures for performing work in energized electric utility substations. Upon completion, students should be able to demonstrate the skills and knowledge to work on high voltage equipment/environment.

EUS 230	**Electric Utility Protective Relaying I**	**2**	**3**	**0**	**3**

Prerequisites: EUS 130
Corequisites: None
This course introduces protective relaying used in the electrical utility industry with emphasis on function and criticality. Topics include substations zones protection, transmission lines, switchyards, relays, and power line carrier components. Upon completion, students should be able to understand the purpose for various relay schemes and protective relays.

		Class	Lab	Work/ Clinical	Credit
EUS 235	**Electric Utility Protective Relaying II**	**2**	**3**	**0**	**3**

Prerequisites: EUS 230
Corequisites: None
This course provides advanced studies of protective relaying and includes single and three-phase metering principles, meter construction, and component parts. Topics include instrument transformer theory and applications, sizing instrument transformers, wiring transformers, meter installations, and electronic meter functionality. Upon completion, students should be able to describe and test overcurrent schemes, transformer differential schemes, and transmission line protection schemes.

EUS 240	**Substation Ancillary Systems**	**2**	**3**	**0**	**3**

Prerequisites: EUS 130
Corequisites: None
This course introduces many of the supporting systems used in substations and generating plant switchyards to support the operation of the electric power grid. Topics include instrument transformers, capacitor banks, reactor banks, batteries, circuit switchers, bushings, disconnect switches, and ground grids. Upon completion, the student should be able to understand the design and purpose of each of these devices and systems.

EUS 255	**Electric Utility Troubleshooting**	**1**	**3**	**0**	**2**

Prerequisites: EUS 215 and EUS 230
Corequisites: EUS 235
This course introduces a wide variety of techniques to troubleshoot electric utility substation and generating plant power system equipment. Topics include testing and troubleshooting high and medium voltage power circuit breakers, three phase high voltage power transformers, voltage regulators and circuit switchers. Upon completion, students should be able to use specialized test equipment used by electric utilities to maintain and troubleshoot power system equipment used by utility substation and generating plants.

EUS 260	**Cap & Case Studies in EUSRT**	**0**	**4**	**0**	**2**

Prerequisites: EUS 215
Corequisites: EUS 235
This course provides an opportunity for students to utilize all facets of their educational experience to solve problems common to the electric utility industry. Topics include electric utility and industry case studies, project safety, planning and organization, communication, and project documentation. Upon completion, students should be able to demonstrate the ability to complete a capstone project, concluding with a formal report.

		Class	Lab	Work/ Clinical	Credit
FRE 111	**Elementary French I**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course introduces the fundamental elements of the French language within a cultural context. Emphasis is placed on the development of basic listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written French and demonstrate cultural awareness.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A. and A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
FRE 112	**Elementary French II**	**3**	**0**	**0**	**3**

Prerequisites: FRE 111
Corequisites: None
This course is a continuation of FRE 111 focusing on the fundamental elements of the French language within a cultural context. Emphasis is placed on the progressive development of listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written French and demonstrate further cultural awareness.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A. and A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
GEL 111	**Geology**	**3**	**2**	**0**	**4**

Prerequisites: DMA 010-050 or MAT 070, DRE 098 or ENG 080 and RED 090
Corequisites: None
This course introduces basic landforms and geological processes. Topics include rocks, minerals, volcanoes, fluvial processes, geological history, plate tectonics, glaciers, and coastal dynamics. Upon completion, students should be able to describe basic geological processes that shape the earth.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for natural sciences in A.A. and A.S. degree programs. This course has been approved to meet the natural sciences requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
GEL 120	**Physical Geology**	**3**	**2**	**0**	**4**

Prerequisites: DMA 010-050 or MAT 070, DRE 098 or ENG 080 and RED 090
Corequisites: None
This course provides a study of the structure and composition of the earth's crust. Emphasis is placed on weathering, erosional and dispositional processes, mountain building forces, rocks and minerals, and structural changes. Upon completion, students should be able to explain the structure, composition, and formation of the earth's crust.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for natural sciences in A.A., A.S., and A.A.S. degree programs.

GEO 111	**World Regional Geography**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course introduces the regional concept which emphasizes the spatial association of people and their environment. Emphasis is placed on the physical, cultural, and economic systems that interact to produce the distinct regions of the earth. Upon completion, students should be able to describe variations in physical and cultural features of a region and demonstrate an understanding of their functional relationships.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for social/behavioral sciences in A.A., A.S., and A.A.S. degree programs.

GEO 112	**Cultural Geography**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course is designed to explore the diversity of human cultures and to describe their shared characteristics. Emphasis is placed on the characteristics, distribution, and complexity of earth's cultural patterns. Upon completion, students should be able to demonstrate an understanding of the differences and similarities in human cultural groups.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for social/behavioral sciences in A.A., A.S., and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
GER 111	**Elementary German I**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course introduces the fundamental elements of the German language within a cultural context. Emphasis is placed on the development of basic listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written German and demonstrate cultural awareness.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A. and A.S. degree programs.

GER 112	**Elementary German II**	**3**	**0**	**0**	**3**

Prerequisites: GER 111
Corequisites: None
This course is a continuation of GER 111 focusing on the fundamental elements of the German language within a cultural context. Emphasis is placed on the progressive development of listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written German and demonstrate further cultural awareness.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A. and A.S. degree programs.

GRO 120	**Gerontology**	**3**	**0**	**0**	**3**

Prerequisites: PSY 150
Corequisites: None
This course covers the psychological, social, and physical aspects of aging. Emphasis is placed on the factors that promote mental and physical well-being. Upon completion, students should be able to recognize the aging process and its psychological, social, and physical aspects.

HBI 110	**Issues and Trends in HBI**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: None
This course is a survey of current and emerging technology applications and data standards in the healthcare industry. Topics include the history, implementation, use, management, and impact of information technology in healthcare settings. Upon completion, students should have an understanding of the current trends and issues in healthcare informatics.

		Class	Lab	Work/ Clinical	Credit
HBI 113	**Survey of Med Insurance**	**3**	**0**	**0**	**3**

Prerequisites: BUS 110
Corequisites: None
This course is a survey of the healthcare insurance system. Emphasis is placed on the foundation necessary for understanding the healthcare delivery system, terminology and practices of healthcare insurance, and provider reimbursement. Upon completion, students should have an understanding of healthcare insurance and how outcomes are addressed through healthcare informatics.

HBI 250	**Data Mgmt and Utilization**	**2**	**2**	**0**	**3**

Prerequisites: DBA 110
Corequisites: None
This course covers the management and usage of data in healthcare settings according to current practices in healthcare informatics. Topics include data warehousing, data integrity, data security, data mining, and report generating in healthcare settings. Upon completion, students should be able to demonstrate an understanding of using healthcare data to support reporting and decision making in healthcare settings.

HEA 110	**Personal Health/Wellness**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: None
This course provides an introduction to basic personal health and wellness. Emphasis is placed on current health issues such as nutrition, mental health, and fitness. Upon completion, students should be able to demonstrate an understanding of the factors necessary to the maintenance of health and wellness.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

HEA 112	**First Aid & CPR**	**1**	**2**	**0**	**2**

Prerequisites: None
Corequisites: None
This course introduces the basics of emergency first aid treatment. Topics include rescue breathing, CPR, first aid for choking and bleeding, and other first aid procedures. Upon completion, students should be able to demonstrate skills in providing emergency care for the sick and injured until medical help can be obtained.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
HEA 120	**Community Health**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: None
This course provides information about contemporary community health and school hygiene issues. Topics include health education and current information about health trends. Upon completion students should be able to recognize and devise strategies to prevent today's community health problems. *Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.*

HIS 111	**World Civilizations I**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course introduces world history from the dawn of civilization to the early modern era. Topics include Eurasian, African, American, and Greco-Roman civilizations and Christian, Islamic and Byzantine cultures. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in pre-modern world civilizations.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for social/behavioral sciences in A.A. and A.S. degree programs. This course has been approved to meet the social/behavioral sciences requirement in A.A.S. degree programs.

HIS 112	**World Civilizations II**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course introduces world history from the early modern era to the present. Topics include the cultures of Africa, Europe, India, China, Japan, and the Americas. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in modern world civilizations.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for social/behavioral science in A.A. and A.S. degree programs. This course has been approved to meet the social/behavioral sciences requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
HIS 121	**Western Civilization I**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course introduces western civilization from pre-history to the early modern era. Topics include ancient Greece, Rome, and Christian institutions of the Middle Ages and emergence of national monarchies in western Europe. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in early western civilization.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for social/behavioral science in A.A., A.S., and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
HIS 122	**Western Civilization II**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course introduces western civilization from the early modern era to the present. Topics include the religious wars, the Industrial Revolution, World Wars I and II, and the Cold War. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in modern western civilization.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for social/behavioral science in A.A., A.S., and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
HIS 131	**American History I**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course is a survey of American history from pre-history through the Civil War era. Topics include the migrations to the Americas, the colonial and revolutionary periods, the development of the Republic, and the Civil War. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in early American history.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for social/behavioral sciences in A.A. and A.S. degree programs. This course has been approved to meet the social/behavioral sciences requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
HIS 132	**American History II**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course is a survey of American history from the Civil War era to the present. Topics include industrialization, immigration, the Great Depression, the major American wars, the Cold War, and social conflict. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in American history since the Civil War. *Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for social/behavioral sciences in A.A. and A.S. degree programs. This course has been approved to meet the social/behavioral sciences requirement in A.A.S. degree programs.*

		Class	Lab	Work/ Clinical	Credit
HIS 162	**Women and History**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course surveys the experience of women in historical perspective. Topics include the experiences and contributions of women in culture, politics, economics, science, and religion. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural contributions of women in history.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs. This course has been approved to meet the social/behavioral sciences requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
HIS 221	**African-American History**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course covers African-American history from the Colonial period to the present. Topics include African origins, the slave trade, the Civil War, Reconstruction, the Jim Crow era, the civil rights movement, and contributions of African Americans. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in the history of African Americans.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs. This course has been approved to meet the social/behavioral sciences requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
HIS 226	**The Civil War**	**3**	**0**	**0**	**3**

Prerequisites: ENG 090, RED 090
Corequisites: None
This course examines the social, political, economic, and ideological forces that led to the Civil War and Reconstruction. Topics include regional conflicts and sectionalism, dissolution of the Union, military campaigns, and the War's socioeconomic impact, aftermath, and consequences. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in the United States during the era of the Civil War.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs. This course has been approved to meet the social/behavioral sciences requirement in A.A.S. degree programs.

HIS 227	**Native American History**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course surveys the history and cultures of Native Americans from pre-history to the present. Topics include Native American civilizations, relations with Europeans, and the continuing evolution of Native American cultures. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments among Native Americans.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs. This course has been approved to meet the social/behavioral sciences requirement in A.A.S. degree programs.

HIS 236	**North Carolina History**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course is a study of geographical, political, economic, and social conditions existing in North Carolina from America's discovery to the present. Topics include native and immigrant backgrounds; colonial, antebellum, and Reconstruction periods; party politics; race relations; and the transition from an agrarian to an industrial economy. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in North Carolina.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs. This course has been approved to meet the social/behavioral sciences requirement in A.A.S. degree programs.

			Class	Lab	Work/ Clinical	Credit
HIT	**110**	**Fundamentals of HIM**	**3**	**0**	**0**	**3**

Prerequisites: DMA 010-040 or MAT 070, DRE 098 or ENG 090 and RED 090, Enrollment in HIT Program
Corequisites: HIT 112
This course introduces Health Information Management (HIM) and its role in healthcare delivery systems. Topics include standards, regulations and initiatives; payment and reimbursement systems, healthcare providers and disciplines; and electronic health records (EHRs). Upon completion, students should be able to demonstrate an understanding of health information management and healthcare organizations, professions and trends.

