New River Community College
5251 College Drive, Dublin, Virginia 24084

NRCC New River Valley Mall Site
400 New River Road, Christiansburg, Virginia 24073

http://www.nr.edu

(540) 674-3600 Toll Free (866) 462-6722 VP: (540) 585-4724

Academic Assistance	(540) 674-3664	Foundation	(540) 674-3618
Admissions and Records Office	(540) 674-3603	Human Resources	(540) 674-3635
Arts and Sciences Division	(540) 674-3611	IT Help Desk	(540) 674-3600, ext. 4400
Bookstore	(540) 674-3638	Library-Circulation Desk	(540) 674-3627
Business Office	(540) 674-3605	Mall Site-Front Desk	(540) 674-3610
Business and Technologies Division	(540) 674-3607	President's Office	(540) 674-3601
Counseling	(540) 674-3609	Scholarships	(540) 674-3618
Disability Services	(540) 674-3619	Security	(540) 674-3646
Distance Education (DE)	(540) 674-3614	Veterans	(540) 674-3693
Financial Aid	(540) 674-3615	Workforce Development	(540) 674-3613

Hours of Operation

Administrative Office Hours

8:00 a.m. to 5:00 p.m. – Weekdays

College Hours

8:00 a.m. to 10:00 p.m. – Monday through Thursday

8:00 a.m. to 5:00 p.m. – Friday

Library Hours *

7:30 a.m. to 9:00 p.m. – Monday through Thursday

7:30 a.m. to 5:00 p.m. – Friday

9:00 a.m. to 1:00 p.m. – Saturday

(When Classes are in Session)

1:00 p.m. to 5:00 p.m. – Sunday

(When Classes are in Session)

* hours may differ during summer term

New River Valley Mall Site Hours

8:00 a.m. to 10:00 p.m. – Monday through Thursday

8:00 a.m. to 5:00 p.m. – Friday

9:00 a.m. to 3:00 p.m. – Saturday

(When Classes are in Session)

New River Community College provides its website, catalog, handbooks, and any other printed materials or electronic media for your general guidance. The college does not guarantee that the information contained within them, including, but not limited to, the contents of any page that resides under the DNS registrations of https://www.nr.edu is up-to-date, complete and accurate, and individuals assume any risks associated with relying upon such information without checking other credible sources, such as a student's academic advisor. In addition, a student's or prospective student's reliance upon information contained within these sources, or individual program catalogs or handbooks, when making academic decisions does not constitute, and should not be construed as, a contract with the college. Further, the college reserves the right to make changes to any provision or requirement within these sources, as well as changes to any curriculum or program, whether during a student's enrollment or otherwise.

Links or references to other materials and websites provided in the referenced sources are also for information purposes only and do not constitute the college's endorsement of products or services referenced.

New River Community College does not discriminate on the basis of race, color, national origin, sex, disability, or age in its programs and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: Dr. Mark C. Rowh, Vice President for Workforce Development and External Relations, 217 Edwards Hall, (540) 674-3600, ext. 4241.

Supplements may be issued to this catalog as considered necessary by the college.

Please see page154 for NRCC's Notice of Required Disclosures.

Welcome

A Message from NRCC's President

You are about to embark on an exciting educational adventure at New River Community College both in and out of the classroom.

NRCC has talented, caring, and effective faculty. I encourage you to get to know your instructors, for they are gifted in their fields and can be a valuable resource in your preparation for the future. To complement NRCC's faculty, you will find a committed and capable staff which enhances the instructional process.

DR. JACK M. LEWIS

New River offers services such as the Counseling Center, Career Services, Academic Assistance, audiovisual services, the Center for the Deaf and Hard of Hearing, the Center for Disability Services, retention services, mentoring, and over 600 student computers in more than 20 computer labs. You will find that NRCC has state-of-the-art technological equipment to assist you in your educational pursuits.

As a student at New River, academic study should be your first priority; however, we invite you to enjoy college-sponsored cultural and social activities that can enhance your collegiate experience.

New River Community College is an excellent choice to begin or continue your education. The combination of a dedicated, concerned faculty, staff and administration with specialized academic programs has earned NRCC a national reputation for excellence. Remember that serving our students is New River Community College's priority.

Jack M. Lewis
NRCC President

College Goals

1. Teaching and Learning

To ensure that teaching and learning remain the institution's focus.

2. Student Access and Opportunity

To ensure that all citizens in the service region have access to the college's programs and services and the opportunity to achieve their educational goals.

3. Resources and Advocacy

To expand the college's funding base and to enhance the college's image on a local, state, national, and (where appropriate) international basis.

4. Technology and Campus Environment

To build and sustain a world-class technology environment; to provide a teaching and learning environment that is inviting, safe, and attractive, and that addresses the space needs of the college.

5. Workforce Development

To be the first-choice provider of training and services for businesses and individuals within the service region.

6. Organizational Excellence

To continue to plan for the college's future development, to achieve the highest possible quality in the college's programs and services while meeting all mandated requirements, and to provide outstanding customer service to all; and to provide progressive management and support of the college's human resources while recognizing that people are the college's most important resource.

Contents

Academic Calendar

Reference Calendar—Summer Term 2015

10-Week Session (T)

May 26 ..... Classes Begin
June 1 ..... Last Day to Add Without Instructor Approval
June 4 ..... Last Day to Drop and Receive Refund*
July 3 ..... Holiday (College Closed)
July 8 ..... Last Day to Drop and Receive "W" Grade*
August 4 ..... Classes End
August 5 ..... Grades Due from Faculty (noon)
August 6 ..... Grades Available Online for Students

First 5-Week Session (D)

May 26 ..... Classes Begin
May 28 ..... Last Day to Add Without Instructor Approval
June 1 ..... Last Day to Drop and Receive Refund*
June 16 ..... Last Day to Drop and Receive "W" Grade*
June 29 ..... Classes End
June 30 ..... Grades Due from Faculty (noon)
July 1 ..... Grades Available Online for Students

Second 5-Week Session (E)

June 30 ..... Classes Begin
July 2 ..... Last Day to Add Without Instructor Approval
July 3 ..... Holiday (College Closed)
July 6 ..... Last Day to Drop and Receive Refund*
July 22 ..... Last Day to Drop and Receive "W" Grade*
August 4 ..... Classes End
August 5 ..... Grades Due from Faculty (noon)
August 6 ..... Grades Available Online for Students

*Refund or withdrawal date for regular sessions only. Contact Admissions & Records Office for information on other session deadlines.

FALL SEMESTER 2015

August 17-21	Monday-Friday	Faculty In-service
August 24	Monday	Classes Begin
August 28	Friday	Last Day to Add Classes without Instructor Approval
September 7	Monday	Labor Day (College Closed)
September 8	Tuesday	Last Day to Drop and Receive Refund*
October 14-16	Wednesday-Friday	Faculty Research (No Day or Evening Classes)
October 27	Tuesday	Last Day to Drop and Receive "W" Grade*
November 10	Tuesday	Spring Registration Begins
November 13	Friday	Applications for Spring Graduation Due
November 23-25	Monday-Wednesday	Faculty In-service (No Day or Evening Classes)
November 26-27	Thursday-Friday	Thanksgiving Break (College Closed)
December 11	Friday	Classes End
December 14	Monday	Exams Begin
December 17	Thursday	Exams End
December 21	Monday	Grades Due from Faculty (noon)
December 22	Tuesday	Grades Available Online for Students
December 18-21	Friday and Monday	Faculty In-service
December 22	Tuesday	Faculty Research

*Refund or withdrawal date for regular session only. Contact Admissions & Records Office for information on other session deadlines.

SPRING SEMESTER 2016

January 4-22	Monday-Friday	Faculty In-service
January 18	Monday	Martin Luther King, Jr. Day (College Closed)
January 25	Monday	Classes Begin
January 29	Friday	Last Day to Add Classes without Instructor Approval
February 8	Monday	Last Day to Drop and Receive Refund*
March 7-8	Monday-Tuesday	Faculty Research (No Day or Evening Classes)
March 9-11	Wednesday-Friday	Spring Break
April 1	Friday	Last Day to Drop and Receive "W" Grade*
April 12	Tuesday	Summer Registration Begins
April 19	Tuesday	Fall Registration Begins
May 6	Friday	Classes End
May 9	Monday	Exams Begin
May 12	Thursday	Exams End
May 13	Friday	Faculty In-service
May 13	Friday	Grades Due from Faculty (Noon)
May 16	Monday	Grades Available Online for Students
May 13	Friday	Graduation

*Refund or withdrawal date for regular session only. Contact Admissions & Records Office for information on other session deadlines.

SUMMER TERM 2016

10-Week Session (T)

May 23	Monday	Classes Begin
May 27	Friday	Last Day to Add without Instructor Approval
May 30	Monday	Holiday (College Closed)
June 2	Thursday	Last Day to Drop and Receive Refund*
July 4	Monday	Holiday (College Closed)
July 5	Tuesday	Last Day to Drop and Receive "W" Grade*
August 2	Tuesday	Classes End
August 3	Wednesday	Grades Due from Faculty (noon)
August 4	Thursday	Grades Available Online for Students

First 5-Week Session (D)

May 23	Monday	Classes Begin
May 25	Wednesday	Last Day to Add without Instructor Approval
May 27	Friday	Last Day to Drop and Receive Refund*
May 30	Monday	Holiday (College Closed)
June 14	Tuesday	Last Day to Drop and Receive "W" Grade*
June 27	Monday	Classes End
June 28	Tuesday	Grades Due from Faculty (noon)
June 29	Wednesday	Grades Available Online for Students

Second 5-Week Session (E)

June 28	Tuesday	Classes Begin
June 30	Thursday	Last Day to Add without Instructor Approval
July 4	Monday	Holiday (College Closed)
July 5	Tuesday	Last Day to Drop and Receive Refund*
July 22	Friday	Last Day to Drop and Receive "W" Grade*
August 2	Tuesday	Classes End
August 3	Wednesday	Grades Due from Faculty (noon)
August 4	Thursday	Grades Available Online for Students

*Refund or withdrawal date for regular sessions only. Contact Admissions & Records Office for information on other session deadlines.

General Information

The College

New River Community College is a two-year institution of higher learning operating under a state-wide system of community colleges. The college serves those who live in the counties of Floyd, Giles, Pulaski, Montgomery, and the city of Radford.

The college acts under policies set up by the State Board of Community Colleges and the local Community College Board. The school is funded mainly with state funds, but the participating localities also add to the support of the college.

The college is open on a year-round basis under the semester system. Classes are held from 7:00 a.m. to 10:00 p.m. Since college credit courses are offered in the evening and on weekends, students who work may also attend college.

History

In 1959 New River Community College began offering vocational/technical courses as a vocational/technical school to residents in the New River Valley. It is one of five colleges which developed from existing vocational/technical schools into community colleges under 1966 General Assembly legislation which formed the Virginia Community College System.

The Local Board was set up in August 1969, and the college was named New River Community College in October 1969. The college continued the career/technical education degrees in Machine Shop, Drafting and Design, Auto Mechanics, Practical Nursing, Industrial Electricity, Electronics, Instrumentation, Clerk Typing, and Stenography.

Programs leading to the Associate in Applied Science Degree in Accounting, Business Management and Secretarial Science were added in the fall term of 1970. Degree programs designed for transfer to four-year colleges were also offered at that time. These included the Associate of Arts Degree program in Liberal Arts and the Associate in Science Degree programs in Science, Education, Business Administration, and General Studies.

Localities & Facilities

The college is located on a one-hundred acre site at the intersection of U.S. Routes 11 and 100 in Dublin, Virginia. The campus provides modern, well-equipped facilities for the vocational/technical programs as well as for university-parallel programs.

The facilities contain labs for Administrative Support Technology, Accounting, Automotive, Computer Aided Drafting and Design, Electronics, Electricity, Forensic Science, Information Technology, Instrumentation, Machine Shop, Natural Science classes, Nursing, Programmable Logic Controllers, and Welding.

Besides the special labs, there are general classrooms, a large lecture room, a modern library, a learning lab, a spacious industrial training room, a student center, an auditorium, and faculty and administrative offices.

The college's Christiansburg site, located in the New River Valley Mall, offers increased educational opportunities to residents of Floyd, Giles, Montgomery, and Pulaski counties and the city of Radford. Faculty from the college's teaching divisions provide high quality instruction equivalent to on-campus instruction.

In addition to the Dublin and Christiansburg locations, the college makes use of public schools, industrial plants, and other facilities off campus to provide instruction that is closer to the people served by the college.

Programs

New River Community College offers programs two years beyond the high school level.

Career/Technical Education The career and technical education degrees are designed to meet the demand for technicians, semi-professional workers, and skilled craftsmen in the New River Valley who will be employed in industry, business, the professions, and government.

University Parallel/College Transfer Education The university parallel/college transfer degrees include college freshman and sophomore courses in arts and sciences and pre-professional education. These courses meet the standards for transfer to baccalaureate degree programs in four-year colleges and universities.

General Education The courses in general education include common knowledge, skills, and attitudes needed by an individual to be effective as a person, a worker, a consumer, and a citizen.

Continuing Education Degree credit and non-degree credit courses are offered during the day and evening hours for adults in the region wishing to continue learning.

Customized Training Programs Customized training is offered where specific employment chances are open for new or expanding industry. Customized training programs

are coordinated with Virginia's economic growth efforts and with the needs of employers.

Developmental Courses Basic or developmental courses are designed to prepare people for admission to college transfer and career/technical education courses of study in the community college. These courses are designed to assist the person with basic skills and knowledge needed to succeed in other community college programs.

Recognition

The college, part of the Virginia Community College System, is governed by the State Board for Community Colleges in Virginia. The college's associate degree courses are approved by the State Council of Higher Education for Virginia.

The college has been fully approved by the State Department of Education for payment of veterans' benefits as well as by other state and federal agencies for funding. Also, this school is authorized under Federal Law to enroll nonimmigrant alien students.

The college is an institutional member of the American Association of Community Colleges and a number of other state and national organizations.

Accreditation

NRCC is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award the associate degree. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404-679-4500 for questions about the accreditation of New River Community College.

International & Intercultural Education

New River Community College affirms the importance of multiculturalism and international awareness. The college is committed to addressing international/intercultural education issues as an integral part of the student's academic and social development. Through the institution's curricula as well as through extra-curricular activities, New River Community College supports efforts to foster understanding of international concepts and issues so that students can be well prepared for employment, life and citizenship in the New River Valley, the state of Virginia, the United States and the world. To this end, the college encourages and supports the development of the many aspects of international/intercultural education and pledges to promote knowledge, understanding and appreciation of other peoples and cultures.

Library

The New River Community College Library serves the educational and informational needs of the students, faculty, and staff of the college, as well as the citizens, businesses and industries of the New River Valley. It provides the basic tools necessary for education and research, including the latest in information and educational technology.

Students and researchers have access to a library collection of 35,000 books and periodicals, over 48,000 e-books, and 15,000 media and streaming video titles. The library's membership in the VIVA (Virtual Library of Virginia) consortium provides an extensive collection of research databases consisting of the latest journal, magazine and newspaper articles; research reports; dissertations; specialized resources and more. Faculty, staff and students may access these resources 24/7 from off-campus via the college's proxy server.

Students may utilize a variety of course-related software and wireless Internet service through the vast array of computers housed in the library. Equipment necessary for viewing media as well as laptops, scanners and a photocopier can also be found. Additional library services include: reference assistance, class and individualized instruction, embedded librarians, 24/7 online chat assistance, textbook reserves, group study rooms and Interlibrary Loan.

Distance Education & Off-Campus Services

New River's commitment to increasing educational access is realized through the college's distance education efforts. The distance education program is part of the college's determination to increase educational access and student success. This program is for students who need to pursue academic goals outside the traditional classroom setting. Currently, the program offers over 270 online courses, which are available in most degrees and certificates. The degrees listed below can be fulfilled entirely by completing distance education courses:

- Associate of Arts and Sciences in Business Administration
- Associate of Arts and Sciences in General Studies
- Associate of Arts and Sciences in Liberal Arts
- Associate of Arts and Sciences in Science
- Associate of Applied Science in Accounting
- Associate of Applied Science in Administrative Support Technology
- Associate of Applied Sciences
- Associate of Applied Science in Business Management
- Associate of Applied Science in Business Management with a Specialization in Marketing Management
- Associate of Applied Science in Administrative Support Technology with a Specialization in Medical Administrative Support
- Associate of Applied Science in Administrative Support Technology with a Specialization in Paralegal Administrative Support
- Associate of Applied Science in Paralegal Studies

The Distance Education department, in conjunction with the Information Technology department, coordinates

the college's instructional technology efforts. Through the effective use of various mobile technologies, instructional programs are developed and distributed throughout the region, state, and nation. Downlink and distribution capabilities for teleconferencing are available. To assist in the development and delivery of instruction in the region, the college possesses dedicated distance learning classrooms, electronic lecture halls, and production facilities.

Christiansburg Location New River Community College's Christiansburg site, located inside New River Valley Mall, offers increased educational opportunities to residents of the counties of Floyd, Giles, Montgomery, Pulaski, and the city of Radford. An extensive range of programs are offered at this site which include courses in:

- college transfer
- game technology
- computer aided drafting
- engineering
- IT networking
- physics
- career development
- career/technical education areas

Services offered at this site include:

- a distance learning classroom
- distance learning courses/course support
- registration and payment for all NRCC courses
- placement testing
- computer labs
- science labs
- learning resource support
- workforce development classes
- NRCC Middle College classes

Off-Campus Instruction New River Community College provides classroom-based educational opportunities throughout the service area to meet the needs of the region's residents. Faculty from the college's two teaching divisions (Arts & Sciences and Business & Technologies) provide high quality instruction equivalent to on-campus instruction.

Division of Arts and Sciences

The Arts and Sciences Division administers the transfer degrees and other programs and professional development training in the following areas:

Early Childhood Development
Human Services
Nursing
Nurse Aide
Practical Nursing

For more information, contact the Division Office at (540) 674-3611.

Cultural Enrichment The college offers a variety of courses for personal enrichment and enjoyment on the New River Community College campus and at sites located throughout the New River Valley.

The facilities and personnel of the college provide specialized services in response to identified needs. These services include cultural events, workshops, lectures, conferences, seminars and special community projects which are designed to provide cultural and educational opportunities for the citizens of the New River Valley.

Courses and workshops often result from requests by individuals or groups within the region. Non-credit offerings are supported entirely by fees paid by participants.

Facility Usage Community groups and organizations may also make special arrangements to use college facilities for their own programs or meetings by contacting the Division of Arts and Sciences at (540) 674-3611.

Early Learning Center The Early Learning Center is licensed by the State of Virginia and is accredited by the National Academy of Early Childhood Programs (NAECP) through the National Association for the Education of Young Children (NAEYC). The center provides:

a. A practicum setting for student interns in the Early Childhood Development and Human Services programs.
b. Child care facilities for NRCC students, faculty, and staff who have children between the ages of 3 to 5.
c. Parent education and opportunities for parent involvement.
d. A learning and play environment for preschoolers.

Emphasis in the center is placed on creative learning experiences with music, stories, art materials, blocks, dramatic play, science, and language development. The program is structured toward problem solving abilities. Self-help and independence are encouraged in all possible ways.

Selection of children is based on age and availability of space. Fees are determined by the number of days and hours a child attends the program.

A professional staff is employed by the NRCC Early Learning Center, which is open Monday through Friday and is closed during NRCC's Thanksgiving, Christmas, spring, and summer breaks.

Division of Business & Technologies

The Division of Business and Technologies administers programs and professional development training in the following areas:

- Accounting
- Administrative Support Technology
- Advanced Manufacturing
- Air Conditioning and Refrigeration

- Architecture
- Automotive
- Business Management
- Electrical Engineering
- Electronics Technology
- Engineering Design Technology
- Game Design Technology
- Instrumentation and Control Automation
- Information Technology
- Machining
- Marketing
- Medical Office Systems
- Mobile and Web Application Development
- Network and Technical Support
- Paralegal Studies
- Police Science
- Welding

For more information, contact the Division Office at (540) 674-3607.

Workforce Development and External Relations

New River Community College offers workforce development programs and activities through the Office of Workforce Development and External Relations. NRCC is a member of the National Coalition of Advanced Technology Centers.

Credit and non-credit programs/activities are customized to meet the customers' training, retraining and professional and personal development needs. Workforce Development includes the following functions:

- Apprenticeship training
- Community service
- Computer training
- Rapid Response
- Transitional Programs
- Workforce training (customized for employers)
- Open enrollment courses for the public
- WorkKeys®

Other departments in the Office of Workforce Development and External Relations include:

- Career Coaches
- Career Pathways
- Enrollment Management
- Public Information Office
- SkillsUSA

Workforce Development also offers online courses that are informative, convenient, and highly interactive. Likewise, the courses are project-oriented and include lessons, hands-on assignments, discussion areas, and more. To learn about online non-credit course offerings, visit www.nr.edu/workforce/online courses.html or call (540) 674-3613.

Apprenticeship Related Instruction (ARI)

Training highly skilled workers through apprenticeship is a solid investment for employers. Employers drive the on-the-job training and the curriculum for the related instruction provided to workers in the program.

The related instruction is designed to provide apprentices with the knowledge of the theoretical and technical subjects related to their trade.

Each registered apprentice completes a minimum of 2000 hours of supervised on-the job work experience in a specific trade, and a recommended minimum of 144 hours of related instruction for each year of apprenticeship. Depending on the occupation, the length of apprenticeship varies between one and six years, with four years of on-the-job training being the average.

Related instruction is based on the specific trade areas and the courses are developed in cooperation with industry leaders. Specialized curriculums are designed to meet specific needs within the trade as well as meet employer needs. Apprenticeship related instruction is planned by working directly with sponsoring employers to develop the appropriate academic, technical and core course work for the apprentices. For more information on apprenticeship related instruction call (540) 674-3600, ext. 4352 or email pryan@nr.edu.

Career Readiness Certificate

The Career Readiness Certificate is based on established WorkKeys® assessment tests. To earn the certificate, individuals undergo testing related to reading, applied math, and locating information through the WorkKeys® skills testing program.

Individuals can earn three levels of Career Readiness Certificates based on their test performance: Bronze, Silver or Gold. This multi-level approach enables individuals to advance through the Silver and Gold certifications as they refine their skills.

Career seekers can obtain Career Readiness Certificates by taking WorkKeys® assessment tests. For more information about the Career Readiness Certificate, call (540) 674-3600, ext. 4352 or email pryan@nr.edu.

Rapid Response

The western region Virginia Rapid Response unit is based at New River Community College. The purpose of Rapid Response is to work with companies to provide information and transition services to employees involved in layoffs and closures.

The western region encompasses 39 cities and counties from Alleghany and Bath counties to the north on the West Virginia border, Halifax County to the south on the North Carolina border, and Lee County to the west on the

Kentucky and Tennessee borders.

Tailored, no-cost services include: job search assistance, financial management seminars, on-site employment transition resources, stress management seminars, assistance filing unemployment insurance claims, labor market information, and other information as needed. Details are available from Beckie Cox, NRCC Rapid Response coordinator at (540) 674-3600, ext. 4284, or email at bcox@nr.edu.

Transitional Programs www.nr.edu/transitional

Adult Education programs assist adults in raising their educational and skills levels in a variety of programming: Workforce Development, Secondary Credentialing (GED® and Adult High School), English as a Second Language, and PluggedInVA. Learners have the opportunity to develop personal career pathways, receiving the instruction they need to journey down those pathways. Workforce Development courses help adults raise their basic skills and employability in order to attain or retain employment or advance in their present job. Secondary Credentialing courses include GED® and High School Diploma. The High School Diploma program provides a computer assisted instructional method to allow students to gain credits toward a High School diploma. Learners must be at least 18 years old to enroll in Adult Education programs. If you desire to enroll in an Adult Education Workforce Development, GED Preparation, or high school diploma course, you are asked to call (540) 674-3682 or email AdultBasicEd@nr.edu. If you would like to register to take the GED® Examination, call (540) 674-3652 or email GED@nr.edu. NRCC is an Official Pearson Vue Testing Center for the 21st Century GED®. In addition to courses being offered in each locality, Distance Education is also offered. For questions or to enroll in an Adult Education program through Distance Education, call (540) 674-3682 or email ABEDE@nr.edu.

English as a Second Language courses include EL-Civics and ESL Bridge. EL Civics courses assist second language learners in developing their English skills in order to better understand and navigate governmental, educational, workplace systems, and key institutions. The ESL Bridge course is designed to support ESL learners as they bridge into college or employment. All people desiring to enroll in the ESL program are encouraged to call (540) 674-3682 or email ESL@nr.edu.

PluggedInVA programs offer adult learners a contextualized educational program as well as technical training in college courses in an effort to develop necessary skills for the workplace at entry level jobs in targeted industries. The PluggedInVA training model includes College & Career Readiness, College & Career Success, Occupational Training at the college level, a Capstone Project, Entrepreneurship Training, and Job Placement. All people desiring to enroll in a PluggedInVA Training program are encouraged to call (540) 674-3682 or email AdultBasicEd@nr.edu.

Great Expectations helps foster youth in the New River Valley complete high school, transition to the community college, and move from foster care independent living. Program participants receive support to help them live productive and fulfilling lives.

Program components include: mentoring and tutoring, help with applying for college admission and financial aid, career exploration and coaching, help with applying for and keeping a job, life skills training - including managing finances, and personalized counseling.

Contact the Great Expectations program at (540) 674-3645 or by emailing GE@nr.edu.

Middle College is a free college-entry program for young adults under the age of 24 who need to attain a GED® or high school diploma and want to transition to New River Community College. Middle College students receive academic assistance in preparing for the GED® or high school diploma as well as a career development course that assists them in making a career decision and successfully transitioning to NRCC. Additionally, Middle College students receive assistance with the college admission, financial aid and registration processes. Middle College students also have an opportunity to attain a Virginia's Career Readiness Certificate, which verifies employable skills. For more information, call (540) 674-3645 or email middlecollege@nr.edu. Information can also be obtained on the program's website: http://www.nr.edu/middlecollege.

On Ramp is a financial assistance program for dislocated workers to provide assistance with the college entrance process, career counseling/planning, and navigating the financial aid process. Participants can enroll in credit or noncredit courses or assessments that can lead to an industry certification, a state licensure, or other workforce credentials to help them become employed. Individuals must meet eligibility criteria in order to participate in the On Ramp program. For more information, call (540) 674-3645 or email onramp@nr.edu.

WorkKeys®

New River Community College uses the ACT WorkKeys System® as a tool that defines, measures and communicates workplace skills for employers, employees, students, and educators. This information provides the basis for systematic training programs to close skill gaps, ensuring a qualified productive workforce in Virginia.

WorkKeys® has become a widely accepted common language for skills definition among employers, educators/trainers, and potential/incumbent employees. The power of the WorkKeys® system lies in its: objectivity, simplicity,

compliance with federal law (ADA, EEOC) and legal defensibility.

There are three components to the WorkKeys® system:
- Job profiling which identifies the basic employability skills required on the job,
- Assessment of skill levels of potential or incumbent workers, and
- Training to close any skills gap that exists between the skills required and those demonstrated.

For more information about WorkKeys®, call (540) 674-3600, ext. 4352 or email pryan@nr.edu.

Career Coaches

Virginia Community Colleges Career Coaches are community college employees who are based in local high schools to help high school students define their career aspirations and to recognize community college and other postsecondary programs, including apprenticeships and workforce training, that can help students achieve their educational and financial goals.

The purpose of the VCCS Career Coaches Program is to empower students to make informed decisions about their career and educational plans and to prepare students for success in postsecondary education and training.

NRCC's Career Coaches are located in:
Auburn High School,
Blacksburg High School,
Christiansburg High School,
Eastern Montgomery High School,
Floyd County High School,
Pulaski County High School and
Radford High School.

Career Pathways

Career Pathways allows students to earn college credit in high school. Students have the experience, knowledge, and opportunity to make an informed choice about their future career. The college credit earned through dual enrollment will count toward a degree in the same field at New River Community College. For more information regarding Career Pathways, visit the website at www.nr.edu/cpathways/.

The Virginia Community College System (VCCS) is a leader in the development of career pathways in the commonwealth. As defined in the state's first strategic plan for a career pathways system, Bridging Business and Education for the 21st Century Workforce, career pathways are connected education and training programs and support services that enable individuals to secure employment with a specific occupational sector and to advance over time to successively higher levels of education or employment in that sector.

Virginia's Community Colleges offer multiple career pathway programs and services including:
- Middle College
- Apprenticeship Related Instruction
- Postsecondary Perkins
- Career Coaches
- Career Readiness Certificate, and more.

Career Pathways are targeted to the emerging, unemployed and underemployed, and incumbent workforces. VCCS career pathway programs and services target populations ranging from public school students to incumbent or displaced workers.

Career Pathways programs deliver success by:
- Providing employers with a connection to a skilled workforce
- Providing Virginia residents with education and training to develop and adapt their skills to a changing economy

Career Pathways include the following elements:
- Connections to employers
- Articulation to higher levels of education and training
- Career planning services and educational advising
- Credentials that count in the workplace such as certifications, licensures, degrees, and certificates
- Experience-based learning including cooperative education, internships, service learning, and business-based projects.

Enrollment Management

NRCC works with prospective students by providing assistance with admissions applications, the registration process and general acclimation into the collegiate experience. Other goals of the office include keeping area high school guidance counselors apprised of NRCC programs and services; routine visits to high schools to administer placement tests and provide assistance to prospective students; organizing new student information sessions during the summer; and providing tours of campus and the NRV Mall site in Christiansburg. Deborah Kennedy is the director of enrollment management and can be reached by telephone at (540) 674-3690 or email at dkennedy@nr.edu.

Public Information Office

The Public Information Office promotes the college, its programs and its benefit to the surrounding area by planning and implementing college-wide publications, promoting internal relations, and coordinating media coverage of college events and programs. The office garners external support for the college in the form of marketing, public relations, public information and related activities.

SkillsUSA

SkillsUSA is a partnership of students, teachers and

industry working together to ensure America has a skilled workforce. SkillsUSA helps each student excel.

SkillsUSA is a national nonprofit organization serving teachers and high school and college students who are preparing for careers in trade, technical and skilled service occupations, including health occupations. It was formerly known as VICA (Vocational Industrial Clubs of America). For more information contact Deborah Tripp, SkillsUSA Virginia Students Specialist, at dtripp@nr.edu or visit the website www.vaskillsusa.org.

World Languages Institute (WLI)

World Languages Institute offers online college credit language classes such as Arabic, Chinese, French, German, Japanese, and Russian supported by a special arrangement with Northern Virginia Community College. More information about WLI college credit courses is available by contacting Linda Claussen at 540-674-3600, ext. 4364.

In addition to these ongoing college credit offerings, the WLI also offers non-credit options in conjunction with online learning providers. These online courses run for six weeks and include subjects such as Beginning Conversational French, Conversational Japanese, Instant Italian and Spanish for Law Enforcement. More details about ed2go courses at NRCC may be found by visiting www.ed2go.com/nrcc .

WLI also offers flexible, non-credit options for business, industry and non-profit organizations. For further information about customized language training for business, industry and non-profit organizations, contact Rowh at 540-674-3600, ext. 4241.

Grading for Workforce Development CE Classes

The following grading system is used for non-credit classes:

S Satisfactory: Individual demonstrates subject competency (assignments, labs, tests, clinical, etc.) and fulfilled attendance needed to pass the course. Individuals are ready to progress to higher level course. CEUs can be awarded.

G Progress: Optional grade used in unique circumstances and only at the discretion of the college for courses such as ESL, in which demonstration of progression toward subject competency is desired. Individual fulfilled attendance requirements but fails to demonstrate the level of subject competency needed to earn an "S" or CEUs. Individual is not ready to progress to a higher level course but would benefit from repeating the course. CEUs cannot be awarded.

U Unsatisfactory: Individual fails to demonstrate subject competency and/or fulfillment of attendance requirement needed to pass the course and to move to a higher level course. CEUs cannot be awarded.

I Incomplete: Individual, due to unavoidable circumstances, attended part but not all of a course. CEUs cannot be awarded. Courses for which the grade of "I" has been awarded must be successfully completed by the end of the end of subsequent semester for another grade ("S", "U", or "G") to be awarded by the instructor. If "S" is awarded. CEUs can be awarded. If "U" or "G" is awarded, CEUs cannot be awarded.

N No Show: Individual neither attends nor formally withdraws from a course for which registered.

W Withdrawal: Individual formally withdraws from a course after the refund period but prior to the start of the course.

X No Grade: No grade awarded. Course taken for purpose of learning the subject matter and not for a grade. CEUs cannot be awarded.

NRCC Educational Foundation, Inc.

Established in 1980, the NRCC Educational Foundation, Inc., is a nonprofit corporation which secures voluntary support and manages, invests, and expends such funds solely for the benefit of New River Community College.

The Foundation Board of Directors, representing the counties of Floyd, Giles, Montgomery, and Pulaski, and the city of Radford, volunteer their expertise and service on behalf of the college and community.

The Foundation assists New River Community College in a variety of ways: through the endowment and distribution of scholarship funds, the purchase of equipment and furnishings, and the financial support of academic and community enrichment programs.

For more information, call (540) 674-3618.

PAINTING CLASS IN ART LAB

Academic Information

Credits

A credit is equal to one college semester hour. One credit for a course is given for about three hours of study weekly by each student as follows:

- One hour of lecture plus an average of two hours of out-of-class study, or
- Two hours of lab or shop study plus an average of one hour of out-of-class study, or
- Three to five hours of lab or shop study with no regular out-of-class lessons
- Fixed credit and variable hours with behavioral bjectives given to each developmental course (courses numbered 01-09).

Grading System

The quality of performance in any academic course is reported by a letter grade, which is assigned by the instructor. These grades are assigned quality points as follows:

A	Excellent:	4 grade points per credit
B	Good:	3 grade points per credit
C	Average:	2 grade points per credit
D	Poor:	1 grade point per credit
F	Failure:	0 grade points per credit

The grades A,B,C,D,P and S are passing grades. Grades of F and U are failing grades. R and I are interim grades. Grades of W and X are final grades carrying no credit.

Incomplete (I): No grade point credit; used only for verifiable, unavoidable reasons for a student who is unable to complete a course within the normal course time. To be eligible for an "I" grade, the student must (1) have satisfactorily completed 80% of the course requirements and attendance, and (2) must request that the faculty member assign the "I" grade and indicate why it is warranted. The faculty member has the discretion to decide whether the "I" grade will be awarded. Since the "incomplete" extends enrollment in the course, requirements for satisfactory completion will be established through consultation between the faculty member and the student. In assigning the "I" grade, the faculty member must complete documentation that includes the reason for assigning the grade, the work to be completed and its percentage in relation to the total course work, date by which work must be completed, and the default grade (A, B, C, D, F, P, R, or U) based upon course work already completed. Completion dates may not be set beyond the last day of subsequent semester (to include summer term) without written approval of the Vice President for Instruction and Student Services. An "I" grade will be changed to a "W" only under documented mitigating circumstances which must be approved by the Vice President for Instruction and Student Services.

Pass (P): No grade point credit; applies only to non-developmental studies courses.

Re-Enroll (R): No grade point credit; the "R" grade may be used as a grade option, in developmental and ESL courses only, to indicate satisfactory progress toward meeting course objectives. Students who re-enroll in a course will complete those modules or portions of the course not previously completed; they do not re-take the entire course. The "R" grade may be given only once per course.

Satisfactory (S): No grade point credit; used only for satisfactory completion of a developmental studies course numbered 01-09 and ESL courses numbered 11-16.

Unsatisfactory (U): No grade point credit; used only for unsatisfactory completion of a developmental studies course numbered 01-09 and ESL courses numbered 11-16.

Withdrawal (W): No credit. A grade of "W" is awarded to students who withdraw from a course or are withdrawn from a course after the add/drop period but prior to the completion of 60 percent of the session. After that time, the student will receive a grade of "F" except under mitigating circumstances, which must be documented. A copy of the documentation must be placed in the student's academic file.

Audit (X): No credit. Permission of the dean or another appropriate academic administrator is required to audit a course. Students desiring to change status from audit to credit or credit to audit must do so within the add/drop period for the course session.

Grading for Developmental Courses

A grade of "S" (Satisfactory) may be given for satisfactory completion of each developmental course (courses numbered 01-09) or an ESL course (courses numbered 11-29).

Students who make satisfactory progress but who do not complete all of the behavioral objectives for a developmental course or ESL course shall be graded with an "R" (Re-enroll) and shall re-enroll to complete the course objectives.

Students who do not make satisfactory progress in a developmental course or ESL course shall be given a "U" (Unsatisfactory). A student will be limited to two enrollments in the same remedial course. In certain

circumstances, a student may be allowed to enroll a third time (for example, sickness) with approval of the Vice President for Instruction and Student Services or designee.

Pass/Unsatisfactory Grading Option

Grades available under the Pass/Unsatisfactory option are "P" and "U." A student under this option receives one or the other of these two grades except where an "R," "I," or "W" is appropriate. The P/U grading option is used for non-punitive purposes. The use of this option requires the approval of the dean responsible for the course or other designated academic administrator.

The P/U grading option may be used for an entire section of any course, but not for a single individual within a course.

Grade Point Average

The grade point average (GPA) is determined by dividing the total number of grade points earned in courses by the total number of credits attempted.

Semester Grade Point Average: Semester GPA is determined by dividing the total number of grade points earned in courses attempted for the semester by the total number of credits attempted.

Cumulative Grade Point Average: Cumulative GPA, which includes all courses attempted, is computed each semester and is maintained on a continuing basis as a record of the student's academic standing. When students repeat a course, only the last grade earned is counted in the computation of the cumulative GPA and for satisfying curricular requirements unless the course is designated repeatable for credit in the Master Course File or is a General Usage course. In instances of courses designated as repeatable for credit or General Usage, all grades/credits are counted in the computation of the cumulative grade point average. Grades of "S," "P," "U," "W," and "I" shall not count as first or subsequent attempts when calculating cumulative GPA. Courses that do not generate grade points are not included in credits attempted.

Curriculum Grade Point Average: A curriculum GPA, which includes only those courses applicable to the student's curriculum, is computed in order to ensure that the student satisfies the graduation requirement for that curriculum. When students repeat a course, only the last grade earned is counted in the computation of the curriculum GPA.

Grades from VCCS Colleges

GPA calculations include only grades earned at the home institution, unless specifically noted in an articulation agreement.

Accessing Grades

Students may access grades online at the college Web site. Grade reports are not mailed.

Degrees, Diplomas, and Certificates

The college offers degrees, diplomas, or certificates for students who successfully complete approved programs at the college.

Associate of Arts and Sciences Degree (AA&S) is granted to students who major in special courses of study such as business administration, liberal arts, education, and other preprofessional programs and who may plan to transfer to four-year schools after completing community college programs.

Associate of Applied Science Degree (AAS) is granted to students who major in one of the occupational/technical courses of study and who may plan to work full-time as soon as they graduate from college.

Diploma is granted to students who complete one of the two-year non-degree occupational courses of study.

Certificate is granted to students who complete one of the approved non-degree courses of study.

Graduation Requirements

Associate Degree Requirements to be eligible for graduation with an associate degree from a community college, the student must:

a. have fulfilled all of the course and credit-hour requirements of the degree curriculum with at least 25 percent of the credits acquired at the college awarding the degree;
b. have been certified by appropriate college official for graduation;
c. have earned a grade point average of at least 2.0 in all studies attempted which is applicable toward graduation in the student's curriculum;
d. have filed an application for graduation in the Office of Admissions and Records;
e. have resolved all financial obligations to the college and returned all library and college materials.

All students who plan to graduate with an Associate of Arts and Sciences (AA&S) or Associate of Applied Science (AAS) degree may be required to complete appropriate competency testing prior to graduation.

Diploma Requirements to be eligible for graduation with a diploma from a community college, the student must:

a. have fulfilled all of the course and credit-hour requirements of the diploma curriculum as specified in the college catalog with 25 percent of the credits acquired at the college awarding the diploma;

b. have been certified by appropriate college official for graduation;
c. have earned a grade point average of at least 2.0 in all studies attempted which are applicable toward graduation in the student's curriculum;
d. have filed an application for graduation in the Office of Admissions and Records;
e. have resolved all financial obligations to the college and returned all library and college materials.

Certificate Requirements to be eligible for graduation with a certificate from the college, a student must:

a. have fulfilled all of the course and credit-hour requirements of the certificate curriculum as specified in the college catalog with 25 percent of the credits acquired at the college awarding the certificate;
b. have been certified by appropriate college official for graduation;
c. have earned a grade point average of at least 2.0 in all studies attempted which are applicable toward graduation in the student's curriculum;
d. have filed an application for graduation in the Office of Admissions and Records;
e. have resolved all financial obligations to the college and returned all library and college materials.

If students successfully complete a program of instruction which does not lead to an associate degree or diploma, they may be granted a certificate. If they seek a degree or diploma program but are not able to finish the degree or diploma requirements, they may, upon recommendation of the correct instructional division and the Vice President, be issued a certificate if the portion of study successfully finished is equal to an approved certificate program offered at the college.

Course Substitutions

Course substitution in planned programs should not exceed 10 percent of the total credits of the program unless extenuating circumstances are documented and approved by the appropriate dean and the Vice President for Instruction and Student Services. A higher level general education course or an appropriate sequence for transfer to a college or university will not be counted as part of the 10 percent substitution. (e.g., ECO 201 for ECO 120 is an appropriate selection for an A.A.S. student who plans to transfer to a four-year college.)

Award of Completion

An award of completion may be granted for completing single courses which may not result in the receipt of certificates, diplomas, or degrees.

Second Degree, Diploma, or Certificate

In granting students another certificate, diploma, or degree, the college may grant credit for all courses which were taken before and which apply toward the requirements of the additional certificate, diploma, or degree.

Multiple Awards at Graduation

In awarding students an additional degree, diploma, certificate, or career studies certificate, the college may grant credit for all completed applicable courses which are requirements of the additional degree, diploma, certificate, or career studies certificate. However, the awards must differ from one another by at least 25% of the credits.

Graduation Honors

Students who have fulfilled the graduation requirements as applicable to their programs may be eligible for graduation honors. Appropriate honors are recorded on the degree, diploma, or certificate (with the exception of Career Studies Certificates). The honors are based upon the cumulative GPA as follows:

3.2 Cum Laude (With Honor)
3.5 Magna Cum Laude (With High Honor)
3.8 Summa Cum Laude (With Highest Honor)

Graduation Procedures

Formal graduation exercises are held in May at the end of spring semester. Students who complete course requirements during the subsequent summer session may participate in the May ceremony. Students who complete course requirements during the fall semester may participate in the next May ceremony.

Students planning to graduate should contact their advisor to initiate the process.

It is the student's responsibility to ensure that a graduation application is received in the Admissions and Records Office during the semester prior to the completion of requirements. Filing the graduation application with the Admissions and Records Office will ensure that students will be notified about graduation, measurement for caps and gowns, and practice. All degrees, diplomas, and certificates are mailed to graduates.

Assessment

Curricular students will be required to take tests to determine placement into reading, writing and math classes. Additionally, students may be required to participate in one or more tests, projects, or capstone courses designed to measure general education achievement and/or achievement in selected major areas prior to graduation, for the purpose of evaluation of academic programs. For program evaluations and competencies, no minimum score or level of achievement is required for graduation. Program assessment test results will remain confidential and will be used for the sole purpose of improvement of the college. Students may have

access to their own test scores upon request. Occupational competency and performance evaluations, however, must be successfully completed for graduation.

Class Attendance

Regular attendance at classes is required. When absence from a class becomes necessary, it is the responsibility of the student to inform the instructor prior to the absence whenever possible. The student is responsible for the subsequent completion of all study missed during an absence. Any instruction missed and not subsequently completed will necessarily affect the grade of the student regardless of the reason for the absence.

Auditing a Class

Students who want to attend a class without taking the exam or receiving credit for the class may do so by registering to audit through the usual registration process and paying the normal tuition. Permission of the dean or another appropriate academic administrator is required to audit a class. Audited classes carry no credit and do not count as a part of the student's class load. Students desiring to change status in a class from audit to credit or credit to audit must do so within the add/drop period for the class session. Students who desire to earn credit for a previously audited class must re-enroll in the class for credit and pay normal tuition to earn a grade other than "X". Advanced standing credit may not be awarded for a previously audited class.

Change of Registration

In all cases students should follow the correct methods for making any change in their program after registration. If they fail to do so, they could place their college record in danger.

Registration/Add

A student may register for or add classes until the Last Day to Add Classes without Instructor Approval. After that date until the Last Day to Add/Drop Classes with Full Refund, a student must have instructor approval to register for or add classes. In most cases, a student may not enter a new class after the Last Day to Add/Drop Classes with Full Refund. Exceptions to this policy will be considered on the merits of the individual case and must receive the approval of the appropriate dean in the instructional division. In considering exceptions, the manager must remember that the quality of instruction needs to be assured and must be reasonably sure that the student has a chance of success in the course once admitted.

Student Initiated Withdrawal

A student may drop or withdraw from a class without academic penalty during the first 60 percent of a session. For purposes of enrollment reporting, the following procedures apply:

a. If a student withdraws from a class prior to the termination of the add/drop period for the session, the student will be removed from the class roll and no grade will be awarded.
b. After the add/drop period, but prior to completion of 60 percent of a session, a student who withdraws from a class will be assigned a grade of "W." A grade of "W" implies that the student was making satisfactory progress in the class at the time of withdrawal, that the withdrawal was officially made before the deadline published in the college calendar, or that the student was administratively transferred to a different program.
c. After that time, if a student withdraws from a class, a grade of "F" or U" will be assigned. Exceptions to this policy may be made under documented mitigating circumstances if the student was passing the course at the last date of attendance.

A retroactive grade of "W" may be awarded only if the student would have been eligible under the previously stated policy to receive a "W" on the last date of class attendance. The last date of attendance for a distance education course will be the last date that work was submitted.

Late withdrawal appeals will be reviewed and a decision made by the Director of Student Services.

No-Show Policy

A student must either attend face-to-face courses or demonstrate participation in distance learning courses by the last date to drop for a refund. A student who does not meet this deadline will be reported to the Admissions and Records Office and will be withdrawn as a no-show student. No refund will be applicable, and the student will not be allowed to attend/ participate in the class or submit assignments. Failure to attend or participate in a course will adversely impact a student's financial aid award.

Instructor Initiated Withdrawal

A student who adds a class or registers after the first day of class is counted absent from all class meetings missed. Each instructor is responsible for keeping a record of student attendance (face-to-face classes) or performance/ participation (DE classes) in each class throughout the semester.

When a student's absences equal twice the number of weekly meetings of a class (equivalent amount of time for summer session), the student may be dropped for unsatisfactory attendance in the class by the instructor.

Since attendance is not a valid measurement for Distance Education (DE) courses, a student may be withdrawn due to non-performance. A student should refer to his/her DE course plan for the instructor's policy.

In accordance with the No-Show Policy, a student who has not attended class or requested/accessed distance learning materials by the last day to drop the class and receive a refund must be withdrawn by the instructor during the following week. No refund will be applicable.

When an instructor withdraws a student for unsatisfactory attendance (face-to-face class) or non-performance (DE class), the last date of attendance/participation will be documented. A grade of "W" will be recorded during the first sixty percent (60%) period of a course. A student withdrawn after the sixty percent (60%) period will receive a grade of "F" or "U" except under documented mitigating circumstances when a letter of appeal has been submitted by the student. A copy of this documentation must be placed in the student's academic file.

The student will be notified of the withdrawal by the Admissions and Records Office. An appeal of reinstatement into the class may be approved only by the instructor.

Withdrawal from the College

A student who wishes to withdraw from the college should contact a counselor to determine the appropriate procedure. Failure to follow established procedure could place the student's college record in doubt and prejudice the student's return to this or another college.

Academic Warning

Students who fail to attain a minimum grade point average (GPA) of 2.00 for any semester will be placed on academic warning. Students on academic warning are encouraged to consult with their advisor/counselor and take advantage of the college's academic support services.

Academic Probation

Students who fail to maintain a cumulative grade point average (GPA) of 1.50 will be on academic probation until their cumulative GPA is 1.75 or better. The statement "Academic Probation" will be placed on their permanent records. Students will be placed on probation after they have attempted 12 semester credits. Students on probation are ineligible for appointed or elected office in student organizations unless special permission is granted by the Director of Student Services or another appropriate college administrator. Students may be required to take less than a normal academic load the following semester and are required to consult with their advisor/counselor. Students are also encouraged to take advantage of the college's academic support services.

Academic Suspension

Students on academic probation who fail to attain a semester grade point average (GPA) of 1.50 or better will be placed on academic suspension after they have attempted 24 semester credits. Academic suspension will be for one semester, and the statement "Academic Suspension" will be placed on their permanent records. Students who are placed on academic suspension and wish to appeal should follow the college's appeal process. Suspended students may be reinstated at the conclusion of the suspension period by following the process established by the college.

Students who have been reinstated from academic suspension must achieve a 2.00 GPA for the semester of reinstatement and must earn at least a 1.75 GPA in each subsequent semester of attendance, and the statement "Subject to Dismissal" will be placed on their permanent records. Students who have been reinstated from academic suspension will remain subject to dismissal until their cumulative GPA is raised to a minimum of 1.75. Reinstated students may be required to take less than a normal course load the following semester and are required to consult with their advisor/counselor. Students are also encouraged to take advantage of the college's academic support services.

Academic Dismissal

Students who fail to attain at least a 2.00 grade point average (GPA) for the semester of reinstatement following academic suspension will be academically dismissed. Students who achieve at least a 2.00 GPA for the semester of their reinstatement following academic suspension must earn at least a 1.75 GPA in each subsequent semester of enrollment. Failure to attain a 1.75 GPA in each subsequent semester until the cumulative GPA reaches 1.75 will result in academic dismissal. The statement "Academic Dismissal" will be placed on their permanent records and is normally permanent. In exceptional circumstances, students may appeal and be reinstated following the appeal process established by the college. Students who have been reinstated after academic dismissal will remain subject to dismissal until their cumulative GPA is raised to a minimum of 1.75. Reinstated students may be required to take less than a normal course load the following semester and are required to consult with their advisor/counselor. Students are also encouraged to take advantage of the college's academic support services.

Academic Suspensions from Other Institutions

Students under disciplinary or academic suspension from other schools who want to apply for admission should contact the Director of Student Services.

Dean's List

The name of every student taking 12 college-level semester hours or more and who attains a grade point average of 3.2 for the semester is placed on the Dean's List.

President's List

The name of every student taking 12 college-level semester hours or more who attains a grade point average of 3.5 for the semester, and who has earned a minimum of 20 semester hours at the college, is placed on the President's List.

Advanced Learners Program

The Advanced Learners Program (ALP) courses provide an opportunity for high-achieving students to experience an interactive learning environment of inquiry, discovery, collaboration, and engagement. ALP courses are developed from standard VCCS courses, but are different in their objective and their approach to learning. Most ALP courses will be delivered as online, Distance Education courses and will utilize Internet technologies that will enhance peer and student/faculty engagement and interaction. ALP courses will be more rigorous than standard courses.

The ALP Innovation Center, a facility designed specifically for ALP students, is located in Godbey 130. The Center's purpose is to provide an environment that encourages student and faculty collaboration and research. The Center houses state of the art tools and technology, such as computers and laptops for student use, video cameras for check out, an LCD projector, Apple TV, white boards, a Smartboard, two flat screen televisions, a printer, and tables and chairs for group meetings, as well as software needed to create individual and group projects.

Students who are interested in taking ALP courses must apply for ALP designation, which will allow them to take any of the ALP courses offered. To qualify, an ALP student needs to be an independent thinker, have high expectations, be proficient with technologies, and be committed to being a collaborative learner. An ALP student must also meet eligibility requirements for enrolling in college-level English courses, possess and maintain a cumulative college GPA of no less than 3.2 (or the equivalent in high school if an entering student), and complete a simple application, including describing his or her special skills and talents, how the ALP courses would enhance educational goals, and what his or her hopes and aspirations are for a career.

Following a formal review process for acceptance into the program, a student is designated as an ALP student; this designation allows a student to self-select ALP classes. ALP students' transcripts will have an ALP designation, and graduation apparel will feature an ALP designation.

For registration, ALP courses will be identified by program area, course number, and Distance Education designation, followed by ALP (e.g., SOC 266 – 35 ALP).

For information about the Advanced Learners Program or the application process, please contact Dr. Paige Cash, ALP faculty coordinator at (540) 674-3600, ext. 4446, or email ecash@nr.edu.

Examinations

Students will be expected to take their examinations at the regularly scheduled times. No exceptions will be made without the permission of the appropriate dean and the instructor of the course.

Repeating a Course

Credit courses that are designated as repeatable for credit in the Master Course File or are identified as General Usage courses in the Master Course File may be repeated for credit. (General Usage courses: 090-190-290; 095-195-295; 096-196-296; 097-197-297; 098-198-298; 099-199-299). A student should normally be limited to two (2) enrollments in a credit course that is not designated as repeatable for credit or is not a General Usage course. Should the college wish to make an exception to this policy, on a student-by-student basis, the need should be documented and approved by the college's chief academic officer or designee.

Normal Academic Load

The normal academic course load for students is 15-17 credits. The minimum full-time load is 12 credits, and the normal maximum full-time load is 18 credits. If students wish to carry an academic load of more than 18 credits, they must have a minimum grade point average of 3.0 and the approval of the dean and their faculty advisor or counselor. If students have received academic warning or are on academic probation, they may be required to take less than the normal semester course load.

Course Scheduling

Courses usually will be scheduled in the same order and during the same semesters as shown in each course of study description; but the college reserves the right to postpone a course offering if there are not enough students enrolled in the course.

Student Information Release Policy

All requests for official information about students should initially be referred to the Director of Student Services. Student records are treated as confidential information as provided by THE FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT (FERPA) as amended. Information from student records cannot be released (with very limited lawful exceptions) except to the student who may authorize release. Officials of the college may have access to student records when acting in the student's educational interest and within the limitations of their need to know. These officials include faculty, academic advisors, and personnel in the offices of Admissions and Records, Counseling, Financial Aid, Veterans' Services, Vice President's for

Instruction and Students Services Office, and Threat Assessment Team members.

Directory information including name, address, telephone number, major field of study, dates of attendance, course credit load, e-mail address, participation in officially recognized activities and sports, weight and height of members of athletic teams, grade level, degrees, honors and awards received, photo, and the most recent educational agency or institution attended may be released without the consent of the student.

A student may request that this information be kept confidential by indicating in the Student Information System (Student Center) or by notifying the Admissions and Records Office each semester by the last day of add/drop. Emergency requests for information will be handled by the Director of Student Services in consultation with the Vice President for Instruction and Student Services or another appropriate college official.

The student has the right to inspect and review the information contained in his or her record. The student must submit a written request to the Admissions and Records Office and identify the records to be inspected. The Admissions and Records Office will then arrange a mutually convenient appointment for student inspection of records within 45 days of submitting a written request.

The student may also ask the College to amend a record believed to be inaccurate or misleading. If the College decides not to amend the record as requested by the student, the College will notify the student about the decision and advise the student of the right to a hearing regarding the request for amendment.

The student has the right to file a complaint concerning alleged failures by NRCC to comply with the requirements of FERPA. The name and address of the office that administers FERPA is: Family Policy Compliance Office, U.S. Department of Education, 400 Maryland Avenue SW, Washington D.C., 20202-4605.

Transcripts

A transcript is a copy of the student's permanent academic record. An official transcript carries the college's seal. Credit/Non-Credit and Continuing Education Unit (CEU) transcripts may be obtained by completing the transcript request form in the Admissions and Records Office, submitting a request in writing, by fax, or online through the Student Information System (SIS). There is no transcript fee unless five or more transcripts are requested at one time. In that case, there is a $1.00 per copy charge for each copy over the limit of five.

Special Dress and Safety Equipment

Several departments require special laboratory attire necessary for safety of the individuals or for participation in the activities required for the course. Nursing students, for example, must have complete nursing uniforms as specified by the instructors and by the hospitals in which the students are assigned. Protective clothing is required in welding, and special dress may be needed for certain physical education classes. In addition to the clothing requirements, some laboratory courses may require students to purchase specified tools and safety equipment.

Virginia Statute 22-10.2

Protective eye devices must be worn by every student and teacher in any school, college, or university participating in any of the following courses:

A. Vocational or industrial arts shops or laboratories involving experience with:
   1. Hot molten metals;
   2. Milling, sawing, turning, shaping, cutting, grinding or stamping of any solid materials;
   3. Heat treatment, tempering of kiln firing of any metal or other materials;
   4. Gas or electric arc welding;
   5. Repair of any vehicle;
   6. Caustic or explosive materials.

B. Chemical or combined chemical-physical laboratories involving caustic or explosive chemicals or hot liquids or solids. Students and personnel shall be required to wear industrial quality eye protective devices at all times while participating in such courses or laboratories.

"Industrial quality eye protective devices," as used in this section, means devices providing side protection and meeting the standards of the American Standards Association Safety Code for Head, Eye, and Respiratory Protection, Z2.1-1959, promulgated by the American Standards Association, Inc. (1966, c.69).

The number of this section was assigned by the Virginia Code Commission, the 1966 act having assigned no number.

Completion Rates (Student Right-To-Know)

As required by the federal Student Right-To-Know legislation, the following statement describes student completion rates at New River Community College: For those students who first enrolled full-time Fall 2011 in a program at New River Community College, 19.1% had graduated by May 2014. The graduation rate for those students enrolling in a degree program was 17.2% while the rate for those in diploma and certificate programs was 45.2%. The graduation rates for NRCC are comparable with those of other community colleges. Many community college students take several years to complete a degree as they balance studies with employment and other activities. Many others choose to transfer instead of completing a

degree. See the Appendix, page 155 for more information on completion rates.

Third Party Software

NRCC assumes no liability for virus, loss of data, or damage to software or computer when a student downloads software for classes.

General Education Objectives

General Education is the component of curricula at New River Community College that is designed to assure that students can communicate, think logically, and perform calculations. Students will be given the opportunity to develop an appreciation of our cultural and social heritage and to increase their awareness of an individual's roles and duties as a citizen. In addition, students will be encouraged to develop a personal wellness program. The ultimate goal of general education is to equip an individual to adapt and to perform in a changing society.