HIT	**112**	**Health Law and Ethics**	**3**	**0**	**0**	**3**

Prerequisites: DMA 010-040 or MAT 070, DRE 098 or ENG 090 and RED 090, Enrollment in HIT program
Corequisites: HIT 110
This course covers legislative and regulatory processes, legal terminology, and professional-related and practice-related ethical issues. Topics include confidentiality; privacy and security policies, procedures and monitoring; release of information policies and procedures; and professional-related and practice-related ethical issues. Upon completion, students should be able to apply policies and procedures for access and disclosure of Protected Health Information and apply and promote ethical standards.

HIT	**114**	**Health Data Sys/Standards**	**2**	**3**	**0**	**3**

Prerequisites: MED 121, Enrollment in HIT program
Corequisites: None
This course covers concepts and techniques for managing and maintaining manual and electronic health records (EHR). Topics include structure and use of health information including data collection and analysis, data sources/sets, archival systems, and quality and integrity of healthcare data. Upon completion, students should be able to monitor and apply system-wide clinical documentation guidelines and comply with regulatory standards.

HIT	**210**	**Healthcare Statistics**	**2**	**2**	**0**	**3**

Prerequisites: HIT 114, MAT 143
Corequisites: None
This course covers maintenance, compilation, analysis, and presentation of healthcare statistics and research protocols and techniques. Topics include basic statistical principles, indices, databases, registries, vital statistics, descriptive statistics, research protocol monitoring, Institutional Review Board processes, and knowledge-based research techniques. Upon completion, students should be able to apply, interpret, and present healthcare statistics and utilize research techniques to gather and interpret healthcare data.

		Class	Lab	Work/ Clinical	Credit
HIT 211	**ICD Coding**	**2**	**6**	**0**	**4**

Prerequisites: BIO 166, HIT 114, MED 122
Corequisites: None
This course covers ICD diagnostics and procedural coding conventions and guidelines for inpatient, outpatient and ambulatory care. Emphasis is placed on a comprehensive application of anatomy, physiology and interrelationships among organ systems. Upon completion, students should be able to accurately assign and sequence diagnostic and procedural codes for patient outcomes, statistical and reimbursement purposes.

HIT 214	**CPT/Other Coding Systems**	**1**	**3**	**0**	**2**

Prerequisites: HIT 211
Corequisites: None
This course covers application of principles and guidelines of CPT/HCPCS coding. Topics include clinical classification/nomenclature systems such as SNOMED, DSM, ICD-O and the use of encoders. Upon completion, students should be able to apply coding principles to correctly assign CPT/HCPCS codes.

HIT 215	**Reimbursement Methodology**	**1**	**2**	**0**	**2**

Prerequisites: HIT 211
Corequisites: None
This course covers reimbursement methodologies used in all healthcare settings as they relate to national billing, compliance, and reporting requirements. Topics include prospective payment systems, billing process and procedures, chargemaster maintenance, regulatory guidelines, reimbursement monitoring, and compliance strategies and reporting. Upon completion, students should be able to perform data quality reviews to validate code assignment and comply with reimbursement and reporting requirements.

HIT 216	**Quality Management**	**1**	**3**	**0**	**2**

Prerequisites: HIT 114
Corequisites: None
This course introduces principles of quality assessment and improvement, and utilization, risk, and case management, in healthcare. Topics include Continuous Quality Improvement, and case management processes, data analysis/reporting techniques, credentialing, regulatory quality monitoring requirements, and outcome measures and monitoring. Upon completion, students should be able to abstract, analyze, and report clinical data for facility-wide quality management/performance improvement programs and monitor compliance measures.

		Class	Lab	Work/ Clinical	Credit
HIT 220	**Health Informatics & EHRs**	**1**	**2**	**0**	**2**

Prerequisites: CIS 110 or CIS 111, HIT 114
Corequisites: None
This course covers EHR systems, design, implementation and application. Topics include EHR, Informatics, speech & imaging technology, information/network security & integrity, data dictionaries, modeling and warehousing. Upon completion, students should be able to facilitate usage of electronic health record systems and other technologies.

HIT 222	**Prof Practice Exp III**	**0**	**0**	**6**	**2**

Prerequisites: HIT 211
Corequisites: None
This course provides supervised clinical experience in healthcare settings. Emphasis is placed on practical application of curriculum concepts to the healthcare setting. Upon completion, students should be able to apply health information theory to healthcare facility practices.

HIT 226	**Principles of Disease**	**3**	**0**	**0**	**3**

Prerequisites: BIO 166
Corequisites: None
This course covers disease etiology and organ system involvement, including physical signs and symptoms, prognoses, and common complications and their management. Topics include basic microbiology, basic pharmacology, and principles of disease. Upon completion, students should be able to relate disease processes to etiology, physical signs and symptoms, prognosis, and common complications and their management.

HIT 280	**Professional Issues**	**2**	**0**	**0**	**2**

Prerequisites: HIT 211
Corequisites: None
This course provides a comprehensive discussion of topics common to the health information profession. Emphasis is placed on application of professional competencies, job search tools, and preparation for the certification examination. Upon completion, students should be able to demonstrate competence in entry-level domains and sub domains for health information technologies.

HMT 110	**Intro to Healthcare Management**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: None
This course introduces the functions, practices, organizational structures, and professional issues in healthcare management. Emphasis is placed on planning, controlling, directing, and communicating within health and human services organizations. Upon completion, students should be able to apply the concepts of management within a healthcare service environment.

		Class	Lab	Work/ Clinical	Credit
HMT 210	**Medical Insurance**	**3**	**0**	**0**	**3**

Prerequisites: MED 122
Corequisites: None
This course introduces the concepts of medical insurance. Topics include types and characteristics of third-party payers, coding concepts, payment systems, and manual/electronic claims form preparation. Upon completion, students should be able to process third-party claims forms.

HMT 211	**Long-Term Care Administration**	**3**	**0**	**0**	**3**

Prerequisites: HMT 110
Corequisites: None
This course introduces the administration of long-term care facilities and services. Emphasis is placed on nursing home care, home health care, hospice, skilled nursing facilities, and other long-term care services. Upon completion, students should be able to administer state and national standards and regulations as they apply to long-term care.

HMT 212	**Management of Healthcare Organizations**	**3**	**0**	**0**	**3**

Prerequisites: HMT 110
Corequisites: None
This course examines current issues affecting the management of healthcare delivery systems. Topics include current problems, changes, and challenges in the healthcare environment. Upon completion, students should be able to identify current health care issues and their impact on healthcare management.

HMT 220	**Healthcare Financial Management**	**4**	**0**	**0**	**4**

Prerequisites: ACC 121, HMT 110
Corequisites: None
This course covers the methods and techniques utilized in the financial management of healthcare programs. Topics include cost determination, pricing of services, financial statement analysis, forecasting/projections, third-party billing, reimbursement, Medicare, Medicaid, and budgeting. Upon completion, students should be able to interpret and apply the principles of financial management in a healthcare environment.

HMT 225	**Practice Management Simulation**	**2**	**2**	**0**	**3**

Prerequisites: HMT 210
Corequisites: HMT 220
This course introduces medical systems used to process and analyze information in the automated office. Emphasis is placed on daily processing of patient services, management reporting used to monitor productivity, and interactive database reporting and analysis. Upon completion, students should be able to process daily services, generate and interpret management reports and utilize key indicators for monitoring practice productivity.

		Class	Lab	Work/ Clinical	Credit
HSE 110	**Introduction to Human Services**	**2**	**2**	**0**	**3**

Prerequisites: DRE 097
Corequisites: DRE 098
This course introduces the human services field, including the history, agencies, roles, and careers. Topics include personal/professional characteristics, diverse populations, community resources, disciplines in the field, systems, ethical standards, and major theoretical and treatment approaches. Upon completion, students should be able to identify the knowledge, skills, and roles of the human services worker.

HSE 112	**Group Process I**	**1**	**2**	**0**	**2**

Prerequisites: DRE 097, Enrollment in the HSE program
Corequisites: DRE 098
This course introduces interpersonal concepts and group dynamics. Emphasis is placed on self-awareness facilitated by experiential learning in small groups with analysis of personal experiences and the behavior of others. Upon completion, students should be able to show competence in identifying and explaining how people are influenced by their interactions in group settings.

HSE 123	**Interviewing Techniques**	**2**	**2**	**0**	**3**

Prerequisites: DRE 097
Corequisites: DRE 098
This course covers the purpose, structure, focus, and techniques employed in effective interviewing. Emphasis is placed on observing, attending, listening, responding, recording, and summarizing of personal histories with instructor supervision. Upon completion, students should be able to perform the basic interviewing skills needed to function in the helping relationship.

HSE 125	**Counseling**	**2**	**2**	**0**	**3**

Prerequisites: PSY 150
Corequisites: None
This course covers the major approaches to psychotherapy and counseling, including theory, characteristics, and techniques. Emphasis is placed on facilitation of self-exploration, problem solving, decision making, and personal growth. Upon completion, students should be able to understand various theories of counseling and demonstrate counseling techniques.

HSE 127	**Conflict Resolution**	**2**	**2**	**0**	**3**

Prerequisites: None
Corequisites: None
This course introduces conflict resolution and mediation theory and practice. Emphasis is placed on achieving compromise and a win/win perception. Upon completion, students should be able to demonstrate competence in identifying seemingly dissimilar positions and facilitating agreement.

		Class	Lab	Work/ Clinical	Credit
HSE 155	**Community Resources Management**	**2**	**0**	**0**	**2**

Prerequisites: DRE 097
Corequisites: DRE 098
This course focuses on the working relationships between human services agencies and the community. Emphasis is placed on identification and observation of community resources which contribute to the achievement of the human services mission. Upon completion, students should be able to demonstrate knowledge about mobilizing of community resources, marshaling public support, and determining appropriate sources of funding.

HSE 210	**Human Services Issues**	**2**	**0**	**0**	**2**

Prerequisites: Successful completion of 12 SHC in the HSE major courses
Corequisites: None
This course covers current issues and trends in the field of human services. Emphasis is placed on contemporary topics with relevance to special issues in a multifaceted field. Upon completion, students should be able to integrate the knowledge, skills, and experiences gained in classroom and clinical experiences with emerging trends in the field.

HSE 220	**Case Management**	**2**	**2**	**0**	**3**

Prerequisites: HSE 110
Corequisites: None
This course covers the variety of tasks associated with professional case management. Topics include treatment planning, needs assessment, referral procedures, and follow-up and integration of services. Upon completion, students should be able to effectively manage the care of the whole person from initial contact through termination of services.

HSE 225	**Crisis Intervention**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course introduces the basic theories and principles of crisis intervention. Emphasis is placed on identifying and demonstrating appropriate and differential techniques for intervening in various crisis situations. Upon completion, students should be able to assess crisis situations and respond appropriately.

HSE 227	**Children & Adolescents in Crisis**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course covers the crises affecting children and adolescents in contemporary society. Emphasis is placed on abuse and neglect, suicide and murder, dysfunctional family living, poverty, and violence. Upon completion, students should be able to identify and discuss intervention strategies and available services for the major contemporary crises affecting children and adolescents.

		Class	Lab	Work/ Clinical	Credit
HSE 242	**Family Systems**	**3**	**0**	**0**	**3**

Prerequisites: PSY 150 or SOC 210
Corequisites: None
This course introduces the concepts of family structure as a system and includes the impact of contemporary society on the family. Topics include systems theory, family structure, blended families, divorce, adoption, and the elderly. Upon completion, students should be able to demonstrate and understanding of families as a system and the impact of change on family structure.

HSE 250	**Financial Services**	**2**	**0**	**0**	**2**

Prerequisites: DRE 097
Corequisites: DRE 098
This course introduces those agencies that provide income maintenance casework services. Emphasis is placed on qualifying applicants for a variety of economic assistant programs offered by human services agencies. Upon completion, students should be able to make a factual and objective assessment of a client's economic situation to qualify them for economic assistance.

HSE 251	**Activities Therapy**	**2**	**2**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course introduces skills and techniques used in recreation and leisure activities to enhance the lives of special populations. Emphasis is placed on music, art, and recreational therapy. Upon completion, students should be able to define, plan, and adapt recreational activities for selected groups and individuals.

HSE 255	**Health Problems & Prevention**	**2**	**2**	**0**	**3**

Prerequisites: None
Corequisites: None
This course surveys a range of health problems and issues, including the development of prevention strategies. Topics include teen pregnancy, HIV/AIDS, tuberculosis, communicable diseases, professional burnout, substance abuse, and sexually transmitted diseases. Upon completion, students should be able to identify health issues and demonstrate prevention strategies.

HUM 110	**Technology and Society**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course considers technological change from historical, artistic, and philosophical perspectives and its effect on human needs and concerns. Emphasis is placed on the causes and consequences of technological change. Upon completion, students should be able to critically evaluate the implications of technology.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A., A.S., and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
HUM 115	**Critical Thinking**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course introduces the use of critical thinking skills in the context of human conflict. Emphasis is placed on evaluating information, problem solving, approaching cross-cultural perspectives, and resolving controversies and dilemmas. Upon completion, students should be able to demonstrate orally and in writing the use of critical thinking skills in the analysis of appropriate texts.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A., A.S., and A.A.S. degree programs.

HUM 120	**Cultural Studies**	**3**	**0**	**0**	**3**

Prerequisites: DRE 097
Corequisites: DRE 098
This course introduces the distinctive features of a particular culture. Topics include art, history, music, literature, politics, philosophy, and religion. Upon completion, students should be able to appreciate the unique character of the study culture.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A., A.S., and A.A.S. degree programs.

HUM 122	**Southern Culture**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course explores the major qualities that make the South a distinct region. Topics include music, politics, literature, art, religion, race relations, and the role of social class in historical and contemporary contexts. Upon completion, students should be able to identify the characteristics that distinguish Southern culture.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A., A.S., and A.A.S. degree programs.

HUM 130	**Myth in Human Culture**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098
Corequisites: None
This course provides an in-depth study of myths and legends. Topics include the varied sources of myths and their influence on the individual and society within diverse cultural contexts. Upon completion, students should be able to demonstrate a general familiarity with myths and a broad-based understanding of the influence of myths and legends on modern culture.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A., A.S., and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
HUM 150	**American Women's Studies**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course provides an inter-disciplinary study of the history, literature, and social roles of American women from Colonial times to the present. Emphasis is placed on women's roles as reflected in American language usage, education, law, the workplace, and mainstream culture. Upon completion, students should be able to identify and analyze the roles of women as reflected in various cultural forms.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A., A.S., and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
HUM 160	**Introduction to Film**	**2**	**2**	**0**	**3**

Prerequisites: DRE 098
Corequisites: None
This course introduces the fundamental elements of film artistry and production. Topics include film styles, history, and production techniques, as well as the social values reflected in film art. Upon completion, students should be able to critically analyze the elements covered in relation to selected films.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A., A.S., and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
HUM 211	**Humanities I**	**3**	**0**	**0**	**3**

Prerequisites: ENG 111
Corequisites: None
This course introduces the humanities as a record in literature, music, art, history, religion, and philosophy of humankind's answers to the fundamental questions of existence. Emphasis is placed on the interconnectedness of various aspects of cultures from ancient through early modern times. Upon completion, students should be able to identify significant figures and cultural contributions of the periods studied.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A., A.S., and A.A.S. degree programs.

		Class	Lab	Clinical	Work/ Credit
HUM 212	**Humanities II**	**3**	**0**	**0**	**3**

Prerequisites: ENG 111
Corequisites: None
This course introduces the humanities as a record in literature, music, art, history, religion, and philosophy of humankind's answers to the fundamental questions of existence. Emphasis is placed on the interconnectedness of various aspects of cultures from early modern times to the present. Upon completion, students should be able to identify significant figures and cultural contributions of the periods studied.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A., A.S., and A.A.S. degree programs.

HYD 110	**Hydraulics/Pneumatics I**	**2**	**3**	**0**	**3**

Prerequisites: DMA 010-030 or MAT 060
Corequisites: None
This course introduces the basic components and functions of hydraulic and pneumatic systems. Topics include standard symbols, pumps, control valves, control assemblies, actuators, FRL, maintenance procedures, and switching and control devices. Upon completion, students should be able to understand the operation of a fluid power system, including design, application, and troubleshooting.

HYD 180	**Fluid Power in Automation**	**2**	**3**	**0**	**3**

Prerequisites: None
Corequisites: None
This course introduces the basic components and functions of hydraulic and pneumatic systems and their application to automated machinery. Topics include standard symbols, compressors, control valves, control circuits, actuators, maintenance procedures, switching and control devices as applied to automated machinery. Upon completion, students should be able to demonstrate an understanding of the operation of hydraulic fluid and compressed air and vacuum systems including design, troubleshooting, and applications.

INT 110	**International Business**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course provides an overview of the environment, concepts, and basic differences involved in international business. Topics include forms of foreign involvement, international trade theory, governmental influences on trade and strategies, international organizations, multinational corporations, personnel management, and international marketing. Upon completion, students should be able to describe the foundation of international business.

		Class	Lab	Work/ Clinical	Credit
ISC 112	**Industrial Safety**	**2**	**0**	**0**	**2**

Prerequisites: None
Corequisites: None
This course introduces the principles of industrial safety. Emphasis is placed on industrial safety and OSHA regulations. Upon completion, students should be able to demonstrate knowledge of a safe working environment and OSHA compliance.

ISC 132	**Manufacturing Quality Control**	**2**	**3**	**0**	**3**

Prerequisites: None
Corequisites: None
This course introduces quality concepts and techniques used in industry. Topics include elementary statistics and probability, process control, process capability, and quality improvement tools. Upon completion, students should be able to demonstrate an understanding of the concepts and principles of quality and apply them to the work environment.

MAC 111	**Machining Technology I**	**2**	**12**	**0**	**6**

Prerequisites: None
Corequisites: None
This course introduces machining operations as they relate to the metalworking industry. Topics include machine shop safety, measuring tools, lathes, drilling machines, saws, milling machines, bench grinders, and layout instruments. Upon completion, students should be able to safely perform the basic operations of measuring, layout, drilling, sawing, turning, and milling.

MAC 112	**Machining Technology II**	**2**	**12**	**0**	**6**

Prerequisites: MAC 111
Corequisites: None
This course provides additional instruction and practice in the use of precision measuring tools, lathes, milling machines, and grinders. Emphasis is placed on setup and operation of machine tools including the selection and use of work holding devices, speeds, feeds, cutting tools, and coolants. Upon completion, students should be able to perform basic procedures on precision grinders and advanced operations of measuring, layout, drilling, sawing, turning, and milling.

MAC 113	**Machining Technology III**	**2**	**12**	**0**	**6**

Prerequisites: MAC 112
Corequisites: None
This course provides an introduction to advanced and special machining operations. Emphasis is placed on working to specified tolerances with special and advanced setups. Upon completion, students should be able to produce a part to specifications.

		Class	Lab	Work/ Clinical	Credit
MAC 114	**Introduction to Metrology**	**2**	**0**	**0**	**2**

Prerequisites: None
Corequisites: None
This course introduces the care and use of precision measuring instruments. Emphasis is placed on the inspection of machine parts and use of a wide variety of measuring instruments. Upon completion, students should be able to demonstrate the correct use of measuring instruments.

MAC 122	**CNC Turning**	**1**	**3**	**0**	**2**

Prerequisites: MAC 111 or MEC 111
Corequisites: None
This course introduces the programming, setup, and operation of CNC turning centers. Topics include programming formats, control functions, program editing, part production, and inspection. Upon completion, students should be able to manufacture simple parts using CNC turning centers.

MAC 124	**CNC Milling**	**1**	**3**	**0**	**2**

Prerequisites: MAC 111 or MEC 111
Corequisites: None
This course introduces the manual programming, setup, and operation of CNC machining centers. Topics include programming formats, control functions, program editing, part production, and inspection. Upon completion, students should be able to manufacture simple parts using CNC machining centers.

MAC 151	**Machining Calculations**	**1**	**2**	**0**	**2**

Prerequisites: None
Corequisites: None
This course introduces basic calculations as they relate to machining occupations. Emphasis is placed on basic calculations and their applications in the machine shop. Upon completion, students should be able to perform basic shop calculations.

		Class	Lab	Work/ Clinical	Credit
MAT 143	**Quantitative Literacy**	**2**	**2**	**0**	**3**

Prerequisites: DMA 010-050, DRE 098
Corequisites: ACA 115 or ACA 122
This course is designed to engage students in complex and realistic situations involving the mathematical phenomena of quantity, change and relationship, and uncertainty through project- and activity-based assessment. Emphasis is placed on authentic contexts which will introduce the concepts of numeracy, proportional reasoning, dimensional analysis, rates of growth, personal finance, consumer statistics, practical probabilities, and mathematics for citizenship. Upon completion, students should be able to utilize quantitative information as consumers and to make personal, professional, and civic decisions by decoding, interpreting, using, and communicating quantitative information found in modern media and encountered in everyday life.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for mathematics in the A.A. degree program. This course has been approved to meet the mathematics requirement in A.A.S. degree programs.

MAT 152	**Statistical Methods I**	**3**	**2**	**0**	**4**

Prerequisites: DMA 010-050, DRE 098
Corequisites: None
This course provides a project-based approach to introductory statistics with an emphasis on using real-world data and statistical literacy. Topics include descriptive statistics, correlation and regression, basic probability, discrete and continuous probability distributions, confidence intervals and hypothesis testing. Upon completion, students should be able to use appropriate technology to describe important characteristics of a data set, draw inferences about a population from sample data, and interpret and communicate results.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for mathematics in the A.A. degree program. This course has been approved to meet the mathematics requirement in A.A.S. degree programs.