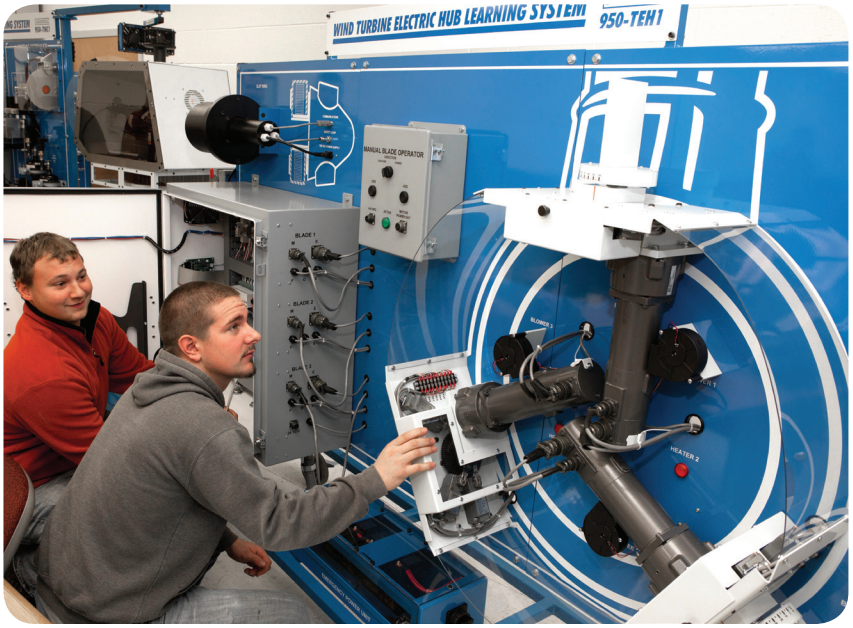
Objectives of General Education

VCCS degree graduates will demonstrate competency in the following general education areas:

1. Communication A competent communicator can interact with others using all forms of communication, resulting in understanding and being understood.
   Degree graduates will demonstrate the ability to:
   - understand and interpret complex materials;
   - assimilate, organize, develop, and present an idea formally and informally;
   - use standard English;
   - use appropriate verbal and non-verbal responses in interpersonal relations and group discussions;
   - use listening skills; and
   - recognize the role of culture in communication.
2. Critical Thinking A competent critical thinker evaluates evidence carefully and applies reasoning to decide what to believe and how to act.
   Degree graduates will demonstrate the ability to:
   - discriminate among degrees of credibility, accuracy, and reliability of inferences drawn from given data;
   - recognize parallels, assumptions, or presuppositions in any given source of information;
   - evaluate the strengths and relevance of arguments on a particular question or issue;
   - weigh evidence and decide if generalizations or conclusions based on the given data are warranted;
   - determine whether certain conclusions or consequences are supported by the information provided; and
   - use problem solving skills.
3. Cultural and Social Understanding A culturally and socially competent person possesses an awareness, understanding, and appreciation of the interconnectedness of the social and cultural dimensions within and across local, regional, state, national, and global communities.
   Degree graduates will demonstrate the ability to:
   - assess the impact that social institutions have on individuals and culture—past, present, and future;
   - describe their own as well as others' personal ethical systems and values within social institutions;
   - recognize the impact that arts and humanities have upon individuals and cultures;
   - recognize the role of language in social and cultural contexts; and
   - recognize the interdependence of distinctive world-wide social, economic, geo-political, and cultural systems.
4. Information Literacy A person who is competent in information literacy recognizes when information is needed and has the ability to locate, evaluate, and use it effectively. (adapted from the American Library Association definition)
   Degree graduates will demonstrate the ability to:
   - determine the nature and extent of the information needed;
   - access needed information effectively and efficiently;
   - evaluate information and its sources critically and incorporate selected information into his or her knowledge base;
   - use information effectively, individually or as a member of a group, to accomplish a specific purpose; and
   - understand many of the economic, legal, and social issues surrounding the use of information and access and use information ethically and legally.
5. Personal Development An individual engaged in personal development strives for physical well-being and emotional maturity.
   Degree graduates will demonstrate the ability to:

- develop and/or refine personal wellness goals; and
- develop and/or enhance the knowledge, skills, and understanding to make informed academic, social, personal, career, and interpersonal decisions.

6. Quantitative Reasoning A person who is competent in quantitative reasoning possesses the skills and knowledge necessary to apply the use of logic, numbers, and mathematics to deal effectively with common problems and issues. A person who is quantitatively literate can use numerical, geometric, and measurement data and concepts, mathematical skills, and principles of mathematical reasoning to draw logical conclusions and to make well-reasoned decisions.
   Degree graduates will demonstrate the ability to:
   - use logical and mathematical reasoning within the context of various disciplines;
   - interpret and use mathematical formulas;
   - interpret mathematical models such as graphs, tables and schematics and draw inferences from them;
   - use graphical, symbolic, and numerical methods to analyze, organize, and interpret data;
   - estimate and consider answers to mathematical problems in order to determine reasonableness; and
   - represent mathematical information numerically, symbolically, and visually, using graphs and charts.
7. Scientific Reasoning A person who is competent in scientific reasoning adheres to a self-correcting system of inquiry (the scientific method) and relies on empirical evidence to describe, understand, predict, and control natural phenomena.
   Degree graduates will demonstrate the ability to:
   - generate an empirically evidenced and logical argument;
   - distinguish a scientific argument from a non-scientific argument;
   - reason by deduction, induction and analogy;
   - distinguish between causal and correlational relationships; and
   - recognize methods of inquiry that lead to scientific knowledge.



INSTRUMENTATION AND CONTROL AUTOMATION STUDENTS

VCCS Minimum Requirements for Associate Degrees

	Minimum Number of Semester Hour Credits	
General Education	**AA&S**	**AAS**
Communication(a)	6	3
Humanities/Fine Arts	6	3
Foreign Language	0	0
Social/Behavioral Sciences	9	3(b)
Natural Sciences/ Mathematics	7 6(c)	0, 3(b) 0, 3(b)
Personal Development (d)	2	2
Other Requirements For Associate Degrees		
Major Field Courses and Electives	24-27	
Career/Technical Courses		49-53(e)
Total For Degree (f)	60-61(g)	65-67(g)

Notes:

a. Must include at least one course in English composition.
b. While general education courses other than those designed for transfer may be used to meet portions of these requirements, SACS principles require that general education courses be general in nature and must not "…narrowly focus on those skills, techniques, and procedures peculiar to a particular occupation or profession."
c. Only 3 semester hours of mathematics are required for the General Studies major.
d. Personal development includes health, physical education, or recreation courses that promote physical and emotional well-being and student development courses. Must include at least one student development course.
e. AAS degrees must contain a minimum of 15 semester hours of general education. Students should plan to take at least 30 hours in the major; the remaining hours will be appropriate to the major.
f. All college-level course prerequisites must be included in the total credits required for each program.
g. Credit range for engineering programs is 60-72 semester hour credits. Credit range for AAS programs is 65-67, including nursing.

Admission Information

General Admission to the College

Admission is open to any person who has a high school diploma, a General Education Development (GED) Certificate, or who is 18 years old, and in any case can benefit from a program as demonstrated by assessment in reading, writing, and mathematics. Minimum scores are noted in the following chart:

	VPT	Compass	Asset
Reading	ENF 1	**62**	**35**
Writing	ENF 1	**32**	**35**
Math	MTE 1	**25**	**33**

Exceptions to this policy may be made by the College President only for documented reasons. Persons applying for admission to a particular associate degree program should be a high school graduate, have earned a GED certificate, or otherwise be considered eligible by the college.

Persons may be admitted to the college as curricular or non-curricular students when the items listed below have been received by the Office of Admissions. (See classification of students for non-curricular categories.) For all curricular students, these items are needed:

1. A completed official application for admission, with Social Security number requested.
2. College and university transcripts to ensure appropriate transfer credit and satisfaction of course prerequisites. The VCCS Student Information System academic records will be sufficient for colleges within the VCCS.
3. High school transcripts or GED certificate for Nursing students.
4. Graduates who complete secondary school in a home school setting must provide a graduation date and may be required to provide documentation of course work.
5. Additional information may be required by the college for admission to a specific program or curriculum.

For all non-curricular students, the following item is needed:

1. A completed official application for admission, with Social Security number requested. Non-curricular students must satisfy all required course pre-requisites or placement testing requirements before enrolling in a specific college-level course.

After students have been admitted to the college, they should meet with a college counselor to (a) discuss their educational interests, (b) find out what tests they may need to take and (c) apply for admission to a certain plan of study or program at the college. It is the policy of the college to maintain and promote equal employment and educational opportunity without regard to race, color, gender or age (except where gender or age is a bona fide occupational qualification), religion, handicap, national origin, or other non-merit factors.

Students with disabilities who desire accommodations for enrollment should contact the counseling center to request services. Students with documented disabilities who desire classroom accommodations should discuss specific classroom needs with a counselor. If possible, please request services at least four weeks in advance of the beginning of classes.

Admission Denied/Revoked: The college reserves the right to evaluate and document special cases and to refuse or revoke admission if the college determines that the applicant or student poses a threat, is a potential danger, is significantly disruptive to the college community, or if such refusal or revocation is considered to be in the best interest of a college. The college also reserves the right to refuse admission for applicants that have been expelled or suspended from, or determined to be a threat, potential danger or significantly disruptive by, another college. An applicant may invoke his/her right to an appeal process.

NRCC Policy Related to Legislation Regarding Admissions

Section 23-2.2:1 of the Code of Virginia requires that the VCCS send enrollment information to the Virginia State Police concerning applicants to institutions of higher education. This information is transmitted electronically and compared against the Virginia Criminal Information Network and National Crime Information Center Convicted Sexual Offender Registry. Language on the web application informs applicants that their information is being transmitted to the State Police.

In the event that the State Police determine that an applicant to New River Community College is listed on the Sex Offender Registry, the State Police will notify NRCC. When the college receives such a notification, the following procedures apply:

A. The applicant will be denied admission to NRCC in accordance with its admission policy as published in its catalog:
B. If the applicant registers for classes and becomes a student before the college receives notification from the State Police, the student will be immediately

informed that he/she is being administratively withdrawn from classes and will receive a refund.

C. An applicant may invoke his/her right to an appeal process.

Appeal Process for Denial of Admission or Withdrawal for Convicted Sex Offender

When a convicted sex offender is denied admission to or is administratively withdrawn from classes at New River Community College, he/she may invoke the following appeal process:

A. The applicant or withdrawn student will receive a letter from the Director of Student Services stating his/her denial of admission or administrative withdrawal.

B. The applicant/withdrawn student may write a letter of appeal to the Director of Student Services in which he/she provides the following information:
   1. Disclosure of the nature of the offense for which he/she has been convicted;
   2. Justification for consideration of admission/reinstatement;
   3. Statement acknowledging his/her understanding that his/her identity and status as a convicted sex offender will be publicized on the college campus in accordance with federal and state law if he/she is admitted or reinstated. Note: If a student is appealing a denial of admission or an administrative withdrawal, he/she must submit the letter of appeal to the Director of Student Services within seven (7) calendar days of the administrative withdrawal.

C. A panel of three (3) full-time faculty or administrators will review the information submitted and make a decision by a simple majority vote within fourteen (14) calendar days of receiving the letter of appeal. The Director of Student Services will serve as the convener of the panel and will be a member of the panel.

D. The Director of Student Services will inform the applicant/withdrawn student by letter of the decision of the appeals panel. The decision of the appeals panel shall be final.

Placement Tests

Most students who are entering a program of study or enrolling in any courses requiring a mathematics or English prerequisite (including transfer students who do not have credit in mathematics or English) must take the Virginia Placement Test (VPT). Students must submit their applications for admission to New River before taking the placement tests. Placement testing must be completed prior to meeting with an academic advisor to establish a course schedule. Students can retake the placement test one time within 12 months of the initial attempt of the VPT. New students are exempt from taking the placement tests if they have taken the SAT and received a score of 500 or above on critical reading and writing and/or 520 or above on math, or if they have taken the ACT and received a combined score of 21 or higher in the English and writing and/or a score of 22 or higher in math. For more information see the website at http://www.nr.edu/students/tests.php .

Other Admission Requirements

Dual Enrollment Student Admissions (High School/Home School) Dual enrollment is restricted to high school juniors and seniors and home school students studying at the high school junior and senior levels. All students admitted under this section must demonstrate readiness for college, meet the applicable college placement requirements and address all other college admission criteria. Home school students must also provide a copy of a home school agreement approved by the school district or a letter from the local school board or a copy of the letter filed by the parent/legal guardian declaring home school for religious exemption. Documentation of parental permission is required for all dual enrollment students. Because enrolling freshman and sophomore students is considered exceptional, the college ready status of each prospective freshman and sophomore student will be treated on a case-by-case basis. Formal approval by the college president is required.

Admission to Specific Curricula or Programs

Besides the general admission requirements to the college listed above, certain requirements are given for each program of study of the college. Among other items considered in the admission process are educational and occupational experiences and other reasonable standards to ensure that students have the ability to meet program requirements.

The exact admission requirements for each program of study are listed in the Educational Programs section of the college catalog. Students who do not meet these requirements for their chosen course of study will be allowed to enroll in developmental courses and other courses that have no math or English prerequisites. Persons who apply for admission to an associate degree (Associate of Arts and Science or Associate of Applied Science) program shall be a high school graduate or equivalent.

Admission to Courses

Students can be admitted to certain courses only when they meet the needed requirements for the courses as listed in the course offerings in the back of the catalog.

Readmission Requirements

Former students must update their record by completing an application form if they have not attended the college for three years.

Academic Renewal Policy

Students who return to a college after a separation of five (5) years, or more, may petition for academic renewal

by completing the appropriate form in the Admissions and Records Office.

If a student is determined to be eligible for academic renewal, "D" and "F" grades earned prior to re-enrollment will be deleted from the cumulative and curriculum grade point average (GPA), subject to the following conditions:

a. Prior to petitioning for academic renewal the student must demonstrate a renewed academic interest and effort by earning at least a 2.5 GPA in the first twelve (12) semester hours completed after reenrollment.
b. All grades received at the college will be a part of the student's official transcript.
c. Students will receive degree credit only for courses in which grades of "C" or better were earned prior to academic renewal, providing that such courses meet current curriculum requirements.
d. Total hours for graduation will be based on all course work taken at the college after readmission, as well as former course work for which a grade of "C" or better was earned, and credits transferred from other colleges or universities.
e. The academic renewal policy may be used only once and cannot be revoked once approved.

International Student Admission Requirements

International students applying for admission on an F-1 visa must meet the general admission requirements for curricular students and the following additional requirements:

1. a. TOEFL score of 500 (paper and pencil version) or better, OR
   b. TOEFL score of 173 (computer-based version) or better, OR
   c. TOEFL score of 61 (internet-based version) or better, OR
   d. IELTS minimum academic score of 6, OR
   e. Proficiency at the ENF 2 levels as determined by English and reading placement tests.
2. International Student Supplementary Data Form and financial support documentation.
3. Proof of health and accident insurance providing 24-hour, year-round coverage (including summer).
4. Proof of compliance with U.S. Citizenship and Immigration Service (U.S.C.I.S.) regulations for transfer students.

For more information, refer to the "International Students" section on NRCC's Admissions & Records Office web page at http://www.nr.edu/admissions/ .

Admission Priorities

When enrollments must be limited for any curriculum, priority will be given to all qualified students who are residents of the political subdivisions supporting the college and to Virginia residents who do not have access to a given program at their local community college, provided such students apply for admission to the program prior to registration or by a deadline established by the college. In addition, residents of localities with which the college has clinical site or other agreements may receive equal consideration for admission.

Transfer

Transfer between Curricula or Programs Students who want to change their curriculum or course of study should fill out the appropriate form, which may be obtained from the Admissions and Records Office. Students who change programs must request a reevaluation of their transcripts in the Admissions and Records Office.

Transferring from Other Colleges For the most part, students who transfer from other colleges and who can re-enter the last college of attendance, can also be admitted to New River Community College.

It is the role of the college to help students succeed in a program from which they can benefit. If transfer students are not able to return to a certain course of study in a college they had attended, they may not be allowed to enroll in the same course of study at NRCC until one semester goes by or until they complete an approved developmental (preparatory) program at the college. The Director of Student Services shall decide on each case and may put special conditions on the admission of each student.

Students who transfer from other colleges should consult the Director of Student Services for an assessment of credits to determine where they stand before they register for classes. Generally, no credit will be given for courses with grades lower than "C," and at least 25 percent of the credits for a program must be earned at NRCC. Transfer students may be asked to repeat courses if it is clearly in their best interest to do so in order to make good progress in their course of study. Any VCCS course in which a student received a grade of "C" or better will transfer as the same course (excluding general usage courses).

In determining transfer credit, course work applicable to the program at NRCC will be accepted if the courses were taken at another college or university accredited by a regional accrediting agency. Other course work taken at institutions which are approved by the State Council of Higher Education in Virginia may be considered on an individual basis.

Transferring to Other Institutions Students planning to transfer to a four-year college or university are responsible for finding out what is required by the department of their intended major field at that school. The requirements there should guide the students in choosing their course of study and electives. The college keeps a file of catalogs and

transfer guides for many other colleges. The counseling department will help the students choose a school and find out its requirements.

Applying for Credit or Waiver of Requirements

Students who have reason to believe that the educational studies, training programs, or work experience that they have had may make a change in the course of study should talk to their advisor or counselor before they register for classes. Credit or waiver of requirements may be given in the following ways:

Credit by Exam: Through its own proficiency exam program, the community college sees the need to give support for academically talented students. Such students may apply to show how well they have mastered certain courses by taking a proficiency exam for any course for which there are proficiency exam policies. For more information contact a Dean's office.

Credit by Previous Completion: Credit may be given for equivalent courses which are satisfactorily completed at an accredited college or university (see "Transferring from Other Colleges").

Credit for Prior Experiential Learning: Credit may be given only for documented learning which ties the prior experience to the theories and data of the relevant academic field.

Credit by Equated Occupational Experience: Credit by equated occupational experience, including experiential learning and the submission of portfolios, is a means of achieving advanced standing through an administrative determination by the college that the occupational experience of an individual is at least equivalent to the course(s) to be exempted.

Credit by AP Examination: Credit may be given through the Advanced Placement (AP) Examination Program, if applicable to the student's program, to students who scored 3, 4, or 5 on the AP exam given in high school. Official score reports must be sent to the Admissions and Records Office. Students who plan to transfer should contact the prospective college or university to determine acceptability of AP credit.

Credit by CLEP: Credit may be given through the College Level Examination Program (CLEP), if applicable to the student's program, for general and/or subject exams if scores are above the minimum level suggested by the American Council of Education (ACE). Official score reports must be sent to the Admissions and Records Office. Students who plan to transfer should contact the prospective college or university to determine the acceptability of CLEP credit.

Credit by Military Service: Credit may be given for military experience which is applicable to the student's program if credit is recommended in the ACE "Guide to the Evaluation of Educational Experiences in the Armed Services." Official discharge papers (dd-214), military transcripts, and other documentation should be submitted to the Admissions and Records Office.

Credit by DANTES (Defense Activity for Non-Traditional Educational Support): Credit may be given, if applicable to the student's program, for successful completion of correspondence courses and subject standardized tests (SST) of the Defense Activity for Non-Traditional Educational Support (DANTES), formerly the United States Armed Forces Institute (USAFI). Credit is given based upon the American Council of Education (ACE) recommendation. DANTES scores should be submitted to the Office of Admissions and Records.

Credit by Other Formal Education: Credit may be given for other formal education or training or professional certification based upon college policy or American Council of Education (ACE) recommendations.

Credit by Articulation Agreement: Credit may be given by articulation agreement for equivalent competencies achieved at the high school level.

In all of the above areas, neither grades nor grade points will be awarded for successful completion. The appropriate credit will be noted on the student's transcript. Students who plan to transfer to other colleges or universities are advised to check with those institutions to determine acceptability of these credits.

Classification of Students

All students are classified according to the following categories:

Curricular Student: A student who has been admitted to one of the curricula of the college.

Non-curricular Student: A student who is not formally admitted to one of the curricula but who is classified according to these goals or conditions:

1. Upgrading Job Skills for Present Job. Student is working and seeking to upgrade skills for current job.
2. Developing Skills for New Job. Student is trying to develop skills for a new job.
3. Career Exploration. The college will counsel students in making decisions about career/curricular goals. Student is expected to declare an educational goal before completing 30 credit hours of course work.
4. Personal Pleasure and General Knowledge. Student is enrolled for reasons not related to certain occupational or educational goals.
5. Transient Student. Student, while enrolled at a community college, keeps chief enrollment with another post-secondary school. Example: A student chiefly enrolled at the College of William and Mary

also enrolls at New River Community College during the summer session.

6. Non-degree Transfer Student. Student is enrolled at a community college with the intent to transfer to another post-secondary school before completing the graduation requirements of the community college.
7. High School/Dual Enrollment Student (with college approval only.) High school juniors and seniors may take classes taught by college faculty and may receive both high school and college credit. There are other classes which may be taken, if the college Director of Student Services agrees and if the college has a letter of consent from the student's high school principal on file.
8. General or Curricular Requirements Pending (with college approval only.) Student has not met all general or exact admission requirements as stated in the college catalog. The student should be enrolled in this group for one semester only.
9. Restricted Enrollment (with college approval only.) Student has met college admission requirements but is temporarily denied entry because of program restrictions.

Full-Time Student: A student is said to be a full-time student if taking 12 or more course credits.

Part-Time Student: A student is said to be a part-time student if taking fewer than 12 course credits.

Freshman: A student is called a freshman until completing 30 course credits in the chosen course of study.

Sophomore: A student is called a sophomore after completing 30 or more course credits. Transferred credits are included if they apply toward the requirements of the student's course of study.

Student Costs/Financial Aid

Tuition

Tuition rates are established annually by the State Board for Community Colleges. For specific in-state and out-of-state rates, students should contact the Business Office or refer to the college Website at nr.edu.

In-state tuition rates are available to Virginia residents who have been domiciled in Virginia for at least one year before the start of the term or semester for which they are enrolling. Questions concerning domicile or exceptions to the one-year residency requirement (i.e. military personnel, or special arrangement contracts) should be addressed to a domicile officer in the Admissions and Records Office. Persons applying for in-state tuition must complete the appropriate forms in the Office of Admissions and Records. The domicile officer will make the initial decision regarding eligibility for in-state tuition. An appeals process is also in place, and information is available in the Office of Admissions and Records.

Fees

In addition to tuition, students must pay the following fees: (As of January 1, 2015, the following fees were in effect; however, they may change for the 2015-2016 academic year.)

a. A facilities maintenance fee for constructing and maintaining board approved facilities at the college is charged to all students registered for classes (credit and noncredit) offered by the college. The fee is $1.30 per semester credit hour. Students taking noncredit classes for which tuition is collected will be charged $2.00 per class. This fee is refundable if a student withdraws from college during the add/drop period for credit classes and refundable for non-credit classes if dropped before class start date.
b. A student activities fee to subsidize approved student activities and publications is charged to all students registered for credit classes offered by the college. This fee is $1.25 per credit hour and is refundable if a student withdraws from college during the add/drop period.
c. A technology fee of $8.50 per credit hour is charged and is refundable.
d. A capital fee of $18.00 per semester hour is charged to out-of-state students only and is refundable.

Payment of Tuition and Fees

Unless payment is delayed, tuition and fees must be paid at the time of registration by cash, check, VISA, or MasterCard. A $35.00 service charge will be assessed for a check returned to the college by the bank. A student must "make good" the returned check and pay the service charge within the specified time to avoid being withdrawn from class(es). If a student is withdrawn during the add/drop period, then the student will owe the college the service charge for the returned check only. Otherwise, the amount of the returned check and the service charge will be due the college and must be paid before a student will be allowed to register for any future class(es) or obtain a transcript.

Delayed Payment

Students may reserve classes and delay payment until a designated date before classes begin each semester. After that date, students must pay when registering. This date will be publicized by the Business Office and available on the website.

Waived Tuition

Children, Step-Children, or Spouse of Deceased Law Enforcement/ Fire Fighter/ Rescue Squad Personnel: As stated in Section 23-7.4:1 of the Code of Virginia, any child between the ages of sixteen and twenty-five whose parent or any person whose spouse has been killed in the line of duty while employed or serving as a law-enforcement officer, firefighter, member of a rescue squad, sworn law-enforcement officer, special agent of the Department of Alcoholic Beverage Control, state correctional, regional or local jail officer, regional jail or jail farm superintendent, sheriff, deputy sheriff, or member of the Virginia National Guard while such member is serving in the Virginia National Guard or as a member of the United States Armed Forces, shall be entitled to free undergraduate tuition and required fees at any public institution of higher education in Virginia, if the deceased parent was domiciled in Virginia at the time of death and certification of employment is provided.

Children OR Spouse of Deceased or Permanently Disabled Veterans: Section 23-7.4:1 of the Code of Virginia states that free tuition and college fees shall be given to a spouse or child between the ages of sixteen and twenty-nine of qualified permanently disabled or at least 90 percent disabled or deceased veterans of the armed forces of the United States and has been honorably discharged or released under terms other than dishonorable. Eligibility for such children shall be proven by the Department of Veterans Affairs, who shall state in writing to the admitting school that tuition should be waived according to the provisions of Section 23-7.4:1. For further information, contact the NRCC Office of Veterans Services located in Godbey 74 or phone (540) 674-3693 or email veterans@nr.edu.

All recipients of Veterans benefits must be in an approved curriculum as recognized by the Veterans Administration and must maintain a grade point average of no less than 1.5 after 12 credit hours have been completed, excluding developmental classes.

Senior Citizens: "Senior citizens" shall mean all persons who, before the beginning of any semester in which such persons claim entitlement to senior citizen benefits, (1) have reached 60 years of age and (2) have had their legal domicile in Virginia for one year. A senior citizen shall be entitled:

a. to register for and enroll in courses as a full-time or part-time student for academic credit if such senior citizen had a taxable income not exceeding $15,000 for federal income tax purposes for the year preceding the year in which enrollment is sought.
b. to audit courses offered for academic credit. To enroll in courses not offered for academic credit and pay no tuition or fees (except fees established for the purpose of paying for course materials, such as laboratory fees, and third party costs), subject to a determination by the institution of its ability to offer the course(s) for which the senior citizen registers, provided such senior citizen be admitted to a course in which enrollment is sought after all tuition-paying students have been accommodated.

Books and Materials

Students must purchase their own books, supplies, and materials needed for their studies. The average estimated cost of these items is $800 per semester for a full-time student. The college bookstore (which is operated by Nebraska Book Company) accepts MasterCard, American Express, Discover and VISA credit cards.

Financial Aid Info Students using financial aid to pay for books can go directly to the NRCC Bookstore to charge books. The allowable timeframe for these charges typically begins the week before classes start and continues through the first week of classes. A photo identification card, student ID# and class schedule are required to charge textbooks (students will receive their ID# during registration). If students who charge their books to financial aid drop classes before the "last day to drop and receive a refund," they must return textbooks/supplies or they will be billed for the charged items. Students are required to have a receipt before returning any books. Students may opt out of purchasing their books in the NRCC bookstore with financial aid funds; but in doing so, they must find alternate methods of payment for books purchased elsewhere.

Third Party Costs

Some classes may have additional costs for software, teleconference, or other fees, payable to an agency other than New River Community College. These fees may be collected by the bookstore and paid to a third party. Please see special notations in current online schedule of classes for this information.

Student Field Trips

All students will be asked to pay any costs, including transportation charges, for field trips. Expenses for student activity trips will be paid from student activity funds according to official college policies and availability of funds.

Tuition Refunds

Students will be eligible for a refund for those credit hours dropped during the add/ drop period for each

session. (Please note that add/drop dates for short session classes are different than the semester class add/drop. Check with the Admissions Office for details.) Refunds will be issued by the Treasurer of Virginia approximately three to four weeks after the end of add/drop period. Tuition refunds are made payable to the enrolled student not to the person who originally paid, if different than the student. (If tuition was paid with VISA or MasterCard, through the web, refunds will be credited to the card used to pay tuition.) Full refunds will be made for canceled classes. To get refunds under any conditions stated here, a student must complete an official drop form and submit it to the Admissions and Records Office during the add/drop period or drop classes online using the Student Information System (SIS) by published refund dates. After the add/drop period, there will be no refunds.

Financial Aid

New River Community College offers a variety of financial aid opportunities for students needing financial assistance who have not acquired a bachelor's degree. Applicants who have completed a bachelor's degree can participate in the Direct Student Loan Program and the Federal College Work/Study Program. The philosophy of the Financial Aid Office is that no qualified student shall be denied the privilege of attending college because of the lack of finances, if funds are available.

The criteria used for selecting recipients involve the evaluation of both computed need and academic standing. To determine if a student qualifies for aid, the Free Application for Federal Student Aid (FAFSA) on the web is used to determine financial need. Need is defined as the difference between the cost of attendance (tuition and fees, books, room and board, and transportation expenses) and total family contribution (student's contribution and/ or parent's contribution.)

Students wishing to be considered for financial aid must complete the FAFSA application online at www.fafsa.gov. Additional documents may be required and will be requested by the Financial Aid Office via the student's NRCC email account if needed.

Applications completed and received by March 15 will receive primary consideration for the upcoming summer semester, while those received by April 15 will receive primary consideration for the upcoming fall semester. Applications received after the priority dates will receive consideration only as funds are available.

Requirements for a Complete File

A student's file must be complete before an award can be offered. Students who first enroll in a Title IV-eligible program of study on or after July 1, 2012, must have a high school diploma or its recognized equivalent in order to receive Title IV aid.

1. The student has filed the FAFSA online and has a valid EFC (Expected Family Contribution) on the Student Aid Report. The Title IV school code for NRCC is 005223.
2. The student has been accepted in an eligible curriculum by the Admissions & Records Office.
3. If the student is selected for verification or to provide follow-up documentation, the student must complete all required documents and submit all supporting documentation as requested via the student's To Do list on the Student Information System (SIS) – Student Center.

Once the file is complete, the NRCC Financial Aid Office staff evaluates and offers the award to meet the demonstrated need as a "package" which may consist of grants, a college work/study job, scholarship and/or student loan. All awards are made based on a full-time enrollment status (12 credits or more). Enrollment status will be locked after the last date to withdraw and receive a refund and awards will be adjusted accordingly.

Federal Pell Grant The Federal Pell Grant is the largest grant program designed to provide financial assistance for those who need it to attend college. This grant is available to students attending full-time, three quarter-time, halftime, and less than half-time. Awards are prorated for enrollment below full-time.

Federal Supplemental Education Opportunity Grant This federal program of direct awards enables students with exceptional need to pursue higher education by providing grant assistance for educational expenses. The amount of Federal Supplemental Educational Opportunity Grant (FSEOG) funds that students receive depends upon their need, taking into account their financial resources and those of the parents, and the cost of attending New River Community College.

Federal College Work/Study Program: A program of employment (FWS) Students who need a job to help pay for school expenses are potentially eligible for employment by New River Community College under the Federal College Work/Study Program. This program can be awarded to students who have a bachelor's degree. Students may work 12-20 hours per week while attending classes. In addition to a complete Financial Aid file, students must fill out federal and state tax withholding forms, and required employment papers. This program requires the students to work for the funds awarded.

Commonwealth Award (COMA) The Commonwealth Award is a state grant program administered through the State Council of Higher Education for Virginia providing educational grants based on financial need for legal residents of Virginia.

GEAR UP Scholarship The GEAR UP Scholarship is a competitive college financial aid program available to

students from the original 2000 GEAR UP/ Access Virginia cohort qualifying for the Federal Pell Grant program. GEAR UP students apply for the scholarship upon acceptance into NRCC. The award is intended to apply first to direct costs charged by the institution.

Virginia Guaranteed Assistance Program (VGAP) VGAP is a state grant program administered by the State Council of Higher Education for Virginia to provide educational grants to students who meet criteria as follows:

- Admitted for enrollment in an approved program of study.
- A full-time student.
- A domiciliary resident of Virginia.
- Able to demonstrate financial need according to the required state guidelines.
- Graduate of a Virginia high school with a documented cumulative GPA of 2.5 or better.
- Classified as a dependent for federal financial aid purposes; and
- Classified as a first-time freshman.

Students who graduated from high school in the spring must submit a copy of their high school transcript to the Financial Aid Office in order to be considered for VGAP. The award is made for two years as long as the student maintains academic progress and completes each consecutive semester, excluding summer.

Part-Time Tuition Assistance Program (PTAP) PTAP is a state program established by the Virginia Community College System to help students enrolled for 1 to 8 credit hours. Awards equal the amount of tuition and fees only. Special criteria for this grant require that students qualify for instate tuition.

The Federal Direct Student Loan Program NRCC participates exclusively in the Federal Direct Student Loan Program which includes Subsidized and Unsubsidized Student Loans. The Federal Government is the lender in the Federal Direct Student Loan Program. Students interested in federal student loans will be required to apply through the Federal Direct Student Loan Programs and complete entrance counseling each year.

For First Time Borrowers on or after July 1, 2013, there is a limit on the maximum period of time (measured in academic years) that you can receive Federal Direct Subsidized Loans. In general, you may not receive Federal Direct Subsidized Loans for more than 150% of the published length of your program.

For additional information on the Federal Direct Student Loan Program please visit the website at www.studentloans.gov.

Students must be enrolled in at least 6 credits each term to receive the loan.

The Federal Direct Student Loan Program is also available to students who have acquired a bachelor's degree.

VCCS Satisfactory Academic Progress (SAP) Policy for Financial Aid

Federal regulations require that a student receiving federal financial aid make satisfactory academic progress in accordance with the standards set by the College and the federal government. These limitations include all terms of enrollment, whether or not aid was awarded or received. Satisfactory Academic Progress (SAP) standards also apply to state and institutional aid. Progress is measured throughout the academic program by the student's cumulative grade point average (Qualitative) and by credits earned as a percentage of those attempted (Quantitative or Pace of Completion). In addition, students must complete their programs of study before attempting 150% of the credits required to complete the program. The College Financial Aid Office will evaluate satisfactory academic progress before aid is awarded and after grades are posted for every term, starting with their first term of enrollment. Some career studies certificate programs (i.e., shorter than 16 credits in total length) are ineligible for student financial aid, but those credits will be counted toward all SAP requirements (GPA, Completion Rate, Maximum Timeframe, and Developmental Maximum) if the student later enrolls in an eligible program.

I. Student Financial Aid Status

A. Financial Aid Good Standing (GS) – Students who are meeting all aspects of the satisfactory academic progress policy or successfully following a designated academic progress plan.
B. Financial Aid Warning Status (WS) – Students who fail to meet satisfactory academic progress for the first time (excluding students who have already attempted 150% of the credits required for their programs of study) will be automatically placed in a Warning Status for one (1) term and are expected to meet SAP requirements by the end of that term. Students who fail to meet satisfactory academic progress requirements at the end of the warning status term will be placed on financial aid suspension. However, with a successful SAP appeal, those students will be placed on financial aid probation and will retain financial aid eligibility.
C. Financial Aid Probation Status (PS) – Students who have successfully appealed financial aid suspension are placed in Probation Status (PS). Students in Probation Status (PS) are eligible to receive financial aid for one (1) semester, after which they MUST be in Good Standing (GS) or meeting the requirements of an academic progress plan that was pre-approved by the College Financial Aid Office. (See "IV. Appeals" for additional information.)
D. Financial Aid Suspension Status (SS) – Students who

do not meet the credit progression schedule and/or the cumulative grade point average standard, or who fail to meet the requirements of their pre-approved academic progress plan, will be placed in Suspension Status (SS). Students in Suspension Status (SS) are not eligible to receive financial aid.

E. Academic Suspension (AS) – Academic requirements for avoiding warning status and staying in school differ from financial aid requirements for Satisfactory Academic Progress. Academic status will be noted on registration records; financial aid status will be noted on financial aid pages in SIS. Any student suspended from the College for academic or behavioral reasons is automatically ineligible for financial aid.

II. Evaluating Progress

Quantitative Standards or Pace of Completion

A. Completion Rate (67% Rule): Students must, at a minimum, receive satisfactory grades in 67% of cumulative credits attempted. This calculation is performed by dividing the cumulative total number of successfully completed credits by the cumulative total number of credits attempted. All credits attempted at the College (except audits, which must be entered as such by the class census date) are included. All credits accepted in transfer count as both attempted and successfully completed credits. This evaluation will be made prior to aid being awarded and after grades are posted at the end of each semester a student is enrolled at the College. Credits with satisfactory grades at the College are those for which a grade of A, B, C, D, S, or P is earned. Note: Federal-student loan borrowers must meet satisfactory academic progress requirements at the point of loan certification and again prior to the next semester's disbursement of any loan proceeds.

B. Maximum Hours (150% Rule): In order to continue receiving financial aid, a student must complete his/her program of study before attempting 150% of the credits required for that program. Developmental and ESL course work are excluded in this calculation. Attempted credits from all enrollment periods at the College plus all accepted transfer credits are counted; whether or not the student received financial aid for those terms is of no consequence.

B.1. Transfer Students: Credits officially accepted in transfer will be counted in determining the maximum number of allowable semester credit hours for financial aid eligibility. The College has the option on an individual student basis to put a transfer student in Financial Aid Warning Status immediately upon evaluation for financial aid if academic history at previous colleges indicates a pattern of unsuccessful academic work.

B.2. Second Degree Students: Credits earned from a first degree or certificate must be counted if the student changes programs or attempts a second degree or certificate. Depending on the circumstances, an appeal might be warranted.

C. ESL and Developmental Studies: Students may receive financial aid for a maximum of 30 semester hours of Developmental Studies courses as long as the courses are required as a result of placement testing, the student is in an eligible program of study, and SAP requirements continue to be met. ESL credits are unlimited in number as long as they are taken as part of an eligible program and SAP requirements continue to be met.

Additional Considerations for Quantitative or Pace of Completion Standards

- Withdrawals (W grades) that are recorded on the student's permanent academic transcript will be included as credits attempted and will have an adverse effect on the student's ability to meet the requirements of the completion rate for financial aid.
- Incomplete Grades: Courses that are assigned an incomplete grade are included in cumulative credits attempted. These cannot be used as credits earned in the progress standard until a successful grade is assigned.
- Repeated courses enable the student to achieve a higher cumulative grade point average. Students can repeat courses with financial aid until successfully completed but repeating courses adversely affects the student's ability to meet completion rate requirements. Financial aid can be considered for successfully completed classes that are repeated to achieve a higher grade but for only one additional attempt. Only the latest attempt will count toward the cumulative grade point average.

Qualitative Standards

Cumulative GPA Requirements (GPA Rule): In order to remain eligible for financial aid consideration, students must meet minimum cumulative grade point average requirements based on a progressive scale. Only non-remedial courses with grades of A, B, C, D, and F are included in this calculation. Transfer credits are excluded. In order to graduate, a minimum cumulative grade point average of 2.0 is required.

Total Number of Credits Attempted	GPA Requirement
1-15	1.5
16-30	1.75
31+	2.0

III. Regaining Eligibility For Financial Aid

Students who do not meet the credit progression requirements (Quantitative or Pace of Completion) and/or cumulative grade point average requirements

(Qualitative) will be immediately ineligible for financial aid. Removal from financial aid does not prevent students from enrolling without financial aid if they are otherwise eligible to continue their enrollment. Unless extenuating circumstances exist and an appeal is granted (see "IV. Appeals" for additional information), a student in financial aid suspension should expect to continue classes at his or her own expense until satisfactory academic progress requirements are again met. Students who fail to meet these Satisfactory Academic Progress Standards and who choose to enroll without benefit of student financial aid may request a review of their academic records after any term in which they are enrolled without the receipt of financial aid to determine whether they have again met satisfactory academic progress standards. If the standards are met, eligibility is regained for subsequent terms of enrollment in the academic year. Students should consult their campus financial aid advisors for assistance in appealing any element of this policy or to determine how to regain eligibility for financial aid.

IV. Appeals

Under certain circumstances, students who fail to meet SAP standards and lose eligibility for financial aid can appeal the financial aid suspension. Students must clearly state what caused the suspension and must also clearly indicate what has changed that will now allow the student to succeed. Appeals are encouraged if:

- Extenuating circumstances exist (i.e., student's serious illness or accident; death, accident or serious illness in the immediate family; other mitigating circumstances), or
- The student has successfully completed one degree and is attempting another, or
- The student on suspension for other than Maximum Hours (150%), who has not yet met SAP Requirements, has during suspension enrolled in and successfully completed at least 12 semester credits at the College with a minimum GPA of 2.0.

Students appealing a suspension must:

- Complete the College's SAP Appeal Form in entirety,
- Attach documentation in support of the appeal, including an advisor statement showing remaining credits to graduation for 150% appeals, and
- Submit all items to the College Financial Aid Office.

Only one appeal submission (complete with documentation) per student will be evaluated by the Financial Aid Office. The decision and a copy of the student's appeal form will be placed into the student's file as documentation of the appeal. If the appeal is not approved, the student may carry his/her appeal to the Academic Standards, Scholarship, and Financial Aid Committee. This request must be made in writing to the Financial Aid Office. Depending on the circumstances, the student could be required to complete additional requirements (i.e., see a career counselor or another type of counselor, meet with an advisor to develop an academic progress plan for completion, limit enrollment, etc.) before an appeal is granted. The goal is to help the student get back on track for graduation. The reasonableness of the student's ability for improvement to again meet SAP standards and complete the student's program of study will be carefully considered. To appeal financial aid eligibility termination after an appeal has already been considered by the committee, the student must accomplish all of the following prior to submitting a subsequent appeal:

1. Demonstrate improvement in GPA (attaining a 2.0 or higher) while taking a minimum of 6 credit hours for a time period of one or more semesters. The student will need to pay for these "interim credits" him- or herself.
2. Demonstrate improvement in completion rate 67% of credits successfully completed for any enrollment period) for a time period of one or more semesters.
3. Demonstrate that any circumstances which previously led to financial aid eligibility termination (unable to commute to campus, unable to access the internet or functional computers, medical issues, family issues, employment issues, etc.) are resolved to an extent so as to no longer impede satisfactory academic progress.

If there has been an extended time period between the second and third appeals (5 years or more), the ASFA committee may review the third appeal without having the above described conditions met.

Appeals will be approved or denied based on the above criteria. Students who have appeals approved will be in probationary status for the coming term. During probationary status, the student must meet the conditions of the appeal as communicated to him or her by the Financial Aid Office, or the student will return to suspension. If an academic progress plan has been pre-approved by financial aid, continuing to meet the requirements of that plan will put the student back into good standing.

For more information please visit www.nr.edu/fa/ or call (540) 674-3615. The Financial Aid Office is located in Rooker Hall.

Scholarships

In addition to grants, student loans, and the work/study program, many scholarships are available to qualified NRCC students. Scholarships are based on criteria such as scholastic achievement, program of study, and financial need.

Private organizations, individuals, and the New River Community College Educational Foundation sponsor scholarships. The Financial Aid Office receives various private scholarship applications and advertises the

information on the Financial Aid Bulletin Board, which is located in Rooker Hall. Most organizations offer the applications in the spring for the upcoming year. To determine scholarship eligibility or review criteria, students should contact the NRCC Financial Aid Office.

Veterans/Dependents

Programs and courses of study (including Career Studies Certificates) at this college are approved by the Virginia Department of Education and the Veterans Administration for payment of veteran's educational benefits. Programs include the Montgomery GI Bill, Vocational Rehabilitation, and the Educational Benefits for Dependents and Spouses and Active Duty Tuition Assistance. For information about VA educational benefits, contact the NRCC Veteran's Services representative at (540) 674-3693 (located in Godbey Hall, room 74) or the Veteran's Administration in Roanoke (the VA toll-free number is (800) 827-1000. Free tuition is available for dependents of certain disabled or deceased (service related) veterans through the Virginia War Veterans Department; contact the Veterans Services Office on campus.

Should a student be ordered to active military duty he/she may request to be withdrawn from the college after the census date, the student may elect either to be removed from the registration file and be awarded a full refund or to be administratively withdrawn with no refund and assigned a grade of "W". Special handling for grades, textbooks, and other expenses may be subject to refund/credit. For more information contact the Admissions and Records Office or the Veterans Services Office.

New River Community College is a member of Service members Opportunity Colleges (SOC), a consortium of over 1300 institutions pledged to be reasonable in working with service members and veterans trying to earn degrees even while pursuing demanding, transient careers. As an SOC member, New River Community College is committed to easing the transfer of relevant course credits, providing flexible academic residency requirements, and crediting learning from appropriate military training and work experiences. SOC is sponsored by 15 national higher education associations with the military services, the National Guard Bureau, and the Office of the Secretary of Defense serving as cooperating agencies.

Post 9/11 GI Bill (Chapter 33) The Post-9/11 GI Bill is for individuals with at least 90 days of aggregate service on or after September 11, 2001, or individuals discharged with a service-connected disability after 30 days. Individuals must have received an honorable discharge to be eligible for the Post-9/11 GI Bill. For more information: www.gibill.va.gov/GI_Bill_Info/benefits.htm.

Transfer of Post 9/11 GI Bill Benefits to Dependents (TEB) For the first time in history, service members enrolled in the Post 9/11 GI Bill program are able to transfer unused educational benefits to their spouses or children effective August 1, 2009. For more information on how to apply for TEB: http://va.gov/GI_Bill_Info/benefits.htm

For information on additional benefits and programs for veterans, contact the Veterans Services representative at (540) 674-3693.

PHYSICS STUDENTS AT NRV MALL SITE

NRCC Educational Foundation Scholarships

Endowed scholarships funded by the NRCC Educational Foundation, Inc. include the following:

Alumni Association Scholarship	Betty and Bill Elmore Scholarship
Fary Wyrick Anderson Scholarship	William Howell Elmore Memorial Scholarship
William M. Anderson Memorial Scholarship	Emeriti Foundation Board of Directors Scholarship
Bane Atkinson Blacksburg Rotary Scholarship	L. Brinkley Eure Memorial Scholarship
Bane and Margaret Atkinson Scholarship	Tina O'Dell Fitzpatrick Memorial Nursing Scholarship
AT&T Scholarship	Billy Friend Scholarship
BB&T Scholarship	Michael D. Gallaher Scholarship
O.G. and Ella Bailey Memorial Scholarship	Thomas Jefferson Gates Memorial Scholarship
Edwin L. Barnes Faculty/Staff Scholarship	Howard and Mary B. Gilmer Scholarship
Barnes Family Scholarship	Andrew L. and Elrica S. Graham Patriotic Memorial Scholarship
Bank of America Scholarship	John T. and Nannie B. Hairston Scholarships
Daniel and Joanne Bell Scholarship	Bill Hale Memorial Scholarship
Stuart Beville Blacksburg Rotary Vocational Scholarship	Carol Thomas Hancock Scholarship
Robert L. Blake Scholarship	Alex M. Harman, Jr., Scholarships
Jack and Martha Bolt Scholarship	Albertis Harrison, Jr., Memorial Scholarship
H. T. and Ola Bowling Scholarship	Rachel Mable Hendricks Memorial Scholarship
Celanese Corporation Scholarship	Joseph Caudle Hillman Memorial Scholarship
CELCO Federal Credit Union Scholarship	Ed & Pierrette Huber Scholarship
Ronald Chaffin and Family Scholarship	Elizabeth Huber Memorial Scholarship
Warren and Iris Agee Childers Scholarship	Ann and H. W. Huff, Jr., Scholarships
Fred N. Cole Memorial Scholarships	Huff Petroleum Co., Inc. Scholarship
Corning Incorporated Scholarship	William and Sallie Ingles Memorial Scholarship
T. S. and Lillian Dalton Scholarship	Robert J. Ingram Scholarship
James B. Darcy Memorial Scholarship	Alice Webb Johnson Scholarship
Deeda Scholarship	Katz Family Scholarship
Rita H. Dixon Scholarship	Charlene Doby Kilgore Memorial Scholarship
Bob and Cornelia Dobyns Scholarships	Kilgore Family Scholarship
Richard Allison & Martha Snow Dobyns Memorial Scholarship	Wilson, Lura & Jerry Kilgore Memorial Scholarship
Dublin High School Alumni Scholarship	Gordon and Barbara King Scholarship
Dublin Lions Club Scholarship	Claud K. and Virginia R. Kirkland Scholarship
L. T. Dudley Memorial Scholarship	Kollmorgen Scholarship
Paul and ElFreeda Duncan Scholarship	Lester L. "Skip" Lamb Nursing Scholarship
Randall and Anna Edwards Scholarship	Jack and Mary Ann Lewis Scholarships

CONTINUED ON NEXT PAGE

NRCC Educational Foundation Scholarships, continued

George and Marjorie Lyle Scholarship	Jason Rooker Memorial Scholarship
Melvin G. Mabry Scholarship	Lulu Eliza Rooker Memorial Scholarship
James G. Manns, Jr., Scholarship	Marion W. Rose Memorial Scholarship
Samuel Adams Martin Memorial Scholarship	Philip Sadler Memorial Scholarship
Martin's Pharmacy Scholarship	Carilion Saint Albans Psychiatric Hospital R. N. Nursing Scholarship
Odell and Novella Mayberry Scholarships	William B. Sanders Memorial Scholarship
Jane O. McCarthy Memorial Scholarship	Paul C. Shelor Scholarship
Thomas J. McCarthy, Jr., Scholarship	William Raper and Frances H. Shelton and Giovanna S. Roop Scholarship
Thomas J. McCarthy, Sr., Memorial Scholarship	Cheryll P. Simmons Scholarship
Duane M. Mills Scholarship	Simmons Family Scholarships
Joseph Moore Memorial Scholarship	Catherine Harman Smith Memorial Scholarship
Moore Family Scholarship	Helen Gregory Smith Scholarship
W. E. C. Moore Scholarships	Paul and Roberta Steele Scholarship
Burke Mottesheard Criminal Justice Scholarship	StellarOne Bank Scholarship
National Bank Scholarship	W. Robert Sullins Scholarship
NRV Business Administration Scholarship	Grace Eva Mabry Tawes Scholarship
New River Valley Charitable Trust Scholarships	United Auto Workers Local 2069
New River Valley Emergency Squad Scholarships	Archa and Marjorie H. Vaughan Scholarship
New River Valley Science Scholarship	Marjorie Hope Harman Vaughan Memorial Scholarship
Hiawatha and Beverly Nicely Scholarships	V. E. (Jack) Vaughn Memorial Scholarship
D. Travis Nichols Memorial Scholarship	Volvo Trucks North America, Inc. Scholarship
NRCC Foundation Board of Directors Scholarships	Howard Johnson Wade, Jr. Memorial Scholarship
Office of Planning and Advancement Scholarship	Wells Fargo Bank Scholarship
Osborne-Kirk Scholarship	Lee & Anne Wheeler Scholarship
Phlegar Guthrie Scholarship	E. Pierce Whitman Memorial Scholarship
Frederic H. and Catherine M. Pollard Scholarship	Ellen R. Whitman Memorial Scholarship
Carol C. Powell Scholarship	Jeanne B. Whitman Scholarship
Les and Joyce Pugh Scholarships	Wolverine Advanced Materials Scholarship
Jim and Janet Rakes Scholarship	Thomas E. Worrell, Jr., Scholarship
James W. Robertson Memorial Scholarships	Jon and Mary Wyatt Scholarship
Bethany Lorraine Richter Rooker Scholarship	Everett Lee Yearout, Jr., Scholarship
Daniel J. Rooker Memorial Scholarship	

Student Services

Counseling

Counselors help students make decisions about their career, educational, and personal/ social plans. As a part of this service, students may take appropriate tests, find occupational/ educational information and obtain financial aid information. The Counseling Center is located in Rooker Hall.

Advisement

Counselors and faculty advise students each semester in the selection of courses which will fulfill their educational goals. However, ultimate responsibility for meeting all stated graduation requirements rests with the students.

Testing

A well-planned testing program for all students is provided in the Counseling Center in Rooker Hall. English, reading, math and/or other tests are administered in the testing room located in the Counseling Centerand at the NRV Mall site. Results of these tests are used in the placement and advisement session with new students who have been admitted to the college. ACT's COMPASS and Virginia Placement Test (VPT), computerized placement tests, are used. Recent high school graduates may submit SAT or ACT scores in lieu of taking placement tests.

Orientation/Student Development

All curricular students, except those in career studies certificate programs, shall participate in SDV 100, a course designed primarily to foster student success. This course should be completed within the first 15 credit hours of enrollment at the community college, unless the student is not required to complete an SDV course because it is waived. The requirement may be waived for students who hold an Associate Degree or Bachelor's Degree from a regionally accredited institution. Other requests for a waiver may be considered on a case-by-case basis. Students must still successfully complete the required number of credits for their degree. A pre-enrollment orientation experience to enhance student success will also be offered.

Student Assistance and Intervention for Learning Success (SAILS)

Student Assistance and Intervention for Learning Success (SAILS) is an email program to alert students of a concern or praise in their classes. Utilizing the program, instructors send students an email through SAILS via their VCCS email. Students may receive a "Flag" or a "Kudos" from their instructors. A "Flag" is a concern (i.e., an assignment concern; attendance concern; in danger of failing concern; low participation concern; low quiz/test score concern; or never attended concern). "Kudos" is a praise (i.e., keep up the good work; outstanding academic performance; or showing improvement). The email will come directly to students from their instructor, but other personnel involved in student success at NRCC will be able to see the "Flag" and "Kudos." In fact, the email may direct students to seek help from their instructor, Counseling/Advising Center, Academic Assistance, Retention Services, or Volunteer Services if they have received a "Flag." A College Success Coach may also contact students via email, telephone, or in person to offer ways to help them be more successful.

Students have important responsibilities with SAILS:

- Students should check emails in their VCCS account daily;
- Students should update contact information (address and telephone/cell phone numbers) in the Student Information System (SIS); and
- Students should take advantage of the services available at NRCC designed to assist students in being more successful.

Career Services

Career Services, located within the Counseling Center in Rooker Hall, provides many free services for career and life planning to students and adult citizens of the service region. The following services offered are individual assessment, career counseling, and assisting students with the Virginia Education Wizard (www.vawizard.org), an online information system for career, education, and job exploration. Career Services also assists New River Community College students and alumni with the career-search process including resume review, interview skills, and mock interview sessions. For more information, contact Peggy Dunn at (540) 674-3609 or pdunn@nr.edu.

Cooperative Education

The Cooperative Education program gives students the chance to gain study-related experience in business, industry, government, and service agencies. The program, which combines work experience with classroom studies, is a joint venture between the college and cooperating employers to form a total educational program for the student.

The students enrolled in the Cooperative Education program take the same courses as do students in a regular course of study. Besides their college courses, the

students are involved in a supervised work experience which is planned, progressive, and closely related to the students' courses of study and career interests. Cooperative Education gives college credit for work experience which can be used in place of elective courses and in some cases required courses needed for graduation.

The Cooperative Education program gives students a chance to use classroom knowledge in actual work situations, to work with and observe people who have different backgrounds and training, to earn money to help pay for part of their college education, and to investigate permanent employment opportunities.

Students who would like to take part in this program should contact their faculty advisor or the Division of Business and Technologies in Edwards Hall the semester prior to enrollment, if possible, to allow sufficient time for planning.

Computing Services

Students enrolled at NRCC have the use of the college's extensive computing facilities. Each student is provided electronic mail, five megabytes of storage space on the college's network, and high-speed Internet access.

The college has 24 computer labs for use by individual students and classes. Each student's orientation program includes instruction in the use of his/her e-mail and disk storage. Various other courses at the college offer instruction in the use of computer applications software and the Internet. With over 450 computer workstations for their use, NRCC students develop computing skills that will serve them well throughout their college and professional careers.

In addition to computer labs, the college has 38 electronic classrooms. These classrooms fully support multimedia applications through a networked computer workstation, video projector, and document camera. Electronic classrooms enable NRCC faculty to fully incorporate technology into the teaching and learning process.

Partners for Success

"Partners for Success" is dedicated to the retention and academic success of NRCC students. Its programs, Academic Assistance, Volunteer Services, and Student Retention Services, help students realize their educational goals by providing access to a host of support services, ranging from meeting immediate needs such as tutoring and coursework assistance to longer range needs through building mentor/student relationships. Offices for "Partners for Success" and Volunteer Services are located in 53 Godbey Hall.

Academic Assistance Academic Assistance, part of the program "Partners for Success," consists of the Tutoring Connection and the Writing Center, located in Godbey Hall, Room 131 and on the second floor at the NRV Mall site.

Tutoring Connection personnel provide academic assistance in a variety of subject matter. The goal of tutoring is to maximize the individual student's capacity to become a self-learner. The tutors are also encouraged to work within the faculty's pedagogic guidelines in order to reinforce what is taking place in the classroom. Tutoring services are performed by college staff and student volunteers.

The Writing Center, a free service offered by the NRCC English Department, exists for the purpose of helping students develop skills and strategies to meet the demands of any writing task, whether it be for a writing class, another class, or personal need. Help is available through regular sessions with an assigned assistant or on a one-time, walk-in basis. Regular hours are 9 a.m. to 5 p.m., Monday through Friday; however, arrangements can often be made for early morning or early evening hours. Check available hours at the NRV Mall site by calling Academic Assistance at (540) 674-3664.

Student Retention Services The office of Student Retention Services works with students who are struggling to stay in school. Students struggle for a variety of reasons, including academic difficulties, work-related issues, and life pressures. If you would like to discuss issues that may be inhibiting student success in your classes, please contact Starr Rowe at (540) 674-3600, ext. 4209, or visit her in Godbey Hall, Room 45.

Volunteer Services Volunteer Services' priority is to help develop confident, motivated learners by connecting students with competent and successful partners who serve as mentors. Mentors work with students in The Connection Center. Located in Godbey Hall, The Connection Center accommodates individual and group study and meetings between students and mentors.

For more information, contact The Connection Center at (540) 674-3600, ext. 4455 or Jill Williams, director of accountability in student learning program at (540) 674-3600 ext. 4579, or email jwilliams@nr.edu.

Center for the Deaf and Hard of Hearing

The Center for the Deaf and Hard of Hearing offers students who are deaf or hard of hearing quality support services so they may participate in their program of study. A campus orientation provides for a smoother transition to college life.

The Center for the Deaf and Hard of Hearing (CDHH) is ready to assist students in any way possible during their education at New River Community College. The CDHH offers many services, including:

- Qualified interpreters and note takers
- Counseling, career education, and pre-registration advising
- Information regarding financial aid/scholarships
- In-service training to faculty and staff
- Provisions for community education and advocacy
- Sign language instruction for college personnel and potential employers
- Various assistive technologies
- Captioned educational media

Those who would like more information about the center or who would like to receive a brochure may contact the coordinator, Center for the Deaf and Hard of Hearing, 5251 College Drive, Dublin, Virginia 24084. Telephone (540) 674-3619 (Voice/TTY). Visit the center's home page at www.nr.edu/cdhh/.

Center for Disability Services

Disability Services offers a comprehensive schedule of academic, tutoring, and counseling support services. These services are tailored to the needs of students with identified disabilities in order that they may pursue their college program of study. Among services which are available to students with disabilities are:

- Accommodations as determined by the students' documentation and needs;
- Pre-registration advising and campus orientation;
- Individual and small group counseling and discussion;
- Assistive technology to support individualized learning;
- Small group seminars focusing on time management, priority setting, study techniques, social/interpersonal skills, and other topics.

A caring environment and individual attention can foster the development of self-confidence, motivation, and achievement. For more information, visit the website at www.nr.edu/ca/leap.php or call (540) 674-3619.

Developmental Studies

Developmental or preparatory programs are offered to prepare individuals for admission to the college transfer programs and the career/technical programs. These developmental programs are designed to develop the basic skills and understanding necessary to succeed in other community college programs.

All students who are entering a program of study or enrolling in any courses requiring a mathematics or English prerequisite, which includes transfer students who do not have credit in mathematics or English, must take the Virginia Placement Test (VPT).

For more information about placement testing, visit the website at www.nr.edu/students/tests.php.

For more information about developmental courses, visit the websites at www.nr.edu/math/develpmental_class.html and www.nr.edu/english/courses.php.

Notetaking Services

Notetaking Services provides assistance to students with a legal disability who meet Federal guidelines under the Americans with Disabilities Act and to students with temporary physical disabilities. Documentation may be requested to be eligible for this service. Request forms may be obtained from the Center for Deaf and Hard of Hearing or the Center for Disability Services in Rooker Hall.

Student Activities

The student activities program offers meaningful educational, cultural, leadership, and social experiences which include the following: Student Government Association, intramural and extramural athletics for men and women, clubs, and special groups as approved by the college. All of the clubs have a staff or faculty advisor or sponsor. The activities counselor coordinates all student functions with assistance from the student body and other college employees. For the latest activities news, announcements, and offerings, go to the website at www.nr.edu/activities/events.php or visit the office in Martin Hall, Room 123, located in the T. J. Anderson Student Lounge.

Student Planner and Handbook

The Student Planner and Handbook provides information of interest to students. This handbook describes, in detail, student activities and clubs and lists college rules and regulations along with a calendar of events and dates pertinent to NRCC. The current Student Planner and Handbook may be viewed at www.nr.edu/students/handbook.php.

Student Conduct

Because college students are adults, the college assumes that they will conduct themselves as such. Students are responsible for representing their rights in the pursuit of quality education. Parents, sponsors, or third parties are not privy to this process, grades, or information. Guidelines and rules of student conduct are made by representatives of the students, faculty, counseling staff, and administration. The college does not want to impose a strict code of discipline, but it will take action when it is needed. The rules will become official by administrative statement.

Those violating standards of conduct relative to the college may receive disciplinary probation or dismissal, depending on the nature of the offense. A disciplinary probation period, unless it is stated otherwise, is for one semester.

The Virginia Community College System pledges to all students the privilege of exercising their rights of

citizenship under the Constitution of the United States without fear or prejudice. Special care is taken to assure due process and to spell out what steps students should take when they feel their rights have been violated.

For student conduct which may disgrace or injure the college, the Chancellor is charged by the State Board for Community Colleges to impose such penalty as he may find necessary, including expulsion from the college. This authority has been given by the Chancellor to the administration of each community college, subject to review by the Chancellor or a person chosen by him. When the penalty for misconduct is suspension or dismissal, the student may appeal to the Local College Board. Final appeal may be made to the State Board for Community Colleges.

A complete statement of the rights and responsibilities of students is included in the Student Handbook. Student grievance procedures are also described in the Student Handbook.

Any student found guilty of being in or starting a riot or an unauthorized or disorderly assembly may be suspended or dismissed.

To prevent misunderstanding, the Chancellor has issued the following:

a. When a group of students on campus is not authorized by the college and has been asked to leave by the President or another chosen person, those who refuse to do so will be subject to immediate suspension and/or dismissal and to legal action;
b. In the event that a group appears to be in a demonstration which relates to complaints, those present should be told that there are methods used to hear complaints and that these methods must be followed. College officials will not talk with such groups under conditions of force, such as unauthorized hold of college property;
c. Any unauthorized hold of buildings and/or college property is reason for immediate suspension and/or dismissal from the college of students who may be involved. Legal action may be brought against any student or other person engaged in acts on community college property which are barred by law.

The college has a policy which does not allow weapons, firearms or any device or substance designed to harm or incapacitate.

Campus Safety

To insure the safety of everyone in the college community, individuals who demonstrate inappropriate behavior may be asked to leave the campus. For more information about campus safety, please see the Student Handbook or visit www.nr.edu/nrready.

Student Dress

Dress is a matter of individual taste until that choice of clothing infringes upon others or causes a disruption in the learning environment of the college.

Student Records

The college retains student records in accordance with policies established by the Virginia State Library Archives and retention schedule. The college will retain on a permanent basis an official record of a student's academic history (transcript).

The college may also maintain a separate student academic folder which may include, but not be limited to, the following information: application forms; standardized test results; high school transcript; domicile reclassification form; curriculum change; college transcripts; Immigration and Naturalization Service form; student update form; graduation application; credit evaluation forms; and admission correspondence. Information contained in the student academic folder will be retained in accordance with the aforementioned policy and may be destroyed three years from the date of the student's separation from the college.

Parking Regulations

Students must register their vehicles with the Security Office, located inside the main entrance of Godbey Hall. An NRCC parking permit for the current year will be issued for each vehicle that is registered and must be visible and affixed to the rear view mirror. Motorcycle parking is permitted in the crossed-out areas. The NRV Mall Site does not require an NRCC parking permit while attending classes at the mall. Students must have a state issued handicapped parking permit to park in the handicapped spaces at the Mall Site. NRCC parking permits for handicapped persons are valid for the Dublin campus only. For handicapped parking areas at the Dublin campus, refer to the campus map located in the appendix of this book. There is no cost for parking permits.

Illegal Parking Parking is not allowed in the following areas:

- fire lanes,
- along painted curbs,
- by fire hydrants,
- no parking zones,
- driveways and entrances,
- on the grass, or
- incorrect parking between lines.

Illegally parking in handicapped spaces carries a fine of $15. All other violations are $5 and can be paid in the Business Office or mailed in the ticket envelope. Unpaid tickets will delay issuance of transcripts and future

registration for classes. For more information, visit the website at http://www.nr.edu/security/parking.php or call (540) 674-3600, ext. 3646.

Exercise/Fitness Facility

NRCC has an on-campus exercise/fitness facility in Edwards 104. This facility provides students, faculty, and staff access to Nautilus weight equipment and several cardiovascular stations. Students may use the facility after receiving orientation through Student Activities. Hours of operation vary from semester to semester. For information about the fitness facility, go to www.nr.edu/fitness/ or visit Student Activities in Martin Hall, room 121.

AUTOMOTIVE TECHNOLOGY PROGRAM

Electives

The following courses have been approved for Social Science electives, Humanities/Fine Arts electives and General electives, provided the course is not required in the student's program.

Social Science	
For programs that require one or more Social Science electives, students must choose from these courses:	
Economics	
ECO 120*	Survey of Economics
ECO 201-202	Principles of Macroeconomics-Principles of Microeconomics
Geography	
GEO 210	People and the Land: Intro to Cultural Geography
History	
HIS 101,102	History of Western Civilization I, II
HIS 111, 112	History of World Civilization I, II
HIS 121,122	United States History I, II
HIS 267	The Second World War
HIS 277	The American Experience in Vietnam
HIS 279	Age of the American Revolution
Political Science	
PLS 135	American National Politics
PLS 136	State and Local Politics
Psychology	
PSY 120*	Human Relations
PSY 126*	Psychology for Business and Industry
PSY 200	Principles of Psychology
PSY 215	Abnormal Psychology
PSY 216	Social Psychology
PSY 230	Developmental Psychology
PSY 235	Child Psychology
PSY 245	Educational Psychology
Sociology	
SOC 200	Principles of Sociology
SOC 215	Sociology of the Family
SOC 266	Race and Ethnicity
SOC 268	Social Problems

Humanities/Fine Arts	
For programs that require one or more Humanities/Fine Arts electives, students must choose from these courses:	
Arts	
ART 101, 102	History & Appreciation of Art I, II
Communications Studies and Theatre	
CST 137*	Oral Interpretation
CST 141, 142	Theatre Appreciation I, II
English	
ENG 241, 242	Survey of American Literature I, II
ENG 243, 244	Survey of English Literature I, II
ENG 251, 252	Survey of World Literature I, II
Music	
MUS 121, 122	Music Appreciation I, II
MUS 221, 222	History of Music I,II
Philosophy	
PHI 100	Introduction to Philosophy I
Religion	
REL 200	Survey of the Old Testament
REL 210	Survey of the New Testament
REL 230	Religions of the World
REL 246	Christianity

* Intended for Associate in Applied Science degrees only.

Note:

Students planning to transfer should consult the four-year transfer institution to determine course recommendations prior to registering for classes at NRCC. General transfer information is available on the New River Community College website at http://www.nr.edu/transfer/.

Alphabetical Listing of Programs

The academic programs on the following pages are grouped by degree, diploma, certificate and career studies certificate categories.

For ease in locating a particular program, please use the alphabetical listing of programs, below.

Transfer Degrees

These programs are intended for transfer purposes. It is important that any student interested in transferring to a four-year college or university consult with his/her academic advisor.

Award: Associate of Arts and Sciences

Length: Four-Semester (Two-Year) Program

Purpose: The College and University Transfer program is designed for students who plan to complete a baccalaureate degree program at a four-year college or university, or who are not yet prepared to select a definite career objective.

Admission Requirements: The student must meet the entrance requirements established by the college. Students are urged to check the mathematics requirements of the four-year college or university to determine the proper mathematics course to be taken at the community college. In addition, they should contact the appropriate four-year institution to determine the transferability of elective courses.

Program Requirements: Specific courses required for the Associate of Arts and Sciences degree are intended to provide a balanced foundation in liberal education.

Note: Although a course fulfills a requirement for an NRCC program, it is possible the course will not fulfill a requirement at a four-year institution. Students who plan to transfer need to determine the four-year institution's requirements prior to course selection. General transfer information is available at www.nr.edu/transfer/.

Business Administration

Division of Arts and Sciences: (540) 674-3611

Transfer Degree

Associate of Arts and Sciences

Four-Semester (Two Year) Program

First Semester (Fall)

ENG	111	College Composition I	3
HIS	111	History of World Civilization I (or HIS 121)	3
MTH	163	Precalculus (or MTH 173)	3-4
SDV	100	College Success Skills	1
___	___	Natural Science I with Lab [1]	4
			14-15

Second Semester (Spring)

ITE	115	Intro to Computer Applications and Concepts	3
ENG	112	College Composition II	3
MTH	271	Applied Calculus I 2 (or MTH 174)[2]	3-4
___	___	Social Science Elective [3]	3
___	___	Natural Science II with Lab[1]	4
			16-17

Third Semester (Fall)

ACC	211	Principles of Accounting I	4
BUS	216	Probability & Statistics for Business & Economics (or MTH 240)	3
ECO	201	Principles of Macroeconomics	3
ENG	241	Survey of American Literature I (or ENG 242/243/244/251/252)	3
___	___	Health or Physical Education	1
			14

Fourth Semester (Spring)

ACC	212	Principles of Accounting II	4
CST	100	Principles of Public Speaking	3
ECO	202	Principles of Microeconomics	3
___	___	Elective [2]	3
___	___	Humanities/Fine Arts Elective [4]	3
			16

Total Minimum Credits 60-62

Footnotes:

1 The Natural Science requirements may be selected from the following: BIO 101-102; CHM 111-112; PHY 201-202.

2 Students should determine requirement of 4-year transfer institution prior to selection. Recommended elective options include MTH 272, BUS 241 or BUS 100.

3 Students may choose from college approved Social Science electives on page 44.

4 Students may choose from college approved Humanities/ Fine Arts electives on page 44.

Notes:

MTH 272 is also required for transfer as a junior in Business Administration at Virginia Tech. Students should consult requirements of the specific program at the transfer institution.

BUS 241 is required for students transferring into Radford University's College of Business.

Students planning to transfer should consult the four-year transfer institution to determine course recommendations prior to registering for classes at NRCC. General transfer information is available at www.nr.edu/transfer.

Education

Division of Arts and Sciences: (540) 674-3611

Transfer Degree

Associate of Arts and Sciences

Four-Semester (Two Year) Program

VCCS Pre-Teacher Education Curriculum for Elementary PK-6, Middle Education 6-8, Special Education Only*

First Semester (Fall)

CSC	110	Introduction to Computing (or ITE 115 or BUS 226)	3
ENG	111	College Composition I	3
HIS	121	United States History I	3
HLT	110	Concepts of Personal and Community Health (or HLT 116)	3
MTH	151	Math for the Liberal Arts I (or MTH 163) [1]	3
SDV	100	College Success Skills	1
			16

Second Semester (Spring)

ENG	112	College Composition II	3
HIS	122	United States History II	3
MTH	152	Math for the Liberal Arts II (or MTH 271 or MTH 157) [1]	3
MUS	121	Music Appreciation I (or ART 101 or CST 141)	3
PLS	135	American National Politics	3
			15

Third Semester (Fall)

BIO	101	General Biology I	4
ENG	241	Survey of American Literature I (or ENG 242/243/244/251 or 252)	3
GEO	210	People and the Land	3
HIS	111	History of World Civilization (or HIS 101 or 102 or 112)	3
PSY	235	Child Psychology	3
			16

Fourth Semester (Spring)

BIO	102	General Biology II	4
CST	100	Principles of Public Speaking	3
ECO	201	Principles in Macroeconomics	3
___	___	Elective [2]	3
			13

Total Minimum Credits 60

Footnotes:

1 Students should confirm math requirement at 4-year transfer institution.

2 Students should determine requirement of 4-year transfer institution prior to selection.

Note:

Students in the teacher education program need to consult with their transfer institution concerning all requirements, including the VCLA & PRAXIS I exams for teacher certification. Students are encouraged to take these exams prior to transfer. Most institutions require a 2.75 GPA for entry into junior level classes. The "VCCS Pre Teacher Education" agreements and general transfer information is available on NRCC's website at http://www.nr.edu/transfer.

*Students planning to teach at the secondary level (grades 6 through 12) must major in the academic subject they plan to teach (i.e. English, Science) and should follow the NRCC transfer degree applicable to that major.

Engineering

Division of Arts and Sciences: (540) 674-3611

Transfer Degree

Associate of Arts and Sciences

Four-Semester (Two Year) Program

First Semester (Fall)

CHM	111	College Chemistry I	4
ENG	111	College Composition I	3
EGR	120	Introduction to Engineering	2
MTH	173	Calculus with Analytic Geometry I	4
SDV	100	College Success Skills	1
___	___	Humanities/Fine Arts Elective[1]	3
			17

Second Semester (Spring)

EGR	115	Engineering Graphics (With Inventor)	2
EGR	126	Computer Programming for Engineers (C++)	3
ENG	112	College Composition II	3
MTH	174	Calculus with Analytic Geometry II	4
MTH	177	Introductory Linear Algebra (or MTH 285)	2-3
___	___	Humanities/Fine Arts Elective [1]	3
			17-18

Third Semester (Fall)

EGR	140	Engineering Mechanics – Statics	3
MTH	277	Vector Calculus	4
PHY	231	General University Physics I	5
___	___	Social Science Elective [2]	3
			15

Fourth Semester (Spring)

CST	100	Principles of Public Speaking	3
MTH	279	Ordinary Differential Equations	4
PHY	232	General University Physics II	5
___	___	Health or Physical Education	1
___	___	Social Science Elective [2]	3
			16

*EGR 245	Engineering Mechanics - Dynamics (3 cr.) or
*EGR 246	Mechanics of Materials (3 cr.) or
*EGR 248	Thermodynamics for Engineering (3 cr.)

Total Minimum Credits 65-66

Footnotes:

1 Students may choose from college approved Humanities/Fine Arts electives on page 44.

2 Social Science electives include the following: ECO (excluding ECO 120), GEO, PLS, HIS, PSY (excluding PSY 120), or SOC. Virginia Tech may recommend ECO 201-202; students should consult the specific requirements of the specific program at the transfer institution.

Notes:

Students should consult the requirements of the specific program at the transfer institution. Only six semester hours of social/behavioral sciences are required for engineering majors who plan to transfer to a baccalaureate degree engineering program that requires 6 or fewer hours in the category, provided that the college/university publishes such requirements in its transfer guide. The articulation agreement with Virginia Polytechnic Institute and State University supports admission to the College of Engineering for all students who graduate from this program with a cumulative grade point average of not less than 3.2 GPA at the time of AA&S degree completion. All course grades on the VCCS transcript, including repeating classes, will be re-calculated to determine the overall GPA. Admission to a specific department is subject to space availability and specific departmental entrance requirements. Eligible students will be admitted to alternate engineering majors if the first choice of major is not available.

*These courses are not required for the AA&S degree; however, completion may be desirable for transfer as a junior in Engineering. Students should consult requirements of the specific program at the transfer institution.

Students planning to transfer should consult the four-year transfer institution to determine course recommendations prior to registering for classes at NRCC. General transfer information is available at www.nr.edu/transfer.

Division of Arts and Sciences: (540) 674-3611

Transfer Degree

Associate of Arts and Sciences

Engineering
Computer Science Specialization

Four-Semester (Two Year) Program

First Semester (Fall)

CHM	111	College Chemistry I	4
EGR	120	Introduction to Engineering	2
ENG	111	College Composition I	3
MTH	173	Calculus with Analytic Geometry I	4
SDV	100	College Success Skills	1
___	___	Humanities / Fine Arts Elective[1]	3
			17

Second Semester (Spring)

EGR	115	Engineering Graphics (w/Inventor)	2
ENG	112	College Composition II	3
MTH	174	Calculus with Analytic Geometry II	4
MTH	177	Introductory Linear Algebra (or MTH 285)	2-3
___	___	Humanities / Fine Arts Elective [1]	3
___	___	Social Science Elective [2]	3
			17-18

Third Semester (Fall)

CSC	201	Computer Science I	4
MTH	277	Vector Calculus	4
PHY	231	General University Physics I	5
___	___	Health or Physical Education	1
___	___	Social Science Elective [2]	3
			17

Fourth Semester (Spring)

CSC	202	Computer Science II	4
CSC	205	Computer Organization	3
CST	100	Principles of Public Speaking	3
MTH	286	Discrete Mathematics (or MTH 279)	4
PHY	232	General University Physics II (or CHM 112)[3]	4 or 5
			18-19

Total Minimum Credits 71

Footnotes:

1 Students may choose from college approved Humanities/Fine Arts electives on page 44.

2 Students may choose from college approved Social Science electives on page 44.

3 PHY 232 is required for students planning to transfer under the VT Engineering Articulation Agreement.

Note:

Students who have not had prior Computer Programming classes in languages such as Java, Visual Basic.NET, C++ or Python/Jython should take CSC 200 Introduction to Computer Science before taking CSC 201, CSC 202 or CSC 205. Students planning to transfer should consult the four-year transfer institution to determine course recommendations prior to registering for classes at NRCC. General transfer information is available at www.nr.edu/transfer.

General Studies

Division of Arts and Sciences: (540) 674-3611

Transfer Degree

Associate of Arts and Sciences

Four-Semester (Two Year) Program

First Semester (Fall)

ENG	111	College Composition I	3
HIS	111	History of World Civilization I (or HIS 101 or HIS 121)	3
MTH	___	Mathematics Elective [1]	3
SDV	100	College Success Skills	1
___	___	Health or Physical Education	1
___	___	Humanities/Fine Arts Elective [2]	3
			14

Second Semester (Spring)

CSC	110	Introduction to Computing (or ITE 115 or BUS 226)	3
ENG	112	College Composition II	3
HIS	112	History of World Civilization II (or HIS 102 or HIS 122)	3
MTH	___	Mathematics Elective [1]	3
___	___	Elective [3]	3
			15

Third Semester (Fall)

ENG	241	Survey of American Literature I (or ENG 242/243/244/251/252)	3
___	___	Electives [3]	6
___	___	Natural Science I with Lab [4]	4
___	___	Social Science Elective [5]	3
			16

Fourth Semester (Spring)

CST	100	Principles of Public Speaking	3
___	___	Electives [3]	6
___	___	Natural Science II with Lab [4]	4
___	___	Social Science Elective [5]	3
			16

Total Minimum Credits 61

Footnotes:

1 Students should confirm math requirement at 4-year transfer institution. Although a math sequence fulfills the requirements for an NRCC program, it may not fulfill the math requirement for the student's intended major at a four-year institution. Students who plan to transfer need to determine the four year institution's math requirement prior to course selection.

Mathematics Sequences: The Mathematics requirement may be selected from the following sequences.

MTH 151-MTH 152 Mathematics for the Liberal Arts I & II

MTH 151-MTH 157 Mathematics for the Liberal Arts I & Elementary Statistics

MTH 152-MTH 157 Mathematics for the Liberal Arts II & Elementary Statistics

MTH 157-MTH 158 Elementary Statistics & College Algebra

MTH 157-MTH 163 Elementary Statistics & Precalculus I

MTH 163-MTH 240 Precalculus I & Statistics

MTH 163-MTH 271 Precalculus I & Applied Calculus I

MTH 271-MTH 272 Applied Calculus I & II

MTH 166-MTH 173 Precalculus with Trigonometry & Analytic Geometry I

MTH 173-MTH 174 Calculus with Analytic Geometry I&II

2 Students may choose from college approved Humanities/ FineArts electives on page 44.

3 Students should determine transfer institution's requirement prior to selection.

4 The Natural Science requirements may be selected from the following: BIO 101-102; CHM 111-112; PHY 201-202.

5 Students may choose from college approved Social Science electives on page 44.

Note:

Students planning to transfer should consult the four-year transfer institution to determine course recommendations prior to registering for classes at NRCC. General transfer information is available at www.nr.edu/transfer.

General Studies
Computer Science Specialization

Division of Arts and Sciences: (540) 674-3611

Transfer Degree

Associate of Arts and Sciences

Four-Semester (Two Year) Program

First Semester (Fall)

CSC	110	Introduction to Computing	3
CSC	200	Intro. to Computer Science	4
ENG	111	College Composition I	3
HIS	111	History of World Civilization I (or HIS 101 or HIS 121)	3
MTH	___	Mathematics Elective[1]	3
SDV	100	College Success Skills	1
			17

Second Semester (Spring)

ENG	112	College Composition II	3
HIS	112	History of World Civilization II (or HIS 102 or HIS 122)	3
MTH	___	Mathematics Elective[1]	3
___	___	Social Science Elective [2]	3
___	___	Humanities/Fine Arts Elective [3]	3
			15

Third Semester (Fall)

CSC	201	Computer Science I	4
ENG	241	Survey of American Literature I (or ENG 243 or ENG 251)	3
___	___	Health or Physical Education	1
___	___	Natural Science I with Lab [4]	4
___	___	Social Science Elective [2]	3
			15

Fourth Semester (Spring)

CSC	202	Computer Science II	4
CSC	205	Computer Organization (or IT elective[5])	3
CST	100	Principles of Public Speaking	3
___	___	Natural Science II with Lab [4]	4
			14

Total Minimum Credits 61

Footnotes:

1 Students should confirm math requirement at 4-year transfer institution. Although a math sequence fulfills the requirements for an NRCC program, it may not fulfill the math requirement for the student's intended major at a four-year institution. Students who plan to transfer need to determine the four-year institution's math requirement prior to course selection.

Students should take MTH 174 or MTH 176 if planning to transfer to Radford University's Computer Science and Technology degree Computer Science or Networks concentrations.

Mathematics Sequences: The Mathematics requirement may be selected from the following sequences.

MTH 157-MTH 163 Elementary Statistics & Precalculus I
MTH 163-MTH 240 Precalculus I & Statistics
MTH 163-MTH 271 Precalculus I & Applied Calculus I
MTH 271-MTH 272 Applied Calculus I & II
MTH 166-MTH 173 Precalculus with Trigonometry & Analytic Geometry I
MTH 173-MTH 174 Calculus with Analytic Geometry I&II

2 Students may choose from college approved Social Science electives on page 44.

3 Students may choose from college approved Humanities/Fine Arts electives on page 44.

4 The Natural Science requirements may be selected from the following: BIO 101-102; CHM 111-112; PHY 201-202; PHY 231-232.

5 Students may choose an IT elective and should determine transfer institution's requirements prior to selection of IT electives. For example, choose a network class for a networking concentration, choose a web design class for a web development concentration, choose course ITP 251 for a software engineering concentration and choose a database class for a database concentration.

Notes for Transfer to Radford University

- Determine transfer institution's requirements prior to selection of electives.
- Students should take PHY 231 and PHY 232 if planning to transfer to Radford University's Computer Science and Technology degree Computer Science concentration.
- Students should take MTH 173 if planning to transfer to any concentration in RU's Computer Science and Technology degree, or Math 271 for Information Science and Systems degree.

In addition, students should take MTH 174 if planning to transfer to Radford University's Computer Science and Technology degree Computer Science concentration or Networks concentration.

For more details on RU degree requirements see RU IT Advising Guides at http://www.radford.edu/content/csat/home/advising/progress-sheets/information-technology.html.

Note:

General transfer information is available at www.nr.edu/transfer.

Liberal Arts

Division of Arts and Sciences: (540) 674-3611

Transfer Degree

Associate of Arts and Sciences

Four-Semester (Two Year) Program

First Semester (Fall)

CSC	110	Introduction to Computing	3
ENG	111	College Composition I	3
MTH	___	Mathematics Elective [1]	3
SDV	100	College Success Skills	1
___	___	Natural Science I with Lab [2]	4
			14

Second Semester (Spring)

ENG	112	College Composition II	3
MTH	___	Mathematics Elective [1]	3
___	___	Natural Science II with Lab [2]	4
___	___	Social Science Elective [3]	3
___	___	Elective [4]	3
			16

Third Semester (Fall)

ENG	241	Survey of American Literature I (or ENG 243 or ENG 251)	3
HIS	111	History of World Civilization I (or HIS 101 or HIS 121)	3
___	___	Foreign Language I	4
___	___	Health or Physical Education	1
___	___	Social Science Elective [3]	3
			14

Fourth Semester (Spring)

CST	100	Principles of Public Speaking	3
ENG	242	Survey of American Literature II (or ENG 244 or ENG 252)	3
HIS	112	History of World Civilization II (or HIS 102 or HIS 122)	3
___	___	Foreign Language II	4
___	___	Humanities/Fine Arts Elective [5]	3
			16

Total Minimum Credits 60

Footnotes:

1 Students should confirm math requirement at 4-year transfer institution. Although a math sequence fulfills the requirements for an NRCC program, it may not fulfill the math requirement for the student's intended major at a four-year institution. Students who plan to transfer need to determine the four year Institution's math requirement prior to course selection.

Mathematics Sequences: The Mathematics requirement may be selected from the following sequences.

- MTH 151-MTH 152, Mathematics for the Liberal Arts I&II
- MTH 151-MTH 157, Mathematics for the Liberal Arts I & Elementary Statistics
- MTH 152-MTH 157, Mathematics for the Liberal Arts II & Elementary Statistics
- MTH 157-MTH 158, Elementary Statistics & College Algebra
- MTH 157-MTH 163, Elementary Statistics & Precalculus I
- MTH 163-MTH 240, Precalculus I & Statistics
- MTH 163-MTH 271, Precalculus I & Applied Calculus I
- MTH 271-MTH 272, Applied Calculus I & II
- MTH 166-MTH 173, Precalculus with Trigonometry & Analytic Geometry I
- MTH 173-MTH 174, Calculus with Analytic Geometry I&II

2 The Natural Science requirements may be selected from the following: BIO 101-102; CHM 111-112; PHY 201-202.

3 Students may choose from college approved Social Science electives on page 42.

4 Determine transfer institution's requirements prior to selection.

5 Students may choose from college approved Humanities/Fine Arts electives on page 42.

Note:

Students planning to transfer should consult the four-year transfer institution to determine course recommendations prior to registering for classes at NRCC. General transfer information is available at www.nr.edu/transfer.

Science

Division of Arts and Sciences: (540) 674-3611

Transfer Degree

Associate of Arts and Sciences

Four-Semester (Two Year) Program

First Semester (Fall)

ENG	111	College Composition I	3
HIS	111	History of World Civilization I (or HIS 101 or HIS 121)	3
MTH	___	Mathematics Elective [1]	3
SDV	100	College Success Skills	1
___	___	Natural Science I with Lab [2]	4
			14

Second Semester (Spring)

ENG	112	College Composition II	3
MTH	___	Mathematics Elective [1]	3
___	___	Natural Science II with Lab [2]	4
___	___	Social Science Elective [4]	3
___	___	Elective [3]	3
			16

Third Semester (Fall)

CSC	110	Introduction to Computing	3
ENG	241	Survey of American Literature I (or ENG 242/243/244/251/252)	3
___	___	Health or Physical Education	1
___	___	Natural Science I with Lab [2]	4
___	___	Social Science Elective [4]	3
			14

Fourth Semester (Spring)

CST	100	Principles of Public Speaking	3
___	___	Natural Science II with Lab [2]	4
___	___	Humanities/Fine Arts Elective [5]	3
___	___	Elective [3]	6
			16

Total Minimum Credits 60

Footnotes:

1 Students should confirm math requirement at four-year institution prior to course selection. Although a math sequence fulfills the requirements for an NRCC program, it may not fulfill the math requirement for the student's intended major at a four-year institution.

Mathematics sequences: The mathematics requirement may be selected from the following sequences:

MTH 163-MTH 240, Precalculus I & Statistics

MTH 163-MTH 271, Precalculus I & Applied Calculus I

MTH 271-MTH 272, Applied Calculus I & II

MTH 166-MTH 173, Precalculus with Trigonometry & Analytic Geometry I

MTH 173-MTH 174 Calculus with Analytic Geometry I&II

2 The Natural Science requirements may be selected from the following: BIO 101-102; CHM 111-112; PHY 201-202.

3 Students should determine transfer institution's requirements prior to selection.

4 Students may choose from college approved Social Science electives on page 44.

5 Students may choose from college approved Humanities/Fine Arts electives on page 44.

Note:

Students planning to transfer should consult the four-year transfer institution to determine course recommendations prior to registering for classes at NRCC. General transfer information is available at www.nr.edu/transfer.

Division of Arts and Sciences: (540) 674-3611

Science

Transfer Degree

Associate of Arts and Sciences

Four-Semester (Two Year) Program
College of Agriculture and Life Sciences at Virginia Tech Articulation Agreement*

First Semester (Fall)

ENG	111	College Composition I	3
CHM	111	Chemistry I and Lab	4
HIS	121	United States History I (or HIS 101 or HIS 111)	3
MTH	163	Precalculus (or MTH 173) [1]	3
SDV	100	College Success Skills	1
			14

Second Semester (Spring)

CHM	112	Chemistry II and Lab	4
ENG	112	College Composition II	3
HIS	122	United States History II (HIS 102 or HIS 112)	3
MTH	271	Applied Calculus I (or MTH 174) [1]	3
___	___	Elective [1]	3
			16

Third Semester (Fall)

BIO	101	General Biology I and Lab	4
CSC	110	Introduction to Computing	3
ECO	201	Principles of Macroeconomics	3
ENG	241	Survey of American Literature I (or ENG 242/243/244/251/252)	3
___	___	Health or Physical Education	1
			14

Fourth Semester (Spring)

BIO	102	General Biology II and Lab	4
CST	100	Principles of Public Speaking	3
ECO	202	Principles of Microeconomics	3
___	___	Humanities/Fine Arts Elective [2]	3
___	___	Elective [1]	3
			16

Total Minimum Credits 60

Footnotes:

1 Determine transfer institution's requirements prior to selection. For all majors, students should consult the VT transfer guide online for current requirements.

2 Students may choose from college approved Humanities/Fine Arts electives on page 44.

Note:

* The articulation agreement with Virginia Polytechnic Institute and State University supports admission to the College of Agriculture and Life Sciences for all students who graduate from this program with a 3.0 GPA or higher at the Virginia Community College awarding the degree. All repeated courses are considered in calculation of a grade point average. Only one instance of repeating a required course is allowable to participate in this guaranteed agreement.

General transfer information is available at www.nr.edu/transfer.

Accounting

For related ACC programs, see page 110.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Associate of Applied Science Degree

Purpose: The Associate of Applied Science degree program in Accounting is designed primarily for persons who seek full-time employment in the accounting field immediately upon completion of the community college program.

Occupational Objectives: Accountant • Clerk: Accounts Receivable/Accounts Payable; Billing, Cost, and Rate; Bookkeeping, Accounting, and Auditing; Budget Analyst; Information and Records; Office; Order; Payroll and Timekeeping; Procurement; Shipping, Receiving, and Traffic; Tax Accountant • Office Machine Operator • Teller

Admission Requirements: In addition to the admission requirements established for the college, entry into the Associate of Applied Science degree program in Accounting requires English prerequisites as described in the catalog. Additionally, students should have command of the fundamental processes of addition, subtraction, multiplication, division, fractions, and decimals.

Program Requirements: The first two semesters (first year) of the Associate of Applied Science degree program in Accounting are similar to other curricula in business. In the second year, students will pursue their specialty in accounting. The curriculum will include technical courses in accounting, courses in related areas, general education, and electives. Instruction will include both theoretical concepts and practical applications needed for future success in accounting.

Students are urged to consult with their faculty advisor and a counselor to plan a program and select electives. Courses within this program may be applied to four-year colleges at the discretion of those institutions. Upon satisfactory completion of the four-semester curriculum listed here, the student will receive the Associate of Applied Science degree in Accounting.

Students who plan to transfer to a four-year college after completing A.A.S. degree requirements should inform their academic advisors at the beginning of studies to determine the appropriate courses to meet transfer requirements.

Four-Semester (Two Year) Program

First Semester (Fall)

ACC	124	Payroll Accounting	2
ACC	211	Principles of Accounting I	4
AST	117	Keyboarding: Computer Usage	1
BUS	100	Introduction to Business	3
ENG	111	College Composition I	3
MTH	141	Business Mathematics I 1	3
SDV	100	College Success Skills	1
			17

Second Semester (Spring)

ACC	212	Principles of Accounting II	4
ACC	215	Computerized Accounting	3
BUS	226	Computer Business Applications	3
ENG	116	Writing for Business	3
CST	100	Principles of Public Speaking	3
			16

Third Semester (Fall)

ACC	221	Intermediate Accounting I	3
ACC	219	Governmental and Non-Profit Accounting	3
ACC	261	Principles of Federal Taxation I	3
BUS	200	Principles of Management	3
BUS	241	Business Law I	3
___	___	Health or Physical Education	1
			16

Fourth Semester (Spring)

ACC	222	Intermediate Accounting II	3
ACC	231	Cost Accounting I	3
ACC	297	Cooperative Education (or ACC 134, ACC 290 or ACC 299)	3
ECO	120	Survey of Economics [1] (or ECO 201)	3
__	___	Social Science Elective [2]	3
___	___	Humanities/Fine Arts Elective [2]	3
			18

Total Minimum Credits 67

Footnotes:

1 Students who plan to transfer must take MTH 163 and ECO 201.

2 Students may choose from college approved Social Science and Humanities/Fine Arts electives on page 44.

Notes:

The following courses are offered every other year for evening students:

ACC 124 Fall 2016
ACC 215 Spring 2016
ACC 219 Fall 2016
ACC 221 Fall 2015
ACC 222 Spring 2016
ACC 231 Spring 2017
ACC 261 Fall 2016

The following courses are offered online every semester:

ACC 211 Principles of Accounting I
ACC 212 Principles of Accounting II

The following courses are offered online in alternating years from the night classes:

ACC 124 Fall 2015
ACC 215 Spring 2017
ACC 219 Fall 2015
ACC 221 Fall 2016
ACC 222 Spring 2017
ACC 231 Spring 2016
ACC 261 Fall 2015

Administrative Support Technology

For related AST programs, see page 110.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Associate of Applied Science Degree

Purpose: This curriculum is designed to provide administrative support technology education. It is recommended for students interested in a professional career as a secretary/ administrative assistant, office manager, receptionist, or executive assistant. In addition, the Administrative Support Technology program teaches students to assume responsibilities once reserved for managerial and professional staff. Students will learn to perform a variety of administrative and clerical duties necessary to run an organization efficiently and to serve as information and communication managers for an office.

Occupational Objectives: Administrative Services Manager • Executive Secretary and Administrative Assistant • First-Line Supervisor, Administrative Support • First-Line Supervisor, Customer Service • Office and Administrative Support Worker • Office Clerk • Receptionist and Information Clerk • Secretary/ Administrative Professional • Word Processor and Typist

Admission Requirements: In addition to the admission requirements established for the college, entry into the Associate of Applied Science degree program in Administrative Support Technology requires English prerequisites as described in the college catalog. Additionally, students should have command of the fundamental processes of addition, subtraction, multiplication, division, fractions, and decimals.

Program Requirements: The two-year Administrative Support Technology program combines instruction in the many subject areas required for competence as a multifunction secretary in business, government, industry, law offices, medical offices, and other organizations.

Approximately one-half of the curriculum will include courses in Administrative Support Technology with the remaining courses in related subjects, general education, and elective credits. Students are advised to consult with their faculty advisor to plan their program and to select electives. Upon satisfactory completion of the four-semester curriculum, students will be awarded an Associate of Applied Science degree in Administrative Support Technology.

Students who plan to transfer to a four-year college after completing A.A.S. degree requirements should inform their academic advisors at the beginning of studies to determine the appropriate courses to meet transfer requirements.

Four-Semester (Two Year) Program

First Semester (Fall)

AST	101	Keyboarding I	3
AST	107	Editing/Proofreading Skills	3
AST	137	Records Management	3
ENG	111	College Composition I	3
MTH	141	Business Mathematics I	3
SDV	100	College Success Skills	1
			16

Second Semester (Spring)

ACC	211	Principles of Accounting I	4
AST	102	Keyboarding II	3
AST	141	Word Processing I (Word)	3
ENG	116	Writing for Business	3
___	___	Social Science Elective [1]	3
			16

Third Semester (Fall)

AST	142	Word Processing II (Word)	3
AST	232	Microcomputer Office Applications	3
AST	243	Office Administration I	3
CST	137	Oral Interpretation (or CST 100 & Humanities/Fine Arts[2])	3
___	___	AST/BUS/HIM Elective	3
___	___	Social Science Elective [1]	3
			18

Fourth Semester (Spring)

AST	236	Specialized Software Applications	3
AST	244	Office Administration II	3
___	___	AST 297/290 or AST/BUS/HIM Elective	3
AST	253	Advanced Desktop Publishing I	3
BUS	200	Principles of Management	3
___	___	Health or Physical Education	1
			16

Total Minimum Credits 66

Footnotes:

1 Students may choose from college approved Social Science electives on page 44.

2 Students may choose from college approved Humanities/Fine Arts electives on page 44.

Architectural and Engineering Design Specialization

For related EDT programs, see page 110

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Associate of Applied Science Degree

in Engineering Design Technology (with a Specialization in Architectural & Engineering Design)

Purpose: The purpose of the Architectural and Engineering Design specialization program is to supply graduates to business and industry. In addition to being needed by architectural/ engineering firms, architectural CAD technicians are needed by contractors, local government offices, renovation firms, building supply firms, and other related industries.

Occupational Objectives: Architectural Design Technician • Architectural CAD Technician • Architectural Rendering • Architecture Designer • CAD Supervisor • Field Assistant • BIM Specialist

Admission Requirements: Entry into most curriculum courses in Architectural and Engineering Design specialization requires that students be eligible for MTH 115.

Program Requirements: Approximately 15 credits will include courses in architectural technology with the remaining courses in CAD, general education, and electives. Instruction will include both the theoretical concepts and practical applications needed for future success. Students are advised to consult with their faculty advisor (program head) and a counselor to plan their program and select electives. Upon completion of the program, the graduate will receive an Associate of Applied Science degree in Engineering Design Technology with a specialization in Architectural and Engineering Design.

Students who plan to transfer to a four-year college after completing the A.A.S. degree requirements should inform their academic advisor (program head) to determine the appropriate courses to meet college or university requirements, as they may differ from this program.

Four-Semester (Two Year) Program

First Semester (Fall)

ARC	123	Architectural Graphics I	3
ARC	133	Construction Methodology & Procedures I	3
CAD	151	Engineering Drawing Fundamentals I1	3
CAD	120	Intro to Graphic Representation	3
MTH	115	Technical Mathematics I (or MTH 151 or MTH 163)	3
SDV	100	College Success Skills	1
			16

Second Semester (Spring)

ARC	105	Orientation & History of Architecture	1
ARC	134	Construction Methodology & Procedures II	3
CAD	152	Engineering Drawing Fundamentals II	3
CAD	238	Computer Aided Modeling & Rendering I	3
ITE	115	Intro to Computer Applications & Concepts	3
___	___	Social Science Elective [2]	3
			16

Third Semester (Fall)

ARC	251	Architectural Drawing I	3
CAD	155	Fundamentals of Architectural Drafting	3
CAD	202	Computer Aided Drafting & Design II	3
CAD	239	Computer Aided Modeling & Rendering II	3
CAD	241	Parametric Solid Modeling I	3
ENG	115	Technical Writing (or ENG 111)	3
			18

Fourth Semester (Spring)

CAD	203	Computer Aided Drafting & Design III	3
CAD	242	Parametric Solid Modeling II	3
CAD	280	Design Capstone Project	3
CST	137	Oral Interpretation (or CST 100 & Humanities/Fine Arts [2])	3
___	___	Health or Physical Education	1
___	___	Social Science Elective [2]	3
			16

Total Minimum Credits 66

Footnotes:

1 CAD 151 is a prerequisite first semester class.

2 Students may choose from college approved Social Science or Humanities/ Fine Arts electives in the college catalog on page 44.

Note:

Students cannot receive credit for both DRF and CAD courses with the same number and title.

Business Management

For related BUS programs, see page 110.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Associate of Applied Science Degree

Purpose: The Associate of Applied Science degree program in Business Management is designed primarily for persons who seek full-time employment in a business management position upon completion of the community college curriculum. Persons who are seeking their first employment in a managerial position and those presently in management who are seeking promotion may benefit from this curriculum.

Occupational Objectives: Administrative Services Manager • Continuous Improvement Coordinator • Department Head • Financial Manager, Branch or Department • First-Line Supervisor/Manager • General and Operations Manager • Management Trainee • Manager • Office and Administrative Support Worker • Sales Manager • Small Business Manager • Supervisor/Coach • TQM Quality Facilitator

Admission Requirements: In addition to the admission requirements established for the college, entry into the Associate of Applied Science degree program in Business Management requires English prerequisites as described in the college catalog. Additionally, students should have command of the fundamental processes of addition, subtraction, multiplication, division, fractions, and decimals.

Program Requirements: The first two semesters (first year) of the Associate of Applied Science degree program in Business Management are similar to other curriculums in business. However, in the second year students will pursue their specialty in Business Management. The curriculum will include technical courses in Business Management, courses in related areas, general education, and electives. Instruction will include both the theoretical concepts and practical applications needed for future success in business management positions. Topics will include Total Quality Management (TQM), Ethical Issues and Business Communications, Conflict Resolution, Team Building, Benchmarking, Partnering, and other current trends in customer-focused continuous improvement organizational culture. Students are urged to consult with their faculty advisor to plan their program. Courses within this curriculum may be applied to a four-year program at the discretion of the admitting institution. Upon satisfactory completion of the four-semester program listed below, the student will be awarded an Associate of Applied Science degree in Business Management.

Students who plan to transfer to a four-year college after completing A.A.S. degree requirements should inform their academic advisors at the beginning of studies to determine the appropriate courses to meet transfer requirements.

Four-Semester (Two Year) Program

First Semester (Fall)

AST	107	Editing/Proofreading Skills	3
BUS	100	Introduction to Business	3
BUS	200	Principles of Management	3
BUS	226	Computer Business Applications	3
ENG	111	English Composition I	3
SDV	100	College Success Skills	1
			16

Second Semester (Spring)

BUS	201	Organizational Behavior	3
BUS	236	Communication in Management	3
MKT	100	Principles of Marketing	3
MTH	141	Business Mathematics I	3
CST	100	Principles of Public Speaking	3
___	___	Humanities/Fine Arts Elective [3]	3
			18

Third Semester (Fall)

ACC	211	Principles of Accounting I	4
BUS	205	Human Resource Management	3
BUS	241	Business Law I	3
BUS	265	Ethical Issues in Management	3
ECO	201	Principles of Macroeconomics	3
___	___	Health or Physical Education	1
			17

Fourth Semester (Spring)

ACC	212	Principles of Accounting II	4
BUS	116	Entrepreneurship	3
FIN	215	Financial Management [1]	3
___	___	Elective/Coop/Internship [2]	3
___	___	Social Science Elective [3]	3
			16

Total Minimum Credits 67

Footnotes:

1 It is strongly recommended that students take BUS 226, MTH 141, and ACC 211 first.

2 Electives: BUS 165, 290, 297; MKT 110, 209, 228, 285

3 Students may choose from college approved Social Science or Humanities/ Fine Arts electives on page 44.

Notes:

All Business courses are offered online in the fall and spring.

Fall semester evening courses offered by the Business Management department: BUS 100, BUS 116, BUS 200, BUS 205, BUS 226, BUS 241, BUS 265.

Spring semester evening courses offered by the Business Management department: BUS 100, BUS 116, BUS 200, BUS 201, BUS 226, BUS 241.

Summer term courses offered online by the Business Management department: BUS 100, BUS 116, BUS 200, BUS 201, BUS 205, BUS 226, BUS 236, BUS 241.

Early Childhood Development Specialization

For related HMS programs, see page 110.

Four-Semester (Two Year) Program

Division of Arts and Sciences: (540) 674-3611

Career/Technical Education

Associate of Applied Science Degree

in Human Services (with a Specialization in Early Childhood Development)

Purpose: The two year associate degree in Early Childhood Development is designed to prepare the student for employment in a variety of situations in which the care, health, safety, and development of young children are the primary objectives.

Occupational Objectives: Child care workers may be employed in facilities such as: Day Care Centers • Family Child Care Programs • Head Start Child Care Centers • Hospital-Based Child Care Programs • On-Site Programs in Business and Industry • Pre-Kindergarten Church-Sponsored Programs • Pre-School At-Risk Programs • Occupational titles may vary according to the workplace and the duties involved. Among the specialties are the following: Assistant Teacher • Day Care Worker • Director • Home-Based Provider • Lead Teacher • Master Teacher • Playroom Attendant • Teacher's Aide

Admission Requirements: In addition to the requirements for general admission to the college, a personal interview with the program head is recommended.

Program Requirements: The Early Childhood program at NRCC combines general education with specialized courses to prepare students to become professional child care workers. To get the most benefit from the program, students should work closely with their faculty advisor in planning their curriculum including internship experiences. Some courses in the program may transfer to a four-year institution should students decide to continue their education beyond the community college program. Students who plan to transfer after completing the Associate of Applied Science degree requirements in Early Childhood should inform their academic advisor at the beginning of studies to determine the appropriate courses to meet transfer requirements.

Students must successfully complete two supervised internships that include on-the-job teaching experiences in early childhood settings, approved by the Program Head. Application for internship should be made the semester prior to placement. It is recommended that at least one internship be completed in the NRCC Early Learning Center and one internship be completed in the community. Students should note that early childhood programs require a criminal background report and a child abuse central registry search as a prerequisite to beginning the internship experience. A program may deny participation for findings on the reports. Affiliation agreements prevent the placement of a student who is denied internship participation at oneprogram into an internship agreement at another program.

Inability to meet the internship requirements prevents the student from satisfactorily achieving the course objectives resulting in failure of the course.

CONTINUED

First Semester (Fall)

CHD	120	Introduction to Early Childhood [1,2]	3
CHD	125	Creative Activities for Children [2]	3
ENG	111	College Composition I	3
PSY	200	Principles of Psychology	3
SDV	100	College Success Skills	1
SOC	200	Principles of Sociology	3
			16

Second Semester (Spring)

CHD	205	Guiding the Behavior of Children	3
ENG	112	College Composition II	3
HLT	110	Concepts of Personal and Community Health	3
HMS	100	Introduction to Human Services	3
PSY	216	Social Psychology	3
___	___	Sociology Elective [3]	3
			18

Third Semester (Fall)

EDU	156	Single Parent Families	3
CHD	290	Coordinated Internship in Early Childhood [2]	3
CST	100	Principles of Public Speaking	3
ITE	115	Intro. to Computer Applications & Concepts	3
___	___	Sociology Elective [3]	3
___	___	HMS or CHD Elective [4]	3
			18

Fourth Semester (Spring)

CHD	210	Intro. to Exceptional Children	3
CHD	290	Coordinated Internship in Early Childhood [2]	3
MTH	120	Introduction to Mathematics	3
PSY	235	Child Psychology	3
___	___	Humanities/Fine Arts Elective [5]	3
			15

Total Minimum Credits 67

Footnotes:

1 CHD 120 is a pre-/corequisite for all other CHD courses.
2 CHD 120 and CHD 125 are pre-/corequisites for CHD 290. Internships must be approved by the program head.
3 The Sociology elective may be selected from the following: SOC 215; SOC 266; SOC 268.
4 Childhood Development Electives: CHD 118, CHD 166, CHD 270, HLT 135.
5 Students may choose from college approved Humanities/Fine Arts electives on page 44.

Note:

For more information about this program visit the department Web site at http://www.nr.edu/ecd/index.html.

CONTINUED FROM COLUMN AT LEFT

Students will be required to go through an oral interview at the conclusion of the program for assessment purposes. Upon satisfactory completion of the four-semester program, the student will be awarded the Associate of Applied Science degree in Human Services with a Specialization in Early Childhood Development.

Electrical Engineering Technology

For related EIE programs, see page 110.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Associate of Applied Science Degree

Purpose: The growth of electrical manufacturing industries, electrical utility companies and industries which consume large quantities of electrical energy in Virginia and the Southeastern section of the United States has established a continuing demand for electrical technicians. The Electrical Engineering Technology program has been designed to produce trained and skilled persons ready for full-time employment as technicians who can function as installation and maintenance persons, and as liaisons be-tween engineering and electrical maintenance and assembly personnel.

Occupational Objectives: Electrical Power- Line Installer and Repairer • Electrical and Electronics Installer and Repairer • Electrical and Electronics Engineering Technician • Electrical Technician • Maintenance Repair Worker • Power Generating Plant Operator • Power Plant Operator • Power Plant Technician • Power Distribution Technician • Service Technician

Admission Requirements: Entry into most curriculum courses in Electrical Engineering Technology re-quires that students be eligible for MTH 115.

Program Requirements: The Electrical Technology program has been designed to emphasize practical applications of the theory of AC and DC electricity. Courses in specialized areas concentrate on the generation and distribution of electric power as well as the theory of rotating electromechanical equipment. Approximately 50 percent of the course work is in the specialized area of Electrical Engineering Technology and approximately 25 percent in supporting or related courses. The remainder of the program is composed of general education courses. Upon satisfactory completion of the four-semester program, the graduate will be awarded an Associate of Applied Science degree in Electrical Engineering Technology. All students must complete the requirements for the common core courses before entering the second year.

The rapid rate of change in current technologies requires that course content in technical areas reflect this change. Therefore, courses completed and submitted for acceptance toward an Associate of Ap-plied Science degree in this program should have been completed no longer than seven years prior to graduation. Courses completed more than seven years prior to graduation must be evaluated by the department for content agreeable to current academic and technological standards.

Students who plan to transfer to a four-year college after completing A.A.S. degree requirements should inform their academic advisors at the beginning of studies to determine the appropriate courses to meet transfer requirements.

Four-Semester (Two Year) Program

First Semester (Fall)

ITE	115	Intro. to Computer Applications & Concepts	3
ENG	111	College Composition I (or ENG 115)	3
ETR	113	DC & AC Fundamentals I	3
MTH	115	Technical Mathematics I (or MTH 163)	3
SAF	126	Principles of Industrial Safety	3
SDV	100	College Success Skills	1
			16

Second Semester (Spring)

ELE	149	Wiring Methods in Industry	3
ETR	114	DC & AC Fundamentals II	3
ETR	167	Logic Circuits & Systems I	3
ETR	203	Electronic Devices I	3
___	___	Social Science Elective [1]	3
___	___	Health or Physical Education	1
			16

Third Semester (Fall)

ELE	127	Residential Wiring Methods	2
ELE	211	Electrical Machines I	4
ELE	233	PLC System I	4
ELE	246	Industrial Robotics Programming	3
MEC	155	Mechanisms	2
CAD	231	Computer Aided Drafting	2
			17

Fourth Semester (Spring)

ELE	138	National Electrical Code Review I	2
ELE	212	Electrical Machines II	4
ETR	249	Electrical Control Systems	4
CST	137	Oral Interpretation (or CST 100 & Humanities/ Fine Arts [2])	3
ELE	298	Seminar and Project	1
___	___	Social Science Elective [1]	3
			17

Total Minimum Credits 66

Footnote:

1 Students may choose from college approved Social Science electives on page 44.

2 Students may choose from college approved Humanities/Fine Arts electives on page 44.

Notes:

All courses should be taken in sequence, as shown below.

ETR 113 Co-requisite - Appropriate Math Placement
ETR 114 Co-requisite - MTH 115
ETR 203 Co-requisite - ETR 114 & Prerequisite - MTH 115
ETR 167 Co-requisite - ETR 203
ELE 233 Prerequisite - ETR 167 and Co-requisite - ETR 204
ETR 211 Prerequisite - ETR 114
ETR 249 Prerequisite - ELE 211

Electronics Technology

For related EIE programs, see page 110.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Associate of Applied Science Degree

Purpose: The growth of the electronics and manufacturing industries in Virginia has increased the demand for qualified electronics technicians. The Associate of Applied Science degree in Electronics Technology is designed to prepare persons for full-time employment.

Occupational Objectives: Communication Equipment Mechanic, Installer, and Repairer • Communications Technician • Computer Technician • Electrical and Electronic Engineering Technician • Electrical and Electronic Equipment Assembler • Electrical and Electronic Inspector and Tester • Electrical and Electronics Installer and Repairer • Electronic Drafter • Electronic Equipment Installer and Repairer • Electronic Home Entertainment Equipment Installer and Repairer • Electronic Masking System Operator • Electronics Engineer • Electronics Engineer Technician • Electronic Instrumentation Technician • Fiber Optics System Coordinator • Fiber Optics Technician • Industrial Electronics Technician • Industrial Machinery Mechanic • Installation Technician • Instrument Technician • Laboratory Technician • Maintenance Repair Worker • Optoelectronic Technician • Radio and Television Technician Radio Operator • Security and Fire Alarm Systems Installer • Sensor Technician • Splicer • Telecommunications Line Installers and Repairer

Admission Requirements: Entry into most curriculum courses in Electronics Technology requires that students be eligible for MTH 115.

Program Requirements: The program in Electronics Technology is a two-year program providing instruction required for competence as a technician in industry.

The first year of the Electronics Technology program is designed to establish a general base in mathematics and electronics circuits. The second year develops this base in a number of important areas of electronics such as computers, control circuits, measurements, and communications.

Graduates should have sufficient background, both in depth and diversity, to allow them employment in any area of the electronics field as a technician. Approximately one half of the curriculum will include courses in electronics technology with the remaining courses in related areas, general education, and electives. Instruction will include both theoretical concepts and practical applications needed for future success in Electronics Technology.

Upon satisfactory completion of the four-semester program, the student will be awarded an Associate of Applied Science degree in Electronics Technology.

The rapid rate of change in current technologies requires that course content in technical areas reflect this change. Therefore,

CONTINUED

Four-Semester (Two Year) Program

First Semester (Fall)

ENG	111	College Composition I (or ENG 115)	3
ETR	113	DC & AC Fundamentals I	3
ITE	115	Intro. to Computer Applications & Concepts	3
MTH	115	Technical Mathematics I (or MTH 163)	3
SDV	100	College Success Skills	1
SAF	126	Principles of Industrial Safety	3
			16

Second Semester (Spring)

ELE	149	Wiring Methods in Industry	3
ETR	114	DC & AC Fundamentals II	3
ETR	167	Logic Circuits and Systems	3
ETR	203	Electronic Devices I	3
___	___	Social Science Elective [1]	3
___	___	Health or Physical Education	1
			16

Third Semester (Fall)

ELE	233	PLC Systems I	4
ELE	246	Industrial Robotics Programming	3
CAD	231	Computer Aided Drafting	2
ETR	241	Electronic Communications I	3
MEC	155	Mechanisms	2
ELE	176	Intro. to Alternative Energy/Hybrid Systems	3
			17

Fourth Semester (Spring)

ELE	177	Photovoltaic Energy Systems	4
ENE	228	Building Automation and Energy Management Sys.	3
ETR	231	Principles of Lasers and Fiber Optics I	4
CST	137	Oral Interpretation (or CST 100 & Humanities/Fine Arts[1])	3
ETR	298	Seminar and Project	1
___	___	Social Science Elective [1]	3
			18

Total Minimum Credits 67

Footnote:

1 Students may choose from college approved Social Science or Humanities/Fine Arts electives on page 44.

Note:

All courses should be taken in sequence as shown below:

ETR 113 Corequisite = Appropriate Math Placement
ETR 114 Corequisite = MTH 115
ETR 203 Corequisite = ETR 114 and Prerequisite = MTH 115
ETR 167 Corequisite = ETR 203
ELE 233 Prerequisite = ETR 167

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courses completed and submitted for acceptance toward an Associate of Applied Science degree in this program should have been completed no longer than seven years prior to graduation. Courses completed more than seven years prior to graduation must be evaluated by the department for content agreeable to current academic and technological standards.