MAT 167	**Discrete Mathematics**	**3**	**0**	**0**	**3**

Prerequisites: MAT 171
Corequisites: None
This course is a study of discrete mathematics with emphasis on applications. Topics include number systems, combinations/permutations, mathematical logic/proofs, sets/counting, Boolean algebra, mathematical induction, trees/graphs, and algorithms. Upon completion, students should be able to demonstrate competence in the topics covered.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
MAT 171	**Precalculus Algebra**	**3**	**2**	**0**	**4**

Prerequisites: DMA 010-080 or MAT 080
Corequisites: None
This course is designed to develop topics which are fundamental to the study of Calculus. Emphasis is placed on solving equations and inequalities, solving systems of equations and inequalities, and analysis of functions (absolute value, radical, polynomial, rational, exponential, and logarithmic) in multiple representations. Upon completion, students should be able to select and use appropriate models and techniques for finding solutions to algebra-related problems with and without technology.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for mathematics in A.A. and A.S. degree programs. This course has been approved to meet the mathematics requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
MAT 172	**Precalculus Trigonometry**	**3**	**2**	**0**	**4**

Prerequisites: MAT 171
Corequisites: None
This course is designed to develop an understanding of topics which are fundamental to the study of Calculus. Emphasis is placed on the analysis of trigonometric functions in multiple representations, right and oblique triangles, vectors, polar coordinators, conic sections, and parametric equations. Upon completion, students should be able to select and use appropriate models and techniques for finding solutions to trigonometry-related problems with and without technology.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for mathematics in the A.S. degree program. This course has been approved to meet the mathematics requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
MAT 271	**Calculus I**	**3**	**2**	**0**	**4**

Prerequisites: MAT 172
Corequisites: None
This course is designed to develop the topics of differential and integral calculus. Emphasis is placed on limits, continuity, derivatives and integrals of algebraic and transcendental functions of one variable. Upon completion, students should be able to select and use appropriate models and techniques for finding solutions to derivative-related problems with and without technology. *Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for mathematics in the A.S. degree program. This course has been approved to meet the mathematics requirement in A.A.S. degree programs.*

		Class	Lab	Work/ Clinical	Credit
MAT 272	**Calculus II**	**3**	**2**	**0**	**4**

Prerequisites: MAT 271
Corequisites: None
This course provides a rigorous treatment of integration and is the second calculus course in a three-course sequence. Topics include applications of definite integrals, techniques of integration, indeterminate forms, improper integrals, infinite series, conic sections, parametric equations, polar coordinates, and differential equations. Upon completion, students should be able to use integration and approximation techniques to solve application problems.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for mathematics in A.A., A.S. and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
MAT 273	**Calculus III**	**3**	**2**	**0**	**4**

Prerequisites: MAT 272
Corequisites: None
This course covers the calculus of several variables and is the third calculus course in a three-course sequence. Topics include functions of several variables, partial derivatives, multiple integrals, solid analytical geometry, vector-valued functions, and line and surface integrals. Upon completion, students should be able to solve problems involving vectors and functions of several variables.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for mathematics in A.A., A.S. and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
MAT 280	**Linear Algebra**	**3**	**0**	**0**	**3**

Prerequisites: MAT 271
Corequisites: None
This course provides a study of linear algebra topics with emphasis on the development of both abstract concepts and applications. Topics include vectors, systems of equations, matrices, determinants, vector spaces, linear transformations in two or three dimensions, eigenvectors, eigenvalues, diagonalization and orthogonality. Upon completion, students should be able to demonstrate both an understanding of the theoretical concepts and appropriate use of linear algebra models to solve application problems.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs. This course has been approved to meet the mathematics requirement for A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
MAT 285	**Differential Equations**	**3**	**0**	**0**	**3**

Prerequisites: MAT 272
Corequisites: None
This course provides an introduction to ordinary differential equations with an emphasis on applications. Topics include first-order, linear higher-order, and systems of differential equations; numerical methods; series solutions; eigenvalues and eigenvectors; Laplace transforms; and Fourier series. Upon completion, students should be able to use differential equations to model physical phenomena, solve the equations, and use the solutions to analyze the phenomena.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs. This course has been approved to meet the mathematics requirement for A.A.S. degree programs.

MEC 110	**Introduction to CAD/CAM**	**1**	**2**	**0**	**2**

Prerequisites: DMA 010-060 or MAT 070, DRE 097
Corequisites: DRE 098
This course introduces CAD/CAM. Emphasis is placed on transferring part geometry from CAD to CAM for the development of a CNC-ready program. Upon completion, students should be able to use CAD/CAM software to produce a CNC program.

MEC 111	**Machine Processes I**	**1**	**4**	**0**	**3**

Prerequisites: DMA 010-020 or MAT 060
Corequisites: None
This course introduces shop safety, hand tools, machine processes, measuring instruments, and the operation of machine shop equipment. Topics include use and care of tools, safety, measuring tools, and the basic setup and operation of common machine tools. Upon completion, students should be able to safely machine simple parts to specified tolerances.

MEC 130	**Mechanisms**	**2**	**2**	**0**	**3**

Prerequisites: DMA 010-020 or MAT 060
Corequisites: None
This course introduces the purpose and action of various mechanical devices. Topics include cams, cables, gear trains, differentials, screws, belts, pulleys, shafts, levers, lubricants, and other devices. Upon completion, students should be able to analyze, maintain, and troubleshoot the components of mechanical systems.

MEC 142	**Physical Metallurgy**	**1**	**2**	**0**	**2**

Prerequisites: MAC 111 or MEC 111
Corequisites: None
This course covers the heat treating of metals. Emphasis is placed on the effects of hardening, tempering, and annealing on the structure and physical properties of metals. Upon completion, students should be able to heat treat materials.

		Class	Lab	Work/ Clinical	Credit
MEC 161	**Manufacturing Process I**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: None
This course provides the fundamentals principles of value-added processing of materials into usable forms for the customer. Topics include material properties and traditional and non-traditional manufacturing processes. Upon completion, students should be able to specify appropriate manufacturing processing for common engineering materials.

MEC 180	**Engineering Materials**	**2**	**3**	**0**	**3**

Prerequisites: None
Corequisites: None
This course introduces the physical and mechanical properties of materials. Topics include materials testing, pre and post-manufacturing processes, and material selection of ferrous and non-ferrous metals, plastics, composites, and non-conventional materials. Upon completion, students should be able to utilize basic material property tests and select appropriate materials for applications.

MEC 270	**Machine Design**	**3**	**3**	**0**	**4**

Prerequisites: DFT 151, EGR 250, MEC 180
Corequisites: None
This course covers the basic principles and underlying design and selection of machine elements. Topics include stress analysis, selection of components, power transmission, and other design considerations. Upon completion, students should be able to identify and solve mechanical design problems by applying basic engineering principles.

MEC 271	**Machine Design Project**	**0**	**3**	**0**	**1**

Prerequisites: DFT 151, EGR 250, MEC 180
Corequisites: MEC 270
This course provides an opportunity for involvement in the practical application of machine design by development of a project. Emphasis is placed on the design and engineering processes required to complete an approved project. Upon completion, students should be able to demonstrate the ability to progress from conceptual design to completed project.

MED 110	**Orientation to Medical Assisting**	**1**	**0**	**0**	**1**

Prerequisites: DMA 010-040 or MAT 070, DRE 098 or ENG 090 and RED 090, Enrollment in Medical Assisting program
Corequisites: MED 130
This course covers the history of medicine and the role of the medical assistant in the health care setting. Emphasis is placed on professionalism, communication, attitude, behaviors, and duties in the medical environment. Upon completion, students should be able to project a positive attitude and promote the profession of medical assisting.

		Class	Lab	Work/ Clinical	Credit
MED 112	**Orientation to Clinical Setting I**	**0**	**0**	**3**	**1**

Prerequisites: MED 110, MED 118, MED 121, MED 130
Corequisites: None
This course provides an early opportunity to observe and/or perform in the medical setting. Emphasis is placed on medical assisting procedures including appointment scheduling, filing, greeting patients, telephone techniques, billing, collections, medical records, and related medical procedures. Upon completion, students should be able to identify administrative and clinical procedures in the medical environment.

MED 114	**Prof Interaction in Health Care**	**1**	**0**	**0**	**1**

Prerequisites: MED 140, Enrollment in the Medical Assisting program
Corequisites: None
This course is designed to identify various patient behaviors encountered in the medical setting. Emphasis is placed on stressors related to illness, cultural influences, death and dying, and needs specific to patients. Upon completion, students should be able to utilize appropriate methods of verbal and nonverbal communications with empathy and impartiality.

MED 118	**Medical Law and Ethics**	**2**	**0**	**0**	**2**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course covers legal relationships of physicians and patients, contractual agreements, professional liability, malpractice, medical practice acts, informed consent, and bioethical issues. Emphasis is placed on legal terms, professional attitudes, and the principles and basic concepts of ethics and laws involved in providing medical services. Upon completion, students should be able to meet the legal and ethical responsibilities of a multi-skilled health professional.

MED 121	**Medical Terminology I**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course introduces prefixes, suffixes, and word roots used in the language of medicine. Topics include medical vocabulary and the terms that relate to the anatomy, physiology, pathological conditions, and treatment of selected systems. Upon completion, students should be able to pronounce, spell, and define medical terms as related to selected body systems and their pathological disorders.

MED 122	**Medical Terminology II**	**3**	**0**	**0**	**3**

Prerequisites: MED 121
Corequisites: None
This course is the second in a series of medical terminology courses. Topics include medical vocabulary and the terms that relate to the anatomy, physiology, pathological conditions, and treatment of selected systems. Upon completion, students should be able to pronounce, spell, and define medical terms as related to selected body systems and their pathological disorders.

		Class	Lab	Work/ Clinical	Credit
MED 130	**Administrative Office Procedures I**	**1**	**2**	**0**	**2**

Prerequisites: DRE 098 or ENG 090 and RED 090, Enrollment in the Medical Assisting program
Corequisites: MED 110
This course introduces medical office administrative procedures. Topics include the appointment processing, written and oral communications, medical records, patient orientation, and safety. Upon completion, students should be able to perform basic administrative skills within the medical environment.

MED 131	**Administrative Office Procedures II**	**1**	**2**	**0**	**2**

Prerequisites: MED 130
Corequisites: MED 232
This course provides medical office procedures in both economic and management skills. Topics include physical plant maintenance, equipment and supplies, liability coverage, medical economics, and introductory insurance procedures. Upon completion, students should be able to manage the economics of the medical office and supervise personnel.

MED 140	**Exam Room Procedures I**	**3**	**4**	**0**	**5**

Prerequisites: BIO 163, MED 121, MED 122
Corequisites: None
This course provides instruction in clinical examining room procedures. Topics include asepsis, infection control, assisting with exams and treatment, patient education, preparation and administration of medications, EKG, vital signs, and medical emergencies. Upon completion, students should be able to demonstrate competence in exam room procedures.

MED 150	**Laboratory Procedures I**	**3**	**4**	**0**	**5**

Prerequisites: MED 140
Corequisites: None
This course provides instruction in basic lab techniques used by the medical assistant. Topics include lab safety, quality control, collecting and processing specimens, performing selective tests, phlebotomy, screening and follow-up of test results, and OSHA/CLIA regulations. Upon completion, students should be able to perform basic lab tests/ skills based on course topics.

MED 232	**Medical Insurance Coding**	**1**	**3**	**0**	**2**

Prerequisites: MED 121
Corequisites: MED 131
This course is designed to develop coding skills. Emphasis is placed on advanced diagnostic and procedural coding in the outpatient facility. Upon completion, students should be able to demonstrate proficiency in coding for reimbursement.

		Class	Lab	Work/ Clinical	Credit
MED 260	**MED Clinical Practicum**	**0**	**0**	**15**	**5**

Prerequisites: MED 112, MED 114, MED 150, MED 232, MED 270, MED 272
Corequisites: None
This course provides the opportunity to apply clinical, laboratory, and administrative skills in a medical facility. Emphasis is placed on enhancing competence in clinical and administrative skills necessary for comprehensive patient care and strengthening professional communications and interactions. Upon completion, students should be able to function as an entry-level health care professional.

MED 270	**Symptomatology**	**2**	**2**	**0**	**3**

Prerequisites: MED 122, MED 131, Enrollment in the Medical Assisting program
Corequisites: None
This course covers the study of disease symptoms and the appropriate actions taken by medical assistants in a medical facility in relation to these symptoms. Emphasis is placed on interviewing skills and appropriate triage, preparing patients for procedures, and screening test results. Upon completion, students should be able to recognize how certain symptoms relate to specific diseases, recognize emergency situations, and take appropriate actions.

MED 272	**Drug Therapy**	**3**	**0**	**0**	**3**

Prerequisites: MAT 143, MED 140, Enrollment in the Medical Assisting program
Corequisites: None
This course focuses on major drug groups, including their side effects, interactions, methods of administration, and proper documentation. Emphasis is placed on the theory of drug administration. Upon completion, students should be able to identify, spell, recognize side effects of, and document the most commonly used medications in a physician's office.