Students who plan to transfer to a four-year college after completing A.A.S. degree requirements should inform their academic advisors at the beginning of studies to determine the appropriate courses to meet transfer requirements.

Engineering Design Technology

For related EDT programs, see page 110.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Associate of Applied Science Degree

Purpose: The Engineering Design Technology curriculum is designed to prepare persons for full-time employment as qualified Engineering Design Technicians and CAD Technicians to work with engineers, as well as industries and businesses. Graduates will be capable of complex Parametric Solid Modeling, producing Engineering Design Drawings, advanced conceptual 3D modeling and basic knowledge and application of Additive Manufacturing.

Occupational Objectives: Engineering Design Technician • CAD Specialist • CAD Technician • CAD Supervisor • Electrical CAD Technician • Electronic CAD Technician • Fixture Design CAD Technician • Machine Design CAD Technician • 3D Solid Modeling

Admission Requirements: Entry into most curriculum courses in Engineering Design Technology require that students be eligible for MTH 115.

Students who plan to transfer to a four-year college after completing A.A.S. degree requirements should inform their academic advisors at the beginning of studies to determine the appropriate courses to meet transfer requirements.

Program Requirements: Approximately two-thirds of the curriculum will include courses in Engineering Design Technology with the remaining courses in related areas, general education, and electives. Instruction will include both the theoretical concepts and practical applications needed for future success. Students are advised to consult with their Engineering Design Technology program head advisor and a counselor to plan their program and select electives. Upon completion of the program, the graduate will receive an Associate of Applied Science degree in Engineering Design Technology.

Advanced Placement: Proficiency tests may be administered to aid in placement and to determine the amount of credit which can be awarded for previous occupational or educational experiences.

Although Engineering Design Technology prepares students for employment upon graduation, some colleges and universities will accept associate degree graduates in engineering technology and other related programs. Students who plan to transfer to a four-year college after completing the A.A.S. degree requirements in Engineering Design Technology should inform their academic advisors at the beginning of studies to determine the appropriate courses to meet transfer requirements.

Four-Semester (Two Year) Program

First Semester (Fall)

ARC	123	Architectural Graphics	3
CAD	151	Engineering Drawing Fundamentals I[1]	3
CAD	120	Intro. to Graphic Representation	3
ENG	111	College Composition I (or ENG 115)	3
MTH	115	Technical Mathematics I (or MTH 151 or MTH 163)	3
SDV	100	College Success Skills	1
			16

Second Semester (Spring)

CAD	140	Technical Drawing	3
CAD	152	Engineering Drawing Fundamentals II	3
CAD	238	Computer Aided Modeling & Rendering I	3
ITE	115	Intro. to Computer Applications & Concepts	3
___	___	Social Science Elective [3]	3
			15

Third Semester (Fall)

CAD	155	Fundamentals of Architectural Drafting	3
CAD	202	Comp. Aided Drafting & Design II	3
CAD	239	Computer Aided Modeling & Rendering II	3
CAD	241	Parametric Solid Modeling I	3
MAC	121	Numerical Control I	3
___	___	Social Science Elective [3]	3
			18

Fourth Semester (Spring)

CAD	203	Comp. Aided Drafting & Design III	3
CAD	242	Parametric Solid Modeling II	3
CAD	243	Parametric Solid Modeling III	3
CAD	280	Design Capstone Project	3
CST	137	Oral Interpretation (or CST 100 & Humanities/Fine Arts [2])	3
___	___	Health or Physical Education	1
			16

Total Minimum Credits 65

Footnote:

1 CAD 151 is a prerequisite first semester class.

2 Students may choose from college approved Humanities/Fine Arts electives on page 44.

3 Students may choose from college approved Social Science electives on page 44.

Note:

Students cannot receive credit for both DRF and CAD courses with the same number and title.

Forensic Science

For related ADJ programs, see page 110.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Associate of Applied Science Degree

Purpose: The curriculum is structured to provide an introduction to the basics of forensic investigation for students seriously considering this highly specialized field.

In-service students are offered an opportunity to gain necessary educational credentials to assist them in achieving career development and promotional goals. The curriculum still retains enough general law enforcement education courses to be of benefit to pre-service students interested in entry-level law enforcement positions at the municipal, county, and state levels.

Occupational Objectives: Criminal Investigator (in-service students) • Evidence Technician (in-service students) • Police Officer • Police & Sheriff's Patrol Officer • Private Detective and Investigator • Police Detective

Admission Requirements: In addition to the admission requirements for the college, placement testing is required before entering this program. Students who are deficient will be required to correct their deficiencies in developmental courses.

Program Requirements: More than one half of the Forensic Science curriculum is composed of general Administration of Justice and specialized Forensic Science classes. Students will be provided with some hands-on practical applications of basic forensic analytical techniques. The remaining course work will be in the area of general education requirements and electives.

Students who complete the curriculum may transfer many of the credits to a four-year college or university toward a degree in Forensic Science or related field. Students are urged to consult with their faculty advisor for the purpose of program planning and selection of appropriate courses.

Upon completion of the program requirements, students will be awarded an Associate of Applied Science degree in Forensic Science.

Students who plan to transfer to a four-year college after completing A.A.S. degree requirements should inform their academic advisors at the beginning of studies to determine the appropriate courses to meet transfer requirements.

Four-Semester (Two Year) Program

First Semester (Fall)

ADJ	110	Introduction to Law Enforcement	3
ENG	111	College Composition I	3
ITE	115	Intro. to Computer Applications & Concepts	3
MTH	163	Precalculus I	3
PSY	200	Principles of Psychology	3
SDV	100	College Success Skills	1
			16

Second Semester (Spring)

ADJ	120	Introduction to Courts	3
ENG	112	College Composition II	3
CST	100	Principles of Public Speaking	3
ADJ	___	Elective	3
___	___	Health or Physical Education	1
___	___	Social Science Elective [1]	3
			16

Third Semester (Fall)

ADJ	133	Ethics and the Criminal Justice Professional	3
ADJ	171	Forensic Science I	4
ADJ	211	Criminal Law, Evidence & Procedures I	3
ADJ	___	Elective	3
CHM	111	College Chemistry I	4
			17

Fourth Semester (Spring)

ADJ	172	Forensic Science II	4
ADJ	212	Criminal Law, Evidence & Procedures II	3
ADJ	___	Elective	3
CHM	112	College Chemistry II	4
___	___	Humanities/Fine Arts Elective [2]	3
			17

Total Minimum Credits 66

Footnotes:

1 Social Science elective SOC 200 or PLS 135.

2 Students may choose from approved Humanities/Fine Arts electives on page 44.

Note:

For more information about this program, visit the department Web site at http://www.nr.edu/adj/.

Human Services

For HMS related programs, see page 110.

Division of Arts and Sciences: (540) 674-3611

Career/Technical Education

Associate of Applied Science Degree

Purpose: The two-year associate degree in Human Services is designed to give the student a foundation of knowledge, skills, and attitudes needed for entry into a wide variety of human service occupations.

Occupational Objectives: Child Care Worker • Counselor in a Residential Facility • Developmental Disabilities Aide • Eligibility Worker • Group Work Aide • Recreation Aide • Rehabilitation Aide • School Community Representative • Social Service Aide •Social Services in Geriatric Facility • Social Work Technician

Admission Requirements: The student must meet the entrance requirements established by the college. Students lacking mathematics and English skills will be required to enroll in developmental courses. A personal interview with the program head is recommended to discuss both program and occupational requirements.

Program Requirements: The Human Services program is about people working with people. The program is designed to provide about one-third of its requirements in general education and the remainder in human services related courses. To get the most benefit from the program, students should work closely with their faculty advisor in planning their curriculum and their field experiences. Students who plan to transfer to a four-year college after completing the Associate of Applied Science degree requirements in Human Services should inform their academic advisor at the beginning of studies to determine the appropriate courses to meet transfer requirements.

The student will spend a minimum of 450 hours working in a supervised internship in a social service agency. Application for internship should be made the semester prior to placement. Students should note that agencies may require a criminal background report and/or a child abuse central registry search as a prerequisite to beginning the internship experience. An agency may deny participation for findings on the reports. Affiliation agreements prevent the placement of a student who is denied internship participation at one facility into an internship agreement at another agency. Inability to meet the internship requirements prevents the student from satisfactorily achieving the course objectives resulting in failure of the course.

Students will be required to go through an oral interview at the conclusion of the program for assessment purposes. Upon satisfactory completion of the four-semester program, the student will be awarded the Associate of Applied Science degree in Human Services.

Four-Semester (Two Year) Program

First Semester (Fall)

ENG	111	College Composition I	3
HMS	100	Intro. to Human Services [1,2]	3
HMS	121	Basic Counseling Skills I [2]	3
PSY	200	Principles of Psychology	3
SDV	100	College Success Skills	1
SOC	200	Principles of Sociology	3
			16

Second Semester (Spring)

CHD	210	Intro. to Exceptional Children	3
ENG	112	College Composition II	3
HMS	236	Gerontology [1]	3
PSY	216	Social Psychology	3
___	___	Sociology Elective [3]	3
			15

Third Semester (Fall)

EDU	156	Single Parent Families	3
HMS	141	Groups Dynamics I [1]	3
HMS	290	Internship in Human Services [2]	3
___	___	Sociology Elective [3]	3
CST	100	Principles of Public Speaking	3
___	___	Humanities/Fine Arts Elective [4]	3
			18

Fourth Semester (Spring)

HLT	110	Concepts of Personal and Community Health	3
HMS	251	Substance Abuse I [1]	3
HMS	290	Internship in Human Services [2]	3
ITE	115	Intro. to Computer Applications and Concepts	3
MTH	120	Introduction to Mathematics	3
___	___	HMS or CHD Elective	3
			18

Total Minimum Credits 67

Footnotes:

1 HMS 100 is a pre-or co-requisite for all other HMS courses.
2 HMS 100 and HMS 121 are pre/co-requisites for HMS 290.
3 The Sociology elective may be selected from the following: SOC 215; SOC 266; SOC 268.
4 Students may choose from college approved Humanities/Fine Arts electives on page 44.

Notes:

For more information about this program visit the department Web site at http://www.nr.edu/hms/.

Information Technology

For related IT programs, see page 110.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Associate of Applied Science Degree

Purpose: The information technology degree prepares a student to earn an entry level position in the computer industry or continue to a university and earn a four-year degree.

The need for computer professionals in the United States is growing as companies become more global. Almost every major challenge facing our world involves turning to computers for a solution. Today's computer job market has a considerable demand with high salaries for qualified professionals. According to the U.S. Bureau of Labor Statistics, the job growth rate ranges from 38% to 56% across the computer industry. In fact, according to one report software engineering is the number one best job for salary and opportunities.

Occupational Objectives: Computer Programmer • Software Developer • Software Tester • Junior Software Engineer

Admission Requirements: Students who plan to transfer to a four-year college after completing AAS degree requirements should inform their faculty advisors at the beginning of studies to determine the appropriate courses that meet transfer requirements.

Program Requirements: The curriculum includes courses in computer information systems, math, business, communication skills, social studies, and physical education. The required computer information systems courses provide a general foundation of computer concepts, as well as specific training in computer programming (top-down design, algorithm development, program structure, and documentation), using several different programming languages. Students are trained in a variety of software, programming languages, and operating systems such as Visual Basic.NET, Java, Visual C++.NET , Dreamweaver, Word, Excel, PowerPoint, Access, MySQL, HTML5 and CSS3, Windows, and Linux.

Four-Semester (Two Year) Program

First Semester (Fall)

CSC	110	Introduction to Computing	3
CSC	200	Intro. to Computer Science	4
ENG	111	College Composition I (or ENG 115[1])	3
ITE	105	Careers and Cyber Ethics	2
ITN	101	Intro. to Network Concepts	3
SDV	100	College Success Skills	1
			16

Second Semester (Spring)

ITD	110	Web Page Design I	3
ITN	106	Microcomputer Operating Systems	4
ITP	112	Visual Basic.NET I (or ITP 134 or EGR 126)	3-4
MTH	151	Mathematics for the Liberal Arts I (or MTH 115 or MTH 163)	3
PSY	126	Psychology for Business and Industry [1] (or PSY 200)	3
			16 or 17

Third Semester (Fall)

ITD	130	Database Fundamentals	4
ITN	107	Personal Computer Hardware and Troubleshooting	4
CSC	201	Computer Science I	4
CST	137	Oral Interpretation [1] (or CST 100 & Humanities/Fine Arts [2])	3
___	___	Health or Physical Education	1
			16

Fourth Semester (Spring)

BUS	116	Entrepreneurship (or ACC 211 or BUS 165 or MKT 228)	3 or 4
CSC	202	Computer Science II (or ITP 200)	4
ITP	240	Server Side Programming	4
ITP	251	Systems Analysis and Design (or ITP 290 or ITP 297)	3
___	___	Social Science Elective [2]	3
			17 or 18

Total Minimum Credits 65 - 67

Footnotes:

1 Indicates a general education course that is not designed to transfer to a 4-year university.

2 Students may choose from college approved Social Science or Humanities/ Fine Arts electives in the catalog on page 44.

Notes:

Students who plan to transfer after completing the degree should consult their IT Faculty Advisor at the beginning of studies to determine appropriate transfer course requirements.

For more information on this and other IT programs, visit the department's website at www.nr.edu/it/ .

Information Technology - Game Design Specialization

For related IT programs, see page 110.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Associate of Applied Science Degree

in Information Technology (with a Specialization in Game Design)

Purpose: The IT Game Design specialization gives students an introduction to the game industry as well as a foundation in information technology skills. Research shows $14.8 billion spent on video game content in the U.S. for 2012 according to the NPD Group, 2012 Game Market Dynamics report. Digital game content spending grew 16% and is expecting to continue to grow in the future. NRCC Games, a team of NRCC students and alumni, has been creating mobile games for the iPhone/iTunes app store since 2010. These apps help middle school and high school students learn math skills, reading comprehension, grammar and more. NRCC is active in International Game Developers Association (see www.igda.org/nctriangle).

Occupation Objectives: Game Level Designer • Game Designer • Game Tester • Entry Level Programmer

Admission Requirements: Students who plan to transfer to a four-year college after completing the specialization degree requirements should inform their faculty advisors at the beginning of studies to determine the appropriate courses that meet transfer requirements.

Program Requirements: The Information Technology degree with the Game Design Specialization is a two-year program combining instruction required for a game tester or game designer career in the game industry or entry level programmer in the information technology industry. The core courses include computer science concepts, programming concepts, and object-oriented programming with Visual Basic.NET, Java, and Visual C++.NET environments. The game specialization courses include game design, animation with Flash, 2D image editing with Photoshop, 3D modeling with 3D Studio MAX, UnReal Editor, game prototyping with Game Maker. The design courses include both web design and game design and utilize Dreamweaver, Photoshop and Flash.

Four-Semester (Two Year) Program

First Semester (Fall)

CSC	110	Introduction to Computing	3
CSC	200	Introduction to Computer Science	4
ENG	111	College Composition I (or ENG 115[1])	3
ITE	105	Careers and Cyber Ethics	2
ITP	160	Introduction to Game Design and Development	3
SDV	100	College Success Skills	1
			16

Second Semester (Spring)

CAD	238	Computer Aided Modeling & Rendering I	3
ITD	110	Web Page Design I	3
ITD	112	Designing Web Page Graphics	3
ITP	112	Visual Basic.NET I (or ITP 134)	4
MTH	151	Mathematics for the Liberal Arts I (or MTH 115[1] or MTH 163)	3
			16

Third Semester (Fall)

ITD	130	Database Fundamentals	4
ITD	212	Interactive Web Design	3
CSC	201	Computer Science I	4
ITN	101	Introduction to Network Concepts	3
___	___	Social Science Elective [2]	3
___	___	Health or Physical Education	1
			18

Fourth Semester (Spring)

BUS	116	Entrepreneurship (or ACC 211 or BUS 165 or MKT 228)	3 - 4
ITP	165	Gaming and Simulation	3
CST	137	Oral Interpretation[1] (or CST 100 & Humanities/Fine Arts[2])	3
ITP	251	System Analysis and Design (or ITP 290 or ITP 297)	3
PSY	126	Psychology for Business and Industry[1] (or PSY 200)	3
			15 - 16

Total Minimum Credits 65-66

Footnote:

1 Indicates a general education course that is not designed to transfer to a 4-year university.

2 Students may choose from college approved Social Science or Humanities/ Fine Arts electives on page 44.

Notes:

Students who plan to transfer after completing the degree should consult their IT Faculty Advisor at the beginning of studies to determine appropriate transfer course requirements.

For more information on this and other IT programs, visit the department's website at www.nr.edu/it/.

Information Technology - Mobile and Web Applications Development Spec.

For related IT programs, see page 110.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Associate of Applied Science Degree

in Information Technology (with a specialization in Mobile and Web Applications Development)

Purpose: The Mobile and Web Applications Development specialization gives students the right mix of creative and technical skills for today's digital design and mobile industry. The mobile industry is a high-growth industry as most companies are augmenting their business strategy with mobile apps.

Occupational Objectives: Mobile App Designer • Web App Designer • Web Designer • Mobile App Developer • Web App Developer

Admission Requirements: Students who plan to transfer to a four-year university after completing the specialization degree requirements should inform their faculty advisors at the beginning of studies to determine the appropriate courses that meet transfer requirements.

Program Requirements: Students will learn the foundations of digital design and are trained in a variety of application software such as Dreamweaver, Photoshop and Flash. Classroom instruction includes Adobe Associate Certification in the three Adobe products. Students will learn the foundations of creating web apps and mobile apps using technologies such as HTML5, CSS3, PhoneGap, Dreamweaver and Server Side Scripting. Students will also learn the foundations of information technology and computer science, including Python, Visual Basic. NET, Visual C++ .NET and Java programming languages and Windows and iOS operating systems.

Four-Semester (Two Year) Program

First Semester (Fall)

CSC	110	Introduction to Computing	3
CSC	200	Intro. to Computer Science	4
ENG	111	College Composition I (or ENG 115 [1])	3
ITE	105	Careers and Cyber Ethics	2
ITN	101	Intro. to Network Concepts	3
SDV	100	College Success Skills	1
			16

Second Semester (Spring)

ITD	110	Web Page Design I	3
ITD	112	Designing Web Graphics	3
ITP	112	Visual Basic.NET I (or ITP 134 or EGR 126)	3-4
MTH	151	Mathematics for the Liberal Arts I (or MTH 115 [1] or MTH 163)	3
PSY	126	Psychology for Business and Industry[1] (or PSY 200)	3
			15 or 16

Third Semester (Fall)

ITD	130	Database Fundamentals	4
ITD	212	Interactive Web Design	3
CSC	201	Computer Science I	4
CST	137	Oral Interpretation [1] (or CST 100 & Humanities/Fine Arts [2])	3
___	___	Social Science Elective [2]	3
			17

Fourth Semester (Spring)

BUS	116	Entrepreneurship (or ACC 211 or BUS 165)	3 or 4
ITD	120	Design Concepts for Mobile Apps	3
ITD	210	Web Page Design II	3
ITP	240	Server Side Programming	4
ITP	251	Systems Analysis and Design (or ITP 290 or ITP 297)	3
___	___	Health or Physical Education	1
			17 or 18

Total Minimum Credits 65 - 67

Footnote:

1 Indicates a general education course that is not designed to transfer to a 4-year university.

2 Students may choose from college approved Social Science or Humanities/ Fine Arts electives in the catalog on page 44.

Notes:

Students who plan to transfer after completing the degree should consult their IT Faculty Advisor at the beginning of studies to determine appropriate transfer course requirements.

For more information on this and other Information Technology or Computer Science programs, visit the department's web site at www.nr.edu/it.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Associate of Applied Science Degree

in Information Technology (with a Specialization in Network and Technical Support)

Purpose: The rapid growth of the computer and electronic industries has increased the demand for technicians who understand both hardware and software technologies. The IT Network and Technical Support specialization curriculum prepares the student to enter the job market as a computer technician or entry level systems administrator.

Occupational Objectives: Computer Industrial Technician • Computer Network Technician • Computer Technician • Computer Support Specialist

Admission Requirements: Students who plan to transfer to a four-year college after completing the Specialization degree requirements should inform their faculty advisors at the beginning of studies to determine the appropriate courses that meet transfer requirements.

Program Requirements: The program in IT Network and Technical Support specialization is a two-year program combining instruction required for competence as a technician and programmer and in industrial or business environment. The first year of the IT Network and Technical Support specialization program is designed to establish general computer concepts. The second year develops this base in a number of important areas such as specific training in computer programming, computer hardware and networking technologies.

Information Technology - Network and Technical Support Specialization

For related IT programs, see page 110.

Four-Semester (Two Year) Program

First Semester (Fall)

CSC	110	Introduction to Computing	3
CSC	200	Intro. to Computer Science	4
ENG	111	College Composition I (or ENG 115 [1])	3
ITE	105	Careers and Cyber Ethics	2
ITN	101	Intro. to Network Concepts	3
SDV	100	College Success Skills	1
			16

Second Semester (Spring)

ITD	110	Web Page Design I	3
ITN	106	Microcomputer Operating Systems	4
ITP	112	Visual Basic.NET I (or ITP 134)	3-4
MTH	151	Mathematics for the Liberal Arts I (or MTH 115 [1] or MTH 163)	3
PSY	126	Psychology for Business & Industry [1] (or PSY 200)	3
			16-17

Third Semester (Fall)

CSC	201	Computer Science I	4
CST	137	Oral Interpretation [1] (or CST 100 & Humanities/Fine Arts[2])	3
ITN	107	Personal Computer Hardware and Troubleshooting	4
ITN	261	Network Attacks, Computer Crime and Hacking	4
___	___	Health or Physical Education	1
			16

Fourth Semester (Spring)

BUS	116	Entrepreneurship (or ACC 211 or BUS 165 or MKT 228)	3 - 4
ITN	111	Server Administration Windows 2012	4
ITN	260	Networking Security Basics	4
ITP	251	System Analysis and Design (or ITP 290 or ITP 297)	3
___	___	Social Science Elective [2]	3
			17 - 18

Total Minimum Credits 66 - 68

Footnote:

1 Indicates a general education course that is not designed to transfer to a 4-year university.

2 Students may choose from college approved Social Science or Humanities/Fine Arts electives in the catalog on page 44.

Notes:

Students who plan to transfer after completing the degree should consult their IT Faculty Advisor at the beginning of studies to determine appropriate transfer course requirements.

For more information on this and other Information Technology or Computer Science programs, visit the department's web site at www.nr.edu/it.

Instrumentation and Control Automation Technology

For related EIE programs, see page 110.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Associate of Applied Science Degree

Purpose: As industry and some professional areas such as medicine have become increasingly mechanized and automated, the need for instrumentation technicians has increased. The supply of technicians trained to work with automatic controls and precision measuring devices in manufacturing operations has been so limited that industries have by necessity established their own training programs, recruiting people from related occupational areas.

The Instrumentation and Control Automation Technology program was designed to provide industry with competent technicians ready for full-time employment.

This program is designed to allow a student in a related technical program to elect the second year of the curriculum as an instrumentation option.

Occupational Objectives: Some of the present opportunities include, but are not limited to, such jobs as industrial instrumentation technician, instrumentation specialist, instrumentation planner, instrumentation engineering assistant and instrument repairperson. In addition, instrument technicians often work with engineers or scientists developing and designing highly complex instruments to measure and record data, control and regulate the operation of machinery, or measure the variables encountered in industrial processes.

Admission Requirements: Entry into most curriculum courses in Instrumentation and Control Automation Technology require that students be eligible for MTH 115.

Program Requirements: The Instrumentation and Control Automation Technology program provides a core of electrical and electronic courses which must precede any specialized work in instrumentation. About one fourth of this curriculum is composed of general education courses; one fourth, of supporting and related technical work; and one half, of specialized courses.

Upon satisfactory completion of the four-semester curriculum, the student will be awarded the Associate of Applied Science Degree in Instrumentation and Control Automation Technology.

The rapid rate of change in current technologies requires that course content in technical areas reflect this change. Therefore, courses completed and submitted for acceptance toward an Associate of Applied Science degree in this program should have been completed no longer than seven years prior to graduation. Courses completed more than seven years prior to graduation must be evaluated by the department for content agreeable to current academic and technological standards.

Students who plan to transfer to a four-year college after completing A.A.S. degree requirements should inform their academic advisors at the beginning of studies to determine the appropriate courses to meet transfer requirements.

Four-Semester (Two Year) Program

First Semester (Fall)

ITE	115	Intro. to Computer Applications & Concepts	3
ENG	111	College Composition I (or ENG 115)	3
ETR	113	DC & AC Fundamentals I	3
MTH	115	Technical Mathematics I (or MTH 163)	3
SAF	126	Principles of Industrial Safety	3
SDV	100	College Success Skills	1
			16

Second Semester (Spring)

ELE	149	Wiring Methods in Industry	3
ETR	114	DC & AC Fundamentals II	3
ETR	167	Logic Circuits and Systems	3
ETR	203	Electronic Devices I	3
___	___	Social Science Elective [1]	3
___	___	Health or Physical Education	1
			16

Third Semester (Fall)

ELE	233	PLC Systems I	4
ELE	246	Industrial Robotics Programming	3
CAD	231	Computer Aided Drafting	2
MEC	155	Mechanisms	2
INS	220	Introduction to Fluid Power	3
INS	230	Instrumentation I	4
			18

Fourth Semester (Spring)

INS	231	Instrumentation II	4
INS	232	System Troubleshooting	2
INS	233	Process Control Integration	4
CST	137	Oral Interpretation (or CST 100 & Humanities/Fine Arts [2])	3
INS	298	Seminar and Project	1
___	___	Social Science Elective [1]	3
			17

Total Minimum Credits 67

Footnote:

1 Students may choose from college approved Social Science electives on page 44.

2 Students may choose from college approved Humanities/Fine Arts electives on page 44.

Notes:

All courses should be taken in sequence, as shown below:

ETR 113 Co-requisite - Appropriate Math Placement
ETR 114 Co-requisite - MTH 115
ETR 203 Co-requisite - ETR 114
ETR 167 Co-requisite - ETR 203
ELE 233 Prerequisite - ETR 167

Machine Technology

For related MAC programs, see page 110.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Associate of Applied Science Degree

Purpose: With the development of business and industry in Virginia, there is a demand for trained personnel in advanced machine concepts and techniques. The Associate of Applied Science degree curriculum in Machine Technology is designed for persons who seek full-time employment in the metal working industry. Graduates of this program may continue their education in a technology program at a four-year institution which offers related industrial programs.

Occupational Objectives: CNC Operator • Inspector (Quality Control) • Machine Tool Operator • Machinist • Numerical Control Machine Tool Operator • Materials Inspector • Machine Tool Set-up Operator • Mechanical Inspector • Industrial Machinery Mechanic • Numerical and Process Control Programmer

Admission Requirements: In addition to admission requirements established for the college, enrolling students will be required to take the college placement tests. MAC 106 is a co-requisite to the first semester if it is not articulated.

Program Requirements: The first two semesters of this program are designed to provide the background study and practical application needed for the advanced study in the second year. The curriculum includes machining experiences designed to develop students' proficiencies and knowledge of advanced concepts and methods of modern machine tool operations. Students are urged to consult with a counselor and their faculty advisor in planning their program and selecting electives. Upon satisfactory completion of the four-semester program, the graduate will be awarded the Associate of Applied Science degree in Machine Technology.

Students who plan to transfer to a four-year college after completing A.A.S. degree requirements should inform their academic advisors at the beginning of studies to determine the appropriate courses to meet transfer requirements.

Four-Semester (Two Year) Program

First Semester (Fall)

MAC	106	Machine Shop Operations with Lab	8
MAC	181	Machine Blueprint Reading I	3
MTH	115	Technical Mathematics I	3
SDV	100	College Success Skills	1
___	___	Health or Physical Education	1
			16

Second Semester (Spring)

MAC	107	Technology of Machining with Lab	8
MAC	182	Machine Blueprint Reading II	3
WEL	145	Welding Metallurgy	3
___	___	Social Science Elective [1]	3
			17

Third Semester (Fall)

ENG	115	Technical Writing	3
MAC	121	Computer Numerical Control I	3
MAC	215	Machining Techniques with Lab	8
___	___	Social Science Elective [1]	3
			17

Fourth Semester (Spring)

MAC	122	Computer Numerical Control II	3
MAC	217	Precision Machining Techniques with Lab	8
MAC	250	Advanced Computer Aided Manufacturing	3
CST	137	Oral Interpretation (or CST 100 & Humanities/Fine Arts [2])	3
			17

Total Minimum Credits 67

Footnote:

1 Students may choose from college approved Social Science electives on page 44.

2 Students may choose from college approved Humanities/Fine Arts electives on page 44.

Marketing Management Specialization

For related BUS programs, see page 110.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Associate of Applied Science Degree

in Business Management (With A Specialization In Marketing Management)

Purpose: The Marketing Management Degree provides graduates with the necessary skills to successfully manage the marketing functions of an organization. The curriculum provides students with instruction that includes both the theoretical concepts and practical applications needed for future success in marketing management positions. Graduates learn how to identify customer needs, and communicate information concerning products and services to customers, pricing and the best way to market products and services. Students interested in transferring should contact a counselor or faculty advisor early in their program of study to discuss bachelor degree program options that work with NRCC marketing graduates

Occupational Objectives: Entry-level Marketing Representative • Assistant Account Representative • Department Manager • Advertising Representative • Marketing/Management Trainee • Sales Representative • Retail Store Owner/Manager • Customer Service Representative

Admission Requirements: In addition to the admission requirements established for the college, entry into the Associate of Applied Science degree program in Business Management with specialization in Marketing Management requires English prerequisites as described in the college catalog.

Additionally, students should have command of the fundamental processes of addition, subtraction, multiplication, division, fractions, and decimals.

Program Requirements: The first two semesters (first year) of the Associate of Applied Science degree in Marketing Management are similar to other curriculums in business. However, in the second year students will pursue their specialty in Marketing Management. The curriculum will include technical courses in marketing and business management, courses in related areas, general education, and electives. Instruction will include both the theoretical concepts and practical applications needed for future success in marketing management positions. Topics will include Consumer Behavior, Product Strategy, Promotional Strategy, Selling, Strategic Marketing, Total Quality Management (TQM), Ethical Issues and Business Communications, Conflict Resolution, Team Building, and other current trends in customer-focused continuous improvement organizational culture. Students gain the ability to see things visually, be self-motivated, meet deadlines and strengthen problem-solving skills. Students are required to network and market to prospective employers, which is developed through class projects and discussions.

Four-Semester (Two Year) Program

First Semester (Fall)

AST	107	Editing/Proofreading Skills	3
BUS	100	Introduction to Business	3
MKT	100	Principles of Marketing	3
BUS	226	Computer Business Applications	3
ENG	111	English Composition I	3
SDV	100	College Success Skills	1
			16

Second Semester (Spring)

BUS	200	Principles of Management	3
BUS	236	Communication in Management	3
CST	100	Principles of Public Speaking	3
MTH	141	Business Mathematics I	3
MKT	228	Promotion	3
___	___	Humanities Elective [1]	3
			18

Third Semester (Fall)

ACC	211	Principles of Accounting I	4
BUS	241	Business Law I	3
BUS	265	Ethical Issues in Management	3
ECO	201	Principles of Macroeconomics	3
MKT	110	Principles of Selling	3
___	___	Health or Physical Education	1
			17

Fourth Semester (Spring)

BUS	116	Entrepreneurship	3
FIN	215	Financial Management [2]	3
MKT	285	Current Issues in Marketing	3
___	___	Elective/Coop/Internship [3]	3
___	___	Social Science Elective [1]	3
			15

Total Minimum Credits 66

Footnotes:

1 Students may choose from college approved Social Science or Humanities/ Fine Arts electives on page 44.

2 It is strongly recommended that students take BUS 226, MTH 141, and ACC 211 first.

3 Electives: BUS 165, 290, 297; MKT 209

CONTINUED FROM PREVIOUS COLUMN

Students who plan to transfer to a four-year college after completing A.A.S. degree requirements should inform their academic advisors at the beginning of studies to determine the appropriate courses to meet transfer requirements. Courses within this curriculum may be applied to a four-year program at the discretion of the admitting institution. Upon satisfactory completion of the four-semester program listed above, the student will be awarded an Associate of Applied Science degree in Marketing Management, a specialization in Business Management.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Associate of Applied Science Degree

in Administrative Support Technology (with a Specialization in Medical Administrative Support)

Purpose: This curriculum is designed to provide specialized administrative support technology education in the medical field. It is recommended for students interested in a professional career as a medical office assistant in a private medical practice, in a hospital setting, and in other health care organizations. In addition, the Administrative Support Technology curriculum offers basic skills training and advanced training complementary to the information systems demands of the electronic office. Included are skills in word processing, microcomputer usage, and human relations.

Occupational Objectives: Medical Records and Health Information Technician • Medical Secretary • Medical Transcriptionist • Office and Administrative Support Worker • Office Clerk • Receptionist and Information Clerk

Admission Requirements: In addition to the admission requirements established for the college, entry into the Associate of Applied Science degree program in Administrative Support Technology requires English prerequisites as described in the college catalog. Additionally, students should have command of the fundamental processes of addition, subtraction, multiplication, division, fractions, and decimals.

Program Requirements: The two-year program combines instruction in the many subject areas required for competence as a medical office assistant, medical transcriptionist, or a medical records clerk. Approximately one-half of the curriculum will include courses in Administrative Support Technology with the remaining courses in related subjects, general education, and elective credits. Students are advised to consult with their faculty advisor to plan their program and to select electives. Upon satisfactory completion of the four semester curriculum, students will be awarded an Associate of Applied Science degree in Administrative Support Technology with a specialization in Medical Administrative Support.

Students who plan to transfer to a four-year college after completing A.A.S. degree requirements should inform their academic advisor at the beginning of studies to determine the appropriate courses to meet transfer requirements.

Medical Administrative Support Specialization

For related AST programs, see page 110.

Four-Semester (Two Year) Program

First Semester (Fall)

AST	101	Keyboarding I	3
AST	107	Editing/Proofreading Skills	3
ENG	111	College Composition I	3
HIM	111	Medical Terminology I	3
MTH	141	Business Mathematics I	3
SDV	100	College Success Skills	1
			16

Second Semester (Spring)

AST	102	Keyboarding II	3
AST	141	Word Processing I (Word)	3
ENG	116	Writing for Business	3
HIM	112	Medical Terminology II	3
___	___	AST/HIM/HLT Elective[1,2]	3 or 4
			15 or 16

Third Semester (Fall)

AST	142	Word Processing II (Word)	3
AST	232	Microcomputer Office Applications	3
AST	243	Office Administration I	3
HIM	233	Electronic Health Records Management	3
HIM	253	Health Records Coding	3
___	___	Social Science Elective[3]	3
			18

Fourth Semester (Spring)

ACC	211	Principles of Accounting I	4
AST	137	Records Management	3
CST	137	Oral Interpretation (or CST 100 & Humanities/Fine Arts[4])	3
HIM	254	Advanced Coding & Reimbursement	3
___	___	Social Science Elective [3]	3
___	___	Health or Physical Education	1
			17

Total Minimum Credits 66 or 67

Footnotes:

1 HLT 261 and HLT 263 are acceptable HLT electives only.

2 It is highly recommended that students take HIM 163 before taking HIM 253 and HIM 254.

3 Students may choose from college approved Social Science electives on page 44.

4 Students may choose from college approved Humanities/Fine Arts electives on page 44.

Nursing

For related NUR programs, see page 110.

Division of Arts and Sciences: (540) 674-3611

Career/Technical Education

Associate of Applied Science Degree

Four-Semester (Two Year) Program

Purpose: The associate degree program is designed to prepare a student to utilize the art and science of nursing to provide care to patients in a variety of health settings by serving in the roles of caregiver, teacher, advocate, and coordinator of the nursing team. Graduates of the program are eligible to apply to take the examination required for licensure as a registered nurse (R.N.).

Occupational Objectives: Employment opportunities include: Clinics • Civil Services • Health Departments • Home Health Care • Hospitals • Hospice • Industries • Long Term Care Facilities • Physicians' Offices • School Systems

Application and Admission to the Clinical Component: Admission to the nursing program is a process that occurs separately from, and in addition to, admission to the college. Because the number of applicants to the nursing program generally exceeds the clinical capacity of the program, some applicants may not be accepted even if the minimum requirements for admission are met. Therefore, acceptance to the college does not guarantee admission to the clinical component of the associate degree nursing program.

Applicants should note that the Virginia Board of Nursing has the authority to deny licensure to an applicant who has violated any federal, state, or other statute. Examples include conviction of a felony or misdemeanor involving moral turpitude, and alcohol or drug related issues.

A prospective student who has been convicted, or pled guilty or nolo contendre to any illegal offenses other than minor traffic violations should contact the program director prior to making application to the program. Additional information may be obtained from the Virginia Department of Health Professions, Virginia Board of Nursing, located at Perimeter Center, 9960 Mayland Drive, Suite 300, Henrico, VA 23233 (phone 804-367-4515). Applicants should note that all healthcare agencies require a criminal background report and a negative urine drug screen prior to participating in clinical activities. A healthcare agency may deny clinical participation for findings on the reports. Some healthcare agencies also require that students be finger-printed. Affiliation agreements prevent the placement of a student who is denied clinical participation at one facility into a clinical group at another agency. Inability to meet the clinical requirements prevents the student from satisfactorily achieving the course objectives, resulting in failure of the course. Criminal background checks will be completed following acceptance to the program and prior to beginning the clinical component of any nursing (NUR) classes. Both criminal background checks and urine drug screenings must be done adhering to a specific policy and process, and data provided by other means are not acceptable. Further information will be provided on actions to take following acceptance to the nursing program. Prospective students are responsible for all associated costs.

Nursing is a physically, emotionally, and intellectually demanding profession. Students engaged in clinical experiences while enrolled in the program perform in the role of a registered nurse. The chart on the following page, based on expectations published by the Council on Collegiate Education for Nursing, describes activities associated with class and clinical requirements.

Continued on next page.

Nursing, continued

Category	Examples of Clinical Competencies and Responsibilities*
Analytical and Critical Thinking	Read and understand written documents in English (e.g. protocols), focus attention on task in distracting/ chaotic environment, identify cause-effect relationships, use long and short-term memory, prioritize tasks.
Professional Relationships	Deal with the unexpected (e.g. patient crisis), handle strong emotions of others while controlling personal responses.
Communication	Communicate in English with patients, families, and agency staff members (both orally and written).
Mobility	Move within confined spaces, reach above shoulders (e.g. I.V. poles) and reach below waist (e.g. plug in electrical appliances), walk six to eight hours, stand at bedside up to 60 minutes to assist with procedures.
Motor Skills	Perform CPR, operate a fire extinguisher, key/type (e.g. use a computer), manipulate a syringe, manipulate an eye dropper.
Hearing	Hear faint body sounds (e.g. blood pressure, heart, lung, and abdominal sounds), hear monitor alarms, hear in situations when not able to see lips (e.g. when masks are used).
Visual	See objects near (e.g. computer screen), see objects far (e.g. patient at end of the hall), distinguish color intensity (e.g. flushed or pale skin), read digital displays, read graphic printouts, read small medication labels.
Tactile Sense	Use sense of touch to gather assessment data (e.g. palpate pulses, detect warmth vs. coolness).

*Examples are intended as clarification, not as an exhaustive list

The college offers three options for the prospective student seeking admission to the nursing program:

Option One

The college offers an opportunity for recent high school graduates and other eligible adults to complete the associate degree nursing program in two years of full-time study, beginning in August. This is a rigorous and academically challenging program. The following must be completed for consideration for Option One admission:

• Requirements for general admission to the college, completed by March 15 for fall admission;
• An application to the nursing program (a separate process). Completed application packets for the ADN program are accepted until March 15 for fall enrollment. Applications received after March 15 will be considered for fall admission the following calendar year. Completed ADN program applications and packets should be hand-delivered or delivered via postal mail to the Nursing Admissions Advisor in the Admissions Office in Rooker Hall;
• Official copies of all college transcripts submitted to Admissions and Records Office;
• Attendance at a general information session for students interested in the associate degree nursing program;
• High school graduate or satisfactory completion of a GED. Current high school students may be accepted pending verification of high school graduation;
• One unit of high school biology (including a lab) or equivalent completed prior to March 15;
• One unit of high school chemistry or equivalent completed prior to March 15;
• Scores on placement tests must indicate readiness for ENG 111 and proficiency on modules 1, 2, 3, and 4 on the Virginia Math Placement Test. Placement testing must be complete by March 15 for fall admission. The score on the math placement test is valid for one-year in the March 16 to March15 application period. Applicants may substitute a college-level math class (course number greater than 100) successfully completed in the March-to-March application period;
• All necessary developmental studies identified by the placement tests must be completed by March 15;
• GPA in high school of 2.5 or curricular GPA of 2.5 in 12 or more college credits by March 15. Priority is given to students with higher GPAs;
• Admission Test: Test of Essential Academic Skills (TEAS) scores in the 45th percentile or higher. TEAS assessments taken at NRCC must be completed by March 1 for fall admission. A student may take the TEAS one time per year. The TEAS assesses knowledge and skills in reading comprehension, science, English, and math. Priority is given to students who score higher on the TEAS test. NRCC will also accept HESI, or NLN test scores at or above the 45th percentile; and
• Legal residence (in-state domicile) in the NRCC service area.

Curriculum for Option One:

First Semester (Fall)

BIO	141	Human Anatomy and Physiology I	4
NUR	104	Fundamentals of Nursing	6
NUR	105	Nursing Skills	2
NUR	135	Drug Dosage Calculations	1
HLT	105	Cardiopulmonary Resuscitation	1
PSY	230	Developmental Psychology	3
SDV	100	College Success Skills	1
			18

Continued on next page.

Nursing, continued

Second Semester (Spring)

BIO	142	Human Anatomy and Physiology II	4
NUR	180	Essentials of Maternal/NB Nursing	3
NUR	201	Psychiatric Nursing	4
NUR	226	Health Assessment	3
___	___	Humanities Elective [1]	3
			17

Third Semester (Fall)

ENG	111	College Composition I	3
ITE	115	Intro. to Computer Applications and Concepts	3
NUR	221	2nd Level Principles & Concepts I	9
NUR	236	Principles of Pharmacology III	2
			17

Fourth Semester (Spring)

NUR	222	2nd Level Principles & Concepts II	9
NUR	237	Principles of Pharmacology IV	2
NUR	255	Nursing Organization & Management	3
CST	100	Principles of Public Speaking	3
			17

Total Minimum Credits 69

Footnote:

1 Students may choose from college approved Humanities/Fine Arts electives on page 44.

Option Two

This option is for students who wish to attend part-time, or who wish to enroll in an academic course load with fewer credits each semester. Students who follow this course of study will plan to enroll in general education and support courses, completing as many as possible prior to applying for admission into the clinical nursing sequence of the nursing program to begin in August.

Pre-Nursing Plan of Study

Fall Semester

____	BIO 141	(4 credits)
____	PSY 230	(3 credits)
____	ENG 111	(3 credits)
____	SDV 100	(1 credits)
		11 credits

Spring Semester

____	BIO 142	(4 credits)
____	ITE 115	(3 credits)
____	CST 100	(3 credits)
____	Humanities Elective	(3 credits)

Students seeking Option Two admission must complete the following:

- Requirements for general admission to the college by March 15 for fall admission;
- An application to the nursing program (a separate process).

Completed application packets for the ADN program are accepted until March 15 for fall enrollment. Applications received after March 15 will be considered for fall admission the following calendar year. Completed applications should be hand-delivered or delivered via postal mail to the Nursing Admissions Advisor in the Admissions Office in Rooker Hall.

- Official copies of all college transcripts submitted to Admissions and Records Office;
- Attendance at a general information session for students interested in the associate degree nursing program;
- High school graduate or satisfactory completion of a GED by March 15;
- One unit of high school biology (including a lab) or equivalent completed by March 15;
- One unit of high school chemistry or equivalent completed by March 15;
- NRCC placement tests for reading, writing, and mathematics. Placement tests must indicate readiness for ENG 111 and proficiency in math modules 1, 2, 3, and 4 on the Virginia Math Placement Test. Placement testing must be complete by March 15 for fall admission. The score on the math placement test is valid for one year in the March 16 to March 15 application period. Applicants may substitute a college level math class (course number greater than 100) successfully completed in the March-to-March application period;
- All necessary developmental studies identified by the placement tests completed by March 15;
- Curricular GPA of 2.5 or higher in college courses at the time of application. Priority is given to students with higher GPAs as well as to those who have completed BIO 141 (with a grade of "C" or better), and a greater number of general education and support courses in the associate degree nursing curriculum by March 15;
- Admission test: Test of Essential Academic Skills (TEAS) scores in the 45th percentile or higher. Priority is given to students who score higher on the TEAS test. TEAS assessments taken at NRCC must be completed by March 1 for fall admission. A student may take the TEAS one time per year. The TEAS assesses knowledge and skills in reading comprehension, science, English, and math. NRCC will also accept HESI or NLN test scores at or above the 45th percentile; and
- Legal residence (in-state domicile) in the NRCC service area will receive priority standing.

Clinical Nursing Sequence

Fall Semester (1)

_____	NUR 104	(6 credits)
_____	NUR 105	(2 credits)
_____	NUR 135	(1 credit)
_____	HLT 105	(1 credit)
		10 credits (14 contact hours)

Continued on next page.

Nursing, continued

Spring Semester (1)

____	NUR 180	(3 credits)
____	NUR 201	(4 credits)
____	NUR 226	(3 credits)
		10 credits (16 contact hours)

Fall Semester (2)

____	NUR 221	(9 credits)
____	NUR 236	(2 credits)
		11 credits (19 contact hours)

Spring Semester (2)

____	NUR 222	(9 credits)
____	NUR 237	(2 credits)
____	NUR 255	(3 credits)
		14 credits (22 contact hours)

Progression through the Program for Option One and Option Two

A grade of "C" or better is required in all NUR and BIO courses. A rating of "satisfactory" is required for the clinical aspect of all nursing courses with associated clinical components. A student who receives a grade of D, F, or W, or an unsatisfactory clinical rating will be required to retake the course to attain the minimum passing grade. Progress through the program will be impeded due to course pre-requisites. See Course Offerings for more information.

Option Three: LPN-to-Associate Degree Nursing Track

The LPN-to-Associate Degree Nursing Track option is for LPNs who wish to earn an associate degree in nursing. The college values all levels of nursing education and is committed to reducing barriers to educational mobility. LPNs admitted to this track will be awarded 9 credits for previously completed practical nurse course work equivalent to NUR 104, 105, and 135 upon successful completion of the LPN-to- ADN curriculum. Students must complete all other courses in the curriculum. Please note that all criteria described under Application and Admission to the Clinical Component are applicable to the LPN-to-ADN track as well to traditional four-semester students.

Students seeking admission to the LPN-to- ADN program must complete the following:

• Requirements for general admission to the college completed by November 1 for spring semester admission;
• An application to the nursing program (a separate process). Completed application packets for the ADN program are accepted until November 1 for spring enrollment. Applications received after November 1 will be considered for spring admission the following academic year.
• Completed ADN program applications should be hand-delivered or delivered via postal mail to the Nursing Admissions Advisor in the Admissions & Records Office in Rooker Hall; Official copies of all college transcripts submitted to Admissions & Records Office;
• Attendance at a general information session for students interested in applying to the associate degree nursing program;
• High school graduate or satisfactory completion of a GED;
• One unit of high school biology (including a lab) or equivalent completed prior to November 1;
• Hold a current unrestricted license to practice as a Licensed Practical Nurse by November 1;
• Current professional-level CPR card. CPR card must be valid to begin clinicals during the first week of class in spring semester, and must be kept current throughout enrollment in program.
• NRCC placement tests for reading, writing, and mathematics. Placement tests must indicate readiness for ENG 111 and proficiency in math modules 1, 2, 3, and 4 on the Virginia Math Placement Test. Placement testing must be completed by November 1 for spring admission. The score on the math placement test is valid for one year in the November 2 to November 1 application period. Applicants may substitute a college level math class (course number greater than 100) successfully completed in the November-to-November application period;
• Completion of all necessary developmental studies identified by the placement tests by November 1;
• Curricular GPA of 2.5 or higher in curricular courses at the time of application. Priority is given to students with higher GPAs;
• Admission Test: The Test of Essential Academic Skills (TEAS) assesses knowledge and skills in reading comprehension, science, English and math. Minimum scores are expected to be 45th percentile. Priority is given to students who score higher on the admission assessment. A student may take the TEAS one time per year. NRCC will also accept HESI or NLN test scores at or above 45th percentile.
• Completion of the dosage calculation competency assessment with a minimum score of 78% correct. Students may complete an on-line review of dosage calculation prior to taking the assessment. The dosage calculation assessment will be administered in a proctored setting at various times during the application period, and may be taken one time. Students who fail to achieve 78% accuracy on the dosage calculation assessment must take NUR 135 in fall semester and reapply the following year. Bridge applicants may choose to take NUR 135 in fall semester prior to applying. In that case, completion of NUR 135 with a grade of "C" or higher will substitute for the dosage calculation competency assessment. For students re-applying to the program for initial acceptance, successful (78% or higher) completion of the dosage calculation competency test is required for each year an application is submitted.
• Completion of BIO 141 with a "C" or better. If currently enrolled in BIO 141, admission will be provisional pending successful completion of the course.
• Completion of PSY 230 or currently enrolled at the time of application. If currently enrolled, admission will be provisional, pending successful completion of PSY 230.
• Completion of SDV 100; and

Continued on next page.

Nursing, continued

• Legal residence (in-state domicile) in the NRCC service area will receive priority standing.
• Also note that priority is given to students who have completed a greater number of general education and support courses by November 1. Courses that must be completed prior to beginning the LPN-to-ADN track program include:
  • BIO 141
  • PSY 230
  • SDV 100
  • BIO 142 must be completed prior to beginning the LPN-to-ADN track or taken concurrently with NUR 180, 201 and 226.
  • Students are encouraged to complete as many of the general education and support courses as possible prior to beginning the three semester sequence of nursing (NUR) courses.

Courses that may be completed prior to enrolling in the LPN-to-ADN track and must be completed prior to graduation are:
• HLT 105, or HLT elective if student has a valid professional-level CPR card
• ENG 111
• ITE 115
• CST 100, and
• Humanities/Fine Arts elective

Curriculum for LPN-to-ADN Track

College Course Prerequisites:

BIO	141	Human Anatomy and Physiology I	4
PSY	230	Developmental Psychology	3
SDV	100	College Success Skills	1
HLT	105	Cardiopulmonary Resuscitation	1
			9

First Semester (Spring)

BIO	142	Human Anatomy and Physiology II [4]	
NUR	180	Essentials of Maternal/NB Nursing	3
NUR	201	Psychiatric Nursing	4
NUR	226	Health Assessment	3
___	___	Humanities/Fine Arts Elective [1]	3
			17

Second Semester (Fall)

ENG	111	College Composition I	3
ITE	115	Intro. to Computer Applications and Concepts	3
NUR	221	2nd Level Principles & Concepts I	9
NUR	236	Principles of Pharmacology III	2
			17

Third Semester (Spring)

NUR	222	2nd Level Principles & Concepts II	9
NUR	237	Principles of Pharmacology IV	2
NUR	255	Nursing Organization & Management	3
CST	100	Principles of Public Speaking	3
			17

Footnote:
1 Students may choose from college approved Humanities/Fine Arts electives on page 44.

Progression through the LPN-to-ADN Track

A grade of "C" or better is required in all NUR and BIO courses. A rating of "satisfactory" is required for the clinical aspect of all nursing courses with associated clinical components. A student who receives a grade of D, F, or W, or an unsatisfactory clinical rating will be required to retake the course to attain the minimum passing grade. Progress through the program will be impeded due to course pre-requisites. See Course Offerings for more information. An LPN who chooses to enter as a traditional student and earns a D, F, or W in NUR 104, 105, or 135 may not subsequently apply to be admitted to the LPN-to-ADN track.

Student Responsibilities for all Associate Degree Nursing Students

• An initial health form must be completed and submitted by September 15 for traditional students and January 15 for LPN-to- ADN students. To comply with clinical agency affiliation agreements, health screening, immunization documentation, and a urine drug screen with negative results are required. Drug testing must follow specific date and procedural stipulations. Further information will be provided on actions to take following acceptance to the nursing program. A repeat health form must be completed annually thereafter. The student is responsible for all associated costs.
• The student is responsible for costs associated with textbooks, uniforms, accessories, lab supplies, supplemental resources, and required achievement testing.
• The student is responsible for transportation to and from clinical sites. Clinical experiences may be scheduled during day and evening hours, and weekday or weekends, depending on availability of clinical facilities and community experiences.
• The student must obtain and maintain current CPR certification throughout the program. Initial CPR certification can be achieved by successfully completing HLT 105. Please note: CPR certification courses must be either American Heart Association Healthcare Provider or Red Cross CPR for Professional Rescuers. Important reminder: HLT 105 (CPR) is taught only in September each year.
• The student is responsible for the costs of personal medical care incurred as a result of accidents or incidents in the clinical or laboratory setting.
• The student is responsible for fees associated with the application to take the exam for licensure as a Registered Nurse.
• The student is responsible for fees associated with criminal background reports. Criminal background checks will be completed following acceptance to the program and prior to beginning the clinical component any nursing (NUR) classes. Background checks must follow specific procedural requirements. Further information will be provided on actions to take following acceptance to the nursing program.
• The student is responsible for the Test of Essential Academic

Continued on next page.

Nursing, continued

Skills fee, which is non-refundable.

Readmission Requirements to the Associate Degree Nursing Program

Readmission to the program is dependent upon clinical placement availability in the desired class. Prior to readmission the student must:

- Notify the Program Director in writing with readmission request as soon as possible in the semester prior to readmission.
- Have a 2.5 curricular GPA at the time of readmission. Priority will be given to students with higher GPAs and higher TEAS scores.

Students applying for re-admission who have been absent one or more semesters must validate dose calculation competency by completing the Dose Calculation Competency Assessment with 78% accuracy or higher prior to approval for re-admission.

Readmission to the program is not assured. The Program Director will contact the student with a determination on readmission status. Preparation to pass the licensure exam is more than a mere collection of credits. The curriculum is designed in a synergistic manner, intended to be completed in four consecutive semesters. Therefore, students absent from the program for more than two semesters will be required to audit one or more of the previously credited courses prior to readmission. Students absent from the program for four semesters must repeat all nursing courses. Students returning to the program are responsible for all program requirements in place at the time of re-admission.

Transfer Students

Transfer students who are currently enrolled in another nursing program are admitted on a space available basis, if they are currently in good academic standing with the nursing program at the previous college, have satisfactory clinical evaluations, provide a positive recommendation from the program director of the previous program, and meet all other admissions requirements. Nursing students seeking to transfer nursing credits to NRCC should contact the ADN program director at NRCC. Students from other colleges who are transferring only non-nursing credits should apply through the usual means for new students. All transfer students must validate dose calculation competency by completing the Dose Calculation Competency Assessment with 78% accuracy or higher.

Continuing Nursing Education Following Completion of an Associate of Applied Science Degree in Nursing

Articulation agreements with senior colleges and universities facilitate the educational mobility of graduates of associate degree nursing programs into RN-to-BSN completion programs. Most RN-to-BSN programs require students to pass the licensure exam, complete additional general education courses, and enroll in upper division nursing courses. The specific requirements and length of BSN completion programs vary among senior institutions, and students are encouraged to contact senior institutions for advising.

An example of seamless articulation can be found with Old Dominion University's School of Nursing. To earn a BSN from ODU, a licensed graduate completes additional credits in general education at NRCC, and then 36 credits at ODU. The general education credits that may be completed at NRCC are listed below. For more information visit http://dl.odu.edu.

Prefix	Number	Course Name	Credits
HIS	101, 102, 111, 112, 121, or 122	Select one history course	3
MTH	157, 240, or 241	Elementary Statistics or Statistics	3
ENG	112	College Composition II	3
CHM	111	College Chemistry I	4
SOC	200	Introduction to Sociology	3
BIO	150	Microbiology	4
ENG	241, 242, 243, 244, 251, or 252	Select one literature course	3
PHI or REL	100 230	Intro. to Philosophy or Religions of the World	3
ART or CST or MUS	100 141 or 142 121 or 122	Select one humanities elective course	3

Paralegal Administrative Support Specialization

For related AST programs, see page 110.

Four-Semester (Two Year) Program

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Associate of Applied Science Degree

Paralegal Administrative Support)

Purpose: This curriculum is designed to provide specialized administrative support technology education in the legal field. It is recommended for students interested in a professional career as a legal assistant to an attorney or judge; assistant in a legal office of a corporation, university, insurance company; or for employment with municipal, state and federal government agencies. In addition, the Paralegal Administrative Support specialization offers basic skills training and advanced training complementary to the information systems demands of the electronic office. Included are skills in word processing, microcomputer usage, and human relations.

Occupational Objectives: Legal Clerk • Office Clerk • Office and Administrative Support Worker • Paralegal and Legal Assistant • Receptionist and Information Clerk

Admission Requirements: In addition to the admission requirements established for the college, entry into the Associate of Applied Science degree program in Administrative Support Technology with a specialization in Paralegal Administrative Support requires English prerequisites as described in the college catalog. Additionally, students should have command of the fundamental processes of addition, subtraction, multiplication, division, fractions, and decimals.

Program Requirements: The two-year program combines instruction in the many subject areas required for competence as a paralegal office assistant, legal transcriptionist, legal records clerk, or legal research assistant. Approximately one-half of the curriculum will include courses in administrative support technology with the remaining courses in related subjects, general education, and elective credits. Students are advised to consult with their faculty advisor to plan their program and to select electives. Upon satisfactory completion of the four-semester curriculum, students will be awarded an Associate of Applied Science degree in Office Systems Technology with a Specialization in Paralegal Administrative Support. Students who plan to transfer to a four-year college after completing A.A.S.

First Semester (Fall)

AST	101	Keyboarding I	3
AST	107	Editing/Proofreading Skills	3
ENG	111	College Composition I	3
LGL	110	Intro. to Law & the Legal Assistant	3
MTH	141	Business Mathematics I	3
SDV	100	College Success Skills	1
			16

Second Semester (Spring)

AST	102	Keyboarding II	3
AST	141	Word Processing I (Word)	3
AST	137	Records Management	3
ENG	116	Writing for Business	3
LGL	117	Family Law	3
LGL	130	Law Office Administration & Management	3
			18

Third Semester (Fall)

AST	142	Word Processing II (Word)	3
AST	232	Microcomputer Office Applications	3
CST	137	Oral Interpretation (or CST 100 & Humanities/Fine Arts[2])	3
LGL	127	Legal Research and Writing	3
___	___	AST/BUS/LGL Elective	3
___	___	Social Science Elective [1]	3
			18

Fourth Semester (Spring)

AST	236	Specialized Software Applications	3
AST	253	Advanced Desktop Publishing I	3
LGL	216	Trial Preparation & Discovery Practice	3
___	___	Health or Physical Education	1
___	___	Social Science Elective [1]	3
			13

Total Minimum Credits 65

Footnotes:

1 Students may choose from college approved Social Science electives on page 44.

2 Students may choose from college approved Humanities/Fine Arts electives on page 44.

Note:

For more information about this program, visit the department website at www.nr.edu/legal.

Paralegal Studies

For related AST programs, see page 110.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Associate of Applied Science Degree

Purpose: This curriculum is designed to provide an individual with a sufficient level of knowledge, understanding, and proficiency to perform tasks in meeting the needs of clients that can be performed by a training paraprofessional working under the direction and supervision of a lawyer. A paralegal will have a basic understanding of the general process of American law and will have the knowledge and proficiency to perform specific tasks under the supervision of a lawyer in the fields of criminal and civil law.

Occupational Objectives: Law Clerk • Legal Secretary • Legal Support Worker • Office and Administrative Support Worker • Office Clerk • Paralegal and Legal Assistant • Receptionist and Information Clerk • Title Examiner and Abstractor • Title Searcher

Admission Requirements: In addition to the admission requirements established for the college, entry into the Associate of Applied Science degree program in Paralegal Studies required English prerequisites as described in the college catalog. Additionally, students should have command of the fundamental processes of addition, subtraction, multiplication, division, fractions, and decimals. Program Requirements: The two-year Paralegal Studies degree combines instruction in many subject areas required for competence as a legal assistant/paralegal. The curriculum will include 30 hours of legal courses with the remaining courses in related subjects, general education, and elective credits. Upon satisfactory completion of the four-semester curriculum, students will be awarded an Associate of Applied Science degree in Paralegal Studies.

Students who plan to transfer to a four-year college after completing A.A.S. degree requirements should inform their academic advisors at the beginning of studies to determine the appropriate courses to meet transfer requirements.

Four-Semester (Two Year) Program

First Semester (Fall)

ENG	111	College Composition I	3
LGL	110	Intro. to Law and the Legal Assistant	3
LGL	115	Real Estate Law for Legal Assistants	3
MTH	141	Business Mathematics I	3
SDV	100	College Success Skills	1
___	___	Social Science Elective [1]	3
			16

Second Semester (Spring)

AST	141	Word Processing I (Word)	3
ENG	116	Writing for Business	3
LGL	117	Family Law	3
LGL	130	Law Office Administration & Management	3
LGL	228	Real Estate Settlement Practicum	3
___	___	Health or Physical Education	1
			16

Third Semester (Fall)

AST	142	Word Processing II (Word)	3
AST	232	Microcomputer Office Applications	3
LGL	127	Legal Research/Writing	3
LGL	218	Criminal Law	3
___	___	AST/BUS/LGL Elective [3]	3
___	___	Social Science Elective [1]	3
			18

Fourth Semester (Spring)

AST	253	Advanced Desktop Publishing I	3
LGL	215	Torts	3
LGL	216	Trial Preparation/Discovery Practice	3
LGL	225	Estate Planning & Probate	3
CST	137	Oral Interpretation (or CST 100 & Humanities/Fine Arts [2])	3
			15

Total Minimum Credits 65

Footnotes:

1 Students may choose from college approved Social Science electives on page 44.

2 Students may choose from college approved Humanities/Fine Arts electives on page 44.

3 LGL 235 recommended.

Note:

For more information about this program, visit the department website at www.nr.edu/legal.

Police Science

For related ADJ programs, see page 110.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Associate of Applied Science Degree

Purpose: The Police Science curriculum is designed to prepare students for successful entry into careers in the criminal justice field. Courses focus on the theoretical and practical considerations necessary for an understanding of modern law enforcement practices and the relationships between law enforcement, the community, and the other components of the criminal justice system. The curriculum is applicable to both pre-service and in-service criminal justice practitioners.

Occupational Objectives: Bailiff • Correctional Officer and Jailer •Deputy Sheriff • Dispatcher • Emergency Communications • Local, State, and Federal Enforcement Officer • Municipal Police Officer • Police and Sheriff's Patrol Officer • Police Patrol Officer • Private and Public Security Officer • Private Security Agent • Security Guard • State Police Officer • Transit and Railroad Police

Admission Requirements: In addition to the general requirements for admission to the college, students entering the Police Science program will be expected to have a command of the fundamentals of English (ENG 03 and ENG 05) and basic mathematics. Satisfactory completion of one year of high school Algebra or equivalent is required. Students who are found deficient will be required to correct deficiencies in developmental courses.

Program Requirements: More than one half of the curriculum will include courses in criminal justice, with the remaining courses in related areas, general education, and electives. Instruction will include both the theoretical concepts and practical applications needed for future success in academic or professional endeavors. Students are urged to consult with their faculty advisor in planning their program and selecting electives. Upon satisfactory completion of the four-semester program, the graduate will be awarded an Associate of Applied Science degree in Police Science.

Special Note to Students: The completion of the requirements for an A.A.S. degree in four semesters is predicated on students' taking between 15 and 18 semester hours of required course work per semester. Full-time students can expect to take a combination of day and evening classes.

For students with non-traditional needs, ADJ courses, core required classes and electives are available via night and distance education (DE) formats. Web-based courses are the primary DE format for ADJ course offerings. Night courses include both required and elective ADJ classes.

Non-traditional students should be able to complete almost all of the degree requirements for an A.A.S. degree in Police Science by taking night or DE courses. Students are encouraged to consult with their academic advisor for additional information.

Four-Semester (Two Year) Program

First Semester (Fall)

ADJ	107	Survey of Criminology	3
ADJ	110	Introduction to Law Enforcement	3
ENG	111	College Composition I	3
PSY	200	Principles of Psychology	3
SDV	100	College Success Skills	1
ADJ	___	Elective	3
			16

Second Semester (Spring)

ADJ	105	Juvenile Justice System	3
ADJ	120	Introduction to Courts	3
ADJ	140	Introduction to Corrections	3
ENG	112	College Composition II	3
MTH	157	Elementary Statistics[1]	3
___	___	Humanities/Fine Arts Elective [2]	3
			18

Third Semester (Fall)

ADJ	133	Ethics and the Criminal Justice Professional	3
ADJ	171	Forensic Science I	4
ADJ	211	Criminal Law, Evidence & Procedures I	3
ITE	115	Introduction to Computer Applications & Concepts	3
___	___	Health or Physical Education	2
			15

Fourth Semester (Spring)

ADJ	212	Criminal Law, Evidence & Procedures II	3
ADJ	288	Capstone Course Police Science [3]	3
CST	100	Principles of Public Speaking	3
ADJ	___	Elective	3
ADJ	___	Elective	2
___	___	Social Science Elective [4]	3
			17

Total Minimum Credits 66

Footnotes:

1 See advisor for transfer math options. Transfer math courses include MTH 151, MTH 157 or MTH 240.

2 Students may choose from college approved Humanities/Fine Arts electives on page 44.

3 Course must be taken during final spring semester prior to graduation and after all ADJ core requirements are completed.

4 Social Science electives SOC 200 or PLS 135.

Note:

For more information about this program, visit the department website at www.nr.edu/adj/.

CONTINUED FROM PREVIOUS COLUMN

Students should be aware that some coordinated internships may be available with local criminal justice agencies. Internships are offered on a limited basis and will be coordinated with the student's academic advisor.

Students who plan to transfer to a four-year college after completing A.A.S. degree requirements should inform their academic advisors at the beginning of studies to determine the appropriate courses to meet transfer requirements.

Automotive Analysis and Repair

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Diploma

Purpose: Complexity in automotive vehicles increases each year because of scientific discovery and new technology. There is a great demand for qualified automotive technicians to service the growing number of automobiles in our society. The purpose of the Automotive Analysis and Repair program is to prepare the student technician with instruction and practice necessary to repair today's complex vehicles. Training will be provided in automotive systems theory, service, and repair. This program is competency based to include specific classroom and shop exercises. The college's facilities include the latest equipment and test vehicles.

Occupational Objectives: Automotive Master Technician • Automotive Service Technician and Mechanic • Automotive Specialty Technician (Tune-Up Specialist) • Motor Vehicle Inspector • Parts Sales-person

Admission Requirements: In addition to the admissions requirements established for the college, the student should be proficient in high school English and general mathematics. Students will be required to purchase a uniform and safety glasses. Tools will be required after successful completion of first semester; purchase of hand tools is the responsibility of the student.

Program Requirements: Approximately 75 percent of the curriculum will include courses in automobile technology with the remaining courses in related areas, which include general and practical applications needed for future success in automotive technology. Students are advised to consult with their faculty advisor and a counselor to plan their program and select electives.

Upon satisfactory completion of the four-semester program, the graduate will be awarded a diploma in Automotive Analysis and Repair.

Four-Semester (Two Year) Program

First Semester (Fall)

AUT	101	Intro. to Automotive Systems [1]	4
AUT	241	Automotive Electricity I	4
AUT	265	Automotive Braking Systems	4
MTH	103	Applied Technical Mathematics	3
SDV	100	College Success Skills	1
			16

Second Semester (Spring)

AUT	126	Auto Fuel & Ignition Systems	5
AUT	215	Emission Systems Diagnosis & Repair	2
AUT	266	Auto. Alignment, Suspension & Steering	4
ENG	108	Critical Reading & Study Skills	3
			14

Third Semester (Fall)

AUT	115	Automobile Engines	5
AUT	141	Power Trains I	4
AUT	242	Automotive Electricity II	4
___	___	Social Science Elective [2]	3
			16

Fourth Semester (Spring)

AUT	216	High Efficiency Fuel Systems	5
AUT	235	Auto Heating & Air Conditioning	3
AUT	251	Automatic Transmissions I	4
___	___	Technical Elective/ Coop	3
			15

Total Minimum Credits 61

Footnotes:

1 AUT 101 is a co-requisite for all automotive courses, or consent of instructor.

2 Students may choose from college approved Social Science electives on page 44.

Machine Shop Operations

For related MAC programs, see page 110.

Four-Semester (Two Year) Program

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Diploma

Purpose: This diploma program is designed to provide industry with personnel trained in advanced machine tool concepts and modern production procedures. Graduates will be prepared to accept full-time employment in the machinist field upon completion of the prescribed curriculum.

Occupational Objectives: CNC Operator • Industrial Machinery Mechanic • Inspector (Quality Control) • Machine Tool Operator • Machine Tool Set-up Operator • Machinist • Materials Inspector • Mechanical Inspector • Numerical and Process Programmer • Numerical Control Machine Tool Operator

Admission Requirements: MAC 106 is a co-requisite to the first semester if it is not articulated.

Program Requirements: The Machine Shop Operations curriculum consists of instruction in the various subject areas necessary for competency in the machinist field. Approximately one-half of the curriculum is devoted to the setting-up and physical operation of various machine tools with the remaining courses in related subjects and general education. Students are urged to consult with their faculty advisor and a counselor to plan their program. Upon completion of the four-semester curriculum, the student will be awarded a diploma in Machine Shop Operations.

First Semester (Fall)

MAC	106	Machine Shop Operations with Lab [1]	8
MAC	181	Machine Blueprint Reading I	3
MTH	101	Basic Technical Mathematics I	4
SDV	100	College Success Skills	1
			16

Second Semester (Spring)

ENG	108	Critical Reading & Study Skills	3
MAC	107	Technology of Machining with Lab	8
MAC	182	Machine Blueprint Reading II	3
			14

Third Semester (Fall)

MAC	121	Computer Numerical Control I	3
MAC	215	Machining Techniques with Lab	8
___	___	Elective	3
			14

Fourth Semester (Spring)

MAC	122	Computer Numerical Control II	3
MAC	217	Precision Machining Techniques with Lab	8
MAC	250	Advanced Computer Aided Manufacturing	3
WEL	145	Welding Metallurgy	3
			17

Total Minimum Credits 61

Footnote:

1 MAC 106 is a co-requisite first semester if not articulated.

Early Childhood Development

For related HMS programs, see page 110.

Division of Arts and Sciences: (540) 674-3611

Career/Technical Education

Certificate

Two-Semester (One Year) Program

First Semester (Fall)

CHD	120	Introduction to Early Childhood [1]	3
CHD	125	Creative Activities for Children [1]	3
ENG	111	College Composition I	3
HLT	135	Child Health & Nutrition [2]	3
SDV	100	College Success Skills	1
SOC	200	Principles of Sociology	3
			16

Second Semester (Spring)

CHD	205	Guiding the Behavior of Children	3
CHD	210	Intro. to Exceptional Children	3
CHD	290	Coordinated Internship in Early Childhood [2]	3
CHD	___	Elective	3
HLT	100	First Aid and CPR	3
PSY	235	Child Psychology	3
			18

Total Minimum Credits 34

Footnotes:

1 CHD 120 is a prerequisite/co-requisite for all other CHD courses.

2 CHD 120, CHD 125 and HLT 135 are prerequisites for CHD 290.

Notes:

Internships for Early Childhood Certificate must be approved by program head. Visit the department website at www.nr.edu/ecd/ for more information about the program.

For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at www.nr.edu/ecd/pages/certificate.php.

Purpose: The Early Childhood program is designed to prepare individuals for employment in a variety of situations in which care and development of young children are the primary objectives. Teachers already employed in child care may find this program appropriate for upgrading and broadening their skills and qualifications and providing training for promotion.

Occupational Objectives: Preparation or upgrading for positions such as assistant teachers (or aides) and home care providers in the following types of facilities: Child Care Centers • Day Care Centers • Family Child Care Centers • Head Start Child Care Centers • On-Site Programs in Business • Pre-School At-Risk Programs

Admission Requirements: In addition to the requirements for general admission to the college, a personal interview with the program head is recommended.

Program Requirements: The Early Childhood program at NRCC combines general education courses with specialized courses for a total of 34 credit hours to prepare students in the areas most directly applicable to working with children. To get the most benefit from the program, students should work closely with their faculty advisor in planning their curriculum including the internship experience. NRCC also offers a 15 credit Career Studies Certificate in Child Development and a 67 credit Associate of Applied Science degree in Human Services with a Specialization in Early Childhood Development. For students who decide to continue their education, courses in the certificate program will lead into the A.A.S. degree program and some may transfer to a four-year institution. Students who plan to continue into the A.A.S. degree and/or transfer after completing the degree requirements in Early Childhood should inform their academic advisor at the beginning of studies to ensure a smooth transition into programs and determine the appropriate courses to meet transfer requirements.

Students must successfully complete a supervised internship that includes on-the-job teaching experiences in an early childhood setting, approved by the Program Head. Application for internship should be made the semester prior to placement. Students should note that early childhood programs re-quire a criminal background report and a child abuse central registry search as a prerequisite to beginning the internship experience. A program may deny participation for findings on the reports. Affiliation agreements prevent the placement of a student who is denied internship participation at one program into an internship agreement at another program. Inability to meet the internship requirements prevents the student from satisfactorily achieving the course objectives resulting in failure of the course.

Students will be required to go through an oral interview at the

CONTINUED FROM PREVIOUS COLUMN

conclusion of the program for assessment purposes. Upon satisfactory completion of the program, the student will be awarded a Certificate in Early Childhood Development.

General Education

Division of Arts and Sciences: (540) 674-3611

Career/Technical Education

Certificate

The General Education Certificate is awarded to students who complete the required core of transferable general education courses in an Associate Degree program. The certificate satisfies the Virginia General Assembly legislation mandating a "uniform certificate of general studies" to be offered at each community college. This program is not eligible for Federal Financial Aid (Title IV) funding.

Two-Semester (One Year) Program

First Semester (Fall)

ENG	111	College Composition I	3
HIS	111	History of World Civilization I (or HIS 101 OR HIS 121)	3
MTH	163	Precalculus (or MTH 151)	3
SDV	100	College Success Skills	1
____	____	Humanities/Fine Arts Elective [1]	3
____	____	Natural Science I with Lab [2]	4
			17

Second Semester (Spring)

ENG	112	College Composition II	3
HIS	112	History of World Civilization II (or HIS 102 OR HIS 122)	3
____	____	Social Science Elective [3]	3
____	____	Humanities/Fine Arts Elective [1]	3
____	____	Natural Science I with Lab [2]	4
			16
		Total Minimum Credits	33

Footnotes:

1 Students may choose from college approved Humanities/Fine Arts electives on page 44.

2 Students may choose from the following Natural Science courses: BIO 101-102; CHM 111-112; PHY 201-202.

3 Students may choose from college approved Social Science electives on page 44.

Human Services

For related HMS programs, see page 110.

Division of Arts and Sciences: (540) 674-3611

Career/Technical Education

Certificate

Purpose: The program is designed to prepare students for entry into a variety of occupations which provide human services.

Occupational Objectives: Recreation Worker • Rehabilitation Aide • Social Service Aide • Social Welfare Assistant

Admission Requirements: Applicant should possess a high school diploma or equivalent or be 18 years of age and able to benefit from instruction.

Program Requirements: The Human Services program is about people working with people. The pro-gram is designed to provide about one-third of its requirements in general education and the remain-der in human services related courses. Instruction includes the theoretical concepts as well as the practical application to work situations. To get the most benefit from the program, students should work closely with their faculty advisor in planning their curriculum, field experiences, and the opportunity to continue and complete the Associate of Applied Science degree requirements in Human Services.

The student will spend a minimum of 225 hours working in a supervised internship in a social service agency. Application for internship should be made the semester prior to placement. Students should note that agencies may require a criminal background report and/or a child abuse central registry search as a prerequisite to beginning the internship experience. An agency may deny participation for findings on the reports. Affiliation agreements prevent the placement of a student who is denied internship participation at one facility into an internship agreement at another agency. Inability to meet the internship requirements prevents the student from satisfactorily achieving the course objectives resulting in failure of the course. Inability to meet the internship requirements prevents the student from satisfactorily achieving the course objectives resulting in failure of the course.

Students will be required to go through an oral interview at the conclusion of the program for assessment purposes. Upon satisfactory completion of the program, the student will be awarded the Certificate in Human Services.

Two-Semester (One Year) Program

First Semester (Fall)

EDU	156	Single Parent Families	3
ENG	111	College Composition I	3
HMS	100	Introduction to Human Services [1,2]	3
HMS	121	Basic Counseling Skills I [1]	3
HMS	141	Group Dynamics I [1]	3
SDV	100	College Success Skills	1
			16

Second Semester (Spring)

CST	100	Principles of Public Speaking	3
HMS	236	Gerontology [1]	3
HMS	251	Substance Abuse I [1]	3
HMS	290	Coordinated Internship in Human Services [2]	3
PSY	200	Principles of Psychology (or PSY 216)	3
SOC	200	Principles of Sociology	3
			18

Total Minimum Credits 34

Footnotes:

1 HMS 100 is recommended as a pre- or co-requisite for all other HMS courses.
2 HMS 100 and HMS 121 are pre- or co-requisites for HMS 290.

Note:

Visit the department Website at www.nr.edu/hms/ for more information about this program. For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at www.nr.edu/hms/pages/certificatecourses.php.

Division of Arts and Sciences: (540) 674-3611

Career/Technical Education

Certificate

Practical Nursing

For related NUR programs, see page 110.

Three-Semester Program

Purpose: The three-semester certificate program in Practical Nursing is designed to prepare selected students to qualify as contributing members of a health team, rendering patient care in a variety of health service facilities. Upon successful completion of the program, students are eligible to take the Virginia Board of Nursing examination leading to licensing as a Licensed Practical Nurse (LPN).

Occupational Objectives: Employment opportunities for the Licensed Practical Nurse include nursing and staff positions in: Clinics • Home Health Agencies • Hospitals • Industry • Nursing Homes • Physicians' Offices

Admission Requirements: Completed application packets for the Practical Nursing Certificate program are accepted until March 15 for fall admission. In addition to the admission requirements established for New River Community College, entry into the practical nursing program requires that the student:

- Complete high school or pass the GED exam.
- Complete a placement test for reading, writing, and mathematics. Placement tests must indicate readiness for ENG 111 and proficiency in math modules 1, 2, and 3 on the Virginia Math Placement Test. The score on the math placement test is valid for one-year in the March 16-March 15 application period.
- Complete TEAS Test.
- Attend orientation session with nursing faculty.

Applicants should note that the Virginia Board of Nursing has the authority to deny licensure to an applicant who has violated any federal, state, or other statute. Examples include conviction of a felony or misdemeanor involving moral turpitude, and alcohol or drug related issues. A prospective student who has been convicted, or pled guilty or nolo contendre to any illegal offenses other than minor traffic violations should contact the program director prior to making application to the program. Additional information may be obtained from the Virginia Department of Health Professions, Virginia Board of Nursing, located at Perimeter Center, 9960 Mayland Drive, Suite 300, Henrico, VA 23233 (phone (804) 367-4515).

Program Requirements: The Practical Nursing program is rigorous. All nursing courses in each semester are prerequisite to the succeeding semester. A student receiving a final grade lower than a "C" in any nursing course (including HLT 130) will be ineligible to progress in the nursing program. Further, satisfactory performance in the clinical area must be achieved.

The Practical Nursing program is operated in cooperation with the LewisGale Hospital at Pulaski and other clinical agencies. The first semester consists of classroom instruction. During the second semester, students are scheduled for selected learning experiences in the clinical setting. As a prerequisite to beginning the clinical experience the student must:

- Sign the Assumption of the Risk document.

Continued on next page.

Practical Nursing, continued

• Purchase complete student uniform, and watch.
• Provide evidence of specified health screenings and immunizations. Students are responsible for all costs. The student must also make available to clinical agencies a copy of their health form. A positive drug screen will prevent the student from participating in clinical experiences. Inability to meet the clinical requirements prevents the student from satisfactorily achieving the course objectives, resulting in failure of the course.
• Pay for the criminal background check. Results will be reviewed by the clinical agency. A healthcare agency may deny clinical participation for findings on the reports. Affiliation agreements prevent the placement of a student who is denied clinical participation at one facility into a clinical group at another agency.
• Be certified in CPR from the American Red Cross or American Heart Association (health care providers' course).

A student who has failed to achieve a "C" or above in each nursing course and achieve a 'satisfactory' clinical grade is eligible for readmission dependent on the following criteria:
• Apply in writing to the Director of Student Services at least one full semester before requested re-admission date.
• Have at least a 2.0 cumulative GPA at the time of application.

In addition to the above criteria, re-admission will depend upon the availability of a clinical opening. Students will be notified of a decision affecting their re-admission at the end of the semester before requested re-admission date. If a returning student has been out of the program for more than one year, the student must repeat all PNE courses.

Certificate Degree Nursing Competencies: Nursing is a physically, emotionally, and intellectually demanding profession. Students engaged in clinical experiences while enrolled in the program perform in the role of a practical nurse. The chart below, based on expectations published by the Council on Collegiate Education for Nursing, describes activities associated with clinical experiences.

Category	Examples Of Clinical Competencies And Responsibilities*
Analytical and Critical Thinking	Read and understand written documents in English (e.g. protocols), focus attention on task in distracting/ chaotic environment, identify cause-effect relationships, use long and short-term memory, prioritize tasks.
Professional Relationships	Deal with the unexpected (e.g. patient crisis), handle strong emotions of others while controlling personal responses.
Communication	Communicate in English with patients, families, and agency staff members (both orally and written).
Mobility	Move within confined spaces, reach above shoulders (e.g. I.V. poles) and reach below waist (e.g. plug in electrical appliances), walk six to eight hours, stand at bedside up to 60 minutes to assist with procedures.
Motor Skills	Perform CPR, operate a fire extinguisher, key/type (e.g. use a computer), manipulate a syringe, manipulate an eye dropper.
Hearing	Hear faint body sounds (e.g. blood pressure, heart, lung, and abdominal sounds), hear monitor alarms, hear in situations when not able to see lips (e.g. when masks are used).
Visual	See objects near (e.g. computer screen), see objects far (e.g. patient at end of the hall), distinguish color intensity (e.g. flushed or pale skin), read digital displays, read graphic printouts, read small medication labels.
Tactile Sense	Use sense of touch to gather assessment data (e.g. palpate pulses, detect warmth vs. coolness).

*Examples are intended as clarification, not as an exhaustive list

Upon completion of the three-semester curriculum, the student will be awarded the certificate of Practical Nursing.

Special Recognition: In addition to the regional accreditation of the college (SACSCOC), the practical nursing school is approved by the Virginia Board of Nursing.

First Semester (Fall)

PNE	155	Body Structure and Function[1]	3
PNE	161	Nursing in Health Changes I	6
PNE	173	Pharmacology for Nurses	2
ENG	111	College Composition I (or ENG 115)	3
SDV	100	College Success Skills	1
			15

Second Semester (Spring)

PNE	162	Nursing in Health Changes II	11
PSY	230	Developmental Psychology	3
			14

Third Semester (Summer)

PNE	145	Trends in Practical Nursing	1
PNE	158	Mental Health and Psychiatric Nursing	2
PNE	163	Nursing in Health Changes III	9
PNE	290	Coordinated Internship	2
			14
		Total Minimum Credits	43

Footnote:
1 Students may substitute BIO 141 and BIO 142 with a grade of C or better.

Note:
For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at http://www.nr.edu/pn/programs.php

Accounting

For related ACC programs, see page 110.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Certificate

Purpose: The Accounting certificate program was designed to allow students who do not desire a two-year degree in Accounting to gain enough accounting background to qualify for employment within one year. After completing the one-year program, students may apply courses to the two-year Accounting program and complete the A.A.S. degree during the evening while working during the day in an accounting position.

Occupational Objectives: Bookkeeping, Accounting, and Auditing Clerk •Office Clerk • Office Machine Operator • Order Clerk • Payroll and Timekeeping Clerk • Postal Service Clerk • Procurement Clerk • Shipping, Receiving, and Traffic Clerk • Statement Clerk • Stock Clerk • Teller

Admission Requirements: In addition to the admission requirements established for the college, entry into the certificate in Accounting requires English prerequisites as described in the catalog. Additionally, students should have command of the fundamental processes of addition, subtraction, multiplication, division, fractions, and decimals. Students who are found deficient in English and fundamental mathematics will be required to correct their deficiencies in developmental courses.

Program Requirements: The first semester of this program must be completed in the summer if students expect to obtain the certificate in one year at New River Community College. All credits obtained in this program can be applied to the two-year degree. This program is highly concentrated in accounting skills with minimum emphasis given to general education and business-related subjects. Instruction will include both theoretical concepts and practical applications needed for future success in Accounting. Each student is urged to consult with a counselor and a faculty advisor in planning a program. Upon satisfactory completion of the three semester curriculum, the student will be awarded a certificate in Accounting.

Three-Semester Program

First Semester (Fall)

ACC	124	Payroll Accounting	2
ACC	211	Principles of Accounting I	4
ACC	261	Principles of Federal Taxation I	3
AST	101	Keyboarding I	3
SDV	100	College Success Skills	1
			13

Second Semester (Spring)

ACC	212	Principles of Accounting II	4
ACC	215	Computerized Accounting	3
MTH	141	Business Mathematics I	3
BUS	226	Computer Business Applications	3
			13

Third Semester (Fall)

ENG	111	College Composition I (or AST 107)	3
BUS	100	Introduction to Business	3
___	___	Social Science Elective [1]	3
			9
		Total Minimum Credits	35

Notes:

The following courses are offered every other year for evening students:

ACC 124	Payroll Accounting	Fall 2016
ACC 215	Computerized Accounting	Spring 2016
ACC 261	Principles of Federal Taxation	Fall 2016

The following courses are offered online every semester:

ACC 211 Principles of Accounting I
ACC 212 Principles of Accounting II

The following courses are offered online in alternating years from the night classes:

ACC 124	Payroll Accounting	Fall 2015
ACC 215	Computerized Accounting	Spring 2017
ACC 261	Principles of Federal Taxation	Fall 2015

For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at, www.nr.edu/accounting/pages/certificates.php#acc_cer.

Footnote:

1 Students may choose from college approved Social Science electives on page 44.

Industrial Maintenance

For related MAC programs, see page 110.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Certificate

Purpose: This certificate program provides an organized approach to electrical and mechanical service and repair applications. The curriculum is designed to provide a broad range of experiences in industrial service and repair shops.

Occupational Objectives: Building Maintenance Worker • Factory Maintenance Worker • Helper - Installation, Maintenance, and Repair Worker • Industrial Engineering Technician • Maintenance Assistant • Maintenance Mechanic • Maintenance Serviceperson • Maintenance Repair Worker • Maintenance Worker • Property, Real Estate, and Community Association Manager

Admission Requirements: Applicants should possess a high school diploma or equivalent or be 18 years of age and able to benefit from instruction.

Program Requirements: The curriculum in Industrial Maintenance is designed to prepare qualified maintenance personnel for institutional, industrial, or commercial plants. The student who completes the program should be prepared to do various types of standard electrical installations, welding and basic lathe and milling machine operations. The program also prepares students to maintain air conditioners and repair small engines. Options may be elected if a person has a definite need for more specialized work in a specific field. Upon satisfactory completion of the program, students will receive a certificate in Industrial Maintenance.

Note: For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at http://www.nr.edu/mac/indmaint_cer.php

Two-Semester (One Year) Program

First Semester (Fall)

AIR	121	Air Conditioning & Refrigeration I	4
ETR	113	D.C. and A.C. Fundamentals I	3
INS	220	Introduction to Fluid Power	3
MTH	103	Applied Technical Mathematics I	3
SAF	126	Principles of Industrial Safety	3
SDV	100	College Success Skills	1
			17

Second Semester (Spring)

ENG	108	Critical Reading & Study Skills	3
ELE	149	Wiring Methods in Industry	3
ETR	114	D.C. and A.C. Fundamentals II	3
MAC	J06	Machine Shop Operations (First half of MAC 106)	4
MEC	155	Mechanisms	2
WEL	100	Fundamentals of Welding	3
			18

Total Minimum Credits 35

Welding Technology

For related WEL programs, see page 110.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Certificate

Purpose: This program is designed to prepare persons for full-time employment in the welding industry. The increased need in both the state and local industries exceeds demand for people trained in the profession of welding. The certificate program will include welder qualification and certification with the American Society of Mechanical Engineers' (ASME) Code, Section IX, Welding and Brazing Qualification, and the American Welding Society's (AWS) Structural Welding Code, D1.1. The curriculum also contains competencies of the American Welding Society's (AWS) SENSE program which is an industrial standard for welder education and training.

Occupational Objectives: Combination Welder • Fitter-Welder • Materials Inspector • Visual Inspector • Welder • Welder and Cutter (Burner) •Welder-Fitter

Admission Requirements: Applicants should possess a high school diploma or equivalent or be 18 years of age and able to benefit from instruction.

Program Requirements: The curriculum in welding provides the opportunity for a person to attend school on a full-time or part-time basis and acquire the necessary knowledge and skills to become a welder. Instruction emphasizes the practical applications in various welding techniques. Persons in related occupations may benefit from portions of the curriculum without taking all courses. Upon satisfactory completion of the program, the graduate will be awarded a certificate in Welding.

Two-Semester (One Year) Program

First Semester (Fall)

MTH	103	Applied Technical Mathematics I	3
SAF	126	Principles of Industrial Safety	3
WEL	100	Fundamentals of Welding	3
WEL	123	Shielded Metal Arc Welding (Basic)	4
WEL	160	Gas Metal Arc Welding	4
SDV	100	College Success Skills	1
			18

Second Semester (Spring)

ENG	108	Critical Reading & Study Skills	3
WEL	130	Inert Gas Welding (GTAW)	4
WEL	141	Welder Qualification Tests I[1]	4
WEL	145	Welding Metallurgy	3
WEL	150	Welding Drawing and Interpretation	3
			17

Total Minimum Credits 35

Footnote

1 WEL 142 may be taken as an additional option. This option is for students in pursuit of higher level welding qualifications such as pipe welding.

Note:

For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at www.nr.edu/welding/program.php.

Word Processing

For related AST programs, see page 110.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Certificate

Purpose: The rapid growth of technology and the use of electronic equipment have increased the demand for well-trained administrative support assistants. This program is designed to train basic level word processing and information support practitioners for the technological demands of the office.

Occupational Objectives: Billing, Cost, and Rate Clerk • Data Entry Keyer • Office and Administrative Support Assistant • Office Clerk • Receptionist and Information Clerk • Word Processors and Typist

Admission Requirements: Applicant must meet the general requirements for admission to the college.

Program Requirements: The program requires the student to take courses in English, psychology, orientation, and computer information systems, in addition to the required courses needed for job competence in word processing activities. Upon completion of the two-semester program, the student will be awarded a certificate in Word Processing.

Two-Semester (One Year) Program

First Semester (Fall)

AST	101	Keyboarding I	3
AST	107	Editing/Proofreading Skills	3
AST	137	Records Management	3
BUS	100	Introduction to Business	3
ENG	111	College Composition I	3
SDV	100	College Success Skills	1
			16

Second Semester (Spring)

AST	102	Keyboarding II	3
AST	141	Word Processing I (Word)	3
AST	232	Microcomputer Office Applications	3
AST	243	Office Administration I	3
ENG	116	Writing for Business	3
			15

Total Minimum Credits 31

Note:
For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at www.nr.edu/ast/wp_cert.php.

Division of Arts and Sciences: (540) 674-3611

Career/Technical Education

Career Studies Certificate

Purpose: The career studies certificate program is a response to the non-conventional short-term program of studies needed by many adults within the college's region. It offers a series of specialized program options which represent a wide variety of adult career and academic interest course areas. The options within this program are intended to represent the minimum amount of college course work considered representative of these fields of study. Each of the program options is designed as a distinct "mini-curriculum" within a broader range of adult educational possibilities.

Admission Requirements: Applicants should meet the general requirements for admission to the college. Placement tests may be required in some areas.

Child Development

For related HMS programs, see page 110.

Variable for Part-Time Students

The career studies certificate in Child Development meets the training needs of teachers currently employed in day care.

First Semester (Fall)

CHD	120	Introduction to Early Childhood	3
CHD	125	Creative Activities for Children	3
HLT	135	Child Health and Nutrition	3
SDV	100	College Success Skills	1
			10

Second Semester (Spring)

CHD	205	Guiding Behavior of Children	3
CHD	290	Coordinated Internship	3
			6
		Total Credits	16

Nurse Aide

For related NUR programs, see page 110.

The career studies certificate is designed to train individuals for employment as nursing assistants and give graduates proficiency in the skills needed to assist with nursing care in nursing homes, hospitals, and home health. [1]

Admission Requirements: Students interested in NUR 27 (Nurse Aide I) must note that the Virginia Board of Nursing has the authority to deny certification to a nurse aid applicant who has violated certain federal, state, or other statues. Examples include conviction of a felony or misdemeanor involving moral turpitude, and alcohol or drug related issues. A prospective student who has been convicted or pled guilty or nolo contender to any illegal offenses other than minor traffic violations may contact the nursing program director with questions. Information is also available from the Virginia Department of Health Professions, Virginia Board of Nursing, located at Perimeter Center, 9960 Mayland Drive, Suite 300, Henrico, VA 23233. Phone (804) 367-4515.

Healthcare agencies, where nurse aide students engage in clinical experiences, require that students complete a background investigation prior to participating in clinical activities. A healthcare agency may deny clinical participation for findings on the reports. Some healthcare agencies also require that students be finger-printed. Affiliation agreements prevent the placement of a student who is denied clinical participation at one facility into a clinical group at another agency. Inability to meet the clinical requirements prevents the student from satisfactorily achieving the course objectives, resulting in failure of the course.

Working in the role of a nurse aide is physically, emotionally, and intellectually demanding. Students engaged in clinical experiences while

Continued on next page.

Nurse Aide, continued

enrolled in the program must be able to perform in the role of a nurse aide. The chart, based on expectations published by the Council on Collegiate Education for Nursing, describes activities associated with classroom and clinical requirements.

Category	Examples of Clinical Competencies and Responsibilities*
Analytical and Critical Thinking	Read and understand written documents in English (e.g. protocols), focus attention on task in distracting/chaotic environment, identify cause-effect relationships, use long and short-term memory.
Professional Relationships	Deal with the unexpected (e.g. patient crisis), handle strong emotions of others while controlling personal responses.
Communication	Communicate in English with patients, families, and agency staff members (both orally and written).
Mobility	Move within confined spaces, reach above shoulders (e.g. I.V. poles) and reach below waist (e.g. plug in electrical appliances), walk six to eight hours, stand at bedside up to 60 minutes to assist with patient care.
Motor Skills	Perform CPR, operate a fire extinguisher, key/type (e.g. use a computer), manipulate an eye dropper.
Hearing	Hear faint body sounds (e.g. blood pressure), hear monitor alarms, hear in situations when not able to see lips (e.g. when masks are used).
Visual	See objects near (e.g. computer screen), see objects far (e.g. patient at end of the hall), distinguish color intensity (e.g. flushed or pale skin), read digital displays, read graphic printouts, read small print on labels.
Tactile Sense	Use sense of touch to gather assessment data (e.g. palpate pulses, detect warmth vs. coolness).

*Examples are intended as clarification, not as a comprehensive list

Student Responsibilities for All Nurse Aide Students

The student is responsible for all fees associated with criminal background reports. Criminal background checks will be completed following enrollment into the nurse aide course and prior to beginning the clinical component NUR 27. Background checks must follow specific procedural requirements and data provided by other means are not acceptable. Further information will be provided on actions to take following enrollment into NUR 27. The cost in 2012 was $45; this cost many change.

A student enrolled in NUR 27 must complete screening for tuberculosis (TB) and have the current season influenza vaccination prior to participating in clinical experiences. Healthcare providers have routine annual screening for TB via PPD screening. Students must provide evidence of a negative PPD or chest x-ray indicating no active disease. Students must also provide documentation of receiving the current season flu vaccine. The student is responsible for all costs associated with TB screening and seasonal flu vaccination.

The student is responsible for costs associated with the textbook, uniforms, and any needed accessories.

The student is responsible for transportation to and from clinical sites.

The student is responsible for the costs of personal medical care incurred as a result of accidents or incidents in the clinical or laboratory setting.

The student is responsible for fees associated with the application and competency evaluation required by the Virginia Board of Nursing in order to be placed on the nurse aide registry.

First Semester (Fall)

ENG	111	College Composition I	3
PSY	230	Developmental Psychology	3
SDV	100	College Success Skills	1
HIM	111	Medical Terminology	3
			10

Second Semester (Spring)

NUR 27	Nurse Aide I [1]	5
HMS 236	Gerontology	3
		8

Total Credits 18

Footnote:

1 Upon successful completion of NUR 27 Nurse Aide I, individuals are eligible to sit for the competency evaluation required by the Virginia Board of Nursing in order to be placed on the nurse aide registry.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Career Studies Certificate

Purpose: The career studies certificate program is a response to the non-conventional short-term program of studies needed by many adults within the college's region. It offers a series of specialized program options which represent a wide variety of adult career and academic interest course areas. The options within this program are intended to represent the minimum amount of college course work considered representative of these fields of study. Each of the program options is designed as a distinct "mini-curriculum" within a broader range of adult educational possibilities.

Admission Requirements: Applicants should meet the general requirements for admission to the college. Placement tests may be required in some areas.

Accounting/Keyboarding

For related ACC programs, see page 110.

The program is designed to prepare individuals as accounting entry assistants in both service and manufacturing industries. Individuals will receive training in computerized general ledger, spreadsheet, database, and word processing software.

First Semester (Fall)

ACC	124	Payroll Accounting	2
ACC	211	Principles of Accounting I	4
AST	101	Keyboarding I	3
BUS	226	Computer Business Applications	3
			12

Second Semester (Spring)

ACC	212	Principles of Accounting II	4
ACC	215	Computerized Accounting	3
AST	102	Keyboarding II	3
AST	107	Editing/Proofreading Skills	3
MTH	141	Business Mathematics I	3
			16
		Total Credits	28

Note:
For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at www.nr.edu/accounting/pages/certificates.php#acc_keyb.

Accounts Receivable/Accounts Payable

For related ACC programs, see page 110.

The purpose of this program is to prepare individuals to meet the responsibilities of accounts receivable or accounts payable clerks in credit, collections, or accounts payable departments. Individuals will receive training in the calculation of purchases, sales, and quantity discounts as well as computerized accounts receivable and accounts payable system.

First Semester (Fall)

ACC	211	Principles of Accounting I	4
AST	117	Keyboarding for Computer Usage	1
MTH	141	Business Mathematics I	3
			8

Second Semester (Spring)

ACC	212	Principles of Accounting II	4
ACC	215	Computerized Accounting	3
ENG	116	Writing for Business	3
			10
		Total Credits	18

Note:
For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at www.nr.edu/accounting/pages/certificates.php#acc_rec.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Career Studies Certificate

Purpose: The career studies certificate program is a response to the non-conventional short-term program of studies needed by many adults within the college's region. It offers a series of specialized program options which represent a wide variety of adult career and academic interest course areas. The options within this program are intended to represent the minimum amount of college course work considered representative of these fields of study. Each of the program options is designed as a distinct "mini-curriculum" within a broader range of adult educational possibilities.

Admission Requirements: Applicants should meet the general requirements for admission to the college. Placement tests may be required in some areas.

Administrative Assistant

For related AST programs, see page 110.

The career studies certificate in Administrative Assistant is designed to provide updated skills to individuals who are employed as Administrative Assistant, Correspondence Secretary, Executive Secretary, General Secretary, Legal Assistant, Medical Assistant, Word Processing Specialist, and other office related occupations. The program is designed to update employees' skills in proofreading/editing, Microsoft Word, Excel, Access, PowerPoint, desktop publishing, and organizational behavior.

First Semester (Fall)

AST	107	Editing/Proofreading Skills	3
AST	141	Word Processing I (Word)	3
AST	232	Microcomputer Office Applications	3
			9

Second Semester (Spring)

AST	137	Records Management	3
AST	142	Word Processing II (Word)	3
AST	253	Advanced Desktop Publishing I	3
			9
		Total Credits	18

Note:
For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at www.nr.edu/ast/aa_cert.php.

Alternative Energy

For related EIE programs, see page 110.

This program is designed for students who are interested in alternative energy. This program begins with the introduction of the fundamentals and safety requirements for alternative energy systems and then proceeds with the application and study of wind turbines as well as performs system exercises and maintenance on photovoltaic energy systems. The certificate is designed to enhance the awareness of different designs, layouts, wirings, and installations for alternative energy systems.

First Semester (Fall)

ELE	176	Intro. to Alternative Energy including Hybrids	3
ETR	113	D.C. and A.C. Fundamentals I	3
INS	220	Introduction to Fluid Power	3
SAF	126	Principles of Industrial Safety	3
			12

Second Semester (Spring)

ELE	178	Wind Turbine Technology	3
ELE	177	Photovoltaic Energy System	4
ETR	114	D.C. and A.C. Fundamentals II	3
			10
		Total Credits	22

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Career Studies Certificate

Purpose: The career studies certificate program is a response to the non-conventional short-term program of studies needed by many adults within the college's region. It offers a series of specialized program options which represent a wide variety of adult career and academic interest course areas. The options within this program are intended to represent the minimum amount of college course work considered representative of these fields of study. Each of the program options is designed as a distinct "mini-curriculum" within a broader range of adult educational possibilities.

Admission Requirements: Applicants should meet the general requirements for admission to the college. Placement tests may be required in some areas.

Basic Machine Tool Operations

For related MAC programs, see page 110.

This program is designed to provide individuals with basic machining concepts, blueprint reading and inspection procedures. Upon completion of this program, graduates will be prepared for employment as basic machine tool operators. Occupational objectives are Lathe or Mill Operator, Drill Press Operator, Inspector, Tool Crib Attendant. Admission requirements are those established for the college. The program focuses primarily on set up and operation of basic machine tools. Instruction in math and blueprint reading is required to provide basic competencies necessary in the field.

First Semester (Fall)

MAC	106	Machine Shop Operations with Lab	8
MAC	181	Machine Blueprint Reading I	3
MTH	101	Basic Technical Math I	4
			15

Second Semester (Spring)

MAC	107	Technology of Machining with Lab	8
MAC	182	Machine Blueprint Reading II	3
			11
		Total Credits	26

Note:
For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at http://www.nr.edu/mac/basicmactool_cer.php .

Computerized Numerical Control

For related MAC programs, see page 110.

This program is designed to provide students with the skills necessary to gain employment in the manufacturing industry. The program will focus on skills used in a high-tech, ultra-modern machine shop. The first semester teaches fundamental machine shop operations, bench work, layout, measuring tools, and safety. Students will focus on numerical control techniques in metal forming and machine processes while being introduced to reading and interpreting blueprints and working drawings. The second semester will expand the CNC training to include theory and practice in various numerical control machines. Students will gain knowledge and skills in program writing, setup and operation of the machines to include an in-depth study of programming.

First Semester (Fall)

MAC	106	Machine Shop Operations	8
MAC	121	Computer Numerical Control I	3
MAC	181	Machine Blueprint Reading	3
			14

Second Semester (Spring)

MAC	122	Computer Numerical Control II	3
MAC	182	Blueprint Reading II	3
MTH	115	Technical Mathematics I	3
			9
		Total Credits	23

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Career
Studies
Certificate

Purpose: The career studies certificate program is a response to the non-conventional short-term program of studies needed by many adults within the college's region. It offers a series of specialized program options which represent a wide variety of adult career and academic interest course areas. The options within this program are intended to represent the minimum amount of college course work considered representative of these fields of study. Each of the program options is designed as a distinct "mini-curriculum" within a broader range of adult educational possibilities.

Admission Requirements: Applicants should meet the general requirements for admission to the college. Placement tests may be required in some areas.

Construction Technology

**First and second semester courses offered as dual enrolled courses for the high schools only.*

For related EIE programs, see page 110.

This program is designed to provide entry-level skills for an individual to enter into the construction industry. This will prepare the student for entry skills for employment as assistant construction technicians who can assist in the installation of construction projects. The first and second semester courses are only offered as dual enrolled courses for the high schools. The third semester courses are a pathway to the Electrical Engineering Technology, Instrumentation and Control Automation, and Electronics Technology degree programs.

*First Semester (Fall)

BLD	110	Introduction to Construction	3
BLD	125	Introduction to Carpentry Trades	3
			6

*Second Semester (Spring)

BLD	126	Basic Carpentry Principles	3
BLD	135	Building Construction Carpentry	3
			6

Third Semester (Fall)

ENG	111	College Composition I (or ENG 115)	3
ETR	113	D.C. & A.C. Fundamentals I	3
ITE	115	Introduction to Computer Applications and Concepts	3
MTH	115	Technical Mathematics I	3
SAF	126	Principles of Industrial Safety	3
SDV	100	College Success Skills	1
			16

Total Credits 28

Cost Accounting Clerk

For related ACC programs, see page 110.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Career Studies Certificate

Purpose: The career studies certificate program is a response to the non-conventional short-term program of studies needed by many adults within the college's region. It offers a series of specialized program options which represent a wide variety of adult career and academic interest course areas. The options within this program are intended to represent the minimum amount of college course work considered representative of these fields of study. Each of the program options is designed as a distinct "mini-curriculum" within a broader range of adult educational possibilities.

Admission Requirements: Applicants should meet the general requirements for admission to the college. Placement tests may be required in some areas.

This program is designed to prepare individuals to function as cost accounting clerks in manufacturing and service industries. Individuals will receive training to determine the material and personnel cost of the product manufactured or service provided. For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at www.nr.edu/accounting/pages/certificates.php#cost_acc.

First Semester (Fall)

ACC	124	Payroll Accounting	2
ACC	211	Principles of Accounting I	4
			6

Second Semester (Spring)

ACC	212	Principles of Accounting II	4
ACC	215	Computerized Accounting	3
			7

Third Semester (Fall)

AST	117	Keyboarding for Computer Usage	1
			1

Fourth Semester (Spring)

ACC	231	Cost Accounting I	3
			3

Total Credits 19

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Career Studies Certificate

Purpose: The career studies certificate program is a response to the non-conventional short-term program of studies needed by many adults within the college's region. It offers a series of specialized program options which represent a wide variety of adult career and academic interest course areas. The options within this program are intended to represent the minimum amount of college course work considered representative of these fields of study. Each of the program options is designed as a distinct "mini-curriculum" within a broader range of adult educational possibilities.

Admission Requirements: Applicants should meet the general requirements for admission to the college. Placement tests may be required in some areas.

Electrical-Construction Technology

**First and second semester courses offered as dual enrolled courses for the high schools only.*

For related EIE programs, see page 110.

This program is designed to provide entry-level skills for an individual to enter into the electrical technician field in the construction area. This will prepare the student for entry skills for employment as assistant technicians who can assist in the installation and maintenance of electrical equipment in buildings. The first and second semester courses are only offered as dual enrolled courses for the high schools. The third semester courses are a pathway to the Electrical Engineering Technology, Instrumentation and Control Automation, and Electronics Technology degree programs.

*First Semester (Fall)

ELE	111	Home Electric Power I	3
ELE	112	Home Electric Power II	3
			6

*Second Semester (Spring)

ELE	113	Electricity I	3
ELE	114	Electricity II	3
			6

Third Semester (Fall)

ENG	111	College Composition (or ENG 115)	3
ETR	113	D.C. & A.C. Fundamentals I	3
ITE	115	Introduction to Computer Applications and Concepts	3
MTH	115	Technical Mathematics I	3
SAF	126	Principles of Industrial Safety	3
SDV	100	College Success Skills	1
			16

Total Credits 28

Electricity

For related EIE programs, see page 110.

This program is designed to provide entry-level skills for an individual to enter into the electrical technician field. This will prepare the student for entry skills for employment as assistant technicians who can assist in the installation and maintenance of electrical equipment. It will also prepare the student to take the licensed electrician exam.

First Semester (Fall)

ELE	130	Electricity	4
ELE	138	National Electric Code Review I	2
MEC	155	Mechanisms	2
SAF	126	Principles of Industrial Safety	3
			11

Second Semester (Spring)

ELE	127	Residential Wiring Methods	2
ELE	149	Wiring Methods in Industry	3
ETR	203	Electronic Devices I	3
			8

Total Credits 19

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Career Studies Certificate

Purpose: The career studies certificate program is a response to the non-conventional short-term program of studies needed by many adults within the college's region. It offers a series of specialized program options which represent a wide variety of adult career and academic interest course areas. The options within this program are intended to represent the minimum amount of college course work considered representative of these fields of study. Each of the program options is designed as a distinct "mini-curriculum" within a broader range of adult educational possibilities.

Admission Requirements: Applicants should meet the general requirements for admission to the college. Placement tests may be required in some areas.

Engineering Design Technology

For related EDT programs, see page 110.

The career studies certificate in Engineering Design Technology is designed to provide an entry-level set of design skills that will allow the graduate to compete for basic entry-level CAD positions within or outside their current industry. Completion of this career studies certificate will provide students with basic industry design standards required by the ADDA (American Design Drafting Association) to pass the AD (Apprentice Drafting Exam).

First Semester (Fall)

ARC	123	Architectural Graphics	3
CAD	151	Engineering Drawing Fundamentals I[1]	3
CAD	120	Intro. to Graphic Representation	3
MTH	115	Technical Mathematics I	3
			12

Second Semester (Spring)

CAD	140	Technical Drawing	3
CAD	198	Seminar and Project	3
CAD	152	Engineering Drawing Fundamentals II	3
CAD	238	Computer Aided Modeling/Rendering	3
			12
		Total Credits	24

Footnote:
[1] CAD 151 is a prerequisite first semester class.

Note:
For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at www.nr.edu/cadd/pages/degreeprogram.php.

Game Design, Web Design & Animation

For related IT programs, see page 110

This certificate is designed to prepare individuals with entry-level skills to enter the game design and web design and animation field. These courses will teach state-of-the-art software, such as Adobe Photoshop, Dreamweaver, and Flash, as well as 3-D Studio Max. Students should have keyboarding and basic Microsoft Office application skills prior to starting this program.

First Semester (Fall)

ITD	110	Web Page Design I	3
ITP	160	Intro. to Game Design & Development	3
			6

Second Semester (Spring)

CAD	238	Computer Aided Modeling /Rendering I	3
ITD	112	Designing Web Page Graphics	3
			6

Third Semester (Fall)

CSC	200	Introduction to Computer Science	4
ITD	212	Interactive Web Design	3
			7

Fourth Semester (Spring)

ITD	120	Design Concepts for Mobile Apps	3
ITD	210	Web Page Design II	3
			6
		Total Credits	25

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Career Studies Certificate

Purpose: The career studies certificate program is a response to the non-conventional short-term program of studies needed by many adults within the college's region. It offers a series of specialized program options which represent a wide variety of adult career and academic interest course areas. The options within this program are intended to represent the minimum amount of college course work considered representative of these fields of study. Each of the program options is designed as a distinct "mini-curriculum" within a broader range of adult educational possibilities.

Admission Requirements: Applicants should meet the general requirements for admission to the college. Placement tests may be required in some areas.

Health Information Management

For related AST programs, see page 110.

The purpose of the program is to prepare the student with the necessary knowledge and skills to gain full and/or part time employment working in the vast area of Health Information. This program would also benefit current health care workers to build on their skills and knowledge to gain more beneficial employment.

First Semester (Fall)

AST	232	Microcomputer Office Applications	3
HIM	111	Medical Terminology I	3
HIM	149	Intro. to Medical Practice Management	2
HIM	151	Reimbursement Issues in Medical Practice Management	2
HIM	220	Health Statistics	3
			13

Second Semester (Spring)

HIM	163	Anatomy & Physiology for Administrative Health Professionals	3
HIM	226	Legal Aspects of Health Record Documentation	2
HIM	229	Performance Improvement in Health Care Settings	2
HIM	233	Electronic Health Records Management	3
HIM	253	Health Records Coding	3
			13
		Total Credits	26

Human Resource Practices

For related BUS programs, see page 110.

This program is designed to provide updated skills in basic human resource practices and organizational behavior to individuals who are employed in an administrative personnel role.

First Semester (Fall)

BUS	201	Organizational Behavior	3
BUS	205	Human Resource Management 1	3
BUS	236	Communication in Management	3
BUS	265	Ethical Issues in Management	3
		Total Credits	12

Footnote:

1 Credit for course may be earned by successfully completing the Certified Professional Secretary (CPS) Exam.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Career Studies Certificate

Purpose: The career studies certificate program is a response to the non-conventional short-term program of studies needed by many adults within the college's region. It offers a series of specialized program options which represent a wide variety of adult career and academic interest course areas. The options within this program are intended to represent the minimum amount of college course work considered representative of these fields of study. Each of the program options is designed as a distinct "mini-curriculum" within a broader range of adult educational possibilities.

Admission Requirements: Applicants should meet the general requirements for admission to the college. Placement tests may be required in some areas.

Machine Operations

For related MAC programs, see page 110.

This program is designed to provide entry-level skills for an individual to enter into the manufacturing industry. This will prepare the student for entry skills for employment as machine operators in the manufacturing, fabrication and assembly industries.

First Semester (Fall)

ITE	115	Intro. to Computer Applications & Concepts	3
MAC	181	Machine Blueprint Reading I	3
MTH	103	Applied Technical Mathematics	3
SAF	126	Principles of Industrial Safety	3
			12

Second Semester (Spring)

MAC	106	Machine Shop Operations	8
MAC	121	Computer Numerical Control I	3
WEL	100	Fundamentals of Welding	3
			14

Total Credits 26

Medical Coding

For related AST programs, see page 110.

The purpose of the program is to prepare the student with the necessary knowledge and skills to take a medical coding examination and to train persons for full and/or part time employment as a medical coder. The Certified Coding Associate (CCA) exam is offered by American Health Information Management Association (AHIMA).

First Semester (Fall)

AST	101	Keyboarding I	3
AST	107	Editing/Proofreading Skills	3
HIM	111	Medical Terminology I	3
HIM	253	Health Records Coding	3
			12

Second Semester (Spring)

AST	137	Records Management	3
HIM	112	Medical Terminology II	3
HIM	163	Anatomy and Physiology for Administrative Health Professionals	3
HIM	233	Electronic Health Records Management	3
HIM	254	Advanced Coding and Reimbursement	3
			15

Total Credits 27

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Career/Technical Education

Career Studies Certificate

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Admission Requirements: Applicants should meet the general requirements for admission to the college. Placement tests may be required in some areas.

Medical Office Assistant

For related AST programs, see page 110.

The program is designed to prepare individuals to perform as a medical office assistant. Occupational Objectives: Office assistant in a private medical practice, in a hospital setting, and in other health care organizations. In addition to the general admission requirements established for the college, students will be required to take an English placement test. Students whose test scores are deficient will be required to correct their deficiencies in the Developmental Studies Program. For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at http://www.nr.edu/ast/meda_cert.php .

First Semester (Fall)

AST	107	Editing/Proofreading Skills	3
AST	232	Microcomputer Office Applications	3
HIM	111	Medical Terminology I	3
			9

Second Semester (Spring)

AST	243	Office Administration I	3
HIM	112	Medical Terminology II	3
HIM	233	Electronic Health Records Management	3
			9

Total Credits 18

Operator

For related EIE programs, see page 110.