MED 276	**Patient Education**	**1**	**2**	**0**	**2**

Prerequisites: MED 112, MED 114, MED 150, MED 232, MED 270, MED 272
Corequisites: None
This course is designed to provide communication skills, basic education principles, and knowledge of available community resources and to apply this knowledge to the clinical setting. Emphasis is placed on identifying appropriate community resources, developing patient education materials, and perfecting written and oral communication skills. Upon completion, students should be able to instruct, communicate effectively, and act as a liaison between the patient and community agencies.

MKT 120	**Principles of Marketing**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course introduces principles and problems of marketing goods and services. Topics include promotion, placement, and pricing strategies for products. Upon completion, students should be able to apply marketing principles in organizational decision making.

		Class	Lab	Work/ Clinical	Credit
MKT 221	**Consumer Behavior**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or RED 090
Corequisites: None
This course is designed to describe consumer behavior as applied to the exchange processes involved in acquiring, consuming, and disposing of goods and services. Topics include an analysis of basic and environmental determinants of consumer behavior with emphasis on the decision-making process. Upon completion, students should be able to analyze concepts related to the study of the individual consumer.

MKT 223	**Customer Service**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or RED 090
Corequisites: None
This course stresses the importance of customer relations in the business world. Emphasis is placed on learning how to respond to complex customer requirements and to efficiently handle stressful situations. Upon completion, students should be able to demonstrate the ability to handle customer relations.

MKT 224	**International Marketing**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or RED 090
Corequisites: None
This course covers the basic concepts of international marketing activity and theory. Topics include product promotion, placement, and pricing strategies in the international marketing environment. Upon completion, students should be able to demonstrate a basic understanding of the concepts covered.

MKT 228	**Service Marketing**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or RED 090
Corequisites: None
This course is designed to define service marketing, demonstrate its importance, and note its special characteristics. Topics include basic building blocks of service marketing, distinctive aspects of services, and applications of service marketing mix. Upon completion, students should be able to demonstrate a basic understanding of the marketing mix as it applies to the service industry.

MNT 110	**Intro to Maintenance Procedures**	**1**	**3**	**0**	**2**

Prerequisites: None
Corequisites: None
This course covers basic maintenance fundamentals for power transmission equipment. Topics include equipment inspection, lubrication, alignment, and other scheduled maintenance procedures. Upon completion, students should be able to demonstrate knowledge of accepted maintenance procedures and practices according to current industry standards.

		Class	Lab	Work/ Clinical	Credit
MNT 230	**Pumps & Piping Systems**	**1**	**3**	**0**	**2**

Prerequisites: None
Corequisites: None
This course covers pump installation and maintenance and related valves and piping systems. Topics include various types of pump systems and their associated valves, piping requirements, and other related topics. Upon completion, students should be able to select and install pump and piping systems and demonstrate proper maintenance and troubleshooting procedures.

MNT 240	**Industrial Equip Troubleshooting**	**1**	**3**	**0**	**2**

Prerequisites: ELC 112 or ELC 131
Corequisites: ELC 128
This course covers the various service procedures, tools, instruments, and equipment necessary to analyze and repair typical industrial equipment. Emphasis is placed on electro-mechanical and fluid power equipment troubleshooting, calibration, and repair, including common techniques and procedures. Upon completion, students should be able to troubleshoot and repair industrial equipment.

MUS 110	**Music Appreciation**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course is a basic survey of the music of the Western world. Emphasis is placed on the elements of music, terminology, composers, form, and style within a historical perspective. Upon completion, students should be able to demonstrate skills in basic listening and understanding of the art of music.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for humanities/fine arts in A.A. and A.S. degree programs. This course has been approved to meet the humanities/fine arts requirement in A.A.S. degree programs.

NAS 101	**Nursing Assistant I**	**3**	**4**	**3**	**6**

Prerequisites: None
Corequisites: None
This course introduces basic nursing skills required to provide personal care for patients, residents, or clients in a health care setting. Topics include communications, safety, patients' rights, personal care, vital signs, elimination, nutrition, emergencies, rehabilitation, and mental health. Upon completion, students should be able to demonstrate skills necessary to qualify as a Nursing Assistant I with the North Carolina Nurse Aide I Registry.
Note: This is a certificate-level course.

		Class	Lab	Work/ Clinical	Credit
NAS 102	**Nursing Assistant II**	**3**	**2**	**6**	**6**

Prerequisites: Must have current CNA certification before clinical.
Corequisites: None
This course provides training in selected advanced nursing assistant procedures. Emphasis is placed on sterile techniques, respiratory procedures, catheterizations, wound and trach care, irrigations, and ostomy care. Upon completion, students should be able to demonstrate skills necessary to qualify as a Nursing Assistant II with the North Carolina Board of Nursing.
Note: This is a certificate-level course.

NET 125	**Networking Basics**	**1**	**4**	**0**	**3**

Prerequisites: DMA 010-050 or MAT 070, DRE 097
Corequisites: DRE 098
This course introduces the networking field. Emphasis is placed on network terminology and protocols, local-area networks, wide-area networks, OSI model, cabling, router programming, Ethernet, IP addressing, and network standards. Upon completion, students should be able to perform tasks related to networking mathematics, terminology, and models, media, Ethernet, subnetting, and TCP/IP Protocols.

NOS 110	**Operating System Concepts**	**2**	**3**	**0**	**3**

Prerequisites: None
Corequisites: None
This course introduces students to a broad range of operating system concepts, including installation and maintenance. Emphasis is place on operating system concepts, management, maintenance, and resources required. Upon completion of this course, students will have an understanding of OS concepts, installation, management, maintenance, using a variety of operating systems.

NOS 120	**Linux/UNIX Single User**	**2**	**2**	**0**	**3**

Prerequisites: NOS 110 or CET 211
Corequisites: None
This course develops the necessary skills for students to develop both GUI and command line skills for using and customizing a Linux workstation. Topics include Linux file system and access permissions, GNOME Interface, VI editor, X Window System expression pattern matching, I/O redirection, network and printing utilities. Upon completion, students should be able to customize and use Linux systems for command line requirements and desktop productivity roles.

NOS 130	**Windows Single User**	**2**	**2**	**0**	**3**

Prerequisites: NOS 110
Corequisites: None
This course introduces operating system concepts for single-user systems. Topics include hardware management, file and memory management, system configuration/optimization, and utilities. Upon completion, students should be able to perform operating systems functions at the support level in a single-user environment.

		Class	Lab	Clinical	Work/ Credit
NOS 230	**Windows Administration I**	**2**	**2**	**0**	**3**

Prerequisites: NOS 130
Corequisites: None
This course covers the installation and administration of a Windows Server network operating system. Topics include managing and maintaining physical and logical devices, access to resources, the server environment, managing users, computers, and groups, and Managing/Implementing Disaster Recovery. Upon completion, students should be able to manage and maintain a Windows Server environment.

NUR 101	**Practical Nursing I**	**7**	**6**	**6**	**11**

Prerequisites: Admission to the Practical Nursing program.
Corequisites: BIO 163
This course introduces concepts as related to the practical nurse's caregiver and discipline-specific roles. Emphasis is placed on the nursing process, legal/ethical/professional issues, wellness/illness patterns, and basic nursing skills. Upon completion, students should be able to demonstrate beginning understanding of nursing process to promote/maintain/restore optimum health for diverse clients throughout the life span.
Note: This is a diploma-level course.

NUR 102	**Practical Nursing II**	**8**	**0**	**12**	**12**

Prerequisites: NUR 101
Corequisites: None
This course includes more advanced concepts as related to the practical nurse's caregiver and discipline-specific roles. Emphasis is placed on the nursing process, delegation, cost effectiveness, legal/ethical/professional issues, and wellness/illness patterns. Upon completion, students should be able to begin participating in the nursing process to promote/maintain/restore optimum health for diverse clients throughout the life span.
Note: This is a diploma-level course.

NUR 103	**Practical Nursing III**	**6**	**0**	**12**	**10**

Prerequisites: NUR 102
Corequisites: None
This course focuses on use of nursing/related concepts by practical nurses as providers of care/members of discipline in collaboration with health team members. Emphasis is placed on the nursing process, wellness/illness patterns, entry-level issues, accountability, advocacy, professional development, evolving technology, and changing health care delivery systems. Upon completion, students should be able to use the nursing process to promote/ maintain/restore optimum health for diverse clients throughout the life span.
Note: This is a diploma-level course.

		Class	Lab	Work/ Clinical	Credit
NUR 111	**Intro to Health Concepts**	**4**	**6**	**6**	**8**

Prerequisites: Admission to the Associate Degree Nursing program
Corequisites: BIO 165, CIS 110, PSY 150
This course introduces the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts within each domain including medication administration, assessment, nutrition, ethics, interdisciplinary teams, informatics, evidence-based practice, individual-centered care, and quality improvement. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.

NUR 112	**Health-Illness Concepts**	**3**	**0**	**6**	**5**

Prerequisites: NUR 111
Corequisites: BIO 166, ENG 111, PSY 241
This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of acid-base, metabolism, cellular regulation, oxygenation, infection, stress/coping, health-wellness-illness, communication, caring interventions, managing care, safety, quality improvement, and informatics. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.

NUR 113	**Family Health Concepts**	**3**	**0**	**6**	**5**

Prerequisites: NUR 111, NUR 112, NUR 114
Corequisites: None
This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of oxygenation, sexuality, reproduction, grief/loss, mood/affect. Behaviors, development. Family, health-wellness-illness, communication, caring interventions, managing care, safety, and advocacy. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.

NUR 114	**Holistic Health Concepts**	**3**	**0**	**6**	**5**

Prerequisites: NUR 111, NUR 112
Corequisites: BIO 166, ENG 111, PSY 241
This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of cellular regulation, perfusion, inflammation, sensory perception, stress/coping, mood/affect, cognition, self, violence, health-wellness-illness, professional behaviors, caring interventions, and safety. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.

		Class	Lab	Work/ Clinical	Credit
NUR 211	**Health Care Concepts**	**3**	**0**	**6**	**5**

Prerequisites: NUR 111, NUR 112, NUR 113, NUR 114
Corequisites: BIO 275, ENG 112
This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of cellular regulation, perfusion, infection, immunity, mobility, comfort, behaviors, health-wellness-illness, clinical decision-making, caring interventions, managing care, and safety. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.

NUR 212	**Health Systems Concepts**	**3**	**0**	**6**	**5**

Prerequisites: NUR 111, NUR 112, NUR 113, NUR 114, NUR 211
Corequisites: BIO 275, ENG 112
This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of grief/loss, violence, health-wellness-illness, collaboration, managing care, safety, advocacy, legal issues, policy, healthcare systems, ethics, accountability, and evidence-based practice. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.

NUR 213	**Complex Health Concepts**	**4**	**3**	**15**	**10**

Prerequisites: NUR 111, NUR 112, NUR 113, NUR 114, NUR 211, and NUR 212
Corequisites: SOC 210
This course is designed to assimilate the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of fluid/electrolytes, metabolism, perfusion, mobility, stress/coping, violence, health-wellness-illness, professional behaviors, caring interventions, managing care, healthcare systems, and quality improvement. Upon completion, students should be able to demonstrate the knowledge, skills, and attitudes necessary to provide quality, individualized, entry level nursing care.

OST 080	**Keyboarding Literacy**	**1**	**2**	**0**	**2**

Prerequisites: None
Corequisites: None
This course is designed to develop elementary keyboarding skills. Emphasis is placed on mastery of the keyboard. Upon completion, students should be able to demonstrate basic proficiency in keyboarding.

OST 122	**Office Computations**	**1**	**2**	**0**	**2**

Prerequisites: None
Corequisites: None
This course introduces the keypad and the touch method using the electronic calculator. Topics include mathematical functions in business applications. Upon completion, students should be able to use the electronic calculator to solve a wide variety of problems commonly encountered in business.

		Class	Lab	Clinical	Work/ Credit
OST 131	**Keyboarding**	**1**	**2**	**0**	**2**

Prerequisites: 25 NWPM on keyboarding placement test
Corequisites: None
This course covers basic keyboarding skills. Emphasis is placed on the touch system, correct techniques, and development of speed and accuracy. Upon completion, students should be able to key at an acceptable speed and accuracy level using the touch system. This course also includes setting and using tabs, formatting business letters, and formatting interoffice memorandums.

OST 132	**Keyboard Skill Building**	**1**	**2**	**0**	**2**

Prerequisites: OST 131
Corequisites: None
This course is designed to increase speed and improve accuracy in keyboarding. Emphasis is placed on diagnostic tests to identify accuracy and speed deficiencies followed by corrective drills. Upon completion, students should be able to keyboard rhythmically with greater accuracy and speed.

OST 133	**Advanced Keyboard Skill Building**	**1**	**2**	**0**	**2**

Prerequisites: OST 132
Corequisites: None
This course is designed to increase speed and improve accuracy to meet employment tests and job requirements. Emphasis is placed on individualized diagnostic and prescriptive drills. Upon completion, students should be able to keyboard with greater speed and accuracy as measured by five-minute timed writings and skill-development paragraphs. This course also includes formatting, itineraries, minutes of meetings, reports with enhancements, news releases, and resumes.

OST 134	**Text Entry & Formatting**	**2**	**2**	**0**	**3**

Prerequisites: OST 131
Corequisites: OST 132
This course is designed to provide skills needed to increase speed, improve accuracy, and format documents. Topics include letters, memos, tables, and business reports. Upon completion, students should be able to produce documents and key timed writings at speeds commensurate with employability.

OST 136	**Word Processing**	**2**	**2**	**0**	**3**

Prerequisites: OST 131
Corequisites: None
This course is designed to introduce word processing concepts and applications. Topics include preparation of a variety of documents and mastery of specialized software functions. Upon completion, students should be able to work effectively in a computerized word processing environment.

		Class	Lab	Work/ Clinical	Credit
OST 137	**Office Software Applications**	**2**	**2**	**0**	**3**

Prerequisites: None
Corequisites: None
This course introduces the concepts and functions of software that meets the changing needs of the community. Emphasis is placed on the terminology and use of software through a hands-on approach. Upon completion, students should be able to use software in a business environment.

OST 164	**Text Editing Applications**	**3**	**0**	**0**	**3**

Prerequisites: OST 131
Corequisites: None
This course provides a comprehensive study of editing skills needed in the workplace. Emphasis is placed on grammar, punctuation, sentence structure, proofreading, and editing. Upon completion, students should be able to use reference materials to compose and edit text.

OST 184	**Records Management**	**2**	**2**	**0**	**3**

Prerequisites: None
Corequisites: None
This course includes the creation, maintenance, protection, security, and disposition of records stored in a variety of media forms. Topics include alphabetic, geographic, subject, and numeric filing methods. Upon completion, students should be able to set up and maintain a records management system.

OST 223	**Admin Office Transcription I**	**2**	**2**	**0**	**3**

Prerequisites: ENG 111, OST 134, OST 136, OST 164
Corequisites: None
This course provides experience in transcribing documents. Emphasis is placed on appropriate formatting, advanced text editing skills, and transcription techniques. Upon completion, students should be able to transcribe office documents.

OST 233	**Office Publications Design**	**2**	**2**	**0**	**3**

Prerequisites: OST 136
Corequisites: None
This course provides entry-level skills in using software with desktop publishing capabilities. Topics include principles of page layout, desktop publishing terminology and applications, and legal and ethical considerations of software use. Upon completion, students should be able to design and produce professional business documents and publications.

OST 236	**Advanced Word/Information Processing**	**2**	**2**	**0**	**3**

Prerequisites: OST 136
Corequisites: None
This course develops proficiency in the utilization of advanced word/information processing functions. Emphasis is placed on advanced word processing features. Upon completion, students should be able to produce a variety of complex business documents.

		Class	Lab	Work/ Clinical	Credit
OST 286	**Professional Development**	**3**	**0**	**0**	**3**

Prerequisites: ENG 111
Corequisites: None
This course covers the personal competencies and qualities needed to project a professional image in the office. Topics include interpersonal skills, health lifestyles, appearance, attitude, personal and professional growth, multicultural awareness, and professional etiquette. Upon completion, students should be able to demonstrate these attributes in the classroom, office, and society.

OST 289	**Administrative Office Management**	**2**	**2**	**0**	**3**

Prerequisites: ENG 111, OST 134, OST 136, OST 164, OST 236
Corequisites: None
This course is designed to be a capstone course for the office professional and provides a working knowledge of modern office procedures. Emphasis is placed on scheduling, telephone procedures, travel arrangements, event planning, office design, and ergonomics. Upon completion, students should be able to adapt in an office environment.

PAD 151	**Intro to Public Administration**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: None
This course includes an overview of the role of the public administrator in government and an examination of the development and implementation of public policy. Topics include public personnel administration and management, decision making, public affairs, ethics, organizational theories, budgetary functions within governmental agencies, and other governmental issues. Upon completion, students should be able to explain the functions of government in society and in the lives of people composing that society.

PAD 152	**Ethics in Government**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: None
This course introduces the ethical issues and problems within the public administration field. Emphasis is placed on building analytical skills, stimulating moral imagination, and recognizing the discretionary power of the administrator's role. Upon completion, students should be able to understand the moral dimensions of public administrative decision making.

PAD 251	**Public Finance & Budgeting**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: None
This course provides an overview of the public finance and budgeting processes used in the allocation of public resources to meet differing public interests. Topics include the political environment, government expenditures, revenues, taxation, budgetary process theories and techniques, and the relation of government finance to the economy. Upon completion, students should be able to recognize impacts of government revenue and expenditure policies and understand the role of budgeting in executing governmental policy.

		Class	Lab	Work/ Clinical	Credit
PAD 252	**Public Policy Analysis**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: None
This course is a study of methods and techniques used to determine the effectiveness of public programs. Emphasis is placed on the concept of ecology and environmental impact, informal groups and information networks, and the relationship between public and private sectors. Upon completion, students should be able to analyze case studies with the use of political analysis techniques.

PED 110	**Fit and Well for Life**	**1**	**2**	**0**	**2**

Prerequisites: None
Corequisites: None
This course is designed to investigate and apply the basic concepts and principles of lifetime physical fitness and other health-related factors. Emphasis is placed on wellness through the study of nutrition, weight control, stress management, and consumer facts on exercise and fitness. Upon completion, students should be able to plan a personal, lifelong fitness program based on individual needs, abilities, and interests.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

PED 120	**Walking for Fitness**	**0**	**3**	**0**	**1**

Prerequisites: None
Corequisites: None
This course introduces fitness through walking. Emphasis is placed on stretching, conditioning exercises, proper clothing, fluid needs, and injury prevention. Upon completion, students should be able to participate in a recreational walking program.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

PED 142	**Lifetime Sports**	**0**	**2**	**0**	**1**

Prerequisites: None
Corequisites: None
This course is designed to give an overview of a variety of sports activities. Emphasis is placed on the skills and rules necessary to participate in a variety of lifetime sports. Upon completion, students should be able to demonstrate an awareness of the importance of participating in lifetime sports activities.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
PED 210	**Team Sports**	**0**	**3**	**0**	**1**

Prerequisites: None
Corequisites: None
This course introduces the fundamentals of popular American team sports. Emphasis is placed on rules, equipment, and motor skills used in various sports. Upon completion, students should be able to demonstrate knowledge of the sports covered.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

PHI 210	**History of Philosophy**	**3**	**0**	**0**	**3**

Prerequisites: ENG 111
Corequisites: None
This course introduces fundamental philosophical issues through an historical perspective. Emphasis is placed on such figures as Plato, Aristotle, Lao-Tzu, Confucius, Augustine, Aquinas, Descartes, Locke, Kant, Wollstonecraft, Nietzsche, and Sartre. Upon completion, students should be able to identify and distinguish among the key positions of the philosophers studied. *Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A., A.S., A.A.S. degree programs.*

PHI 240	**Introduction to Ethics**	**3**	**0**	**0**	**3**

Prerequisites: ENG 111
Corequisites: None
This course introduces theories about the nature and foundations of moral judgments and applications to contemporary moral issues. Emphasis is placed on moral theories such as consequentialism, deontology, and virtue ethics. Upon completion, student should be able to apply various ethical theories to moral issues such as abortion, capital punishment, poverty, war, terrorism, the treatment of animals, and issues arising from new technologies.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for humanities/fine arts in A.A. and A.S. degree programs. This course has been approved to meet the humanities/fine arts requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
PHY 110	**Conceptual Physics**	**3**	**0**	**0**	**3**

Prerequisites: DMA 010-060 or MAT 070, DRE 098 or RED 090
Corequisites: PHY 110A
This course provides a conceptually-based exposure to the fundamental principles and processes of the physical world. Topics include basic concepts of motion, forces, energy, heat, electricity, magnetism, and the structure of matter and the universe. Upon completion, students should be able to describe examples and applications of the principles studied.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for natural sciences in A.A. and A.S. degree programs. This course has been approved to meet the natural sciences requirement for A.A.S. degree programs.

PHY 110A	**Conceptual Physics Lab**	**0**	**2**	**0**	**1**

Prerequisites: None
Corequisites: PHY 110
This course is a laboratory for PHY 110. Emphasis is placed on laboratory experiences that enhance materials presented in PHY 110. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in PHY 110.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for natural sciences in A.A. and A.S. degree programs. This course has been approved to meet the natural sciences requirement for A.A.S. degree programs.

PHY 122	**Applied Physics II**	**3**	**2**	**0**	**4**

Prerequisites: None
Corequisites: MAT 171
This algebra-based course introduces fundamental physical concepts as applied to industrial and service technology fields. Emphasis is placed on systems of units, problem-solving methods, graphical analysis, static electricity, AC and DC circuits, magnetism, transformers, AC and DC motors, and generators. Upon completion, students should be able to demonstrate an understanding of the principles studied as applied in industrial and service fields.

		Class	Lab	Work/ Clinical	Credit
PHY 151	**College Physics I**	**3**	**2**	**0**	**4**

Prerequisites: DRE 098 or RED 090, MAT 171
Corequisites: None
This course uses algebra- and trigonometry-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include units and measurement, vectors, linear kinematics and dynamics, energy, power, momentum, fluid mechanics, and heat. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for natural sciences in the A.S. degree program. This course has been approved to meet the natural sciences requirement for A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
PHY 152	**College Physics II**	**3**	**2**	**0**	**4**

Prerequisites: PHY 151
Corequisites: None
This course uses algebra- and trigonometry-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include electrostatic forces, electric fields, electric potentials, direct-current circuits, magnetostatic forces, magnetic fields, electromagnetic induction, alternating-current circuits, and light. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for natural sciences in the A.S. degree program. This course has been approved to meet the natural sciences requirement for A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
PHY 251	**General Physics I**	**3**	**3**	**0**	**4**

Prerequisites: MAT 271
Corequisites: MAT 272
This course uses calculus-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include units and measurement, vector operations, linear kinematics and dynamics, energy, power, momentum, rotational mechanics, periodic motion, fluid mechanics, and heat. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for natural sciences in the A.S. degree program. This course has been approved to meet the natural sciences requirement for A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
PHY 252	**General Physics II**	**3**	**3**	**0**	**4**

Prerequisites: MAT 272, PHY 251
Corequisites: None
This course uses calculus-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include electrostatic forces, electric fields, electric potentials, direct-current circuits, magnetostatic forces, magnetic fields, electromagnetic induction, alternating-current circuits, and light. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for natural sciences in the A.S. degree program. This course has been approved to meet the natural sciences requirement for A.A.S. degree programs.