The program is designed to train persons for full-time employment as operators in a process manufacturing plant. Individuals seeking employment as production line workers with operator and control responsibilities will benefit most from this topical training program. After an overview of important, need-to-know pre-technical foundation skills like measurements and safety, students receive intensive instruction principles of electricity, instrumentation and process control equipment, chemistry, and statistical quality control. Preventive maintenance procedures and standard troubleshooting techniques round out the curriculum.

First Semester (Fall)

SAF	126	Principles of Industrial Safety	3
MTH	103	Applied Technical Mathematics I (or MTH 115)	3
INS	220	Introduction to Fluid Power	3
MEC	155	Mechanisms	2
CAD	231	Computer Aided Drafting I	2
ELE	149	Wiring Methods in Industry	3

Total Credits 16

Paralegal Assistant

For related AST programs, see page 110.

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Career Studies Certificate

Purpose: The career studies certificate program is a response to the non-conventional short-term program of studies needed by many adults within the college's region. It offers a series of specialized program options which represent a wide variety of adult career and academic interest course areas. The options within this program are intended to represent the minimum amount of college course work considered representative of these fields of study. Each of the program options is designed as a distinct "mini-curriculum" within a broader range of adult educational possibilities.

Admission Requirements: Applicants should meet the general requirements for admission to the college. Placement tests may be required in some areas.

The program is designed to meet these educational needs by preparing individuals to perform as legal assistants or paralegals under the supervision of an attorney.

Occupational Objectives: Legal assistant or paralegal for private law firms, administrative agencies, mortgage companies, title insurance companies and private corporations. In addition to the general admission requirements established for the college, students will be required to take an English placement test. Students whose test scores are deficient will be required to correct their deficiencies in the developmental studies program.

First Semester (Fall)

AST	107	Editing/Proofreading Skills	3
AST	141	Word Processing I (Word)	3
LGL	110	Introduction to Law & the Legal Assistant	3
			9

Second Semester (Spring)

LGL	117	Family Law	3
LGL	130	Law Office Administration & Management	3
			6

Third Semester (Fall)

LGL	127	Legal Research and Writing	3
___	___	LGL Electives [1]	6
			9

Total Credits 24

Footnote:

1 LGL 218 (Criminal Law), LGL 115 (Real Estate Law), LGL 216 (Trial Preparation), LGL 116 (Domestic Relations & Consumer Law)

Note:

For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at www.nr.edu/ast/paralegal_cert.php .

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Career Studies Certificate

Purpose: The career studies certificate program is a response to the non-conventional short-term program of studies needed by many adults within the college's region. It offers a series of specialized program options which represent a wide variety of adult career and academic interest course areas. The options within this program are intended to represent the minimum amount of college course work considered representative of these fields of study. Each of the program options is designed as a distinct "mini-curriculum" within a broader range of adult educational possibilities.

Admission Requirements: Applicants should meet the general requirements for admission to the college. Placement tests may be required in some areas.

Payroll Clerk

For related ACC programs, see page 110.

The purpose of this program is to prepare individuals to perform as payroll clerks. Individuals will receive training in computerized payroll, tax, spreadsheet, database, and word processing systems.

First Semester (Fall)

ACC	124	Payroll Accounting	2
ACC	211	Principles of Accounting I	4
ACC	261	Principles of Federal Taxation I	3
			9

Second Semester (Spring)

AST	117	Keyboarding for Computer Usage	1
MTH	141	Business Mathematics I	3
BUS	226	Computer Business Applications	3
			7
		Total Credits	16

Note:
For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at www.nr.edu/accounting/pages/certificates.php#payroll.

Pharmacy Technician

For related AST programs, see page 110.

The purpose of the program is to help prepare the student with the necessary knowledge and skills for the pharmacy examination (State and/or National), and train persons for full- and part-time employment as pharmacy technicians.

First Semester (Fall)

AST	232	Microcomputer Office Applications	3
HIM	111	Medical Terminology I	3
MTH	141	Business Mathematics I	3
			9

Second Semester (Spring)

HIM	233	Electronic Health Records Management	3
HLT	261	Basic Pharmacy I	3
HLT	263	Basic Pharmacy I Lab [1]	1
			7
		Total Credits	16

Footnote:
1 HLT 263 is a co-requisite to HLT 261

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Career/Technical Education

Career Studies Certificate

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Admission Requirements: Applicants should meet the general requirements for admission to the college. Placement tests may be required in some areas.

Preparation for Makers in Advanced Manufacturing

For related EDT/EIE/MAC programs, see page 110.

This program is designed to train persons in the introductory knowledge and skills of Advanced Manufacturing. To include teaching skills in design, 3D printing and scanning, robotics, machining, with a culminating project where individuals will showcase developed skills.

First Semester (Fall)

CAD	151	Engineering Drawing Fundamentals I1	3
ETR	113	D.C. & A.C. Fundamentals I	3
MAC	121	Computer Numerical Control I	3
MEC	122	Desktop Manufacturing Technologies	3
MTH	115	Technical Mathematics I	3
			15

Second Semester (Spring)

CAD	152	Engineering Drawing Fundamentals II	3
ETR	114	D.C. & A.C. Fundamentals II	3
MAC	122	Computer Numerical Control II	3
MEC	298	Seminar and Project	3
			12

Total Credits 27

Notes:

[1] CAD 151 is a prerequisite first semester class.

Refrigeration and Air Conditioning

For related EIE programs, see page 110.

This program is designed for the in-service technician and others who want a background in basic air conditioning and refrigeration fundamentals. Emphasis of the program is in mechanical design, construction of refrigeration and air conditioning equipment, and theoretical concepts. Upon successful completion of the Refrigeration and Air Conditioning certificate, the student may elect to sit for the "Refrigeration Recovery Certification" examination. For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at www.nr.edu/ac/course.php.

First Semester (Fall)

AIR	121	Air Conditioning and Refrigeration I	4
ETR	113	D.C. & A.C. Fundamentals I	3
SAF	126	Principles of Industrial Safety	3
			10

Second Semester (Spring)

AIR	122	Air Conditioning and Refrigeration II	4
ELE	127	Residential Wiring Methods	2
ELE	138	National Electrical Code Review I	2
ETR	114	D.C. and A.C. Fundamentals II	3
			11

Third Semester (Summer)

AIR	235	Heat Pumps	3
			3

Total Credits 24

Division of Business and Technologies: (540) 674-3607

Career/Technical Education

Career Studies Certificate

Purpose: The career studies certificate program is a response to the non-conventional short-term program of studies needed by many adults within the college's region. It offers a series of specialized program options which represent a wide variety of adult career and academic interest course areas. The options within this program are intended to represent the minimum amount of college course work considered representative of these fields of study. Each of the program options is designed as a distinct "mini-curriculum" within a broader range of adult educational possibilities.

Admission Requirements: Applicants should meet the general requirements for admission to the college. Placement tests may be required in some areas.

Advanced Welder

For related WEL programs, see page 110.

This program is intended for students to obtain entry-level welding skills for job placement. The curriculum contains competencies of the American Welding Society's (AWS) SENSE program which is an industrial standard for welder education and training. This career studies certificate includes the following content: specific weld process training, thermal cutting processes, quality control, semi-automatic welding process, inert-gas-shield arc welding, industrial safety, shop fabrication equipment and manufacturing assemblies from drawings. All courses are transferable to the Certificate in Welding Technology.

First Semester (Fall)

WEL	100	Fundamentals of Welding	3
WEL	123	Shielded Metal Arc Welding - SMAW (Basic)	4
WEL	160	Gas Metal Arc Welding - GMAW	4
SAF	126	Principles of Industrial Safety	3
			14

Second Semester (Spring)

WEL	124	Shielded Metal Arc Welding - SMAW (Advanced)	4
WEL	130	Inert Gas Welding - GTAW	4
WEL	141	Welder Qualification Tests I[1]	4
			12

Total Credits 26

Note:

1 WEL 142 may be taken as an additional option. This option is for students in pursuit of higher-level welding qualifications such as pipe welding.

Entry-Level Welder

For related WEL programs, see page 110.

The program develops the basic skills for entry-level jobs in the welding field. The curriculum contains competencies of the American Welding Society's (AWS) SENSE program which is an industrial standard for welder education and training. The framework for all of the courses includes specific weld process training, thermal cutting processes, quality control, industrial safety, shop fabrication equipment and manufacturing assemblies from drawings. Certifications for various welding qualifications are offered. All courses are transferable to the Career Studies Certificate Advanced Welder and the Certificate in Welding Technology.

First Semester (Fall)

WEL	123	Shielded Metal Arc Welding - SMAW (Basic)	4
WEL	160	Gas Metal Arc Welding - GMAW	4
			8

Second Semester (Spring)

WEL	141	Welder Qualification Tests I[1] (or WEL 124)	4
WEL	130	Inert Gas Welding - GTAW	4
			8

Total Credits 16

Note:

1 WEL 142 may be taken as an additional option. This option is for students in pursuit of higher-level welding qualifications such as pipe welding.

Supervision and Leadership

Office of Workforce Development (540) 674-3613

Career/Technical Education

Career Studies Certificate

Purpose: The career studies certificate program is a response to the non-conventional short-term program of studies needed by many adults within the college's region. It offers a series of specialized program options which represent a wide variety of adult career and academic interest course areas. The options within this program are intended to represent the minimum amount of college course work considered representative of these fields of study. Each of the program options is designed as a distinct "mini-curriculum" within a broader range of adult educational possibilities.

Admission Requirements: Applicants should meet the general requirements for admission to the college. Placement tests may be required in some areas.

The Supervision and Leadership career studies certificate is designed to enhance individuals' management/supervisory skills, written communications, understanding of the legal environment of U.S. business and understanding of the different philosophies in Quality Control. This program is a partnership with Virginia Tech and New River Community College. However, the program can be modified for other non-profit organizations or for the private sector. For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at http://www.nr.edu/bus/pages/super_leader_cert.php .

First Semester (Fall)

BUS	111	Principles of Supervision I	3
BUS	226	Computer Business Applications	3
			6

Second Semester (Spring)

BUS	112	Principles of Supervision II	3
BUS	236	Communication in Management	3
BUS	205	Human Resource Management 1	3
			9

Third Semester (Fall)

BUS	201	Organizational Behavior 1 (or PSY 126 or PSY 200)	3
BUS	265	Ethical Issues in Management	3
			6

Total Credits 21

Footnote:

1 Credit for these courses may be earned by successfully completing the Certified Professional Secretary (CPS) Exam.

Related Programs Listing

There are options for NRCC students to earn associate degrees (AAS), diplomas, certificates and/or career studies certificates (CSC) in many of our program areas. The following lists options in related programs and catalog page numbers for more information.

Course Offerings

Course Number

Courses numbered 01-09 are courses for developmental programs. The credits earned in these courses do not apply toward associate degree programs; but if the Dean of the College approves, some developmental courses may provide credit which may apply to basic occupational, diploma, or certificate programs.

Courses numbered 10-99 are freshman courses for diploma and certificate programs. The credits earned in these courses will apply toward diploma and certificate programs but will not apply toward an associate degree.

Courses numbered 100-199 are freshman courses which will apply toward an associate degree and/or certificate and diploma programs.

Courses numbered 200-299 are sophomore courses which will apply toward an associate degree and/or certificate and diploma programs.

Course Credits

The credit for each course is shown after the title in the course description. One credit is equal to one college semester hour.

NRCC HAS ASSOCIATE DEGREE NURSE, PRACTICAL NURSE AND NURSE AIDE PROGRAMS

Course Hours

The number of lecture hours in class each week (including lecture, seminar, and discussion hours) and/or the number of lab hours in class each week (including lab, shop, supervised practice, and cooperative work experience) are shown for each course in the course description. The number of lecture hours and lab hours in class each week are also called "contact" hours because the time is spent under the direct supervision of a faculty member. Besides the lecture and lab hours in class each week, students must also spend out-of-class time on assignments. Usually each credit per course requires an average of three hours of in-class and out-of-class study each week.

Course Co-requisites

Occasionally, courses numbered 195 or 199 are required as co-requisites for other courses.

Course Prerequisites

If any prerequisites are required before enrolling in a course, these prerequisites will be identified in the course description. Courses in special sequences (usually identified by the numerals I-II-III) require that prior courses or their equivalent be completed before enrolling in the advanced courses in the sequence. When co-requisites are required for a course, the co-requisites must be taken at the same time. The prerequisites or their equivalent must be completed satisfactorily before enrolling in a course unless special permission is obtained from the Dean and the instructional department.

Prerequisites for English 111

English placement tests will be given. Students who do not have adequate proficiency will be placed in developmental English courses. Students should keep in mind that most textbooks are written on or above tenth grade reading levels; therefore, those who score low on the English placement test should take a developmental English course before taking courses which require intensive reading such as social science courses or higher level English courses. In addition to proficiency tests, the student must be able to demonstrate an understanding of writing and be able to adequately support the controlling idea in an essay. The student must use appropriate word choice and coherent sentence structure. The student's eligibility for ENG 111 will be determined by proficiency test and a writing sample.

Course Names and Prefixes

Course descriptions are presented alphabetically by prefix on the following pages. Below is a list of the disciplines, their prefixes and page locations.

Description of Courses

ACC – Accounting

ACC 124 Payroll Accounting (2 credits) Presents accounting systems and methods used in computing and recording payroll to include payroll taxes and compliance with federal and state legislation. Lecture 2 hours per week. Students are strongly encouraged to complete ACC 211 prior to enrolling in (or during the same semester as) this course.

ACC 198 Seminar and Project in Accounting (1-5 credits) Requires completion of a project or research report related to the student's occupational objective and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours.

ACC 199-299 Supervised Study in Accounting (1-5 credits) Assigns problems for independent study incorporating previous instruction and supervised by the instructor. May be repeated for credit. Variable hours.

ACC 211 Principles of Accounting I (4 credits) Presents accounting principles/application to various businesses. Covers the accounting cycle, income determination, and financial reporting. Lecture 4 hours per week.

ACC 212 Principles of Accounting II (4 credits) Emphasizes partnerships, corporations and the study of financial analysis. Includes and introduces cost/managerial accounting concepts. Prerequisite: ACC 211. Lecture 4 hours per week.

ACC 215 Computerized Accounting (3 credits) Introduces the computer in solving accounting problems. Focuses on operation of computers. Presents the accounting cycle and financial statement preparation in a computerized system and other applications for financial and managerial accounting. Prerequisite or co-requisite ACC 212 or equivalent. Lecture 3 hours per week.

ACC 219 Government and Non-Profit Accounting (3 credits) Introduces fund accounting as used by governmental and nonprofit entities. Stresses differences between accounting principles of for-profit and not-for-profit organizations. Prerequisite ACC 212 or equivalent. Lecture 3 hours per week.

ACC 221 Intermediate Accounting I (3 credits) Covers accounting principles and theory, including a review of the accounting cycle and accounting for current assets, current liabilities and investments. Introduces various accounting approaches and demonstrates the effect of these approaches on the financial statement users. Prerequisite ACC 212 or equivalent. Lecture 3 hours per week.

ACC 222 Intermediate Accounting II (3 credits) Continues accounting principles and theory with emphasis on accounting for fixed assets, intangibles, corporate capital structure, long-term liabilities, and investments. Prerequisite ACC 212 or equivalent. Lecture 4 hours per week.

ACC 231 Cost Accounting I (3 credits) Presents cost accounting methods and reporting as applied to job order, process, and standard cost accounting systems. Includes cost control, profit analysis, and other topics. Prerequisite ACC 212 or equivalent. Lecture 3 hours per week.

ACC 261 Principles of Federal Taxation I (3 credits) Presents the study of federal taxation as it relates to individuals and other tax entities. Includes tax planning, compliance and reporting. Lecture 3 hours per week.

ACC 290 Coordinated Internship in Accounting (1-5 credits) Supervised on-the-job training in selected business, industrial or service firms coordinated by the college. Credit/work ratio 1:5 hours. May be repeated for credit.

ACC 297 Cooperative Education in Accounting (1-5 credits) Supervised on-the-job training for pay in approved business, industrial and service firms coordinated by the Business and Technologies division chair. Is applicable to all occupational technical curricula at the discretion of the college. Credit/ work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

ADJ – Administration of Justice

ADJ 100 Survey of Criminal Justice (3 credits) Presents an overview of the United States criminal justice system; introduces the major system components—law enforcement, judiciary, and corrections. Lecture 3 hours per week.

ADJ 105 The Juvenile Justice System (3 credits) Presents the evolution, philosophy, structures and processes of the American juvenile delinquency system; surveys the rights of juveniles, dispositional alternatives, rehabilitation methods and current trends. Lecture 3 hours per week.

ADJ 107 Survey of Criminology (3 credits) Surveys the volume and scope of crime; considers a variety of theories developed to explain the causation of crime and criminality. Lecture 3 hours per week.

ADJ 110 Introduction to Law Enforcement (3 credits) Studies the philosophy and history of law enforcement, presenting an overview of the crime problem and policy response issues. Surveys the jurisdictions and organizations of local, state, and federal law enforcement agencies. Examines the qualification requirements and career opportunities in the law enforcement profession. Lecture 3 hours per week.

ADJ 111 Law Enforcement Organization & Administration I (3 credits) Teaches the principles of organization and administration of law enforcement agencies. Studies the management of line operations, staff and auxiliary services, investigative and juvenile units. Introduces the concept of data processing; examines policies, procedures, rules, and regulations pertaining to crime prevention. Surveys concepts of protection of life and property, detection of offenses, and apprehension of offenders. Lecture 3 hours per week.

ADJ 116 Special Enforcement Topics (3 credits) Considers contemporary issues, problems, and controversies in modern law enforcement. Lecture 3 hours per week.

ADJ 120 Introduction to Courts (3 credits) Presents an overview of the American judiciary—the federal and 50 state judicial systems—with emphasis on criminal court structures, functions, and personnel; surveys the judicial system in Commonwealth of Virginia. Lecture 3 hours per week.

ADJ 133 Ethics and the Criminal Justice Professional (3 credits) Examines ethical dilemmas pertaining to the criminal justice system, including those in policing, courts and corrections. Focuses on some of the specific ethical choices that must be made by the criminal justice professional. Lecture 3 hours per week.

ADJ 140 Introduction to Corrections (3 credits) Focuses on societal responses to the offender. Traces the evolution of practices based on philosophies of retribution, deterrence, and rehabilitation. Reviews contemporary correctional activities and their relationships to other aspects of the criminal justice system. Lecture 3 hours per week.

ADJ 171-172 Forensic Science I-II (4 credits) (4 credits) Introduces student to crime scene technology, procedures for sketching diagramming and using casting materials. Surveys the concepts of forensic chemistry, fingerprint classification/identification and latent techniques, drug identification, hair and fiber evidence, death investigation techniques, thin-layer chromatographic methods, and arson materials examination. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ADJ 190 Coordinated Internship in Administration of Justice (1-5 credits) Supervised on-the-job training in selected business, industrial or service firms coordinated by the college. Prerequisite 30 semester hours in program course work and instructor approval. Credit/practice ratio maximum 1:5 hours. May be repeated for credit. Variable hours.

ADJ 199 Supervised Study in Administration of Justice (1-5 credits) Assigns problems for independent study incorporating previous instruction and supervised by the instructor. Prerequisite 30 semester hours in program course work, ENG 111/112, and instructor approval. May be repeated for credit. Variable hours.

ADJ 211-212 Criminal Law, Evidence and Procedures I-II (3 credits) (3 credits) Teaches the elements of proof for major and common crimes and the legal classification of offenses. Studies the kinds, degrees and admissibility of evidence and its presentation in criminal proceedings with emphasis on legal guidelines for methods and techniques of evidence acquisition. Surveys the procedural requirements from arrest to final disposition in the various American court systems with focus on the Virginia jurisdiction. Lecture 3 hours per week.

ADJ 228 Narcotics and Dangerous Drugs (3 credits) Surveys the historical and current usage of narcotics and dangerous drugs. Teaches the identification and classification of such drugs and emphasizes the symptoms and effects on their users. Examines investigative methods and procedures utilized in law enforcement efforts against illicit drug usage. Lecture 3 hours per week.

ADJ 229 Law Enforcement and the Community (3 credits) Considers current efforts by law enforcement personnel to achieve an effective working relationship with the community. Surveys and analyzes various interactive approaches of law enforcement agencies and the citizenry they serve. Lecture 3 hours per week.

ADJ 234 Terrorism and Counter-Terrorism (3 credits) Surveys the historical and current practices of terrorism that are national, transnational, or domestic in origin. Includes biological, chemical, nuclear, and cyber-terrorism. Teaches the identification and classification of terrorist organizations, violent political groups and issue-oriented militant movements. Examines investigative methods and procedures utilized in counter terrorist efforts domestically and internationally. Lecture 3 hours per week.

ADJ 236 Principles of Criminal Investigation (3 credits) Surveys the fundamentals of criminal investigation procedures and techniques. Examines crime scene search, collecting, handling and preserving of evidence. Lecture 3 hours per week.

ADJ 237 Advanced Criminal Investigation (3 credits) Introduces specialized tools and scientific aids used in criminal investigation. Applies investigative techniques to specific situations and preparation of trial evidence. Prerequisite ADJ 236 or instructor approval. Lecture 3 hours per week.

ADJ 248 Probation, Parole, and Treatment (3 credits) Surveys the philosophy, history, organization, personnel and functioning of traditional and innovative probation and parole programs; considers major treatment models for clients. Lecture 3 hours per week.

ADJ 288 Capstone Course in Police Science (3 credits) Using a case-study format, previously mastered knowledge and skills will be used to develop and demonstrate solutions to common problems found at the entry-level in modern law enforcement. Involves problem identification, critical analysis, demonstration of learned skills in presenting written and oral solutions of case study problems. Prerequisites: completion of all ADJ core required courses. Must be taken during final spring semester prior to graduation. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

ADJ 298 Seminar and Project in Administration of Justice (1-5 credits) Requires completion of a project or research report related to the student's occupational objective and a study of approaches to the selection and pursuit of career opportunities in the field. Prerequisite 30 semester hours in program course work, ENG 111/112, and instructor approval. May be repeated for credit. Variable hours.

AIR – Air Conditioning & Refrigeration

AIR 121-122 Air Conditioning and Refrigeration I-II (4 credits) (4 credits) Studies refrigeration theory, characteristics of refrigerants, temperature, and pressure, tools and equipment, soldering, brazing, refrigeration systems, system components, compressors, evaporators, metering devices. Presents charging and evaluation of systems and leak detection. Explores servicing the basic system. Explains use and care of oils and additives and troubleshooting of small commercial systems. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

AIR 235 Heat Pumps (3 credits) Studies theory and operation of reverse cycle refrigeration systems as applied to air conditioning, including service, installation and maintenance. Lecture 2 hours. Laboratory 2 hours. Total 4 hour per week. Students are strongly encouraged to complete AIR 121 prior to enrolling in this course.

ARA – Arabic

ARA 101-102 Beginning Arabic I-II (5 credits) (5 credits) Introduces understanding, speaking, reading, and writing skills and emphasizes basic Arabic sentence structure. Discusses the diversity of cultures in the Arab world. Lecture 4-5 hours per week.

ARC – Architecture

ARC 105 Orientation and History of Architecture (1 credit) Outlines the history of architecture and its impact on the dynamics of architecture and society. Lecture 1 hour per week.

ARC 123 Architectural Graphics I (3 credits) Introduces techniques of architectural communication including orthographic projection and sketching as well as 3d views and modeling. Requires the manual production of plans, sections, elevations and 3d views and models of a simple building. Includes dimensioning, detailing and rendering. Part I of II. Credit will not be awarded for both ARC 121 and ARC 123. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An introduction to Resident and Commercial Revit.

ARC 133-134 Construction Methodology & Procedures I-II (3 credits) (3 credits) Studies materials used in construction of buildings, covering foundations to structural framing systems. Includes appropriate use of materials for various construction types. Includes specification of materials and installation procedures; types of specifications and writing procedures; bidding procedures and, contract documents. Lecture 3 hours per week.

ARC 197-297 Cooperative Education in Architecture (1-5 credits) Supervised on-the-job training for pay in approved business, industrial and service firms coordinated by the Business and Technologies division chair. Is applicable to all occupational technical curricula at the discretion of the college. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

ARC 211 Computer Aided Drafting Applications (3 credits) Utilizes computer's hardware and software to create orthographic and pictorial drawings. Requires creation of working drawings by adding the necessary sections, dimensions, and notes to the computer generated views. Prerequisite ARC 210 or equivalent. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

ARC 251-252 Architectural Drawing I-II (3 credits) (3 credits) Studies building details, one-point and two-point perspective line drawings. Studies working drawings for small buildings, floor and foundation plans, elevations and details. Prerequisite CAD 114 (or with instructor's permission). Lecture 1 hour. Laboratory 6 hours. Total 7 hours per week.

ARC 255 Construction Estimating (2 credits) Requires preparation of detailed material quantity surveys from plans and specifications for commercial construction. Discusses cost, bid, and contract procedures. Lecture 2 hours per week.

ARO – Aviation

ARO 121 Private Pilot Ground School (3 credits) Presents the fundamental principles of flight including theory of flight, aircraft standards and specifications, basic aircraft construction, weight and balance, navigation, meteorology,

principles of radio communication and application of aero physics. Prepares students for the FAA examination for private pilot rating. Lecture 3 hours per week.

ART – Arts

ART 100 Art Appreciation (3 credits) Introduces art from prehistoric times to the present day. Describes architectural styles, sculpture, photography, printmaking, and painting techniques. Lecture 3 hours per week.

ART 101-102 History and Appreciation of Art I-II (3 credits) (3 credits) Presents the history and interpretation of architecture, sculpture, and painting. Begins with prehistoric art and follows the development of western civilization to the present. Part I of II. ART 101 is not a prerequisite for ART 102. Lecture 3 hours per week.

ART 106 History of Modern Art (3 credits) Surveys the history of modern architecture, sculpture, painting, and graphic arts in representational and non- representational forms. Focuses on the periods and movements that influenced the arts of the twentieth century. Emphasizes contemporary art forms, particularly the interaction between art and society, industry, and design. Lecture 3 hours per week.

ART 121-122 Drawing I-II (3 credits) (3 credits) Develops basic drawing skills and understanding of visual language through studio instruction/ lecture. Introduces concepts such as proportion, space, perspective, tone and composition as applied to still life, landscape and the figure. Uses drawing media such as pencil, charcoal, ink wash and color media. Includes field trips and gallery assignments as appropriate. Variable hours per week.

ART 131-132 Fundamentals of Design I-II (3 credits) (3 credits) Explores the concepts of two- and three-dimensional design and color. May include field trips as required. Variable hours per week.

ART 140 Introduction to Graphic Skills (3 credits) Teaches basic studio skills and concepts. Emphasizes concept development and problem solving using traditional art materials and computer techniques. Uses current graphic software applications. Lecture 2 hours, Lab 3 hours, Total 5 hours per week.

ART 141 Typography I (3 credits) Studies the history of letterforms and typefaces and examines their uses in contemporary communications media. Emphasizes applications to specific design problems. Includes identification and specification of type and uses current technologies for copy fitting and hands-on typesetting problems. Part I of II. Lecture 2 hours, Lab 2 hours, Total 4 hours per week. Prerequisite is ART 140.

ART 231- 232 Sculpture I-II (3 credits) (3 credits) Introduces sculptural concepts and methods of production in traditional and contemporary media. Includes clay, plaster, wood, stone, metal, plastics and terra cotta. May include field trips. Prerequisite ART 131. Lecture 2 hours. Studio instruction 3 hours. Total 5 hours per week.

ART 241-242 Painting I-II (3 credits) (3 credits) Introduces abstract and representational painting in acrylic and/ or oil with emphasis on color composition and value. Prerequisites ART 122 or divisional approval. Lecture 1 hour. Studio instruction 4 hours. Total 5 hours per week.

ART 243-244 Watercolor I-II (3 credits) (3credits) Presents abstract and representational painting in watercolor with emphasis on design, color, composition, technique and value. Prerequisite ART 131, or divisional approval. Lecture 2 hours. Studio instruction 3 hours. Total 5 hours per week.

ART 247 Painting Techniques for Illustrators (3 credits) Introduces materials and techniques used by the illustrator. Includes water-soluble paints (watercolor, acrylic, gouache), oil-based paints, and mixed media. Lecture 1 hour. Studio Instruction 4 hours. Total 5 hours per week.

ART 250 History of Design (3 credits) Surveys the development of graphic design and illustration with emphasis on the 19th and 20th centuries. Analyzes the work of outstanding designers and illustrators. Lecture 3 hours per week.

ART 251-252 Communication Design I-II (3 credits) (3 credits) Studies the principles of visual communications as applied to advertising in newspapers, magazines, direct mail advertising, house organs, etc. Analyzes the influence of contemporary art on design. Prerequisites ART 131 and ART 140. Lecture 2 hours. Studio instruction 2 hours. Total 4 hours per week.

ART 271-272 Printmaking I-II (3 credits) (3 credits) Introduces the student to the full range of printmaking techniques. Includes woodcut, silkscreen, etching, and lithography. Provides historical perspective on printmaking. Lecture 2 hours. Studio instruction 3 hours. Total 5 hours per week.

ART 283-284 Computer Graphics I-II (3 credits) (3 credits) Utilizes microcomputers and software to produce computer graphics. Employs techniques learned to solve studio projects which reinforce instruction and are appropriate for portfolio use. Part I of II. Lecture 2 hours. Studio instruction 3 hours. Total 5 hours per week.

ART 287 Portfolio and Resume Preparation (3 credits) Focuses on portfolio preparation, resume writing, and job interviewing for students. Recommended for final semester program students. Requires instructor's approval. Lecture 2 hours. Studio instruction 3 hours. Total 5 hours per week.

AST – Administrative Support Technology

AST 101 Keyboarding I (3 credits) Teaches the alpha/numeric keyboard with emphasis on correct techniques, speed, and accuracy. Teaches formatting of basic personal and business correspondence, reports, and tabulation. Lecture 3 hours per week.

AST 102 Keyboarding II (3 credits) Develops keyboarding and document production skills with emphasis on preparation of specialized business documents. Continues skill-building for speed and accuracy. Prerequisite AST 101. Lecture 3 hours per week.

AST 107 Editing/Proofreading Skills (3 credits) Develops skills essential to creating and editing business documents. Covers grammar, spelling, diction, punctuation, capitalization, and other usage problems. Lecture 3 hours per week.

AST 117 Keyboarding for Computer Usage (1 credit) Teaches the alphabetic keyboard and 10-key pad. Develops correct keying techniques. Lecture 1 hour per week.

AST 137 Records Management (3 credits) Teaches filing and records management procedures for hard copy, electronic, and micrographic systems. Identifies equipment, supplies, and solutions to records management problems. Lecture 3 hours per week.

AST 141 Word Processing I—Word (3 credits) Teaches creating and editing documents, including line and page layouts, columns, fonts, search/replace, cut/paste, spell/thesaurus, and advanced editing and formatting features of word processing software. Prerequisite AST 101 or equivalent. Lecture 3 hours per week.

AST 142 Word Processing II—Word (3 credits) Teaches advanced software applications. Prerequisite AST 141 or equivalent. Lecture 3 hours per week. This course will prepare students to take the Microsoft Office Specialist exam in Word 2013.

AST 232 Microcomputer Office Applications (3 credits) Teaches production of business documents using word processing, databases, and spreadsheets. Emphasizes document production to meet business and industry standard. Prerequisite AST 101 or equivalent. A laboratory co-requisite (AST 233) may be required. Lecture 3 hours per week.

AST 236 Specialized Software Applications (3 credits) Teaches specialized integrated software application on the microcomputer. Emphasizes document production to meet business and industry standards. Prerequisite AST 101 or equivalent. A laboratory co-requisite (AST 237) may be required. Lecture 3 hours per week.

AST 243 Office Administration I (3 credits) Develops an understanding of the administrative support role and the skills necessary to provide organizational and technical support in a contemporary office setting. Emphasizes the development of critical thinking, problem-solving, and job performance skills in a business office environment. Prerequisite AST 101. Lecture 3 hours per week.

AST 244 Office Administration II (3 credits) Enhances skills necessary to provide organizational and technical support in a contemporary office setting. Emphasizes administrative and supervisory role of the office professional. Includes travel and meeting planning, office budgeting and financial procedures, international issues, and career development. Prerequisite AST 243 or equivalent. Lecture 3 hours per week.

AST 253 Advanced Desktop Publishing I (3 credits) Introduces specific desktop publishing software. Teaches document layout and design, fonts, type styles, style sheets, and graphics. Prerequisite AST 101 or equivalent and experience in using a word processing package. A laboratory co-requisite (AST 255) may be required. Lecture 3 hours per week.

AST 290 Coordinated Internship in Administrative Support Technology (1-5 credits) On-the-job training in selected business, industrial or service firms coordinated by the college. Credit/ Practice ratio maximum 1:5 hours. May be repeated for credit. Variable hours.

AST 297 Cooperative Education in Administrative Support Technology (1-5 credits) Supervised on-the-job training for pay in approved business, industrial and service firms coordinated by the faculty advisor chair. Is applicable to all occupational-technical curricula at the discretion of the college. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

AST 299 Supervised Study in Administrative Support Technology (1-5 credits) Assigns problems for independent study incorporating previous instruction and supervised by the instructor. May be repeated for credit. Variable hours.

AUT – Automotive

AUT 101 Introduction to Automotive Systems (4 credits) Introduces fundamental systems of automobile, the engine, fuel, exhaust, electric, lubrication, cooling, transmission, steering, brake, and suspension system. Teaches theory and function of each system. Demonstrates operation. Lecture 3 hours. Co-requisite for all automotive courses or consent of instructor. Laboratory 3 hours. Total 6 hours per week.

AUT 115 Automobile Engines (5 credits) Studies automobile engines, their construction, operation, maintenance, and servicing. Includes disassembly, rebuilding and assembly, use of hand tools and equipment. Lecture 2 hours. Laboratory 9 hours. Total 11 hours per week.

AUT 126 Auto Fuel and Ignition Systems (5 credits) Studies automotive ignition and fuel systems, their functions in operation of engine. Includes carburetors, fuel pumps, ignition systems, troubleshooting, engine test and adjustment, tune-up. Lecture 4 hours. Laboratory 3 hours. Total 7 hours per week.

AUT 141 Auto Power Trains I (4 credits) Presents operation, design, construction and repair of power train components, standard and automatic transmission. Includes clutches, propeller shaft, universal joints, rear axle assemblies, fluid couplings, torque converters as well as 2, 3, and 4 speed standard, overdrive and automatic transmissions. Lecture 2 hours per week. Laboratory 6 hours. Total 8 hours per week.

AUT 197 Cooperative Education in Automotive Technology (1-5 credits) Supervised on-the-job training for pay in approved business, industrial and service firms coordinated by the Business and Technologies dean. Is applicable to all occupational-technical curricula at the discretion of the college. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

AUT 199 Supervised Study in Automotive (1-5 credits) Assigns problems for independent study incorporating previous instruction and supervised by the instructor. May be repeated for credit. Variable hours.

AUT 215 Emissions Systems Diagnosis and Repair (2 credits) Presents logical diagnostic paths to identify vehicle HC-CO failure areas. Teaches a progression of failure detection from most likely to more complex causes. Emphasizes use of infrared analyzer and manufacturer's specified adjustments. Lecture 2 hours per week.

AUT 216 High Efficiency Fuel Systems (5 credits) Presents a study of high efficiency fuel systems and related emission control systems. Lecture 4 hours. Laboratory 3 hours. Total 7 hours per week.

AUT 235 Automotive Heating and Air Conditioning (3 credits) Studies separate and combined automotive heaters and air conditioners including direct and vacuum operated controls, basic principles of refrigeration, adjustment, general servicing, and charging of air conditioning systems. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

AUT 241-242 Automotive Electricity I-II (4 credits) (4 credits) Introduces electricity and magnetism, symbols and circuitry as applied to the alternators, regulators, starters, lighting systems, instruments and gauges. AUT 241 is a prerequisite to AUT 242. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

AUT 251 Automatic Transmissions (4 credits) Studies several types of automatic transmissions, torque converters, and their principles of operation. Includes adjustment, maintenance, and rebuilding. Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week.

AUT 265 Automotive Braking Systems (4 credits) Presents operation, design, construction, repair and servicing of braking system. Explains uses of tools and test equipment, evaluation of test results, estimation of repair cost for power, standard and disc brakes. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

AUT 266 Auto Alignment, Suspension and Steering (4 credits) Introduces use of alignment equipment in diagnosing, adjusting, and repairing front and rear suspensions. Deals with repair and servicing of power and standard steering systems. Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week.

BIO – Biology

BIO 101 General Biology I (4 credits) Focuses on foundations in cellular structure, metabolism, and genetics in an evolutionary context. Explores the core concepts of evolution; structure and function; information flow, storage and exchange; pathways and transformations of energy and matter; and systems biology. Emphasizes process of science, interdisciplinary approach, and relevance of biology to society. Part I of a two-course sequence. Lecture 3 hours. Recitation and laboratory 3 hours. Total 6 hours per week. Readiness to enroll in ENG 111 plus completion of developmental math unit 3 required or placement in unit 4 or above.

BIO 102 General Biology II (4 credits) Focuses on diversity of life, anatomy and physiology of organisms, and ecosystem organization and processes in an evolutionary context. Explores the core concepts of evolution; structure and function; information flow, storage and exchange; pathways and transformations of energy and matter; and systems biology. Emphasizes process of science, interdisciplinary approach, and relevance of biology to society. Part II of a two-course sequence. Lecture 3 hours. Recitation and laboratory 3 hours. Total 6 hours per week. Prerequisite is BIO 101.

BIO 141-142 Human Anatomy and Physiology I-II (4 credits) (4 credits) Integrates anatomy and physiology of cells, tissues, organs, and systems of the human body. Integrates concepts of chemistry, physics, and pathology. BIO 141 is a prerequisite to BIO 142. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

BIO 150 Introductory Microbiology (4 credits) Studies the general characteristics of microorganisms. Emphasizes their relationships to individual and community health. Lecture 3 hours. Recitation and laboratory 3 hours. Total 6 hours per week.

BIO 253 Biotechnology Concepts (3 credits) Explores the growing field of biotechnology ranging from basic

cellular and molecular biology concepts to both basic and advanced laboratory techniques. Emphasizes the application of biotechnology to medicine, agriculture, environmental science, and forensics. Includes discussion of the business, regulatory/legal, ethical, and societal issues of this topic as well as the growing field of bioinformatics. Lecture 3 hours per week. Prerequisites are BIO 101 or instructor permission. *Dual Enrollment course only.*

BLD – Building

BLD 110 Introduction to Construction (3 credits) Covers basic knowledge and requirements needed in the construction trades. Introduces use of tools and equipment, with emphasis on construction safety, including personal and tool safety. Provides a working introduction to basic blueprint reading and fundamentals of construction mathematics. Lecture 3 hours per week. *Dual Enrollment course only.*

BLD 125 Introduction to Carpentry Trades (3 credits) Introduces entry-level students to the carpentry trade(s), the Wheels of Learning apprenticeship programs, various types of fasteners, and the wide variety of building materials. Prerequisite: BLD 110. Lecture 3 hours per week. *Dual Enrollment course only.*

BLD 126 Basic Carpentry Principles (3 credits) Introduces students to basic floor and wall construction. Prerequisite: BLD 125. Lecture 3 hours per week. *Dual Enrollment course only.*

BLD 135 Building Construction Carpentry (3 credits) Presents woodworking technologies in carpentry. Introduces types of framing and building materials and equipment used in residential and light commercial construction. Emphasizes the development of skills in the safe use of hand and machine woodworking tools and development of construction terminology. Includes laboratory involvement in wall framing and carpentry practices. Lecture 1-2 hours. Laboratory 2 hours. Total 3-4 hours per week. *Dual Enrollment course only.*

BUS – Business Management and Administration

BUS 100 Introduction to Business (3 credits) Presents a broad introduction to the functioning of business enterprise within the U.S. economic framework. Introduces economic systems, essential elements of business organization, production, human resource management, marketing, finance, and risk management. Develops business vocabulary. Lecture 3 hours per week.

BUS 111 Principles of Supervision I (3 credits) Teaches the fundamentals of supervision, including the primary responsibilities of the supervisor. Introduces factors relating to the work of supervisor and subordinates. Covers aspects of leadership, job management, work improvement, training and orientation, performance evaluation, and effective employee/supervisor relationships. Lecture 3 hours per week.

BUS 112 Principles of Supervision II (3 credits) Develops skills in carrying out the responsibilities of a supervisor including interviewing, evaluating and disciplining, and problem-solving techniques. Prerequisite BUS 111. Lecture 3 hours per week.

BUS 116 Entrepreneurship (3 credits) Presents the various steps considered necessary when going into business. Includes areas such as product-service analysis, market research evaluation, setting up books, ways to finance startup, operations of the business, development of business plans, buyouts versus starting from scratch, and franchising. Uses problems and cases to demonstrate implementation of these techniques. Lecture 3 hours per week.

BUS 165 Small Business Management (3 credits) Identifies management concerns unique to small businesses. Introduces the requirements necessary to initiate a small business and identifies the elements comprising a business plan. Presents information establishing financial and administrative controls, developing a marketing strategy, managing business operations, and the legal and government relationships specific to small businesses. Lecture 3 hours per week.

BUS 200 Principles of Management (3 credits) Teaches management and the management functions of planning, organizing, directing, and controlling. Focuses on application of management principles to realistic situations managers encounter as they attempt to achieve organizational objectives. Lecture 3 hours per week.

BUS 201 Organizational Behavior (3 credits) Presents a behaviorally oriented course combining the functions of management with the psychology of leading and managing people. Focuses on the effective use of human resources through understanding human motivation and behavior patterns, conflict management and resolution, group functioning and process, the psychology of decision-making, and the importance of recognizing and managing change. Lecture 3 hours per week.

BUS 205 Human Resource Management (3 credits) Introduces employment, selection, and placement of personnel, usage levels and methods, job descriptions, training methods and programs, and employee evaluation systems. Includes procedures for management of human resources and uses case studies and problems to demonstrate implementation of these techniques. Lecture 3 hours per week.

BUS 216 Probability and Statistics for Business and Economics (3 credits) Introduces methods of probability assessment and statistical inference. Includes data

collection and presentation; descriptive statistics; basic probability concepts; discrete and continuous probability distributions; decision theory; sampling and estimation; and hypothesis testing. Emphasizes business and economic applications. Utilizes computer software as a tool for problem solving. Prerequisite: MTH 163. Lecture 3 hours per week.

BUS 226 Computer Business Applications (3 credits) Provides a practical application of software packages, including spreadsheets, word processing, database management, and presentation graphics. Includes the use of programs in accounting techniques, word processing, and management science application. Prerequisite: keyboarding competence. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

BUS 236 Communication in Management (3 credits) Introduces the functions of communication in management with emphasis on gathering, organizing, and transmitting facts and ideas. Teaches the basic techniques of effective oral and written communication. Lecture 3 hours per week.

BUS 241 Business Law I (3 credits) Develops a basic understanding of the US business legal environment. Introduces property and contract law, agency and partnership liability, and government regulatory law. Students will be able to apply these legal principles to landlord/tenant disputes, consumer rights issues, employment relationships, and other business transactions. Lecture 3 hours per week.

BUS 265 Ethical Issues in Management (3 credits) Examines the legal, ethical, and social responsibilities of management. May use cases to develop the ability to think and act responsibly. Lecture 3 hours per week.

BUS 290 Coordinated Internship in Business Management (1-5 credits) Supervises on-the-job training in selected business, industrial or service firms coordinated by the college. Credit/Practice ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

BUS 297 Cooperative Education in Business Management & Administration (1-5 credits) Supervised on-the-job training for pay in approved business, industrial and service firms coordinated by the Business and Technologies division dean. Is applicable to all occupational technical curricula at the discretion of the college. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

CAD – Computer Aided Drafting and Design

CAD 120 Introduction to Graphic Representation (3 credits) Teaches use of instruments, lettering, sketching, and drawing conventions. Emphasizes legible drawings and the value of presentation. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. Exposes students to both 2D and 3D graphics and video presentation software.

CAD 140 Technical Drawing (3 credits) Enhances the principles learned that are related directly to the field of drafting and design. Gives a more in-depth exposure to detail and working drawings, dimensioning, tolerancing and conventional drafting practices. Teaches CAD modeling, may include parametric modeling. (Credit will not be awarded for both CAD 140 and DRF 140.) Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. Prerequisites CAD 114 and CAD 120.

CAD 151-152 Engineering Drawing Fundamentals I-II (3 credits) (3 credits) Introduces technical drafting from the fundamentals through advanced drafting practices. Includes lettering, geometric construction, technical sketching, orthographic projection, sections, intersections, development, fasteners. Teaches theory and application of dimensioning and tolerances, pictorial drawing, and preparation of drawings. Part I of II. (Credit will not be awarded for both CAD 151-152 and DRF 151-152.) Lecture 1 hour. Laboratory 4-6 hours. Total 5-7 hours per week.

CAD 155 Fundamentals of Architectural Drafting (3 credits) Introduces fundamentals of architectural drafting and planning of functional buildings. Presents architectural lettering, symbols, and dimensioning, and working drawings including site plans, floor plans, elevations, sections, and details. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. Prerequisites ARC 123, CAD 140, and CAD 201.

CAD 161 Blueprint Reading I (1 credit) Teaches the application of basic principles, visualization, orthographic projection, detail of drafting shop processes and terminology, assembly drawings and exploded views. Considers dimensioning, changes and corrections, classes of fits, tolerances and allowances, sections and convention in blueprint reading. (Credit will not be awarded for both CAD 161 and DRF 161.) Lecture 1 hour. Total 1 hour per week.

CAD 197-297 Cooperative Education in Drafting (1-5 credits) Provides on the job training for pay in approved business, industrial and service firms. Applies to all career-technical curricula at the discretion of the college. Credit/work ratio not to exceed 1:5 hours. Variable hours per week.

CAD 199-299 Supervised Study in Drafting (1-5 credits) Assigns problems for independent study outside the normal classroom setting under the guidance and direction of an instructor. Incorporates prior experience and instruction in the discipline. Variable hours per week.

CAD 202 Computer Aided Drafting and Design II (3 credits) Teaches production drawings and advanced

operations in computer aided drafting. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. (AUTOCAD and Inventor) Prerequisite CAD 151 and CAD 152.

CAD 203 Computer Aided Drafting and Design III (3 credits) Teaches advanced CAD applications. Includes customization and/or use of advanced software. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. Prerequisite CAD 202.

CAD 211 Advanced Technical Drafting I (3 credits) Teaches use of drafting equipment and applications, emphasizing knowledge and skill required for industrial drawing. Includes piping, gearing, geometric and positional tolerances and 2D/3D drawing layout. (Credit will not be awarded for both CAD 211 and DRF 211.) Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

CAD 231 Computer Aided Drafting I (2 credits) Teaches computer aided drafting concepts and equipment designed to develop a general understanding of components and operate a typical CAD system. (Credit will not be awarded for both CAD 231 and DRF 231.) Lecture 1 hours. Laboratory 2 hours. Total 3 hours per week.

CAD 238-239 Computer Aided Modeling and Rendering I-II (3 credits) (3 credits) Focuses on training students in the contemporary techniques of 3D modeling, rendering, and animation on the personal computer. Introduces the principles of visualization, sometimes known as photo-realism, which enables the student to create presentation drawings for both architectural and industrial product design. Uses computer animation to produce walk-throughs that will bring the third dimension to architectural designs. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

CAD 241-242 Parametric Solid Modeling I-II (3 credits) (3 credits) Focuses on teaching students the design of parts by parametric solid modeling. Topics covered include, but are not limited to, sketch profiles; geometric and dimensional constraints; 3D features; model generation by extrusion, revolution, and sweep; and the creation of 2D drawing views that include sections, details and auxiliary views. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. Prerequisite CAD 201.

CAD 243 Parametric Solid Modeling III (3 credits) Focuses on teaching students the software for the design of parts and assemblies by means of advanced parametric solid modeling to include advanced mechanical drafting techniques and building mechanical assemblies. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. Prerequisites: CAD 241, CAD 242 co-requisite . Introduces basic concepts in Pro-E/Creo Fundamentals.

CAD 250 3D Game Level Design (3 credits) Introduces 3D game level design and provides students with the knowledge and skills needed to take a design from concept to implementation in a professional game engine. Focuses on multiple modeling and level design techniques currently used in industry. Exposes students to the most current and popular software available for Game Level Design. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

CAD 280 Design Capstone Project (3 credits) Focuses on design projects developed in independently and in consultation with the Instructor. Topics covered but not limited to parametric modeling, civil, mechanical piping, architectural applications, structural, electro-mechanical, 3-D Solids, exploration of application software and the integration of CAD/CAM. Lecture 3 hours per week. Prerequisites: CAD 114, CAD 201, CAD 202 and CAD 241.

CAD 298 Seminar and Project in Engineering Design Technology (1-5 credits) Requires completion of a project or research report related to the student's occupational objective and a study of approaches to the selection and pursuit of career opportunities in the field. Variable hours per week.

CHD – Childhood Development

CHD 118 Language Arts for Young Children (3 credits) Emphasizes the early development of children's language and literacy skills. Presents techniques and methods for supporting all aspects of early literacy. Surveys children's literature, and examines elements of promoting oral literacy, print awareness, phonological awareness, alphabetic principle, quality storytelling and story reading. Addresses strategies for intervention and support for exceptional children and English Language Learners. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. Functional literacy in the English language; reading at the 12th grade level.

CHD 120 Introduction to Early Childhood Education (3 credits) Introduces early childhood development through activities and experiences in early childhood, pre-kindergarten, kindergarten and primary programs. Investigates classroom organization and procedures, and use of classroom time and materials, approaches to education for young children, professionalism, and curricular procedures. Lecture 3 hours per week. Students majoring in Early Childhood are strongly encouraged to complete this course prior to enrolling in any other CHD courses.

CHD 125 Creative Activities for Children (3 credits) Prepares individuals to work with young children in the arts and other creative age-appropriate activities. Investigates affective classroom experiences and open-ended activities. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. Students are strongly encouraged to complete CHD 120 prior to enrolling in this course.

CHD 166 Infant and Toddler Programs (3 credits) Examines

child growth and development from birth to 36 months. Focuses on development in the physical, cognitive, social, emotional, and language domains. Emphasizes the importance of the environment and relationships for healthy brain development during the child's first three years of life. Investigates regulatory standards for infant/toddler care giving. Lecture 3 hours per week. 3 Contact Hours. Functional literacy in the English language; reading at the 12th grade level.

CHD 205 Guiding the Behavior of Children (3 credits) Explores the role of the early childhood educator in supporting emotional and social development of children, and in fostering a sense of community. Presents practical strategies for encouraging prosocial behavior, conflict resolution and problem solving. Emphasizes basic skills and techniques in child guidance. Lecture 3 hours per week. Functional literacy in the English language; reading at the 12th grade level.

CHD 210 Introduction to Exceptional Children (3 credits) Reviews the history of and legal requirements for providing intervention and educational services for young children with special needs. Studies the characteristics of children with a diverse array of needs and developmental abilities. Explores concepts of early intervention, inclusion, guiding behavior and adapting environments to meet children's needs. Lecture 3 hours per week. Functional literacy in the English language; reading at the 12th grade level.

CHD 270 Administration of Childcare Programs (3 credits) Examines the skills needed for establishing and managing early childhood programs. Emphasizes professionalism and interpersonal skills, program planning, staff selection and development, creating policies, budgeting, and developing forms for record keeping. Lecture 3 hours per week. Students are strongly encouraged to complete CHD 120 and CHD 125 prior to enrolling in this course.

CHD 290 Coordinated Internship (3 credits) Supervises on-the-job training in selected business, industrial or service firms coordinated by the college. Credit/practice ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours. For Early Childhood majors, CHD 120 and CHD 125 are prerequisites to internship. Variable hours per week.

CHI – Chinese

CHI 101-102 Beginning Chinese I-II (5 credits) (5 credits) Introduces understanding, speaking, reading, and writing skills; emphasizes basic Chinese sentence structure. Prerequisite: CHI 101 for CHI 102. Lecture 5 hours per week.

CHM – Chemistry

CHM 05 Developmental Chemistry for Health Sciences (4 credits) Introduces basic principles of inorganic, organic, and biological chemistry. Emphasizes applications to the health sciences. Lecture 4 hours.

CHM 111-112 College Chemistry I-II (4 credits) (4 credits) Explores the fundamental laws, theories, and mathematical concepts of chemistry. Designed primarily for science and engineering majors. Requires a strong background in mathematics. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. Students who have successfully completed Algebra II, one year high school chemistry or chemistry 05 are generally well prepared for this course. CHM 111 is a prerequisite for CHM 112.

CHM 241-242 Organic Chemistry I-II (3 credits) (3 credits) Introduces fundamental chemistry of carbon compounds, including structures, physical properties, syntheses, and typical reactions. Emphasizes reaction mechanisms. CHM 241 is a prerequisite for CHM 242. Lecture 3 hours per week. CHM 111-112 is a prerequisite for CHM 241.

CHM 243-244 Organic Chemistry Laboratory I-II (1 credit) (1 credit) Is taken concurrently with CHM 241 and CHM 242. Laboratory 3 hours per week.

CSC – Computer Science

CSC 110 Introduction to Computing (3 credits) Introduces problem solving through computer applications and a programming language. Examines development of computers, social and ethical implications of computers, and properties of programming languages. Covers input, storage, data manipulation, software and hardware. Lecture 3 hours per week. NOTE: This course utilizes Microsoft Office including Word, PowerPoint, Excel, Access and Alice. Students will not receive credit if they have previously taken BUS 226 or ITE 115.

CSC 200 Introduction to Computer Science (4 credits) Provides broad introduction to computer science. Discusses architecture and function of computer hardware, including networks and operating systems, data and instruction representation and data organization. Covers software, algorithms, programming languages and software engineering. Discusses artificial intelligence and theory of computation. This course utilizes Lego® robotics and Mindstorms™ and Python/Jython programming language. Includes a hands-on component. Co- or Prerequisite: CSC 110. Lecture 4 hours per week.

CSC 201 Computer Science I (4 credits) Introduces algorithm and problem solving methods. Emphasizes structured programming concepts, elementary data structures and the study and use of a high level programming language. Prerequisites CSC 200 or programming language course. Recommended prerequisite: ITP 112, ITP 134, or EGR 126. Lecture 4 hours per week. Note: This course uses the Java programming language.

CSC 202 Computer Science II (4 credits) Examines data structures and algorithm analysis. Covers data structures (including sets, strings, stacks, queues, arrays, records, files, linked lists, and trees), abstract data types, algorithm analysis (including searching and sorting methods), and file structures. Prerequisites: CSC 200 and CSC 201. Recommended pre-requisite ITP 112 or ITP 134. Note: This course uses the Java programming language. Lecture 4 hours per week.

CSC 205 Computer Organization (3 credits) Examines the hierarchical structure of computer architecture. Focuses on multi-level machine organization. Uses a simple assembler language to complege programming projects. Includes processors, instruction, execution, addressing techniques, data representation and digital logic. Lecture 3 hours per week. Prerequisite CSC 201.

CST – Communication Studies And Theatre

CST 100 Principles of Public Speaking (3 credits) Applies theory and principles of public address with emphasis on composition and delivery. Lecture 3 hours per week.

CST 131-132 Acting I-II (3 credits) (3 credits) Develops personal resources and explores performance skills through such activities as theatre games, role playing, improvisation, work on basic script units, and performance of scenes. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

CST 136 Theatre Workshop (3 credits) Enables students to work in various activities of play production. The student participates in performance, set design, stage carpentry, sound, costuming, lighting, stage managing, props, promotion, or stage crew. May be repeated for credit. Variable hours per week.

CST 137 Oral Interpretation (3 credits) Studies the theory of practice of performing various types of literature: prose, poetry, and drama. Emphasizes the relationship among the oral interpreter, the literary work, and the audience. Lecture 3 hours per week.

CST 141-142 Theatre Appreciation I-II (3 credits) (3 credits) Aims to increase knowledge and enjoyment of theatre. Considers process, style, organization, written drama and performed drama. Lecture 3 hours per week.

DSL – Diesel

DSL 111 Introduction to Diesel Engine (2 credits) Studies the modern diesel engine, including its fuel, cooling, induction, and exhaust systems. Covers construction, fabrication, maintenance, tune-up, and minor repair and adjustment. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week. *Dual Enrollment course only.*

ECO – Economics

ECO 120 Survey of Economics (3 credits) Presents a broad overview of economic theory, history, development, and application. Introduces terms, definitions, policies, and philosophies of market economies. Provides some comparison with other economic systems. Includes some degree of exposure to microeconomic and macroeconomic concepts. Lecture 3 hours per week.

ECO 201 Principles of Macroeconomics (3 credits) Introduces macroeconomics including the study of Keynesian, classical, monetarist principles and theories, the study of national economic growth, inflation, recession, unemployment, financial markets, money and banking, the role of government spending and taxation, along with international trade and investments. Lecture 3 hours per week.

ECO 202 Principles of Microeconomics (3 credits) Introduces the basic concepts of microeconomics. Explores the free market concepts with coverage of economic models and graphs, scarcity and choices, supply and demand, elasticities, marginal benefits and costs, profits, and production and distribution. Lecture 3 hours per week.

EDU – Education

EDU 156 Single Parent Families (3 credits) Discusses issues surrounding single-parent families and the causal factor including separation, divorce, death, and teenage pregnancies. Explores the effects on both the parent and the child. Familiarizes students with services available in the community which support the single-parent family. Lecture 3 hours per week.

EDU 198 Seminar and Project (1 credit) Requires completion of a project or research report related to the student's occupational objectives and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours.

EGR – Engineering

EGR 115 Engineering Graphics (2 credits) Applies principles of orthographic projection, and multi-view drawings. Teaches descriptive geometry including relationships of points, lines, planes and solids. Introduces sectioning, dimensioning and computer graphic techniques. Includes instruction in Computer Aided Drafting. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

EGR 120 Introduction to Engineering (2 credits) Introduces the engineering profession, professional concepts, ethics, and responsibility. Reviews hand calculators, number systems, and unit conversions. Introduces the personal computer and operating systems.