PKG 130	**Basic Electronics**	**1**	**3**	**0**	**2**

Prerequisites: None
Corequisites: None
This course covers the basic electronic components of industrial systems. Topics include safety, PC boards, diodes, power supplies, transducers, transistors, SCRs, Triacs, amplifiers, FETs, ICs, fiber optics, and other related topics. Upon completion, students should be able to demonstrate a working knowledge of basic interfacing and controls associated with industrial machinery electronics.

PLA 120	**Injection Molding**	**2**	**3**	**0**	**3**

Prerequisites: DMA 010-030 or MAT 060, DRE 097 or RED 080
Corequisites: None
This course provides theory and processing experience with the injection molding process. Topics include machine type, molds, controls, machine polymer part relationship, molding factors, troubleshooting, and molding problems/solutions. Upon completion, students should be able to demonstrate an understanding of machine setup and operation and be able to optimize common injection molding machines.

PMT 110	**Introduction to Project Management**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: None
This course introduces project management fundamentals and principles for organizing, planning, implementing, and controlling non-routine activities to achieve schedule, budget and performance objectives. Topics include project life cycles; work breakdown structures; responsibility matrixes; as well as planning and control methods such as PERT/CPM and Gantt charts. Upon completion, students should be able to demonstrate knowledge, strategies, and techniques needed to create and execute plans for project development and management.

		Class	Lab	Work/ Clinical	Credit
PMT 210	**Project Management Issues**	**2**	**2**	**0**	**3**

Prerequisites: PMT 110
Corequisites: None
This course is designed to explore various development and management techniques and tools of integrated project schedules and plans. Emphasis is placed on project control methods from a scheduling perspective, including critical path networking, float analysis, and schedule performance predictability and accomplishment. Upon completion, students should have a clear understanding of accepted techniques for schedule development and management.

PMT 215	**Project Management Leadership**	**3**	**0**	**0**	**3**

Prerequisites: PMT 110
Corequisites: None
This course provides an overview of the importance of project teams and human resource management in the planning, scheduling, and controlling of multi-project programs. Topics include the role of projects in organizations; alternative organizational systems; program management methodologies; team management and leadership; legal/ethical issues; and conflict identification/resolution. Upon completion, students should be able to identify and exhibit the behaviors needed for effective project management and team leadership.

POL 110	**Introduction to Political Science**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course introduces basic political concepts used by governments and addresses a wide range of political issues. Topics include political theory, ideologies, legitimacy, and sovereignty in democratic and non-democratic systems. Upon completion, students should be able to discuss a variety of issues inherent in all political systems and draw logical conclusions in evaluating these systems.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for social/behavioral sciences in A.A., A.S., and A.A.S. degree programs.

POL 120	**American Government**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course is a study of the origins, development, structure, and functions of American government. Topics include the constitutional framework, federalism, the three branches of government including the bureaucracy, civil rights and liberties, political participation and behavior, and policy process. Upon completion, students should be able to demonstrate an understanding of the basic concepts and participatory processes of the American political system.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for social/behavioral sciences in A.A. and A.S. degree programs. This course has been approved to meet the social/behavioral sciences requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
POL 220	**International Relations**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course provides a study of the effects of ideologies, trade, armaments, and alliances on relations among nation-states. Emphasis is placed on regional and global cooperation and conflict, economic development, trade, non-governmental organizations, and international institutions such as the World Court and UN. Upon completion, students should be able to identify and discuss major international relationships, institutions, and problems.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for social/behavioral sciences in A.A., A.S., and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
PSY 150	**General Psychology**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course provides an overview of the scientific study of human behavior. Topics include history, methodology, biopsychology, sensation, perception, learning, motivation, cognition, abnormal behavior, personality theory, social psychology, and other relevant topics. Upon completion, students should be able to demonstrate a basic knowledge of the science of psychology.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for social/behavioral sciences in A.A. and A.S. degree programs. This course has been approved to meet the social/behavioral sciences requirement in A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
PSY 237	**Social Psychology**	**3**	**0**	**0**	**3**

Prerequisites: PSY 150 or SOC 210
Corequisites: None
This course introduces the study of individual behavior within social contexts. Topics include affiliation, attitude formation and change, conformity, altruism, aggression, attribution, interpersonal attraction, and group behavior. Upon completion, students should be able to demonstrate an understanding of the basic principles of social influences on behavior.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for social/behavioral sciences in A.A., A.S., and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
PSY 241	**Developmental Psychology**	**3**	**0**	**0**	**3**

Prerequisites: PSY 150
Corequisites: None
This course is a study of human growth and development. Emphasis is placed on major theories and perspectives as they relate to the physical, cognitive, and psychosocial aspects of development from conception to death. Upon completion, students should be able to demonstrate knowledge of development across the life span.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for social/behavioral sciences in A.A., A.S., and A.A.S. degree programs.

PSY 281	**Abnormal Psychology**	**3**	**0**	**0**	**3**

Prerequisites: PSY 150
Corequisites: None
This course provides an examination of the various psychological disorders, as well as theoretical, clinical, and experimental perspectives of the study of psychopathology. Emphasis is placed on terminology, classification, etiology, assessment, and treatment of the major disorders. Upon completion, students should be able to distinguish between normal and abnormal behavioral patterns as well as demonstrate knowledge of etiology, symptoms, and therapeutic techniques.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for social/behavioral science in A.A., A.S., and A.A.S. degree programs.

REL 110	**World Religions**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course introduces the world's major religious traditions. Topics include Primal religions, Hinduism, Buddhism, Islam, Judaism, and Christianity. Upon completion, students should be able to identify the origins, history, beliefs, and practices of the religions studied.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A., A.S., and A.A.S. degree programs.

REL 111	**Eastern Religions**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course introduces the major Asian religious traditions. Topics include Hinduism, Buddhism, Taoism, Confucianism, and Shinto. Upon completion, students should be able to identify the origins, history, beliefs, and practices of the religions studied.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A., A.S., and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
REL 112	**Western Religions**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course introduces the major western religious traditions. Topics include Zoroastrianism, Islam, Judaism, and Christianity. Upon completion, students should be able to identify the origins, history, beliefs, and practices of the religions studied.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A., A.S., and A.A.S. degree programs.

REL 211	**Introduction to Old Testament**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course is a survey of the literature of the Hebrews with readings from the law, prophets, and other writings. Emphasis is placed on the use of literary, historical, archeological, and cultural analysis. Upon completion, students should be able to use the tools of critical analysis to read and understand Old Testament literature.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A., A.S., and A.A.S. degree programs.

REL 212	**Introduction to New Testament**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course is a survey of the literature of first-century Christianity with readings from the gospels, Acts, and the Pauline and pastoral letters. Topics include the literary structure, audience, and religious perspective of the writings, as well as the historical and cultural context of the early Christian community. Upon completion, students should be able to use the tools of critical analysis to read and understand New Testament literature.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A., A.S., and A.A.S. degree programs.

REL 221	**Religion in America**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course is an examination of religious beliefs and practice in the United States. Emphasis is placed on mainstream religious traditions and non-traditional religious movements from the Colonial period to the present. Upon completion, students should be able to recognize and appreciate the diversity of religious traditions in America. *Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A., A.S., and A.A.S. degree programs.*

		Class	Lab	Work/ Clinical	Credit
SAB 110	**Substance Abuse Overview**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: None
This course provides an overview of the core concepts in substance abuse and dependence. Topics include the history of drug use/abuse, effects on societal members, treatment of addiction, and preventive measures. Upon completion, students should be able to demonstrate knowledge of the etiology of drug abuse, addiction, prevention, and treatment.

		Class	Lab	Work/ Clinical	Credit
SAB 135	**Addictive Processes**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: None
This course explores the physical, emotional, psychological, and cultural aspects of the addictive process. Emphasis is placed on addictions to food, sex, alcohol, drugs, work, gambling, and relationships. Upon completion, students should be able to identify the effects, prevention strategies, and treatment methods associated with addictive disorders.

		Class	Lab	Work/ Clinical	Credit
SCI 090	**Skills for the Sciences**	**2**	**2**	**0**	**3**

Prerequisites: DMA 010-060 or MAT 060, DRE 097
Corequisites: DRE 098
This course is designed to provide fundamental skills necessary for entry into college-level science courses. Topics include scientific vocabulary, measurement, scientific notation, the scientific method for solving problems, collaborative skills, and applications to various areas of science. Upon completion, students should be able to demonstrate a readiness for college-level science courses.

		Class	Lab	Work/ Clinical	Credit
SEC 110	**Security Concepts**	**2**	**2**	**0**	**3**

Prerequisites: NOS 110
Corequisites: NET 125
This course introduces the concepts and issues related to securing information systems and the development of policies to implement information security controls. Topics include the historical view of networking and security, security issues, trends, security resources, and the role of policy, people, and processes in information security. Upon completion, students should be able to identify information security risks, create an information security policy, and identify processes to implement and enforce policy.

		Class	Lab	Work/ Clinical	Credit
SOC 210	**Introduction to Sociology**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course introduces the scientific study of human society, culture, and social interactions. Topics include socialization, research methods, diversity and inequality, cooperation and conflict, social change, social institutions, and organizations. Upon completion, students should be able to demonstrate knowledge of sociological concepts as they apply to the interplay among individuals, groups, and societies.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for social/behavioral sciences in A.A. and A.S. degree programs. This course has been approved to meet the social/behavioral sciences requirement in A.A.S. degree programs.

SOC 213	**Sociology of the Family**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course covers the institution of the family and other intimate relationships. Emphasis is placed on mate selection, gender roles, sexuality, communication, power and conflict, parenthood, diverse lifestyles, divorce and remarriage, and economic issues. Upon completion, students should be able to analyze the family as a social institution and the social forces which influence its development and change.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for social/behavioral sciences in A.A., A.S., and A.A.S. degree programs.

SOC 220	**Social Problems**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course provides an in-depth study of current social problems. Emphasis is placed on causes, consequences, and possible solutions to problems associated with families, schools, workplaces, communities, and the environment. Upon completion, students should be able to recognize, define, analyze, and propose solutions to these problems.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for social/behavioral sciences in A.A., A.S., and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
SOC 225	**Social Diversity**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course provides a comparison of diverse roles, interests, opportunities, contributions, and experiences in social life. Topics include race, ethnicity, gender, sexual orientation, class, and religion. Upon completion, students should be able to analyze how cultural and ethnic differences evolve and how they affect personality development, values, and tolerance.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for social/behavioral sciences in A.A., A.S., and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
SOC 240	**Social Psychology**	**3**	**0**	**0**	**3**

Prerequisites: PSY 150 or SOC 210
Corequisites: None
This course examines the influence of culture and social groups on individual behavior and personality. Emphasis is placed on the process of socialization, communication, conformity, deviance, interpersonal attraction, intimacy, race and ethnicity, small group experiences, and social movements. Upon completion, students should be able to identify and analyze cultural and social forces that influence the individual in a society.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for social/behavioral sciences in A.A., A.S., and A.A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
SPA 111	**Elementary Spanish I**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: None
This course introduces the fundamental elements of the Spanish language within a cultural context. Emphasis is placed on the development of basic listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written Spanish and demonstrate cultural awareness.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A. and A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
SPA 112	**Elementary Spanish II**	**3**	**0**	**0**	**3**

Prerequisites: SPA 111
Corequisites: None
This course is continuation of SPA 111 focusing on the fundamental elements of the Spanish language within a cultural context. Emphasis is placed on the progressive development of listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written Spanish and demonstrate further cultural awareness.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A. and A.S. degree programs.

SPA 120	**Spanish for the Workplace**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: None
This course offers applied Spanish for the workplace to facilitate basic communication with people whose native language is Spanish. Emphasis is placed on oral communication and career-specific vocabulary that targets health, business, and/or public service professions. Upon completion students should be able to communicate at a functional level with native speakers and demonstrate cultural sensitivity.

SPA 161	**Cultural Immersion**	**2**	**3**	**0**	**3**

Prerequisites: SPA 111
Corequisites: None
This course explores Hispanic culture through intensive study on campus and field experience in a host country or area. Topics include an overview of linguistic, historical, geographical, sociopolitical, economic, and/or artistic concerns of the area visited. Upon completion, students should be able to exhibit first-hand knowledge of issues pertinent to the host area and demonstrate understanding of cultural differences.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

SPA 181	**Spanish Lab 1**	**0**	**2**	**0**	**1**

Prerequisites: None
Corequisites: None
This course provides an opportunity to enhance acquisition of the fundamental elements of the Spanish language. Emphasis is placed on the progressive development of basic listening, speaking, reading, and writing skills through the use of various supplementary learning media and materials. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written Spanish and demonstrate cultural awareness.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

		Class	Lab	Work/ Clinical	Credit
SPA 182	**Spanish Lab 2**	**0**	**2**	**0**	**1**

Prerequisites: SPA 181
Corequisites: SPA 112
This course provides an opportunity to enhance acquisition of the fundamental elements of the Spanish language. Emphasis is placed on the progressive development of basic listening, speaking, reading, and writing skills through the use of various supplementary learning media and materials. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written Spanish and demonstrate cultural awareness.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the pre-major/elective requirement in A.A. and A.S. degree programs.

SPA 211	**Intermediate Spanish I**	**3**	**0**	**0**	**3**

Prerequisites: SPA 112
Corequisites: None
This course provides a review and expansion of the essential skills of the Spanish language. Emphasis is placed on the study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate effectively, accurately, and creatively about the past, present, and future.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A. and A.S. degree programs. This course is approved to meet the humanities/fine arts requirement in A.A.S. degree programs.

SPA 212	**Intermediate Spanish II**	**3**	**0**	**0**	**3**

Prerequisites: SPA 211
Corequisites: None
This course provides a continuation of SPA 211. Emphasis is placed on the continuing study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate spontaneously and accurately with increasing complexity and sophistication.
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for humanities/fine arts in A.A. and A.S. degree programs. This course is approved to meet the humanities/fine arts requirement in A.A.S. degree programs.

SWK 110	**Introduction to Social Work**	**3**	**0**	**0**	**3**

Prerequisites: None
Corequisites: None
This course examines the historical development, values, orientation, and professional standards of social work and focuses on the terminology and broader systems of social welfare. Emphasis is placed on the various fields of practice including those agencies whose primary function is financial assistance, corrections, mental health, and protective services. Upon completion, students should be able to demonstrate an understanding of the knowledge, values, and skills of the social work professional.

		Class	Lab	Work/ Clinical	Credit
SWK 113	**Working with Diversity**	**3**	**0**	**0**	**3**

Prerequisites: DRE 098 or ENG 090 and RED 090
Corequisites: None
This course examines and promotes understanding, sensitivity, awareness, and knowledge of human diversity. Emphasis is placed on professional responsibilities, duties, and skills critical to multicultural human services practice. Upon completion, students should be able to integrate and expand knowledge, skills, and cultural awareness relevant to diverse populations.

WBL 111	**Work-Based Learning I**	**0**	**0**	**10**	**1**

Prerequisites: 9 SHC in the major core courses
Corequisites: WBL 115
This course provides work-based learning experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

WBL 112	**Work-Based Learning I**	**0**	**0**	**20**	**2**

Prerequisites: 9 SHC in the major core courses
Corequisites: None
This course provides work-based learning experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

WBL 115	**Work-Based Learning Seminar I**	**1**	**0**	**0**	**1**

Prerequisites: 9 SHC in the major core courses
Corequisites: WBL 111 or WBL 112
This course provides an opportunity to discuss fieldwork experiences with peers and faculty. Emphasis is placed on discussing application of concepts and principles from related course content to the fieldwork placement. Upon completion, students should be able to demonstrate the knowledge, skills, and attitudes required in fieldwork experiences

WBL 121	**Work-Based Learning II**	**0**	**0**	**10**	**1**

Prerequisites: 14 SHC in the major core courses
Corequisites: WBL 125
This course provides work-based learning experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

		Class	Lab	Work/ Clinical	Credit
WBL 125	**Work-Based Learning Seminar II**	**1**	**0**	**0**	**1**

Prerequisites: 14 SHC in the major core courses
Corequisites: WBL 121
This course provides an opportunity to discuss fieldwork experiences with peers and faculty. Emphasis is placed on discussing application of concepts and principles from related course content to the fieldwork placement. Upon completion, students should be able to demonstrate the knowledge, skills, and attitudes required in fieldwork experiences.

WEB 110	**Internet/Web Fundamentals**	**2**	**2**	**0**	**3**

Prerequisites: None
Corequisites: None
This course introduces World Wide Web Consortium (W3C) standard markup language and services of the Internet. Topics include creating web pages, search engines, FTP, and other related topics. Upon completion, students should be able to deploy a hand-coded website created with mark-up language, and effectively use and understand the function of search engines.

WEB 140	**Web Development Tools**	**2**	**2**	**0**	**3**

Prerequisites: None
Corequisites: None
This course provides an introduction to web development software suites. Topics include the creation of web sites and applets using web development software. Upon completion, students should be able to create entire web sites and supporting applets.

WEB 230	**Implementing Web Serv**	**2**	**2**	**0**	**3**

Prerequisites: NET 125, NOS 120, SEC 110
Corequisites: None
This course covers website and web server architecture. Topics include installation, configuration, administration, and security of web servers, services and sites. Upon completion, students should be able to effectively manage the web services deployment lifecycle according to industry standards.

WEB 250	**Database Driven Websites**	**2**	**2**	**0**	**3**

Prerequisites: DBA 110, WEB 140
Corequisites: None
This course introduces dynamic (database-driven) website development. Topics include the use of basic database CRUD statements (create, read, update and delete) incorporated into web applications, as well as in software architecture principles. Upon completion, students should be able to design and develop database driven web applications according to industry standards.

		Class	Lab	Work/ Clinical	Credit
WLD 110	**Cutting Processes**	**1**	**3**	**0**	**2**

Prerequisites: None
Corequisites: None
This course introduces oxy-fuel and plasma-arc cutting systems. Topics include safety, proper equipment setup, and operation of oxy-fuel and plasma-arc cutting equipment with emphasis on straight line, curve and bevel cutting. Upon completion, students should be able to oxy-fuel and plasma-arc cut metals of varying thickness.

WLD 112	**Basic Welding Processes**	**1**	**3**	**0**	**2**

Prerequisites: None
Corequisites: None
This course introduces basic welding and cutting. Emphasis is placed on beads applied with gases, mild steel fillers, and electrodes and the capillary action of solder. Upon completion, students should be able to set up welding and oxy-fuel equipment and perform welding, brazing, and soldering processes.

WLD 115	**SMAW (Stick) Plate**	**2**	**9**	**0**	**5**

Prerequisites: None
Corequisites: None
This course introduces the shielded metal arc (stick) welding process. Emphasis is placed on padding, fillet, and groove welds in various positions with SMAW electrodes. Upon completion, students should be able to perform SMAW fillet and groove welds on carbon plate with prescribed electrodes.

WLD 117	**Industrial SMAW**	**1**	**4**	**0**	**3**

Prerequisites: WLD 112
Corequisites: None
This course introduces the SMAW (stick) process for joining carbon steel components for industrial applications. Topics include padding, fillet, and groove welds in various positions with SMAW electrodes. Upon completion, students should be able to safely perform SMAW fillet and groove welds on carbon steel plates with prescribed electrodes.

WLD 121	**GMAW (MIG) FCAW/Plate**	**2**	**6**	**0**	**4**

Prerequisites: None
Corequisites: None
This course introduces metal arc welding and flux core arc welding processes. Topics include equipment setup and fillet and groove welds with emphasis on application of GMAW and FCAW electrodes on carbon steel plate. Upon completion, students should be able to perform fillet welds on carbon steel with prescribed electrodes in the flat, horizontal, and overhead positions.

		Class	Lab	Work/ Clinical	Credit
WLD 131	**GTAW (TIG) Plate**	**2**	**6**	**0**	**4**

Prerequisites: None
Corequisites: None
This course introduces the gas tungsten arc (TIG) welding process. Topics include correct selection of tungsten, polarity, gas, and proper filler rod with emphasis placed on safety, equipment setup, and welding techniques. Upon completion, students should be able to perform GTAW fillet and groove welds with various electrodes and filler materials.

WLD 132	**GTAW (TIG) Plate/Pipe**	**1**	**6**	**0**	**3**

Prerequisites: WLD 131
Corequisites: None
This course is designed to enhance skills with the gas tungsten arc (TIG) welding process. Topics include setup, joint preparation, and electrode selection with emphasis on manipulative skills in all welding positions on plate and pipe. Upon completion, students should be able to perform GTAW welds with prescribed electrodes and filler materials on various joint geometry.

WLD 141	**Symbols & Specifications**	**2**	**2**	**0**	**3**

Prerequisites: None
Corequisites: None
This course introduces the basic symbols and specifications used in welding. Emphasis is placed on interpretation of lines, notes, welding symbols, and specifications. Upon completion, students should be able to read and interpret symbols and specifications commonly used in welding.

WLD 151	**Fabrication I**	**2**	**6**	**0**	**4**

Prerequisites: WLD 141
Corequisites: None
This course introduces the basic principles of fabrication. Emphasis is placed on safety, measurement, layout techniques, cutting, joining techniques, and the use of fabrication tools and equipment. Upon completion, students should be able to perform layout activities and operate various fabrication and material handling equipment.

WLD 215	**SMAW (Stick) Pipe**	**1**	**9**	**0**	**4**

Prerequisites: WLD 115
Corequisites: None
This course covers the knowledge and skills that apply to welding pipe. Topics include pipe positions, joint geometry, and preparation with emphasis placed on bead application, profile, and discontinuities. Upon completion, students should be able to perform SMAW welds to applicable codes on carbon steel pipe with prescribed electrodes in various positions.

		Class	Lab	Work/ Clinical	Credit
WLD 231	**GTAW (TIG) Pipe**	**1**	**6**	**0**	**3**

Prerequisites: WLD 132
Corequisites: None
This course covers gas tungsten arc welding on pipe. Topics include joint preparation and fit up with emphasis placed on safety, GTAW welding technique, bead application, and joint geometry. Upon completion, students should be able to perform GTAW welds to applicable codes on pipe with prescribed electrodes and filler materials in various pipe positions.

		Class	Lab	Work/ Clinical	Credit
WLD 262	**Inspection & Testing**	**2**	**2**	**0**	**3**

Prerequisites: None
Corequisites: None
This course introduces destructive and non-destructive testing methods. Emphasis is placed on safety, types and methods of testing, and the use of testing equipment and materials. Upon completion, students should be able to understand and/or perform a variety of destructive and non-destructive testing processes.

Catalog Revisions