Includes engineering problem solving techniques using computer software. Students are strongly encouraged to enroll in MTH 173 as a co-requisite to this course. Lecture 2 hours per week.

EGR 126 Computer Programming for Engineers (3 credits) Introduces computers, their architecture and software. Teaches program development using flowcharts. Solves engineering problems involving programming in languages such as FORTRAN, PASCAL or C++. Lecture 3 hours. Total 3 hours per week.

EGR 140 Engineering Mechanics – Statics (3 credits) Introduces mechanics of vector forces and space, scalar mass and time, including S.I. and U.S. customary units. Teaches equilibrium, free-body diagrams, moments, couples, distributed forces, centroids, moments of inertia analysis of two-force and multi-force members. Lecture 3 hours per week.

EGR 245 Engineering Mechanics – Dynamics (3 credits) Presents approach to kinematics of particles in linear and curvilinear motion. Includes kinematics of rigid bodies in plane motion. Teaches Newton's second law, work-energy and power, impulse and momentum, and problem solving using computers. Lecture 3 hours per week.

EGR 246 Mechanics of Materials (3 credits) Teaches concepts of stress, strain, deformation, internal equilibrium, and basic properties of engineering materials. Analyzes axial loads, torsion, bending, shear and combined loading. Studies stress transformation and principle stresses, column analysis and energy principles. Lecture 3 hours per week.

EGR 248 Thermodynamics for Engineering (3 credits) Studies formulation of the first and second law of thermodynamics. Presents energy conversion, concepts of energy, temperature, entropy and enthalpy, and equations of state of fluids. Covers reversibility and irreversibility in processes, closed and open systems, cyclical processes and problem solving using computers. Lecture 3 hours per week.

ELE – Electrical Technology

ELE 111-112 Home Electric Power I-II (3 credits) (3 credits) Teaches fundamentals of residential power distribution, circuits, enclosures, protective devices, transformers. Studies various charts and tables of the national electrical code. Part I of II. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. *Dual Enrollment courses only.*

ELE 113-114 Electricity I-II (3 credits) (3 credits) Teaches principles of electricity covering fundamentals, devices and components in both DC and AC circuits. Part I of II. Lecture 3 hours per week. *Dual Enrollment courses only.*

ELE 127 Residential Wiring Methods (2 credits) Studies wiring methods and standards used for residential dwellings. Provides practical experience in design, layout, construction, and testing of residential wiring systems by use of scaled mock-ups. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

ELE 130 Electricity (4 credits) Covers DC and AC theory (FOR NON-ELECTRICAL STUDENTS), with some introduction to electrical machines. Prerequisite: Appropriate MTT or equivalent. Lecture 2-3 hours. Laboratory 3 hours. Total 5-6 hours per week.

ELE 138 National Electrical Code Review I (2 credits) Teaches purpose and interpretation of the National Electrical Code as well as various charts, code rulings and wiring methods. Prepares the student to take the journey-man level exam. Lecture 2 hours per week.

ELE 149 Wiring Methods in Industry (3 credits) Studies the fundamentals of industrial power distribution, circuits, switches, enclosures, panels, fuses, circuit breakers, transformers, and wiring methods, using various charts and tables of the National Electrical Code. Lecture 2 hours. Laboratory-3 hours. Total 5 hours per week.

ELE 176 Introduction to Alternative Energy Including Hybrid Systems (3 credits) Introduces Alternative Energy with an emphasis on solar photovoltaic systems, small wind turbines technology, the theory of PV technology, PV applications, solar energy terminology, system components, site analysis, PV system integration and PV system connections and small wind turbine technology site analysis. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

ELE 177 Photovoltaic Energy Systems (4 credits) Teaches techniques for conduct site surveys, installing system components, installing inverters and performing system sizing and system maintenance. Introduces different battery configurations, and charge controllers. Introduces safety, system design and layout, National Electric Code, Component Selection, wiring and installation techniques. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ELE 178 Wind Turbine Technology (3 credits) Introduces many facets of the wind industry. Introduces the history and development of the wind systems as well as the future of the wind industry as the desire for alternative energy grows. Presents the terminology used in the application of wind systems. Identifies the various types of wind energy turbines and other topics as appropriate. Includes safety training. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

ELE 211-212 Electrical Machines I-II (4 credits) (4 credits) Studies the construction, theory of operations and applications of DC and AC machines. Prerequisite ETR 114. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ELE 233 Programmable Logic Controller Systems I (4 credits) Teaches operating and programming of programmable logic controllers. Covers analog and digital interfacing and communication schemes as they apply to system. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ELE 246 Industrial Robotics Programming (3 credits) Introduces industrial robotics and their programming for repetitive manufacturing systems. Includes the design of software that ensures safe operation and programming of both on- and off-line robot operations. This course is cross-listed with IND 246. Credit will not be awarded for both. Lecture 2 hours, Lab 2 hours, Total 4 hours per week.

ELE 297 Cooperative Education in Electrical Technology (1-5 credits) Supervised on-the-job training for pay in approved business, industrial and service firms coordinated by the division chair. Is applicable to all occupational-technical curricula at the discretion of the college. Credit/work Ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

ELE 298 Seminar and Project (1 credit) Requires completion of a project or research report related to the student's occupational objectives and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours.

ENE – Energy Technology

ENE 228 Building Automation and Energy Management Systems (3 credits) Teaches building automation and energy management systems. Studies how building systems - HVAC, lighting, security systems, and alternative energy -- can communicate through a network of "intelligent" control devices. Emphasizes how these controlling devices work together in common automation. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

ENF – English Fundamentals

ENF 1 Preparing for College English I (8 credits) Provides integrated reading and writing instruction for students who require extensive preparation to succeed in college-level English courses. Students will place into this course based on VPT-English (Virginia Placement Test-English). Upon successful completion and faculty recommendation, students will move into ENF 3 (if they require additional preparation) or into college-level English (if they require no additional preparation).

ENF 2 Preparing for College English II (4 credits) Provides integrated reading and writing instruction for students who require extensive preparation to succeed in college-level English courses. Students will place into this course based on VPT-English (Virginia Placement Test-English). Upon successful completion and faculty recommendation, students will move into ENF 3 (if they require additional preparation) or into college-level English (if they require no additional preparation).

ENF 3 Preparing for College English III (2 credits) Provides integrated reading and writing instruction for students who require minimal preparation for college-level English but still need some preparation to succeed. Students in this course will be co-enrolled in college-level English. Students will place into this course based on VPT-English (Virginia Placement Test-English). Students must pass both ENF 3 and ENG 111 when co-enrolled.

ENG – English

ENG 108 Critical Reading and Study Skills (3 credits) Helps students improve their reading and learning processes. Includes advanced comprehension strategies and study skills such as time management, note-taking, studying from textbooks and other reading materials, taking examinations, and using the library. Lecture 3 hours per week.

ENG 111-112 College Composition I-II (3 credits) (3 credits) Develops writing ability for study, work, and other areas of writing based on experience, observation, research, and reading of selected literature. Guides students in learning writing as a process: understanding audience and purpose, exploring ideas and information, composing, revising, and editing. Supports writing by integrating, composing, revising, and editing, as well as by integrating experiences in thinking, reading, listening, and speaking. Prerequisite for ENG 111: satisfactory score on appropriate English placement examination and 4 units of high school English; keyboarding skills are recommended. ENG 111 is a prerequisite for ENG 112. Lecture 3 hours per week. Students must pass both ENF 3 and ENG 111 when co-enrolled.

ENG 115 Technical Writing (3 credits) Develops ability in technical writing through extensive practice in composing technical reports and other documents. Guides students in achieving voice, tone, style, and content in formatting, editing, and graphics. Introduces students to technical discourse through selected reading. Prerequisite satisfactory score on appropriate English placement examination and 4 units of high school English. Lecture 3 hours per week.

ENG 116 Writing for Business (3 credits) Develops ability in business writing through extensive practice in composing business correspondence and other documents. Guides students in achieving voice, tone, style, and content appropriate to a specific audience and purpose. Includes instruction in formatting and editing. Introduces students to business discourse through selected readings. Prerequisite satisfactory score on appropriate English placement test and 4 units of high school English. Lecture 3 hours per week.

ENG 121-122 Introduction to Journalism I-II (3 credits) (3 credits) Introduces students to all news media, especially news gathering and preparation for print. Prerequisite ENG 111 or 112 or divisional approval. Part I of II. Lecture 3 hours per week. *ENG 122-Dual Enrollment course only.*

ENG 211-212 Creative Writing I-II (3 credits) (3 credits) Introduces the student to the fundamentals of writing imaginatively. Students write in forms to be selected from poetry, fiction, drama, and essays. Prerequisite: ENG 112 or divisional approval. Lecture 3 hours per week.

ENG 221 Advanced Journalism I (3 credits) Provides instruction in news and feature writing and other aspects of journalism. Prerequisite ENG 122. Part I of II. Lecture 3 hours per week. *Dual Enrollment course only.*

ENG 241-242 Survey of American Literature I-II (3 credits) (3 credits) Examines American literary works from colonial times to the present, emphasizing the ideas and characteristics of our national literature. Involves critical reading and writing. Prerequisite ENG 112 or divisional approval. Lecture 3 hours per week.

ENG 243-244 Survey of English Literature I-II (3 credits) (3 credits) Studies major English works from the Anglo-Saxon period to the present, emphasizing ideas and characteristics of the British literary tradition. Involves critical reading and writing. Prerequisite ENG 112 or divisional approval. Lecture 3 hours per week.

ENG 250 Children's Literature (3 credits) Surveys the history, development and genres of children's literature, focusing on analysis of texts for literary qualities and in terms of audience. Lecture 3 hours per week.

ENG 251-252 Survey of World Literature I-II (3 credits) (3 credits) Examines major works of world literature. Involves critical reading and writing. Prerequisite ENG 112 or divisional approval. Lecture 3 hours per week.

ENG 261 Advanced Creative Writing I (3 credits) Guides the student in imaginative writing in selected genres on an advanced level. Prerequisite ENG 112 or divisional approval. Part I of II. Lecture 3 hours per week.

ENG 268 The Modern Drama (3 credits) Studies the modern drama. Emphasizes the understanding and enjoyment of dramatic literature. Requires critical reading and writing. Prerequisite ENG 112 or divisional approval. Lecture 3 hours per week.

ENG 273 Women in Literature I (3 credits) Examines literature by and about women. Involves critical reading and writing. Prerequisite ENG 112 or divisional approval. Part I of II. Lecture 3 hours per week.

ENG 278 Appalachian Literature (3 credits) Examines selected works of outstanding authors of the Appalachian region. Involves critical reading and writing. Prerequisite ENG 112 or divisional approval. Lecture 3 hours per week.

ENG 279 Film and Literature (3 credits) Examines the translation of literature into film viewing and writing. Prerequisite ENG 112 or divisional approval. Lecture 3 hours per week.

ENV – Environmental Science

ENV 100 Basic Environmental Science (3 credits) Presents and discusses basic scientific, health-related, ethical, economic, social and political aspects of environmental activities, policies/decisions. Emphasizes the multidisciplinary nature of environmental problems and their potential solutions. Lecture 3 hours per week. *Dual Enrollment course only.*

ENV 101 Introduction to Environmental Technology I (3 credits) Introduces students to basic scientific principles. Includes fundamentals of biology, chemistry, physics, and geology. Course integrates scientific disciplines as they relate to environmental technology. Part I of II. Lecture 3 hours. Total 3 hours per week. *Dual Enrollment course only.*

ETR – Electronics Technology

ETR 113-114 D.C. & A.C. Fundamentals I-II (3 credits) (3 credits) Studies D.C. and A.C. circuits, basic electrical components, instruments, network theorems, and techniques used to predict, analyze and measure electrical quantities. Prerequisite for 114 is ETR 113. Co-requisite for ETR 113 is MTT 1-6, as recommended. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

ETR 167 Logic Circuits and Systems (3 credits) Studies digital switching and logic circuits, numbering systems, Boolean algebra, logic gates and families. Includes concepts of fundamental microprocessor operation and interface circuitry. Prerequisite for ETR 167 is MTH 115. Co-requisite is ETR 203. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

ETR 197-297 Cooperative Education in Electronics Technology (1-5 credits) Supervised in on-the-job training for pay in approved business, industrial and service firms coordinated by the dean. Is applicable to all occupational-technical curricula at the discretion of the college. Credit/work Ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

ETR 199-299 Supervised Study in Electronics Technology (1-5 credits) Assigns problems for independent study incorporating previous instruction and supervised by the instructor. May be repeated for credit. Variable hours.

ETR 203 Electronic Devices I (3 credits) Studies active devices and circuits such as diodes, power supplies, transistors, amplifiers, and other devices. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. Students are strongly encouraged to enroll in ETR 114 during the same

semester as this ETR 203.

ETR 231 Principles of Lasers and Fiber Optics I (4 credits) Teaches the theory and application of lasers and fiber optics. Includes optics, fiber optic cables and connectors, photo detectors, optical pulse generation, sensors, multiplexers, lasers, gas lasers, semiconductor lasers, laser safety and laser test instruments. May include preparation of a report as an out-of-class activity. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ETR 241-242 Electronic Communications I-II (3 credits) (3 credits) Studies noise, information and band width, modulation and demodulation, transmitters and receivers, wave propagation, antennas and transmission lines. Includes broad band communication systems, microwave, both terrestrial and satellite, fiber optics, multiplexing and associated hardware. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. Students are strongly encouraged to enroll in ETR 203 during the same semester as this ETR 241.

ETR 249 Electrical Control Systems (4 credits) Studies components, equipment and circuits that are used to control the operation of electrical machines. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ETR 261-262 Microprocessor Application I-II (4 credits) (4 credits) Teaches the fundamentals of microprocessors including architecture, internal operations, memory, I/O devices machine level programming and interfacing. Emphasizes instrumentation and microprocessor. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ETR 264 Microwave and Wireless Communications (3 credits) Studies microwave propagation, physical foundation of microwave technology, microwave transmission line, microwave vacuum tube devices, microwave transistors, discrete microwave amplifiers, monolithic microwave integrated circuit amplifiers, microwave diode, microwave transmitters, UHF and microwave receivers, radar systems, and wireless communications. Prerequisite: ETR 203 and ETR 241. Lecture 3 hours per week.

ETR 298 Seminar and Project (1 credit) Requires completion of a project or research report related to the student's occupational courses and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours.

FIN – Financial Services

FIN 107 Personal Finance (3 credits) Presents a framework of personal money management concepts, including establishing values and goals, determining sources of income, managing income, preparing a budget, developing consumer buying ability, using credit, understanding savings and insurance, providing for adequate retirement, and estate planning, Lecture 3 hours per week.

FIN 215 Financial Management (3 credits) Introduces basic financial management topics including statement analysis, working capital, capital budgeting, and long-term financing. Focuses on Net Present Value and Internal Rate of Return techniques, lease vs. buy analysis, and Cost of Capital computations. Uses problems and cases to enhance skills in financial planning and decision making. Lecture 3 hours per week.

FRE – French

FRE 101-102 Beginning French I-II (5 credits) (5 credits) Introduces understanding, speaking, reading, and writing skills and emphasizes basic French sentence structure. Lecture 4-5 hours per week. May include one additional hour of oral practice per week.

FRE 201-202 Intermediate French I-II (3 credits) (3 credits) Continues to develop understanding, speaking, reading, and writing skills. French is used in the classroom. Prerequisite French 102 or equivalent. Lecture 3-4 hours per week. May include one additional hour of oral practice per week.

GEO – Geography

GEO 210 People and the Land: An Introduction to Cultural Geography (3 credits) Focuses on the relationship between culture and geography. Presents a survey of modern demographics, landscape modification, material and non-material culture, language, race and ethnicity, religion, politics, and economic activities. Introduces the student to types and uses of maps. Lecture 3 hours per week.

GER – German

GER 101-102 Beginning German I-II (5 credits) (5 credits) Introduces understanding, speaking, reading, and writing skills and emphasizes basic German sentence structures. Lecture 4-5 hours per week. May include one additional hour oral practice per week.

GER 201-202 Intermediate German I-II (3 credits) (3 credits) Continues to develop understanding, speaking, reading, and writing skills. German is used in the classroom. Prerequisite GER 102 or equivalent. Lecture 3-4 hours per week. May include one additional hour oral practice per week.

GIS – Geographic Information Systems

GIS 101 Introduction to Geospatial Technology I (3 credits) Provides an introduction to the concepts of Geographic Information Systems (GIS), Global Positioning Systems, (GPS) and remote sension components of

Geospatial Technology. Teaches the introductory concepts of geographic locatio and problem solving by using GIS and GPS units in demonstrating solutions to cross-curricular applications of the technology. Prerequisite: Basic Computer Literacy. Lecture 3 hours per week. *Dual Enrollment course only.*

GOL – Geology

GOL 105 Physical Geology (4 credits) Introduces the composition and structure of the earth and modifying agents and processes. Investigates the formation of minerals and rocks, weathering, erosion, earthquakes, and crustal deformation. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. *Dual Enrollment course only.*

GOL 106 Historical Geology (4 credits) Traces the evolution of the earth and life through time. Presents scientific theories of the origin of the earth and life and interprets rock and fossil record. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. *Dual Enrollment course only.*

HIM – Health Information Management

HIM 111 Medical Terminology I (3 credits) Introduces the student to the language used in the health record. Includes a system-by-system review of anatomic disease, and operative terms, abbreviations, radiography procedures, laboratory tests, and pharmacology terms. Lecture 3 hours per week.

HIM 112 Medical Terminology II (3 credits) Continues with focus on the language used in the health record. Includes a system-by-system review of anatomic disease, and operative terms, abbreviations, radiography procedures, laboratory tests, and pharmacology terms. Part II of II. Lecture 3 hours per week.

HIM 113 Medical Terminology and Disease Processes I (3 credits) Includes the study of prefixes, suffixes, stem words, and technical terms; puts emphasis on the causes and treatment of selected disease processes. Lecture 3 hours per week. Students are strongly encouraged to complete HIM 111 prior to enrolling in this course.

HIM 149 Introduction to Medical Practice Management (2 credits) Introduces principles of administrative practice management. Examines patient scheduling, records management, financial systems and other systems/procedures. Focuses on the development of organizational and decision making skills utilized by the practice manager. Lecture 2 hours per week.

HIM 151 Reimbursement Issues in Medical Practice Management (2 credits) Introduces major reimbursement systems in the United States. Focuses on prospective payment systems, managed care, and documentation necessary for appropriate reimbursement. Emphasizes management of practice to avoid fraud. Lecture 2 hours per week.

HIM 163 Anatomy and Physiology for Administrative Health Professionals (3 credits) Introduces the structure and function of the systems of the human body as applied by administrative health professionals. Prerequisite: Medical Terminology or HLT 143 or HIM 111. Lecture 3 hours per week.

HIM 220 Health Statistics (3 credits) Introduces the student to basic statistical principles and calculations as applied in the health care environment, procedures for collection and reporting vital statistics, and basic quality control basics. Lecture 3 hours per week.

HIM 226 Legal Aspects of Health Record Documentation (2 credits) Presents the legal requirements associated with health record documentation. Emphasizes the policies and procedures concerning the protection of the confidentiality of patient's health records. Lecture 2 hours per week.

HIM 229 Performance Improvement in Health Care Settings (2 credits) Focuses on concepts of facility wide performance improvement, resource management and risk management. Applies tools for data collection and analysis. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week.

HIM 233 Electronic Health Records Management (3 credits) Studies new trends in management and processing of health information with emphasis on the electronic health record (EHR). Covers the definition, benefits, standards, functionality, confidentiality and security, and impact of the EHR in the healthcare environment. Explores implementation of the EHR including infrastructure required, project management techniques, information technology systems, workflow processes and redesign in various health care settings. Discusses legal issues created by implementation of the EHR. Lecture 3 hours per week.

HIM 253 Health Records Coding (3 credits) Examines the development of coding classification systems. Introduces ICD-9-CM coding classification system, its format and conventions. Stresses basic coding steps and guidelines according to body systems. Provides actual coding exercises in relation to each system covered. Lecture 3 hours per week.

HIM 254 Advanced Coding and Reimbursement (3 credits) Stresses advanced coding skills through practical exercises using actual medical records. Introduces CPT-4 coding system and guidelines for out-patient/ambulatory surgery coding. Introduces prospective payment system and its integration with ICD-CM-9 coding. Lecture 3 hours per week.

HIM 290 Coordinated Internship in Health Information Management (3 credits) Supervises on-the-job training in selected business, industrial or service firms coordinated by

the college. Credit/practice ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours per week.

HIS – History

HIS 101-102 History of Western Civilization I-II (3 credits) (3 credits) Examines the development of western civilization from ancient times to the present. The first semester ends with 1715; the second semester continues through modern times. Lecture 3 hours per week.

HIS 111-112 History of World Civilization I-II (3 credits) (3 credits) Surveys Asian, African, Latin American, and European civilizations from the ancient period to the present. Lecture 3 hours per week.

HIS 121-122 United States History I-II (3 credits) (3 credits) Surveys United States history from its beginning to the present. Lecture 3 hours per week.

HIS 266 Military History of the Civil War (3 credits) Analyzes military campaigns of the Civil War, including factors contributing to the defeat of the Confederacy and problems created by the war. May include field trips to Civil War sites in the region. Lecture 3 hours per week.

HIS 267 The Second World War (3 credits) Examines causes and consequences of the Second World War. Includes the rise of totalitarianism, American neutrality, military developments, the home fronts, diplomacy, and the decision to use the atomic bomb. Lecture 3 hours per week.

HIS 277 The American Experience in Vietnam (3 credits) Analyzes American involvement in Vietnam from World War I through the Nixon and Ford years. Includes Roosevelt's plan of trusteeship, the Geneva Conference, the American military role, and the search for peace. Lecture 3 hours per week.

HIS 279 Age of the American Revolution (3 credits) Examines the factors that led to the separation of the American Britain colonies from Great Britain. Covers the Revolutionary War, the problems faced by the revolutionary government, and postwar events that led to the adoption the United States Constitution. Lecture 3 hours per week.

HIS 281-282 History of Virginia I-II (3 credits) (3 credits) Examines the cultural, political, and economic history of the Commonwealth from its beginning to the present. Part I of II and Part II of II. Lecture 3 hours per week.

HLT – Health

HLT 100 First Aid and Cardiopulmonary Resuscitation (3 credits) Focuses on the principles and techniques of safety, first aid, and cardiopulmonary resuscitation. Lecture 3 hours per week.

HLT 105 Cardiopulmonary Resuscitation (1 credit) Provides training in coordinated mouth-to-mouth artificial ventilation and chest compression, choking, life-threatening emergencies, and sudden illness. (For Associate Degree in Nursing students. Offered fall semester only). Lecture 1 hour per week.

HLT 110 Concepts of Personal and Community Health (3 credits) Studies the concepts related to the maintenance of health, safety, and the prevention of illness at the personal and community level. Lecture 3 hours per week.

HLT 115 - Introduction to Personal and Community Health (1 credit) Introduces and focuses on the principles of personal and community health. Lecture 1 hour per week.

HLT 116 Personal Wellness (3 credits) Explores the relationship between personal health and physical fitness as they apply to individuals in today's society. Includes nutrition, weight control, stress, conditioning, and drugs. Lecture 3 hours per week.

HLT 135 Child Health and Nutrition (3 credits) Focuses on the physical needs of the preschool child and the methods by which these are met. Emphasizes health routines, hygiene, nutrition, feeding and clothing habits, childhood diseases, and safety as related to health growth and development. Lecture 3 hours per week.

HLT 230 Principles of Nutrition and Human Development (3 credits) Teaches the relationship between nutrition and human development. Emphasizes nutrients, balanced diet, weight control, and the nutritional needs of an individual. Lecture 3 hours per week.

HLT 261 Basic Pharmacy I (3 credits) Explores the basics of general pharmacy, reading prescriptions, symbols, packages, pharmacy calculations. Teaches measuring compounds of drugs, dosage forms, drug laws, and drug classifications. This course will prepare students to take the Pharmacy Technician Certification Exam. Lecture 3 hours per week. This course is a co-requisite to HLT 263.

HLT 263 Basic Pharmacy I Lab (1 credit) Provides practical experience to supplement instruction in HLT 261. Should be taken concurrently with HLT 261, in appropriate curricula, as identified by the college. Laboratory 3 hours per week. This course is a co-requisite to HLT 261.

HMS – Human Services

HMS 100 Introduction to Human Services (3 credits) Introduces human services agencies, roles and careers. Presents a historical perspective of the field as it relates to human services today. Additional topics include values clarification and needs of target populations. Lecture 3 hours per week. Students are strongly encouraged to complete this course prior to enrolling in any other HMS course.

HMS 121 Basic Counseling Skills I (3 credits) Develops skills needed to function in a helping relationship. Emphasizes skills in attending, listening and responding. Clarifies personal skill strength, deficits and goals for skill improvement. Lecture 3 hours per week. Students are strongly encouraged to complete HMS 100 prior to enrolling in this course.

HMS 141 Group Dynamics I (3 credits) Examines the stages of group development, group dynamics, the role of the leader in a group, and recognition of the various types of group processes. Discusses models of group dynamics that occur as a result of group membership dynamics. Lecture 3 hours per week. Students are strongly encouraged to complete HMS 100 prior to enrolling in this course.

HMS 227 The Helper as a Change Agent (3 credits) Teaches the following skills for implementing alternative models of change and influence: action research, problem-solving, consultation, workshop development, and outreach and advocacy for diverse client populations. Lecture 3 hours per week. Students are strongly encouraged to complete HMS 100 prior to enrolling in this course.

HMS 236 Gerontology (3 credits) Examines the process of aging; its implications in relation to health, recreation, education, transportation, meaningful work or activity, and to community resources. Emphasizes experiencing the aging process, facilitating retirement, and application of the helping relationship to work with older adults. Lecture 3 hours per week. Students are strongly encouraged to complete HMS 100 prior to enrolling in this course.

HMS 251 Substance Abuse I (3 credits) Provides knowledge, skills, and insight for working in drug and alcohol abuse programs. Emphasizes personal growth and client growth measures in helping relationships. Stresses various methods of individual and group techniques for helping the substance abuser. Lecture 3 hours per week. Students are strongly encouraged to complete HMS 100 prior to enrolling in this course.

HMS 290 Coordinated Internship in Human Services (3 credits) Supervised on-the-job training in selected business, industrial, or service firms coordinated by the college. HMS 100 and HMS 121 are pre/co-requisites to HMS 290. Credit/practice ratio maximum 1:5 hours. May be repeated for credit. Variable hours.

IND – Industrial Engineering Technology

IND 230 Applied Quality Control (3 credits) Studies principles of inspection and quality assurance with emphasis on statistical process control. May include the setting up, maintaining, and interpreting of control charts, and review of basic metrology. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

IND 250 Introduction to Basic Computer Integrated Manufacturing (2 credits) Presents basic principles used in the design and implementation in a computer integrated manufacturing system. Emphasizes team concept and all aspects of a computer integrated manufacturing system to include the following: Robotics, Conveyor Control, Machining Center Integration Quality Control, Statistical Quality Control, and Computer Integrated Manufacturing (CIM) software. Lecture 0-2 hours. Laboratory 3-9 hours. Total 4-9 hours per week.

INS – Instrumentation

INS 220 Introduction to Fluid Power (3 credits) Introduces analysis and design of hydraulic and pneumatic control systems. Presents interpretation and application of fluid power systems, schematic diagrams, and symbols. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

INS 230 Instrumentation I (4 credits) Presents the fundamental scientific principles of process control including temperature, pressure, level, and flow measurements. Topics include transducers, thermometers, and gauges are introduced along with calibration. Prerequisites: ETR 113 and ETR 114. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

INS 231 Instrumentation II (4 credits) Continues INS 230. Covers common techniques for measuring the dynamic response of processes. Topics include transmitters and telemetering along with process control systems. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

INS 232 System Troubleshooting (2 credits) Presents system troubleshooting theory and real troubleshooting applications. Uses a hands-on approach to provide troubleshooting experience in multiple areas such as programmable logic controllers (PLC), control automation systems and process control systems. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

INS 233 Process Control Integration (4 credits) Presents computer automation including PLCs, SCADA, and PC-based systems to control processes. Topics such as PLC control and computer data acquisition are introduced where students will use existing systems or build systems and control these systems with PLCs and computer data acquisition systems. Assesses students through test and project evaluations and the course will be assessed by graduate feedback. Prerequisite: INS 230, and ELE 233. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

INS 297 Cooperative Education in Instrumentation (1-5 credits) Supervised on-the-job training for pay in approved business, industrial and service firms coordinated by the division dean. Is applicable to all occupational-technical

curricula at the discretion of the college. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

INS 298 Seminar and Project (1 credit) Requires completion of a project or research report related to the student's occupational objectives and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours.

INS 299 Supervised Study in Instrumentation (1-5 credits) Assigns problems for independent study incorporating previous instruction and supervised by the instructor. May be repeated for credit. Variable hours.

ITD – Information Technology Design and Database

ITD 110 Web Page Design I (3 credits) Stresses a working knowledge of web site designs, construction, and management using HTML or XHTML. Course content includes headings, lists, links, images, image maps, tables, forms, and frames. Prerequisites are BUS 226, CSC 110, ITE 115 or Microsoft Office experience. Lecture 3 hours per week. NOTE: This course uses Dreamweaver, HTML5 and CSS3.

ITD 112 Designing Web Page Graphics (3 credits) Explores the creation of digital graphics for web design. Basic design elements such as color and layout will be explored utilizing a computer graphics program(s). Prerequisites are BUS 226, CSC 110 or ITE 115, and ITD 110. Lecture 3 hours per week. NOTE: This course uses Photoshop. Students will have the opportunity to earn the Adobe Certified Associate certification in Visual Communication using Photoshop.

ITD 120 Design Concepts for Mobile Applications (3 credits) Provides skills for designing both Web-based and stand-alone applications for wireless devices. Details discussions of the needs for applications including mobile phones and a range of rich handheld devices such as PDA's. Emphasizes the importance of usability, accessibility, optimization and performance to create fast-loading business enterprise applications and games. Prerequisites: ITD 110, and ITD 112, in addition to a programming language such as Java, Visual Basic, GameMaker, C++, or Flash ActionScript. Lecture 3 hours per week. Note: This class focuses on creating mobile and web applications for the iPhone, iPod Touch and iPad platform.

ITD 130 Database Fundamentals (4 credits) Introduces the student to Relational Database and Relational Database theory. Includes planning, defining and using a database; table design, linking, and normalization; types of databases, database description and definition. Prerequisites: (BUS 226, CSC 110, or ITE 115) and CSC 200. Lecture 4 hours per week. NOTE: Students will not receive credit if they have previously taken or ITE 150. This course uses Access and MySQL.

ITD 210 Web Page Design II (3 credits) Incorporates advanced techniques in web site planning, design, usability, accessibility, advanced site management, and maintenance utilizing web editor software(s). Prerequisites are BUS 226, CSC 110 or ITE 115, and ITD 110. ITD 112 is also recommended as a prerequisite for this course. Lecture 3 hours per week. NOTE: This course uses primarily Dreamweaver as well as Photoshop, and Flash. Students will have the opportunity to earn the Adobe Certified Associate certification in Web Communication using Dreamweaver.

ITD 212 Interactive Web Design (3 credits) Provides techniques in interactive design concepts to create cross-platform, low-bandwidth animations utilizing a vector based application. Emphasizes the importance of usability, accessibility, optimization and performance. Prerequisites: CSC 110 or ITE 115 and ITD 110. ITD 112 is also recommended as a prerequisite for this course. Lecture 3 hours per week. NOTE: This course uses primarily Flash and Dreamweaver. Students will have the opportunity to earn the Adobe Certified Associate certification in Rich Media Communication using Flash.

ITE – Information Technology Essentials

ITE 105 Careers and Cyber Ethics (2 credits) Career paths in Information Technology will be explored to help the student determine the appropriate degree plan. Career paths will include but not be limited to software development, computer science, database, networking, system administration and operations, end user support, web design, and management. The student will learn ethical concerns in business and information technology including the AMC Code of Ethics. Prerequisites: Keyboarding and Microsoft Office. Lecture 2 hours per week.

ITE 115 Introduction to Computer Applications and Concepts (3 credits) overs computer concepts and internet skills and use a software suite which includes word processing, spreadsheet, database, and presentation software to demonstrate skills required for computer literacy. Prerequisite is high school keyboarding. Lecture 3 hours per week. NOTE: Students will not receive credit if they have previously taken IST 117, BUS 226 or CSC 110. This course utilizes Microsoft Office including Word, PowerPoint, Excel and Access.

ITE 141 Microcomputer Software: Spreadsheets (1- 2 credits) Provides first-time users with sufficient information to make practical use of spreadsheet Software using the basic of building spreadsheets. Lecture 1-2 hours per week. This course will not count as General Education credits toward a degree.

ITE 200 Technology for Teachers (TSIP) (3 credits) Provides K-12 classroom teachers with the knowledge and skills needed to fulfill the Commonwealth of Virginia's Technology Standards for Instructional Personnel. Students will finish the course with a solid understanding of educational technology, including how to use computers, now to access information on the World Wide Web, and how to integrate computers and educational technology into classroom curriculum. Students will learn how to base technology integration decisions on contemporary learning theories. Lecture 3 hours per week.

ITN – Information Technology Networking

ITN 101 Introduction to Network Concepts (3 credits) Provides instruction in networking media, physical and logical topologies, common networking standards and popular networking protocols. Course content emphasizes the TCP/IP protocol suite and related IP addressing schemes, including CIDR. Course content also includes selected topics in network implementation, support and LAN/WAN connectivity. Lecture 3 hours per week. Prerequisites are CSC 110. Students will have the opportunity to earn the CIW Internet Business Associate and CIW Network Technology Associate certifications.

ITN 106 Microcomputer Operating Systems (4 credits) Teaches use of operating system utilities and multiple-level directory structures, creation of batch files, and configuration of microcomputer environments. May include a study of graphical user interfaces. Lecture 4 hours per week. Maps to CompTIA A+ Certification. Prerequisites: CSC 110.

ITN 107 Personal Computer Hardware and Troubleshooting (4 credits) Includes specially designed instruction to give students a basic knowledge of hardware and software configurations. It includes the installation of various peripheral devices as well as basic system hardware components. Lecture 4 hours per week. Maps to CompTIA A+ Certification. Prerequisites: CSC 110 and ITN 106.

ITN 111 Server Administration –Windows 2012 (4 credits) Covers basic instruction in various network protocols, name resolution services, remote access, security, and print installation, configuration, administration, monitoring, and troubleshooting of Server Administration software Windows 2008 in an Active Directory domain environment. Lecture 4 hours per week. Prerequisites: ITN 101

ITN 260 Network Security Basics (4 credits) Provides instruction in the basics of network security in depth. Course content includes security objectives, security architecture, security models and security layers. Course content also includes risk management, network security policy, and security training. Course content includes security keys, confidentiality integrity, availability, accountability and auditability. Lecture 4 hours per week. Maps to CompTIA Security+ certification. Prerequisites: CSC 110, CSC 200, ITN 101, and ITN 261.

ITN 261 Network Attacks, Computer Crime and Hacking (4 credits) Encompasses in-depth exploration of various methods for attacking and defending a network. Explores network security concepts from the viewpoint hackers and their attack methodologies. Includes topics about hackers, attacks, Intrusion Detection Systems (IDS) malicious code, computer crime and industrial espionage. Lecture 4 hours per week. Prerequisites: ITN 101

ITP – Information Technology Programming

ITP 100 Software Design (3 credits) Introduces principles and practices of software development. Includes instruction in critical thinking, problem solving skills, and essential programming logic in structured and object-oriented design using contemporary tools. Lecture 3 hours per week.

ITP 112 Visual Basic.NET I (4 credits) Concentrates instruction in fundamentals of object-oriented programming using Visual Basic.NET and the .NET framework. Course content emphasizes program construction, algorithm development, coding, debugging, and documentation of graphical user interface applications. Lecture 4 hours per week. Prerequisites are CSC 110 and CSC 200.

ITP 134 Visual C++ Programming I (4 credits) Provides instruction in fundamentals of object-oriented programming and design using C++ for GUI applications. Emphasizes software design and construction using the concepts of foundation classes. Lecture 4 hours per week. Prerequisites are CSC 110 and CSC 200. NOTE: Students will not receive credit if they have previously taken EGR 126.

ITP 160 Introduction to Game Design and Development (3 credits) Introduces object-oriented game design and development. Provides overview of the electronic game design and development process and underlines the historical contest, content creation strategies, game careers, and future trends in the industry. Utilizes a game language environment to introduce game design, object-oriented paradigms, software design, software development and product testing. Teaches skills of writing a game design document and creating a game with several levels and objects. Integrate 2D animations, 3D models, sound effects, and background music as well as graphic backgrounds. Lecture 3 hours per week.

ITP 165 Gaming and Simulation (3 credits) Introduces students to the concepts and applications of gaming and simulation through the use of gaming and simulation tools,

as well as through basic programming skills. Lecture 3 hours. Total 3 hours per week.

ITP 240 Server Side Programming (4 credits) Centers around instruction in fundamentals of Internet application design, development, and deployment. Includes implementation of server component models, security, and database connectivity using server-side programming. Lecture 4 hours per week. Students will not receive credit if they have previously taken ITP 244. Prerequisites are ITD 110, ITD 130, and a programming language such as Java, Visual Basic or C++.

ITP 251 Systems Analysis and Design (3 credits) Focuses on application of information technologies (IT) to system life cycle methodology, systems analysis, systems design, and system implementation practices. Methodologies related to identification of information requirements, feasibility in the areas of economic, technical and social requirements, and related issues are included in course content. Software applications may be used to enhance student skills. Prerequisites are CSC 110, CSC 200 and a programming language. Lecture 3 hours per week. NOTE: This course is intended for the last semester of coursework.

ITP 290 Coordinated Internship in Information Technology (3 credits) Supervises on-the-job training in selected business, industrial or service firms coordinated by the college. Credit/practice ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours per week. This course is intended for the last semester of coursework.

ITP 297 Cooperative Internship in Information Technology (3 credits) Supervised on-the-job training for pay in approved business, industrial and service firms coordinated by the division dean. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours. This course is intended for the last semester of coursework.

JPN – Japanese

JPN 101 Beginning Japanese I (5 credits) Develops the understanding, speaking, reading, and writing of Japanese, and emphasizes the structure of the language. Part I of II. Lecture 4-5 hours per week. May include one additional hour of oral practice per week.

JPN 102 Beginning Japanese II (4 credits) Develops the understanding, speaking, reading, and writing of Japanese, and emphasizes the structure of the language. Part II of II. Lecture 4-5 hours per week. May include one additional hour of oral practice per week.

JPN 201-202 Intermediate Japanese I-II (3 credits) (3 credits) Continues the development of the skills of understanding, speaking, reading, and writing of Japanese. Classes conducted in Japanese. Prerequisite JPN 102. Part I of II. Lecture 3-4 hours per week. May include one additional hour of oral practice per week.

LBR – Library Technology

LBR 105 Library Skills for Research (1 credit) Introduces students to library skills and resources. Employs a laboratory approach to develop skills in the use of library materials. Presents general information about library procedures, specific methods for utilizing varied reference materials, including dictionaries, indexes, special subject area tools, on-line information retrieval, classification systems, and the card catalog. Introduces general topics in research paper preparation. Lecture 1 hour. Laboratory 1 hour. Total 2 hours per week.

LGL – Legal Administration

LGL 110 Introduction to Law and the Legal Assistant (3 credits) Introduces various areas of law in which a legal assistant will be working. Includes intense study of court system (Virginia and federal) as well as a brief overview of criminal law, torts, domestic relations, evidence, ethics, the role of the legal assistant and other areas of interest. Lecture 3 hours per week.

LGL 115 Real Estate Law for Legal Assistants (3 credits) Studies law of real property, and gives in-depth survey of more common types of real estate transactions and conveyances such as deeds, contracts, leases, and deeds of trust. Focuses on drafting problems involving these various instruments and studies the system of recording and search of public documents. Lecture 3 hours per week.

LGL 117 Family Law (3 credits) Studies elements of a valid marriage, grounds for divorce and annulment, separation, defenses, custody, support, adoptions, and applicable tax consequences. Includes property settlement, pre-and ante-nuptial agreements, pleadings, and rules of procedure. May include specific federal and Virginia consumer laws. Lecture 3 hours per week.

LGL 127 Legal Research and Writing (3 credits) Provides a basic understanding of legal research and the proper preparation of legal documents, including brief writing. Prerequisite ENG 111 or permission of division. Lecture 3 hours per week.

LGL 130 Law Office Administration and Management (3 credits) Introduces management principles and systems applicable to law firms, including record keeping, disbursements, escrow accounts, billing, and purchasing. Studies accounting methods applicable to the law firms. Lecture 3 hours per week.

LGL 215 Torts (3 credits) Studies fundamental principles of the law of torts. May include preparation and use of pleadings and other documents involved in the trial of a civil action. Emphasizes personal injury, products liability, and malpractice cases. Lecture 3 hours per week.

LGL 216 Trial Preparation and Discovery Practice (3 credits) Studies the preparation of a trial notebook, pretrial orders, use of interrogatories, depositions and other discovery tools used in assembling evidence in preparation for trial or an administrative hearing. Lecture 3 hours per week.

LGL 218 Criminal Law (3 credits) Focuses on major crimes: their classification, elements of proof, intent, conspiracy, responsibility, parties, and defenses. Emphasizes Virginia law. Gives general principles of applicable constitutional law and criminal procedure. Lecture 3 hours per week.

LGL 225 Estate Planning and Probate (3 credits) Introduces various devices used to plan an estate, including wills, trust, joint ownership and insurance. Considers various plans in light of family situations and estate objectives. Focuses on practices involving administration of an estate including taxes and preparation of forms. Lecture 3 hours per week.

LGL 228 Real Estate Settlement Practicum (3 credits) Focuses on methods and practices in administrative area of real estate closings, back title information, preliminary report from attorney's title notes, lender's requirements, payoffs, HUD-1 settlement statement, real estate taxes, interest, escrow, disbursement and release of liens of record. Lecture 3 hours per week.

LGL 235 Legal Aspects of Business Organizations (3 credits) Studies fundamental principles of agency law and the formation of business organizations. Includes sole proprietorships, partnerships, corporation, limited liability companies, and other business entities. Reviews preparation of the documents necessary for the organization and operation of businesses. Lecture 3 hours per week.

LGL 290 Coordinated Internship (3 credits) Supervised on-the-job training in selected law firms or law related firms/agencies coordinated by the college. Credit/practice ratio maximum 1:5 hours.

LGL 297 Cooperative Education (1-5 credits) Supervised in on-the-job training for compensation in an approved law firm or legal establishment, which is coordinated by the Business and Technologies division chair. Is applicable to all occupational-technical curricula at the discretion of the college. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

LGL 299 Supervised Study in Legal Administration (1-5 credits) Assigns problems for independent study incorporating previous instruction and supervised by the instructor. May be repeated for credit. Variable hours.

MAC – Machine Technology

MAC 106 Machine Shop Operations (8 credits) Introduces bench work, sawing, drilling, lathe, milling, grinding, and precision instruments, and safety. Requires solutions of related problems and preparation of weekly laboratory reports. Lecture 3 hours. Laboratory 15 hours. Total 18 hours per week.

MAC 107 Technology of Machining (8 credits) Offer practice in bench work, sawing, drilling, lathe, milling, grinding, and precision measuring instruments. May require solutions of related problems and preparation of weekly laboratory reports. Lecture 3 hours. Laboratory 15 hours. Total 18 hours per week.

MAC 121-122 Computer Numerical Control I-II (3 credits) (3 credits) Focuses on numerical control techniques in metal forming and machine processes. Includes theory and practice in lathe and milling machine computer numerical control program writing, setup and operation. Lecture 2hours. Laboratory 3hours. Total 5 hours per week.

MAC 127 Advanced CNC Programming (3 credits) Provides in-depth study of programming computerized numerical control machines. Lecture 3 hours per week. Total 3 hours per week.

MAC 131-132 Machine Lab I-II (2 credits) (2 credits) Teaches fundamental machine shop operations, bench work, layout, measuring tools, and safety. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

MAC 181-182 Machine Blueprint Reading I-II (3 credits) (3 credits) Introduces reading and interpreting blueprints and working drawings. Applies visualization of objects, sketching, and machine terminology. Lecture 3 hours per week.

MAC 215 Machining Techniques (8 credits) Teaching milling lathe operations, precision grinding, production tooling, and machine tool attachments. Lecture 3 hours. Laboratory 15 hours. Total 18 hours per week.

MAC 217 Precision Machining Techniques (8 credits) Teaches precision layout, machining techniques, high precision grinding, measuring tool calibration, and inspection procedures. Lecture 3 hours. Laboratory 15 hours. Total 18 hours per week.

MAC 250 Advanced Computer Aided Manufacturing (3 credits) Focuses on advanced computer aided manufacturing with emphasis on CAD-CAM interfacing, advanced 3-D, and advanced turning. Introduces quality control inspection using coordinate measuring systems, statistical process controls and digitizers. Teaches basic and advanced fabrication programming and flexible manufacturing systems. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

MEC – Mechanical Engineering Technology

MEC 122 Desktop Manufacturing Technologies (3 credits) Provides an overview of rapid technologies in Additive Manufacturing that are high productivity tools designed to cut lead times, reduce time to market, increase the quality of the product, and improve collaboration within the organization. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

MEC 155 Mechanisms (2 credits) Studies the purpose and actions of cams, gear trains, levers, and other mechanical devices used to transmit control. Focuses on motions, linkages, velocities, and acceleration of points within a link mechanism; layout method for designing cams and gear grain. Requires preparation of weekly laboratory reports. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week.

MEC 298 Seminar and Project (1-5 credits) Requires completion of a project or research report related to the student's occupational objective and a study of approaches to the selection and pursuit of career opportunities in the field. This course follows the completion of the 1st semester of the Advanced Manufacturing Curriculum and is taken in conjunction with the 2nd semester of Advanced Manufacturing. Students should contact the program head prior to registration. May be repeated for credit. Variable hours per week.

MKT – Marketing

MKT 100 Principles of Marketing (3 credits) Presents principles, methods, and problems involved in the marketing of goods, services, and ideas to consumers and organizational buyers. Discusses present-day problems and policies connected with distribution and sale of products, pricing, promotion, and buyer motivation. Examines variations of the marketing mix and market research, plus legal, social, ethical, and international considerations in marketing. Lecture 3 hours per week.

MKT 110 Principles of Selling (3 credits) Presents fundamental aspects of personal selling, sales, and selling methods. Emphasizes professional sales techniques and ethics. Examines organization necessary for a well-coordinated sales effort, including the training of sales personnel for maximum efficiency in selling and organization of the sales division within the business enterprise. Introduces sales management in planning, organizing, directing, and controlling the total sales effort. This course is only offered in the fall semester. Lecture 3 hours per week.

MKT 120 Fundamentals of Fashion (3 credits) Develops an understanding of the principles and procedures involved in the production, distribution, and consumption of fashion merchandise. Traces the history and development of fashion and how these changes affect the fashion merchandising world. Lecture 3 hours per week. *Dual Enrollment course only.*

MKT 209 Sports, Entertainment, and Recreation Marketing (3 credits) Builds on the principles of marketing to introduce the more specific importance and specialization of Sports, Entertainment and Recreation (SER) marketing. Emphasizes the SER industries as they relate to the economics, business structure, product development, branding, pricing strategies, distribution strategies, integrated communications, ethics, and research. Lecture 3 hours per week. *Dual Enrollment course only.*

MKT 228 Promotion (3 credits) Presents an overview of promotion activities including advertising, visual merchandising, publicity and sales promotion. Focuses on coordinating these activities into an effective campaign to promote sales for a particular product, business, institution or industry. Emphasizes budgets, selecting media, and analyzing the effectiveness of the campaign. Lecture 3 hours per week. Students are strongly encouraged to complete MKT 100 prior to enrolling in this course.

MKT 282 Principles of E-Commerce (3 credits) Studies on-line business strategies, and the hardware and software tools necessary for Internet commerce. Includes the identification of appropriate target segments, the development of product opportunities, pricing structures, distribution channels and execution of marketing strategies. Lecture 3 hours per week. *Dual Enrollment course only.*

MKT 285 Current Issues in Marketing (3 credits) Serves as a capstone course for marketing majors. Provides an integrated perspective of current issues and practices in marketing. Explores contemporary issues and practices in a highly participatory classroom environment. This course is only offered in the spring semester. Lecture 3 hours per week. Students are strongly encouraged to complete MKT 100, MKT 110, MKT 228, MKT 229, MKT 275 and MKT 282 prior to enrolling in this course.

MKT 290 Coordinated Internship in Marketing (1-5 credits) On-the-job training in selected business, industrial or service firms coordinated by the college. Credit/ Practice ratio maximum 1:5 hours. May be repeated for credit. Variable hours.

MKT 297 Cooperative Education in Marketing (1-5 credits) On-the-job training for pay in approved business, industrial, and service firms coordinated by the Business and Technologies division chair. Is applicable to all occupational-technical curricula at the discretion of the college. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

MTH – Mathematics

MTH 7 Developmental Trigonometry (1-5 credits) Covers topics including right triangles, oblique triangles, ident applications. Develops the mathematical proficiency necessary for curriculum entrance. Credits not applicable toward graduation. Placement recommendation for MTH 07 and Algebra I and Algebra II equivalent. Variable hours per week.

MTH 101 Basic Technical Mathematics (4 credits) Presents arithmetic, elements of algebra, geometry, and trigonometry. Directs applications specialty areas. Prerequisites: one unit of high school mathematics or equivalent. Lecture 4 hours per week.

MTH 103 Applied Technical Mathematics (3 credits) Provides a foundation in mathematics with emphasis in arithmetic, algebra, and geometry. Directs applications to specialty areas. Prerequisite: one unit of high school mathematics or equivalent. Lecture 3 hours per week.

MTH 115 Technical Mathematics I (3 credits) Presents algebra through exponential and logarithmic functions, trigonometry, vectors, analytic geometry, and complex numbers. Prerequisites: a placement recommendation for MTH 115 and Algebra I and Geometry, or Algebra I and Algebra II, or equivalent. Lecture 3 hours per week.

MTH 120 Introduction to Mathematics (3 credits) Introduces number systems, logic, basic algebra, and descriptive statistics. Prerequisites: a placement recommendation for MTH 120 and one unit of high school mathematics or equivalent. (Intended for occupational/ technical programs.) Lecture 3 hours per week.

MTH 141 Business Mathematics I (3 credits) Provides instruction, review, and drill in percentage, cash and trade discounts, mark-up, payroll, sales, property and other taxes, simple and compound interest, bank discounts, loans, investments, and annuities. Prerequisites: a placement recommendation for MTH 141 and one unit of high school mathematics or equivalent. Lecture 3 hours per week.

MTH 151 Mathematics for the Liberal Arts I (3 credits) Presents topics in sets, logic, numeration systems, geometric systems, and elementary computer concepts. Prerequisites: a placement recommendation for MTH 151 and Algebra I, Algebra II, and Geometry, or equivalent. Lecture 3 hours per week.

MTH 152 Mathematics for the Liberal Arts II (3 credits) Presents topics in functions, combinatorics, probability, statistics, and algebraic systems. Prerequisites: a placement recommendation for MTH 152 and Algebra I, Algebra II, and Geometry, or equivalent. MTH 151 is not a prerequisite for MTH 152. Lecture 3 hours per week.

MTH 157 Elementary Statistics (3 credits) Presents elementary statistical methods and concepts including descriptive statistics, estimation, hypothesis testing, linear regression, and categorical data analysis. (Credit will not be awarded for both MTH 157 and MTH 241.) Prerequisites: Algebra I, Algebra II and Geometry and a placement recommendation for MTH 157. Lecture 3 hours per week.

MTH 158 College Algebra (3 credits) Covers the structure of complex number systems, polynomials, rational expressions, graphing, systems of equations and inequalities and functions, quadratic and rational equations and inequalities. Lecture 3 hours per week.

MTH 163 Precalculus I (3 credits) Presents college algebra, matrices, and algebraic, exponential, and logarithmic functions. Prerequisites: a placement recommendation for MTH 163 and Algebra I, Algebra II, and Geometry, or equivalent. Contact 3 hours per week.

MTH 164 Precalculus II (3 credits) Presents trigonometry, analytic geometry, and sequences and series. Prerequisite: MTH 163 or equivalent. Lecture 3 hours per week. *Dual Enrollment course only.*

MTH 166 Precalculus with Trigonometry (5 credits) Presents college algebra, analytic geometry, trigonometry, and algebraic exponential, and logarithmic functions. Prerequisite: a placement recommendation for MTH 166 and Algebra I, Algebra II, and Geometry or equivalent. (Credit will not be awarded for both MTH 163 and MTH 166.) Lecture 5 hours per week.

MTH 169 Introduction to Cryptography (3 credits) Introduces students to cryptography, the science of secret message writing. Uses mathematical concepts to execute historical and modern cryptographical algorithms. Prerequisite: MTH 163, Pre-Calculus. Lecture 3 hours per week. *Dual Enrollment course only.*

MTH 173 Calculus with Analytic Geometry I (4 credits) Presents analytic geometry and the calculus of algebraic and transcendental functions including the study of limits, derivatives, differentials, and introduction to integration along with their applications. Designed for mathematical, physical and engineering science programs. Prerequisites: MTH 166 or a placement recommendation and four units of high school mathematics including Algebra I, Algebra II, Geometry and Trigonometry or equivalent. (Credit will not be awarded for more than one of MTH 173, MTH 175, or MTH 273.) Lecture 4-5 hours per week.

MTH 174 Calculus with Analytic Geometry II (4 credits) Continues the study of analytic geometry and the calculus of algebraic and transcendental functions including rectangular, polar, and parametric graphing, indefinite and definite integrals, methods of integration, and power series along with applications. Designed for mathematical, physical, and engineering science programs. Prerequisite:

MTH 173 or equivalent. (Credit will not be awarded for more than one of MTH 174, MTH 176 or MTH 274.) Lecture 4-5 hours per week.

MTH 177 Introductory Linear Algebra (2 credits) Covers matrices, vector spaces, determinants, solutions of systems of linear equations, and eigen values. Designed for mathematical, physical and engineering science programs. Co-requisite: MTH 175. Lecture 2 hours per week.

MTH 181 Finite Mathematics I (3 credits) Introduces set theory, systems of linear equations, matrices, linear programming, probability, and game theory. Prerequisites: a placement recommendation for MTH 181 and Algebra I, Algebra II, and Geometry or equivalent. Lecture 3 hours per week. *Dual Enrollment course only.*

MTH 182 Finite Mathematics II (3 credits) Introduces logic, counting techniques, probability and statistics, and mathematics of finance. Prerequisite: MTH 181 or equivalent. Lecture 3 hours per week. *Dual Enrollment course only.*

MTH 240 Statistics (3 credits) Presents an overview of statistics, including descriptive statistics, elementary probability, probability distributions, estimation, hypothesis testing, and correlation and regression. Prerequisites: a placement recommendation for MTH 240 and successful completion of MTH 158, MTH 163, MTH 166, or equivalent. Lecture 3 hours per week.

MTH 241 Statistics I (3 credits) Covers descriptive statistics, elementary probability, probability distributions, estimation, and hypothesis testing. Prerequisites: Proficiency in using EXCEL, a placement recommendation for MTH 241 and MTH 163 or MTH 166 or equivalent. Lecture 3 hours per week.

MTH 242 Statistics II (3 credits) Continues the study of estimation and hypothesis testing with emphasis on correlation and regression, analysis of variance, chi-square tests, and non-parametric methods. Prerequisite: MTH 241 or equivalent and proficiency in using EXCEL. Lecture 3 hours per week.

MTH 271 Applied Calculus I (3 credits) Presents matrices, limits, continuity, differentiation of algebraic and transcendental functions with applications, and an introduction to integration. Prerequisite: a placement for MTH 271 or MTH 163 or equivalent. Lecture 3 hours per week.

MTH 272 Applied Calculus II (3 credits) Covers techniques of integration, multivariable calculus, and an introduction to differential equations. Prerequisite: MTH 271 or equivalent. Lecture 3 hours per week.

MTH 277 Vector Calculus (4 credits) Presents vector valued functions, partial derivatives, multiple integrals, and topics from the calculus of vectors. Designed for mathematical, physical, and engineering science programs. Prerequisite: MTH 174 or equivalent. (Equivalent of MTH 174 is the combination of MTH 175, 176, 177 and 178.) Lecture 4 hours per week.

MTH 279 Ordinary Differential Equations (4 credits) Introduces ordinary differential equations. Includes first order differential equations, second and higher order ordinary differential equations with application. Designed for mathematical, physical, and engineering science programs. Prerequisite: MTH 174 or equivalent. (Equivalent for MTH 174 is the combination of MTH 175, 176, 177 and 178.) Lecture 4 hours per week.

MTH 285 Linear Algebra (3 credits) Covers matrices, vector spaces, determinants, solutions of systems of linear equations, basis and dimension, Eigen values, and Eigen vectors. Designed for mathematical, physical and engineering science programs. Prerequisite: MTH 174 or equivalent. Lecture 3 hours per week.

MTH 286 Discrete Mathematics (4 credits) Presents topics in discrete mathematical structures which are basic tools used in computer science. Covers sets, Boolean algebra, counting methods, generating functions and recurrence relations, graph theory, trees, and an introduction to finite state automata. Designed for mathematical, physical, and engineering science programs. Prerequisite: MTH 174 or equivalent. (Equivalent for MTH 174 is the combination of MTH 175, 176, 177 and 178.) Lecture 4 hours per week.

MTT – Mathematics-Developmental

MTT 1 - MTT4 Developmental Mathematics (Technology-Based) (1-4 credits) Covers mathematics topics in a technology-based setting to prepare students for the study of college level mathematics courses and curricula. Designed for the study of one developmental math unit prescribed by the student's placement test results. Credits not applicable toward graduation. Prerequisite: Placement scores requiring the student to complete one developmental math unit. Lecture 1-4 hours.

MTE- Mathematics Essentials Units

UNIT 1 Operations with Positive Fractions (1 credit) Includes operations and problem solving with proper fractions, improper fractions, and mixed numbers without the use of a calculator. Emphasizes applications and includes U. S. customary units of measure. Credit is not applicable toward graduation. Lecture 1 hour per week. Prerequisite: Qualifying placement score.

UNIT 2 Operations with Positive Decimals and Percents (1 credit) Includes operations and problem solving with positive decimals and percents. Emphasizes applications and includes U. S. customary and metric units of measure. Credit is not applicable toward graduation. Prerequisite(s): MTE 1 or qualifying placement score. Lecture 1 hour per

week. Prerequisite: MTE 1 or qualifying placement score.

UNIT 3 Algebra Basics (1 credit) Includes basic operations with algebraic expressions and solving simple algebraic equations using signed numbers with emphasis on applications. Credit is not applicable toward graduation. Lecture 1 hour per week. Prerequisite: MTE 2 or qualifying placement score.

UNIT 4 First Degree Equations and Inequalities in One Variable (1 credit) Includes solving first degree equations and inequalities containing one variable, and using them to solve application problems. Emphasizes applications and problem solving. Credit is not applicable toward graduation. Lecture 1 hour per week. Prerequisite(s): MTE 3 or qualifying placement score.

UNIT 5 Linear Equations, Inequalities and Systems of Linear Equations in Two Variables (1 credit) Includes finding the equation of a line, graphing linear equations and inequalities in two variables and solving systems of two linear equations. Emphasizes writing and graphing equations using the slope of the line and points on the line, and applications. Credit is not applicable toward graduation. Lecture 1 hour per week. Prerequisite(s): MTE 4 or qualifying placement score.

UNIT 6 Exponents, Factoring and Polynomial Equations (1 credit) The student will learn to perform operations on exponential expressions and polynomials. Students will also learn techniques to factor polynomials and use these techniques to solve polynomial equations. Emphasis should be on learning all the different factoring methods, and solving application problems using polynomial equations. Credit is not applicable toward graduation. Lecture 1 hour per week. Prerequisite(s): MTE 5 or qualifying placement score.

UNIT 7 Rational Expressions and Equations (1 credit) Includes simplifying rational algebraic expressions, solving rational algebraic equations and solving applications that use rational algebraic equations. Credit is not applicable toward graduation. Lecture 1 hour per week. Prerequisite(s): MTE 6 or qualifying placement score.

UNIT 8 Rational Exponents and Radicals (1 credit) Includes simplifying radical expressions, using rational exponents, solving radical equations and solving applications using radical equations. Credit is not applicable toward graduation. Lecture 1 hour per week. Prerequisite(s): MTE 7 or qualifying placement score.

UNIT 9 Functions, Quadratic Equations and Parabolas (1 credit) Includes an introduction to functions in ordered pair, graph, and equation form. Also introduces quadratic functions, their properties and their graphs. Credit is not applicable toward graduation. Lecture 1 hour per week. Prerequisite(s): MTE 8 or qualifying placement score.

MUS – Music

MUS 08 Fundamentals of Music (3 credits) Teaches the beginner to read, write, and understand the symbols of music notation. Introduces both pitch and rhythmic notation symbols. Combines listening and visual exercises in order to develop performance skills and proficiency in the language of music. Re-registration permitted until course objectives are completed. Lecture 3 hours per week.

MUS 121-122 Music Appreciation I-II (3 credits) (3 credits) Increases the variety and depth of the student's interest, knowledge, and involvement in music and related cultural activities. Acquaints the student with traditional twentieth century music literature, emphasizing the relationship music has as an art form with man and society. Increases the student's awareness of the composers and performers of all eras through listening and concert experiences. Lecture 3 hours per week.

MUS 221-222 History of Music I-II (3 credits) (3 credits) Presents the chronology of musical styles from antiquity to the present time. Relates the historical development of music to parallel movements in art, drama, and literature. Develops techniques for listening analytically and critically to music. Lecture 3 hours per week.

MUS 225 The History of Jazz (3 credits) Studies the underlying elements of jazz, concentrating on its cultural and historical development from earliest stages to the present. No previous knowledge of music is required. Lecture 3 hours per week.

NAS – Natural Science

NAS 125 Meteorology (4 credits) Presents a non-technical survey of fundamentals meteorology. Focuses on the effects of weather and climate on humans and their activities. Serves for endorsement or recertification of earth science teachers. Lecture 3 hours per week. Recitation and laboratory 2 hours per week. Total 5 hours per week.

NUR – Nursing

NUR 27 Nurse Aide I (5 credits) Teaches care of older patients with emphasis on the social, emotional, and spiritual needs of geriatric patients; procedures; communication and interpersonal relations; observation, charting and reporting; safety and infection control; anatomy and physiology; personal care, nutrition and patient feeding; death and dying. May include laboratory or clinical hours. Lecture 3 hours. Laboratory 6 hours. Total 9 hours per week.

NUR 104 Fundamentals of Nursing (6 credits) Introduces nursing principles including concepts of health and wellness in the framework of the nursing process. Includes assessment methods and techniques, self-care deficits, communication processes; common stressors related to

fluids and electrolytes, oxygenation and diagnostic testing. Also includes basic computer instruction related to the delivery of nursing care. Pre- or co-requisites: BIO 141, PSY 230; Co-requisites: NUR 105, NUR 135, HLT 105. Lecture 6 hours per week.

NUR 105 Nursing Skills (2 credits) Develops nursing skills for the basic needs of individuals and introduces related theory. Includes assessment, personal care, activity/rest, sterile technique, wound care, ostomy care, catheterization, oxygen administration, infection control, suctioning, and medication administration. Provides supervised learning experiences in college nursing laboratories and/or cooperating agencies. Pre- or co-requisites: BIO 141, PSY 230; Co-requisites: NUR 104, NUR 135, HLT 105. Laboratory 6 hours per week. Total 6 hours per week.

NUR 135 Drug Dosage Calculations (1 credit) Focuses on apothecary, metric, household conversion in medication dosage calculation for adult and pediatric clients. Provides a practical approach to learning to calculate and prepare medications and solutions. Includes calculating intravenous flow rates. Pre- or co-requisites: BIO 141, PSY 230; Corequisites: NUR 104, NUR 105, HLT 105. Lecture 1 hour per week.

NUR 180 Essentials of Maternal/Newborn Nursing (3 credits) Utilizes the concepts of the nursing process in caring for families in the antepartum, intrapartum, and postpartum periods. Includes math computational skills and basic computer instruction related to the delivery of nursing care. Provides supervised learning experiences in college nursing laboratories and/or cooperating agencies. Prerequisites: NUR 104, NUR 105, NUR 135, HLT 105, PSY 230, BIO 141. Pre- or co-requisites: BIO 142, NUR 201, NUR 226. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

NUR 201 Psychiatric Nursing (4 credits) Focuses on the care of individuals/families requiring clinical treatment. Uses all components of the nursing process with increasing degrees of skill. Includes math computational skills and basic computer instruction related to the delivery of nursing care, alterations in behavior, eating disorders, mood disorders, anxiety, chemical dependency and dementias. Provides supervised learning experiences in college nursing laboratories and/or cooperating agencies. Prerequisites: NUR 104, NUR 105, NUR 135, HLT 105, PSY 230, BIO 141. Pre- or co-requisites: BIO 142, NUR 180, NUR 226. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

NUR 221 Second Level Nursing Principles and Concepts I (9 credits) Focuses on nursing care of individuals, families, and/or groups with multidimensional needs in a variety of settings. Uses all components of the nursing process with increasing degrees of skill. Includes math computational skills, basic computer instruction related to the delivery of nursing care and nursing care related to infectious, immunological, oncological, hematological, gastrointestinal, vascular, sensory, genitourinary, musculoskeletal, regulatory, endocrine, and women's health disorders and pre/intra/post-operative care. Provides supervised learning experiences in college nursing laboratories and/or cooperating agencies. Prerequisites: NUR 104, NUR 105, NUR 135, NUR 180, NUR 201, NUR 226, BIO 141, BIO 142, HLT 105, PSY 230. Co-requisite: NUR 236. Lecture 5 hours. Laboratory 12 hours. Total 17 hours per week.

NUR 222 Second Level Nursing Principles and Concepts II (9 credits) Focuses on nursing care of individuals, families, and/or groups with multidimensional needs in a variety of settings. Uses all components of the nursing process with increasing degrees of skill. Includes math computation skills, basic computer instruction related to the delivery of nursing care and nursing care related to cardiac, respiratory, neurological disorders; emergency care, and leadership principles. Provides supervised learning experiences in college nursing laboratories and/ or cooperating agencies. Prerequisites: NUR 104, NUR 105, NUR 135, NUR 180, NUR 201, NUR 221, NUR 226, NUR 236, BIO 141, BIO 142, HLT 105, PSY 230. Co-requisite: NUR 237, NUR 255. Lecture 5 hours. Laboratory 12 hours. Total 17 hours per week.

NUR 226 Health Assessment (3 credits) Introduces the systematic approach to obtaining a health history and performing a physical assessment. Prerequisites: NUR 104, NUR 105, NUR 135, HLT 105, PSY 230, BIO 141. Pre- or co-requisites: BIO 142, NUR 180, NUR 201. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

NUR 236 Principles of Pharmacology III (2 credits) Teaches principles of medication and administration which include dosage calculations, major drug classifications, drug legislation, legal aspects of medication administration, and drug action on specific body systems. Part I of II. Prerequisites: NUR 104, NUR 105, NUR 135, NUR 180, NUR 201, NUR 226, BIO 141, BIO 142, HLT 105, PSY 230. Co-requisite: NUR 221. Lecture 2 hours per week.

NUR 237 Principles of Pharmacology IV (2 credits) Teaches principles of medication and administration which include dosage calculations, major drug classifications, drug legislation, legal aspects of medication administration, and drug action on specific body systems. Part II of II. Prerequisites: NUR 104, NUR 105, NUR 135, NUR 180, NUR 201, NUR 221, NUR 226, NUR 236, BIO 141, BIO 142, HLT 105, PSY 230. Co-requisite: NUR 222, NUR 255. Lecture 2 hours per week.

NUR 255 Nursing Organization and Management (3 credits) Addresses management and organizational skills as they relate to nursing. Emphasizes group dynamics, resolution of conflicts, and leadership styles. Prerequisites: NUR 104, NUR 105, NUR 135, NUR 180, NUR 201, NUR

221, NUR 226, NUR 236, BIO 141, BIO 142, HLT 105, PSY 230. Co-requisite: NUR 222, NUR 237. Lecture 3 hours per week.

NUR 266 Introduction to Basic Dysrhythmia Interpretation (2 credits) Teaches the systematic interpretation of dysrhythmias. Prerequisites: NUR 221, BIO 141, BIO 142. Co-requisites: NUR 222. Or may enroll with permission of nursing program director and documented knowledge of anatomy and physiology relevant to the cardiac cycle. Lecture 2 hours per week.

PED – Physical Education and Recreation

PED 109 Yoga (1 credit) Focuses on the forms of yoga training emphasizing flexibility. Lecture 0-1 hours. Laboratory 2-4 hours. Total 2-4 hours per week.

PED 111-112 Weight Training I-II (1 credit) (1 credit) Focuses on muscular strength and endurance training through individualized workout programs. Teaches appropriate use of weight training equipment. Part I of II. Lecture 0 hours. Laboratory 2 hours. Total 2 hours per week.

PED 116 Lifetime Fitness and Wellness (2 credits) Provides a study of fitness and wellness and their relationship to a healthy lifestyle. Defines fitness and wellness, evaluates the student's level of fitness and wellness, and motivates the student to incorporate physical fitness and wellness into daily living. A personal fitness/wellness plan is required for the 2-credit course. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

PED 118 Baseball Fundamentals I (1 credit) Enhances the mental and physical ability of students for playing the sport of baseball. Introduces skills of weight training, flexibility, fielding, throwing, hitting, pitching, and position play. Explains the history of the sport and provides students an understanding of and respect for the game and its role in society. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week.

PED 119 Baseball Fundamentals II (1 credit) Continues to enhance the mental and physical ability of students for playing the sport of baseball. Continues to teach the skills necessary to play the sport. Provides students with the opportunity to evaluate, train, and coach players in order to enhance others' playing abilities. Provides an understanding of the multiple processes involved in forming a baseball team. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week.

PED 120 Yoga II (1 credit) Focuses on the forms of yoga training emphasizing flexibility. Prerequisite: PED 109. Lecture 0-1 hours. Laboratory 2 hours. Total 2-3 hours per week.

PED 133-134 Golf I-II (1 credit) (1 credit) Teaches basic skills of golf, rules, etiquette, scoring, terminology, equipment selection and use, and strategy. Laboratory 2 hours per week.

PED 152 Basketball (1 credit) Introduces basketball skills, techniques, rules, and strategies. Laboratory 2 hours per week.

PED 173 Rock Climbing and Rappelling (2 credits) Presents techniques and skills of climbing and rappelling with emphasis on safety, equipment, skills in knot tying, terminology and physical conditioning. Lecture 1-2 hours. Laboratory 0-2 hours. Total 1-3 hours per week.

PED 187 Backpacking (2 credits) Focuses on the preparation for backpacking trip, equipment and clothing selection, personal and group safety, ecology, and physical conditioning. Includes field experience. Laboratory 4 hours per week.

PED 188 Freshwater Fishing (2 credits) Teaches freshwater fishing techniques including spinning, bait casting and fly casting. Presents selection and care of equipment, fish habits, conservation, and safety. Laboratory 4 hours. Total 4 hours per week.

PHI – Philosophy

PHI 100 Introduction to Philosophy (3 credits) Presents an introduction to philosophical problems and perspectives with emphasis on the systematic questioning of basic assumptions about meaning, knowledge, reality, and values. Lecture 3 hours per week.

PHT – Photography

PHT 101-102 Photography I-II (3 credits) (3 credits) Teaches principles of photography and fundamental camera techniques. Requires outside shooting and lab work. Lecture 1 hour. Laboratory 4 hours. Total 5 hours per week.

PHT 164 Introduction to Digital Photography (3 credits) Teaches the fundamentals of photography including camera function, composition, and image production as they apply to digital imagery. Lecture 1 hour. Laboratory 4 hours. Total 5 hours per week.

PHT 264 Digital Photography (3 credits) Teaches theory and practice of digital photography. Emphasizes use of digital cameras in studio and on location. Teaches advanced techniques of image editing. Provides training in digital image transmission from remote locations. Prerequisite: PHT 101. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

PHY – Physics

PHY 131-132 Applied Physics I-II (3 credits) (3 credits) Emphasizes application of topics such as statics, dynamics, mechanical properties of matter, fluid mechanics, heat, sound, optics, and atomic physics. Prerequisites high school algebra, geometry and trigonometry, or equivalent or divisional approval. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. Students are strongly encouraged to complete MTH 115 prior to enrolling in this course.

PHY 201-202 General College Physics I-II (4 credits) (4 credits) Teaches fundamental principles of physics. Covers mechanics, thermodynamics, wave phenomena, electricity and magnetism, and selected topics in modern physics. Prerequisite MTH 163 or equivalent. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

PHY 231-232 General University Physics I-II (5 credits) (5 credits) Teaches principles of classical and modern physics. Includes mechanics, wave phenomena, heat, electricity, magnetism, relativity, solid state, quantum physics, and nuclear physics. Includes extended coverage of selected topics. Prerequisites for PHY 231: MTH 173 or divisional approval. Prerequisite for PHY 232: MTH 174 and PHY 231 or divisional approval. Lecture 4 hours. Laboratory 2 hours. Total 6 hours per week.

PLS – Political Science

PLS 135 American National Politics (3 credits) Teaches political institutions and processes of the national government of the United States, focuses on the Congress, presidency, and the courts, and on their interrelationships. Gives attention to public opinion, suffrage, elections, political parties, interest groups, civil rights, domestic policy, and foreign relations. Lecture 3 hours per week.

PLS 136 State and Local Politics (3 credits) Teaches structure, powers and functions of state and local government in the United States. Lecture 3 hours per week.

PNE – Practical Nursing

PNE 145 Trends in Practical Nursing (1 credit) Studies the role of the Licensed Practical Nurse. Covers legal aspects, organizations, and opportunities in practical nursing. Designed to assist the student in preparation for employment. Prerequisites: PNE 162. Lecture 1 hour per week.

PNE 155 Body Structure and Function (3 credits) Studies the structure and function of the body. Student must be admitted into the Practical Nursing program. Lecture 4 hours per week.

PNE 158 Mental Health and Psychiatric Nursing (2 credits) Recognizes emotional needs of patients. Provides knowledge of the role that emotions play. Enables students to understand their own behavior as well as patient behavior. Prerequisites: PNE 162. Lecture 2 hours per week.

PNE 161 Nursing in Health Changes I (6 credits) Focuses on nursing situations and procedures necessary to assist individuals in meeting special needs related to human functions. Student must be admitted into the Practical Nursing program. Lecture 4 hours. Laboratory 6 hours. Total 10 hours per week.

PNE 162 Nursing in Health Changes II (11 credits) Continues the focus on nursing situations and procedures necessary to assist individuals in meeting special needs related to human functions. Prerequisites: PNE 155, PNE 161, PNE 173. Lecture 4 hours. Laboratory 21 hours. Total 25 hours per week.

PNE 163 Nursing in Health Changes III (8 credits) Continues the focus on nursing situations and procedures necessary to assist individuals in meeting special needs related to human functions. Prerequisites: PNE 162. Lecture 4 hours. Laboratory 12 hours. Total 16 hours per week.

PNE 173 Pharmacology for Nurses (2 credits) Studies history, classification, sources, effects, uses and legalities of drugs. Teaches problem solving skills used in medication administrations. Emphasizes major drug classes and specific agents within each class. Student must be admitted into the Practical Nursing program. Lecture 2 hours per week.

PNE 290 Coordinated Internship (2 credits) Supervises on-the-job training in selected business, industrial or service firms coordinated by the college. Credit/practice ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours. Prerequisites: PNE 155, PNE 161, PNE 162, PNE 173.

PSY – Psychology

PSY 116 Psychology of Death and Dying (3 credits) Focuses on psychological aspects of death and dying. Teaches the meaning of death and ways of handling its personal and social implications. Includes psychological, sociological, cultural, and religious views of death. Lecture 3 hours per week.

PSY 120 Human Relations (3 credits) Introduces the theory and practice of effective human relations. Increases understanding of self and others and interpersonal skills needed to be a competent and cooperative communicator. Lecture 3 hours per week.

PSY 126 Psychology for Business and Industry (3 credits) Focuses on the application of psychology to interpersonal relations and the working environment. Includes topics such as group dynamics, motivation, employee-employer relationship, interpersonal communications. May include

techniques for selection and supervision of personnel. Lecture 3 hours per week.

PSY 200 Principles of Psychology (3 credits) Surveys the basic concepts of psychology. Covers the scientific study of behavior, behavioral research methods and analysis, and theoretical interpretations. Includes topics such as: physiological mechanisms, sensation/perception, motivation, learning, personality, psychopathology, therapy, and social psychology. Lecture 3 hours per week.

PSY 215 Abnormal Psychology (3 credits) Explores historical views and current perspectives of abnormal behavior. Emphasizes major diagnostic categories and criteria, individual and social factors of maladaptive behavior, and types of therapy. Includes methods of clinical assessment and research strategies. Prerequisite PSY 200. Lecture 3 hours per week.

PSY 216 Social Psychology (3 credits) Examines individuals in social contexts, their social roles, group processes and intergroup relations. Includes topics such as small group behavior, social behavior, social cognition, conformity, attitudes, and motivation. Prerequisite PSY 200. Lecture 3 hours per week.

PSY 230 Developmental Psychology (3 credits) Studies the development of the individual from conception to death. Follows a life-span perspective on the development of the person's physical, cognitive, and psychosocial growth. Lecture 3 hours per week.

PSY 235 Child Psychology (3 credits) Studies development of the child from conception to adolescence. Investigates physical, intellectual, social and emotional factors involved in the child's growth. Lecture 3 hours per week.

PSY 245 Educational Psychology (3 credits) Explores human behavior and learning in the educational context. Investigates the nature of various mental characteristics such as intelligence, interest, and knowledge. Examines their measurement and appraisal and their significance for educational goals. Prerequisite PSY 200 or 235. Lecture 3 hours per week.

PSY 270 Psychology of Human Sexuality (3 credits) Focuses on scientific investigation of human sexuality and psychological and social implications of such research. Considers socio-cultural influences, the physiology and psychology of sexual response patterns, sexual dysfunctions, and development of relationships. Prerequisites: PSY 200, PSY 201 or PSY 202. Lecture 3 hours per week.

REA – Real Estate

REA 100 Principles of Real Estate (4 credits) Examines practical applications of real estate principles. Includes the study of titles, estates, land descriptions, contracts, legal instruments, financing, and management of real estate. Lecture 4 hours per week.

REA 216 Real Estate Appraisal (3 credits) Explores fundamentals of real estate valuation. Introduces the Uniform Standards of Professional Appraisal Practice and the Uniform Residential Appraisal Report formulations, working problems and reviewing actual appraisals. Includes the opportunities available in the appraisal field. Lecture 3-4 hours per week.

REL – Religion

REL 200 Survey of the Old Testament (3 credits) Surveys books of the Old Testament, with emphasis on prophetic historical books. Examines the historical and geographical setting and place of the Israelites in the ancient Middle East as background to the writings. Lecture 3 hours per week.

REL 210 Survey of the New Testament (3 credits) Surveys books of the New Testament, with special attention upon placing the writings within their historical and geographical setting. Lecture 3 hours per week.

REL 230 Religions of the World (3 credits) Introduces the religions of the world with attention to origin, history, and doctrine. Lecture 3 hours per week.

REL 246 Christianity (3 credits) Examines the origins and historical development of Christianity, its basic metaphysical and theological assumptions, its essential doctrines, and the present state of the church in the modern world. Lecture 3 hours per week.

RUS – Russian

RUS 101-102 Beginning Russian I-II (5 credits) (5 credits) Develops the understanding, speaking, reading, and writing of Russian, and emphasizes the structure of the language. May include oral drill and practice. Part I of II and Part II of II. Lecture 4-5 hours per week. May include one additional hour of oral practice per week.

RVH – Recreational Vehicle Motorcycle Maintenance

RVH 130 Motorcycle Rider Safety - Beginner (1- 2 credits) Studies principles and basic skills of motorcycle riding with an emphasis on safety. Includes street strategies, protective gear, and selection and care/maintenance of motorcycles. Lecture 1-2 hours. Laboratory 0-2 hours. Total 2-3 hours per week.

SAF – Safety

SAF 126 Principles of Industrial Safety (3 credits) Teaches principles and practices of accident prevention, analysis of accident causes, mechanical safeguards, fire prevention, housekeeping, occupational diseases, first aid, safety

organization, protection equipment and general safety principles and promotion. Lecture 3 hours per week.

SAF 199 Supervised Study (1-5 credits) Assigns problems for independent study incorporating previous instruction and supervised by the instructor. May be repeated for credit. Variable hours.

SCT – Science Technology

SCT 198 Seminar and Project (1-5 credits) Requires completion of a project or research report related to the student's occupational objectives and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours. 1-5 credits. *Dual Enrollment course only.*

SCT 298 Seminar and Project (1-5 credits) Requires completion of a project or research report related to the student's occupational objectives and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours. 1-5 credits. *Dual Enrollment course only.*

SDV – Student Development

SDV 100 College Success Skills (1 credit) Assists students in transition to colleges. Provides overviews of college policies, procedures, curricular offerings. Encourages contacts with other students and staff. Assists students toward college success through information regarding effective study habits, career and academic planning, and other college resources available to students. May include English and math placement testing. Strongly recommended for beginning students. Required for graduation. Lecture 1 hour per week.

SDV 104 Study Skills (2 credits) Assists students in planning strategies to overcome nonproductive study habits and in implementing positive study behaviors. Includes management, memory improvement, note taking, and test taking. Lecture 1-3 hours per week.

SOC – Sociology

SOC 200 Principles of Sociology (3 credits) Introduces fundamentals of social life. Presents significant research and theory in areas such as culture, social structure, socialization, deviance, social stratification, and social institutions. Lecture 3 hours per week.

SOC 215 Sociology of the Family (3 credits) Studies topics such as marriage and family in social and cultural context. Addresses the single scene, dating and marriage styles, child-rearing, husband and wife interaction, single parent families, alternative lifestyles. Lecture 3 hours per week. Students are strongly encouraged to complete SOC 200 prior to enrolling in this course.

SOC 266 Race and Ethnicity (3 credits) Considers race and ethnicity as social constructs that deeply affect our personal experience and our social institutions. Examines the relationships of racial and ethnic groups with each other and with the larger society, and the ways in which these relationships are constantly changing. Explores the experience of different groups and examines ideas of racial justice and equality. Introduces significant theoretical approaches to the study of race and ethnicity. Lecture 3 hours per week.

SOC 268 Social Problems (3 credits) Applies sociological concepts and methods to analysis of current social problems. Includes delinquency and crime, mental illness, drug addiction, alcoholism, sexual behavior, population crises, race relations, family and community disorganization, poverty, automation, wars, and disarmament. Lecture 3 hours per week.

SPA – Spanish

SPA 101-102 Beginning Spanish I-II (4 credits) (4 credits) Introduces understanding, speaking, reading, and writing skills and emphasizes basic Spanish sentence structure. May include an additional hour of oral drill and practice per week. SPA 101 is a prerequisite to SPA 102. Lecture 4 hours per week.

WEL – Welding

WEL 100 Fundamentals of Welding (3 credits) Introduces electric and gas welding and cutting. Provides fundamental principles of joining ferrous and non-ferrous metals, welding and cutting processes, equipment operation, and safety procedures with emphasis upon welding and cutting procedures. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

WEL 123 Shielded Metal Arc Welding (Basic) (4 credits) Teaches operation of AC and DC power sources, welding polarities, heats and electrodes for use in joining various metal alloys by the arc welding process. Deals with running beads, butt, and fillet welds in all positions. Emphasizes safety procedures. Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week.

WEL 124 Shielded Metal Arc Welding (Advanced) (4 credits) Continues instruction on operation of AC and DC power sources, welding polarities, heats and electrodes for use in joining various metal alloys by the arc welding process. Deals with running beads, butt, and fillet welds in all positions. Emphasizes safety procedures. Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week.

WEL 130 Inert Gas Welding (4 credits) Introduces practical operations in the uses of inert-gas-shield arc welding. Discusses equipment, safety operations, welding practice in the various and applications, manual and semi-automatic welding. Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week.

WEL 141-142 Welder Qualification Tests I-II (4 credits) (4 credits) Studies techniques and practices of testing welded joints through destructive and non-destructive testing. (Prerequisites WEL 123 and WEL 160.) Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week.

WEL 145 Welding Metallurgy (3 credits) Studies steel classifications, heat treatment procedures, properties of ferrous and non-ferrous metals. Discusses techniques and practices of testing welded joints and destructive/nondestructive, visual magnetic and fluorescent testing. Lecture 3 hours per week. Students are strongly encouraged to complete WEL 123 prior to enrolling in this course.

WEL 150 Welding Drawing and Interpretation (3 credits) Teaches fundamentals required for successful drafting as applied to the welding industry. Includes blueprint reading, geometric principles of drafting and freehand sketching, basic principles of orthographic projection, preparation of drawings and interpretation of symbols. Lecture 2-3 hours per week.

WEL 160 Gas Metal Arc Welding (4 credits) Introduces semi-automatic welding processes with emphasis on practical application. Includes the study of filler wires, fluxes, and gases. Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week.

WEL 199-299 Supervised Study in Welding (1-5 credits) Assigns problems for independent study incorporating previous instruction and supervised by the instructor. May be repeated for credit. Variable hours.

Workforce Development Special Courses

AST – Administrative Support Technology

AST 132 Word Processing I—Microsoft Word (1 credit) Introduces students to a word processing program to create, edit, save, and print documents. Lecture 1 hour per week.

AST 133 Word Processing II—Microsoft Word (1 credit) Presents formatting and editing features of a word processing program. Lecture 1 hour per week.

AST 134 Word Processing III—Microsoft Word (1 credit) Continues work with formatting features and text enhancements of a word processing program. Lecture 1 hour per week.

AST 147 Introduction to Presentation Software—PowerPoint (1 credit) Introduces presentation options including slides, transparencies, and other forms of presentations. Lecture 1 hour per week.

ITE – Information Technology Essentials

ITE 141 Microcomputer Software: Spreadsheets—Excel (1 credit) Provides first-time users with sufficient information to make practical use of spreadsheet software using the basic of building spreadsheets. Lecture 1 hour per week.

ITE 151 Microcomputer Software: Database Management—Access (2 credits) Presents first-time users with sufficient information to make practical use of database management software using the basics of building databases. Covers specific business applications. Lecture 1 hour per week.

For information on the following courses contact Workforce Development at (540) 674-3613.

Name	Prefix	Page
Aviation	ARO	115
Real Estate	REA	142
Recreation Vehicle-Motorcycle Maintenance	RVH	142

NRCC Faculty

Caroline M. Abbott
Assistant Professor of Mathematics;
B.A., Eckerd College;
M.A.Ed., Wake Forest University

C. Wes Adcock
Professor of Chemistry;
B.S. (2 degrees) North Carolina State University;
M.Ed., North Carolina State University;
Ph.D., Virginia Polytechnic Institute and State University

Peter Anderson
Associate Professor, Dean of Business and Technologies;
A.A.S., New River Community College;
B.S., Virginia Polytechnic Institute and State University;
M.S., Radford University

Louise A. Billaud
Professor of Music;
B.M., University of Alaska;
M.A. Radford University;
D.M.A., Boston University

Debra K. Bond
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B.S., Radford University;
M.S., Radford University

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M.B.A., Liberty University

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POLICE SCIENCE/FORENSIC SCIENCE STUDENTS USE AN ARRAY OF EQUIPMENT IN HIGH-TECH LABS

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Ernest B. Garter, Jr.
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Alisa C. Mercer
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Dylan Moore
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Cashier and A/R Technician, Business Office

Roy W. Worrell
Master Mechanic, Facilities Services

Appendix

Vision

"Through forward-looking leadership, efficient management and the deep commitment of faculty and staff to provide the best possible teaching and learning environment, the college aims not only to meet the educational challenges of the coming decades, but to welcome them. Accordingly, New River Community College embraces the following beliefs:

"That student learning is the ultimate priority for the college and to best serve students there must be maintained the highest level of commitment achieved by focusing on the teaching/learning process and by providing support for the personal development of each student served;

"That instruction must remain the primary function of the college, with other college functions to be supportive of or complementary to the instructional program;

"That access to higher education must be provided to all who can benefit from it;

"That high quality must be maintained in all programs and services through instructional excellence, competency of faculty and staff, on-going curriculum development and improvement, and effective processes for assessment of quality;

"That the college must foster a spirit of innovation through technological advancements and through continuous improvement of programs and services;

"That a positive institutional climate must be maintained which supports high ethical standards, professionalism, faculty and staff development, and an inclusive environment based on dignity and respect for all persons;

"That the college must be community centered as reflected by comprehensive and affordable programming, linkages and partnerships with other organizations, community outreach efforts, fostering of an appreciation for education in the community, and continued responsiveness to community needs;

"That the college must support multi-cultural diversity as well as equal opportunity for all persons, and that the institution must be outward looking as it fulfills its local mission;

"That the college must focus continually on institutional effectiveness with emphasis on accountability, assessment, good management practices, employability of graduates, comprehensive planning processes, and the overall improvement of organizational effectiveness."

Mission/Purpose

New River Community College, a member of the Virginia Community College System (VCCS), subscribes to the tenets set forth in the VCCS mission statement. This statement is as follows:

We give everyone the opportunity to learn and develop the right skills so lives and communities are strengthened. New River Community College believes that all people should have a chance not only to develop and extend their skills and knowledge, but also to increase awareness of their roles and duties as citizens. The college serves the educational needs of the public including both occupational/technical and college transfer courses. New River Community College assumes a responsibility to meet workforce development requirements in the New River Valley through a combined effort with local industry, business, professions, and government, including economic development efforts. The college is also dedicated to organizing programs with senior institutions as well as with those of local public school systems.

New River Community College offers certificate, diploma, and associate degree programs. The college is also committed to assisting students with decisions concerning their occupational, educational, and personal goals.

New River Community College Local Board

Mr. F. Brad Denardo, Chair

Mrs. Barbara Straub, Vice Chair

Dr. Jack M. Lewis, Secretary

Dr. Jack Brockway

Mr. Steven Harvey

Mr. Walter B. Keister

Mr. James Loux

Dr. Douglas Martin

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Dr. Jack M. Lewis

Mr. Hiawatha Nicely*

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Mr. Leslie C. Pugh*

Mr. James Rakes

Mr. D. Gregory Rooker

Mr. Nick Rush

Mr. Larry J. Shelor

Mr. L. T. Simmons

Mr. Michael B. Watson

Dr. J. Lewis Webb

Mrs. Anne Wheeler

*Emeritus Directors

New River Community College Notice of Required Disclosures

INFORMATION	DESCRIPTION	WHERE IT CAN BE FOUND
Basic financial aid information	For information on available federal, state, local, private and institutional financial need-based and non-need-based assistance programs, application procedures, award criteria and disbursement, Satisfactory Academic Progress (SAP) standards, student responsibilities, deferment and return of Title IV funds.	Financial Aid- http://www.nr.edu/fa/ Financial Aid Handbook - http://www.nr.edu/fa/fahandbook.php; (hardcopy available in the Financial Aid Office)
General Information about the school and availability of employees for information dissemination	For general information related to NRCC including, but not limited to: cost of attendance, procedures to officially withdraw from school, refund policies, academic programs, instructional personnel, facilities, accrediting agencies, special services for disabled students, study abroad, academic program improvements and availability to employees responsible for the dissemination of this information.	Catalog-http://www.nr.edu/catalog Student Handbook-http://www.nr.edu/students/handbook.php Financial Aid Handbook - http://www.nr.edu/fa/fahandbook.php (hardcopy available in the office of the VP for Instruction and Student Services)
The school's retention rate and the school's completion or graduation rate and its transfer-out rate	For information provided on the completion or graduation rate of a cohort of certificate or degree-seeking, full-time undergraduates who graduated or completed their program within 150% of the normal time for graduation or completion.	Catalog-http://www.nr.edu/catalog/ Student Handbook-http://www.nr.edu/students/handbook.php (hardcopy available in the office of the VP for Instruction and Student Services)
Drug and alcohol abuse prevention information	Information for the College's expectations of student and employee conduct, defines drug and alcohol related offenses, describes the physical effects of alcohol, as well as sanctions against infringement violations. The prevention plan also provides abuse prevention and assistance programs.	Catalog-http://www.nr.edu/catalog Student Handbook-http://www.nr.edu/students/handbook.php (hardcopy available in the Advising Center)
Equity in Athletics Disclosure Act	For information provided on the number of male and the number of female full-time undergraduate students; a listing of the varsity teams that competed in intercollegiate athletic completion; revenue and expenses of the school and other pertinent information.	Student Activities Office
The placement of, and types of employment obtained by, graduates of the school's degree or certificate programs	Information provides a list of the employment positions determined to be within the field or which a student receives education and training for as well as the calculation of job placement rates.	The Advising Center
Clery Act (Campus Security)	Information provides comprehensive statistics on campus related crimes that have occurred during the three most recent calendar years, policies and procedures for reporting crimes, policies concerning the security of and access to campus facilities, concerning campus law enforcement, emergency notification and evacuation, and crime prevention programs.	Annual Security Report- http://www.nr.edu/security/report.pdf (hardcopy located in Security Office and/or Facility Services Office)
Family Educational Rights and Privacy Act (FERPA)	FERPA, passed by Congress in 1974, gives students the right to access their educational records; consent to release a record to a third party; challenge information in their records, and be notified of their privacy rights.	Catalog-http://www.nr.edu/catalog; (hard copy located in the Advising Center)

Completion/Graduation Rates and Transfer-Out Rates

	Completion/ Graduation Rate Cohort year 2010	Transfer-Out Rate Cohort year 2010
OVERALL	22.1%	10.6%
Male	22.4%	10.4%
Female	21.8%	10.9%
Hispanic/Latino	-	-
Am. Indian/Alaska Native	-	-
Asian	-	-
Black or African American	10.0%	7.5%
Native Hawaiian or Other Pacific Islander	-	-
White	25.0%	10.9%
Two or more races	7.1%	-
Race and ethnicity unknown	-	-
Pell Grant Recipient	21.6%	5.2%
Subsidized Stafford Loan recipient who did not receive a Pell Grant	38.5%	11.5%
Did not receive either a Pell or subsidized Stafford Loan	20.1%	20.1%

- Indicates rates not disclosed. Graduation rates are not disclosed if category populations represent fewer than 10 students in a given cohort.

Retention Rates

Data for retention rate of first-time students (Fall 2013) are available from the IPEDS Feedback Report 2014 (page 5, Figure 10) which was delivered November, 2014. Updates from IPEDS should be available in October each year.

First-Time Retention Rate Fall 2013 – Full-time	57%

Placement rates are not calculated and therefore cannot be reported

Demographic data

Fall 2014, Full-Time student enrollments

	% Enrolled
Male	48.9%
Female	51.1%
Hispanic/Latino	1.0%
Am. Indian/Alaska Native	0.3%
Asian	2.4%
Black or African American	5.8%
Native Hawaiian or Other Pacific Islander	0.2%
White	85.5%
Two or more races	4.2%
Race and ethnicity unknown	0.5%
Federal Pell Grant Recipients	53.2%

For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at http://www.nr.edu/ge/.

Exam Schedules

Find the regular meeting time for your class in the table (located in the white boxes.) The day and date at the top of that column is the day of the exam, the time at the far left of that row is the time of the exam. Exams for evening classes will be on the same day at the same meeting time as the regular scheduled class time.

Fall 2015

EXAM TIMES	MONDAY DECEMBER 14	TUESDAY DECEMBER 15	WEDNESDAY DECEMBER 16	THURSDAY DECEMBER 17
8:00 a.m.-10:00 a.m.	8:00 a.m. MWF	9:30 a.m. TR	9:05 a.m. MWF	8:00 a.m. TR
10:30 a.m.-12:30 p.m.	10:10 a.m. MWF	12:00 noon TR	11:15 a.m. MWF	
1:00 p.m.-3:00 p.m.	12:20 p.m. MWF	1:30 p.m. TR	1:25 p.m. MWF	4:30 p.m. TR
3:30 p.m.-5:30 p.m.	2:30 p.m. MWF	3:00 p.m. TR	3:35 p.m. MWF	
EVENING	MONDAY	TUESDAY	WEDNESDAY	THURSDAY

Spring 2016

EXAM TIMES	MONDAY MAY 9	TUESDAY MAY 10	WEDNESDAY MAY 11	THURSDAY MAY 12
8:00 a.m.-10:00 a.m.	8:00 a.m. MWF	9:30 a.m. TR	9:05 a.m. MWF	8:00 a.m. TR
10:30 a.m.-12:30 p.m.	10:10 a.m. MWF	12:00 noon TR	11:15 a.m. MWF	
1:00 p.m.-3:00 p.m.	12:20 p.m. MWF	1:30 p.m. TR	1:25 p.m. MWF	4:30 p.m. TR
3:30 p.m.-5:30 p.m.	2:30 p.m. MWF	3:00 p.m. TR	3:35 p.m. MWF	
EVENING	MONDAY	TUESDAY	WEDNESDAY	THURSDAY


to Pearisburg
to Route 100
A
B
C
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E
F
G
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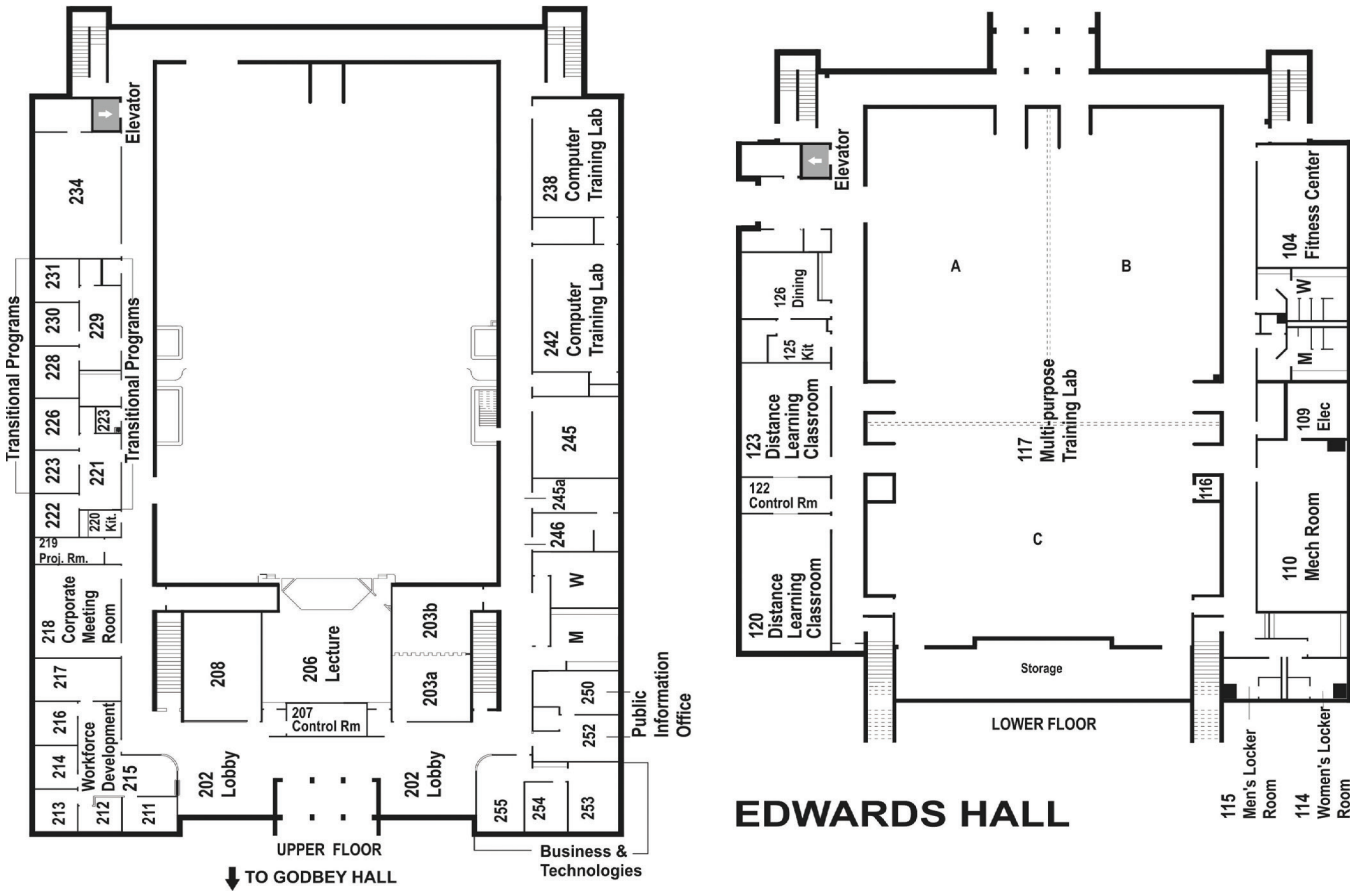
picnic shelter
learning park
EDWARDS
GODBEY
MARTIN
ROOKER
wind turbines
photovoltaic arrays
solar and wind energy training area
NEW RIVER
Community College
security call box
to Route 11


Elevator
234
Transitional Programs
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220 Kit.
219 Proj. Rm.
218 Corporate Meeting Room
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216 Workforce Development
214
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212
211
208
206 Lecture
207 Control Rm
203b
203a
202 Lobby
202 Lobby
238 Computer Training Lab
242 Computer Training Lab
245
245a
246
W
M
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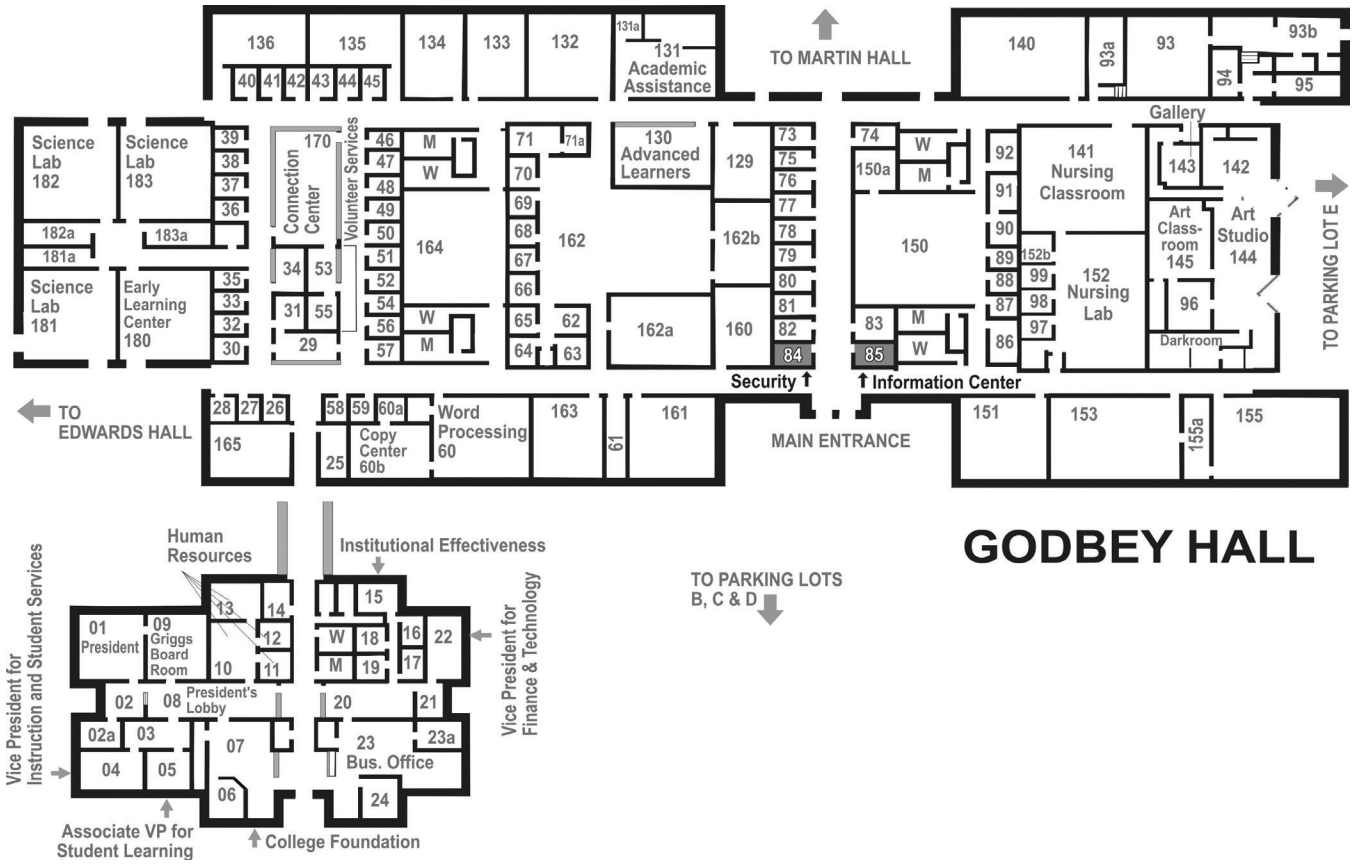
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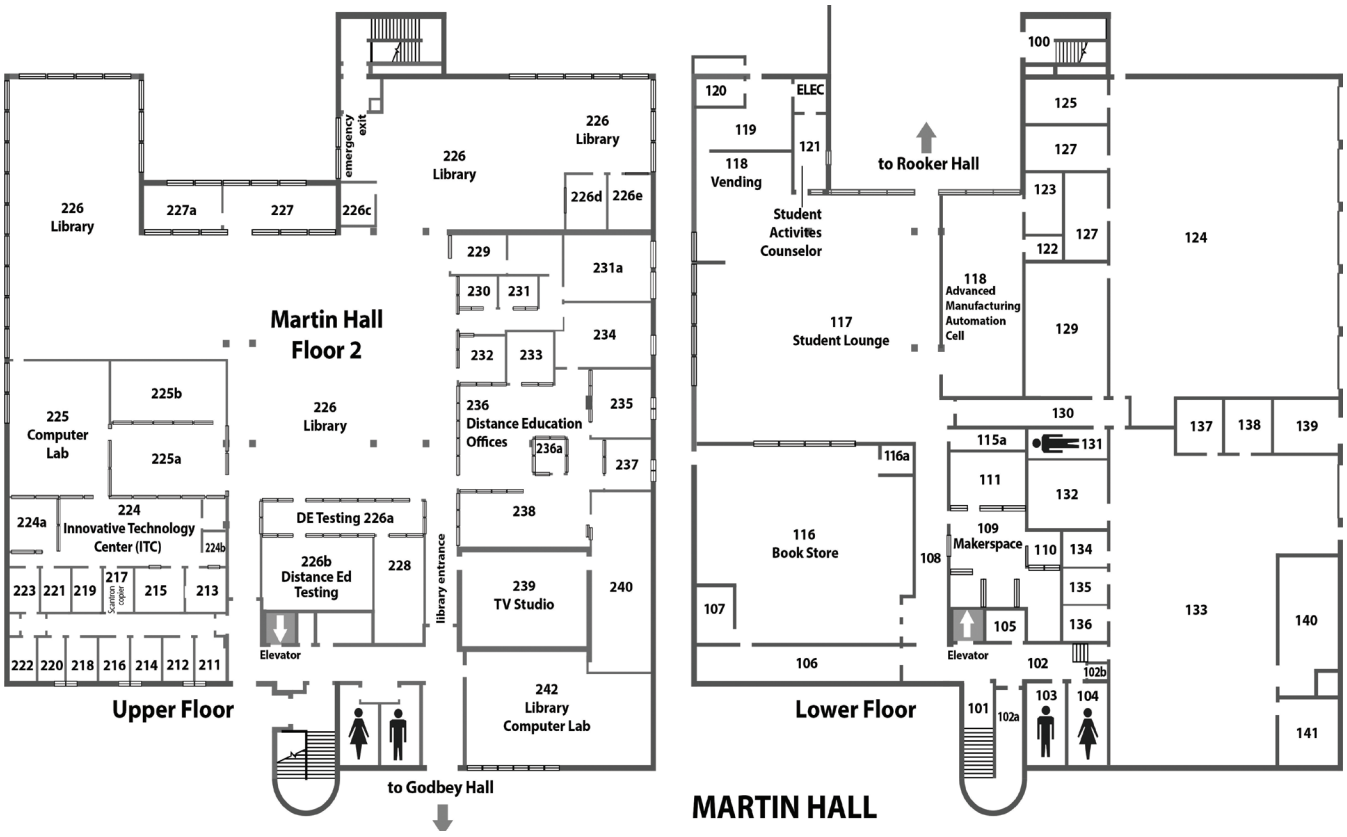
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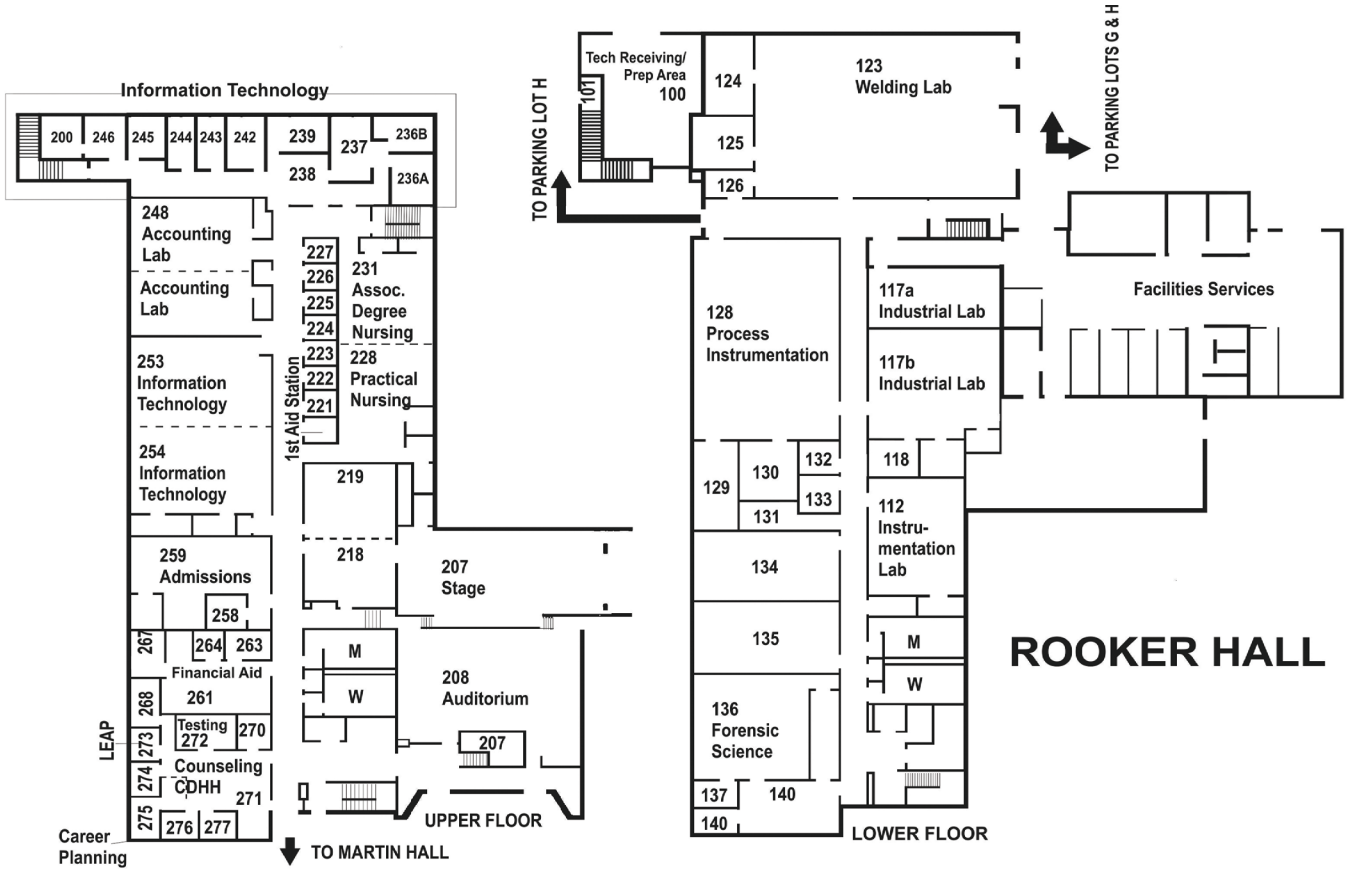
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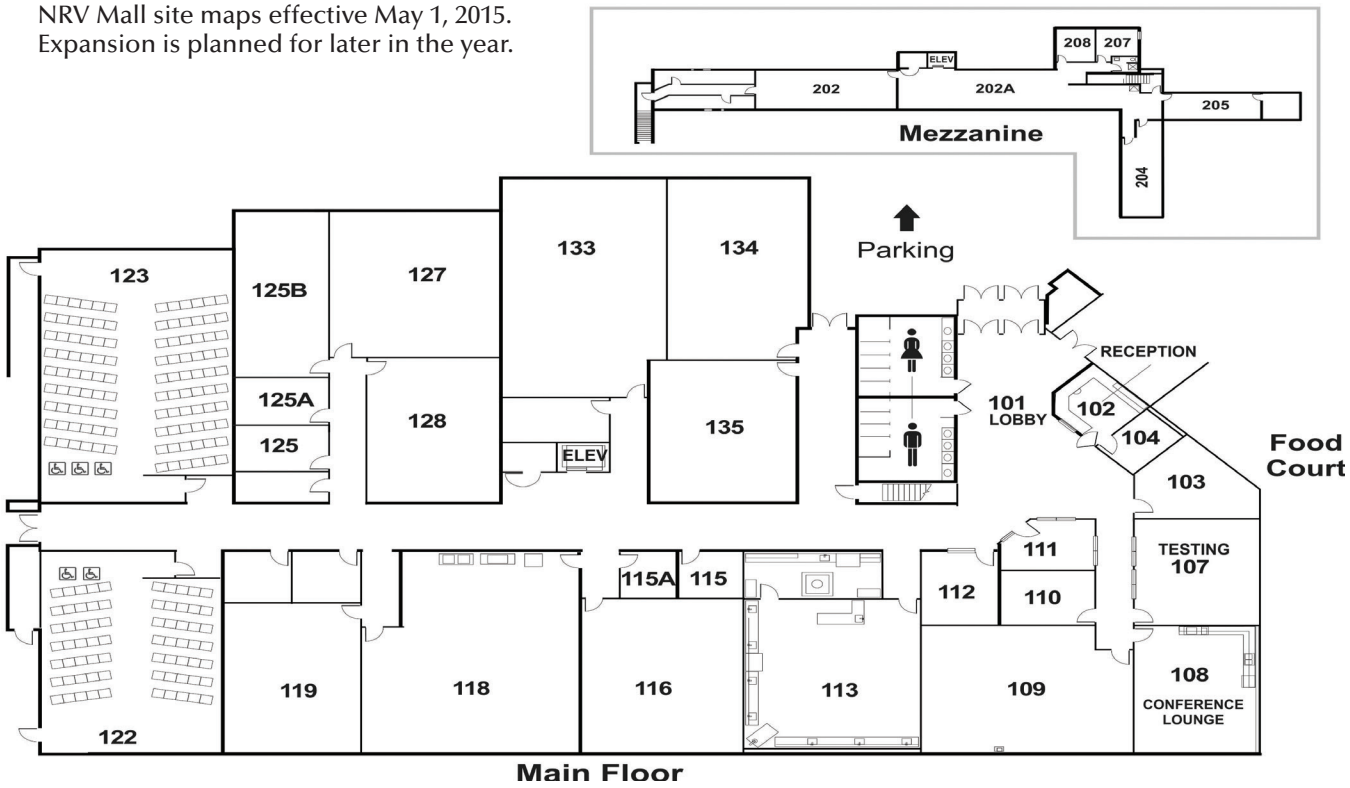
NRV Mall site maps effective May 1, 2015.
Expansion is planned for later in the year.



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