Thomas Nelson™
COMMUNITY COLLEGE
Explore. Excel. Succeed.
www.tncc.edu

TNCC
College Catalog
2011-2012

THOMAS NELSON COMMUNITY COLLEGE

2011-2012 College Catalog

99 Thomas Nelson Drive

Hampton, VA 23666

757.825.2700

TDD 757.825.2853

www.tncc.edu

PRESIDENT'S MESSAGE

Welcome to Thomas Nelson Community College. Since our founding, we have been a leading provider of high quality educational programs and workforce training. We are committed to helping citizens living and working on the Virginia Peninsula. A major part of our mission is dedicated to fostering economic development and improving the quality of life for everyone.

We are honored that you have chosen TNCC to pursue your education, personal and professional goals. Whether you are a high school student, a returning student, or currently working and seeking advanced training, we invite you to experience the rewarding opportunities TNCC offers. We are confident that with more than 300 course offerings in over 40 fields of study, we can put you on a path to obtain an associate degree, a certificate, or a career studies certificate. We are also happy to accommodate those who enroll in a class or workshop for personal enjoyment.

At Thomas Nelson we put students first. Our dedicated faculty and staff are enthusiastic about helping you have a successful educational experience. We endeavor to create a supportive learning environment that provides outstanding services from advising and financial aid assistance to career counseling and opportunities to work with some of the region's major employers. You will also discover several co-curricular activities designed to enhance the quality of student life.

Again, welcome to Thomas Nelson Community College. We pledge to deliver world class higher education programs and services that will help you EXPLORE, EXCEL and SUCCEED.

Sincerely,

Alvin J. Schexnider
President

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President ....Alvin J. Schexnider
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Interim Vice President for Academic Affairs ....Norman Hahn
Vice President for Finance and Administration..Charles Nurnberger
Vice President for Institutional Advancement... Cynthia Callaway
Vice President for Student Affairs .... Beverly Walker-Griffea
Vice President for Workforce Development...Deborah George Wright
Interim Associate Vice President for Academic Affairs .... Marcia Harrington
Associate Vice President for Corporate Training and Workforce Services ....Tony Farley, Jr.
Associate Vice President for Student Affairs...Vicki Richmond
Associate Vice President for Financial Services .... Teresa Bailey
Associate Vice President for Workforce Training and Continuing Education .... Carmen Burrows
Interim Dean of Business, Public Services, Information Systems and Mathematics (BPSISM) ....Raymond Muzia
Dean of Communications, Humanities and Social Sciences (CHSS) .... Mitchell Smith
Dean of Engineering, Science and Allied Health (ESAH) ....Patricia Taylor
Dean of Student Success, Hampton Campus .... Joyce Johnson
Dean of Student Services, Historic Triangle Campus...Betsy Harrison
Academic Assistant Coordinator, BPSISM Division..Sandra Dashiell
Academic Assistant Coordinator, CHSS Division...Usrsula Bock
Academic Assistant Coordinator, ESAH Division ....Beth Dickens
Coordinator, Dental Hygiene Program..Harold Marioneaux
Coordinator, Nursing .... Hannah Anderson
Director of Advanced Manufacturing Project ....John Calver
Director of Continuing and Professional Education...
Director of Corporate Training...Michelle Manfred
Director of Financial Aid, Veterans Affairs, and Scholarships ....Kathryn Anderson
Director of Information Technology..Wayne Davis
Director of Institutional Research and Effectiveness .... James T. Walke
Director of Learning Resources...Aileen Schweitzer
Director of Middle College... Franz Albertini
Director of Military Affairs and Contract Credits...Wayne Christian
Director of Enrollment Management .... Kris Rarig
Director of Public Relations, Marketing and Special Events .... Cecilia Ramirez
Director Student Support Services -- TRIO... Virginia Keithley
Director Distance and Distributive Learning...Ruth Smith
Manager of Business Office - General Accounting...Wan Hu
Manager of Business Office..Pam Thomas
Manager of Campus Safety and Security ....Garth MacDonald
Manager of Human Resources... Lisa Johnson
Manager of Information Technology - Client Services.. Alexander Greene
Manager of Information Technology - User Services ....Debbie Hudgins
Manager of Operational Planning, Capital Outlay and Facilities Management ....Mark Kramer
Interim Chief of Campus Police ....Kelvin Maxwell

2011-2012 ACADEMIC CALENDAR

The following dates are to be used as a guideline for determining the start and end dates of the terms. To find term-specific dates (add/change, drop, etc.) for individual sessions, refer to the Schedule of Classes at http://www.tncc.edu/students/student-resources/academic-calendars/ for the particular term .

FALL 2011

Academic Year Begins ....August 16
Classes Begin ....August 20
Labor Day Weekend (college closed) ....September 3-5
Faculty Days (no classes)...November 22-23
Thanksgiving Break (college closed).......................................November 24-27
Classes End...December 10
Exams .... December 12-17
Grades Due (by noon) ....December 19
Winter Break (college closed).. December 24-January 2

SPRING 2012

College Reopens................... ....January 3
Classes Begin .... January 7
Martin Luther King, Jr., Holiday (college closed) ....January 15-16
Spring Break (no classes).. March 5-11
Classes End..April 30
Exams ....May 1-7
Grades Due (by noon) ....May 9
Commencement..May 12

SUMMER 2012

Classes Begin ....May 17
Memorial Day (college closed)... May 26-28
Independence Day Holiday (college closed) ....July 4
Classes End..July 27
Exams .... July 30-31
Grades Due (by noon) ....August 2

Thomas Nelson COMMUNITY COLLEGE
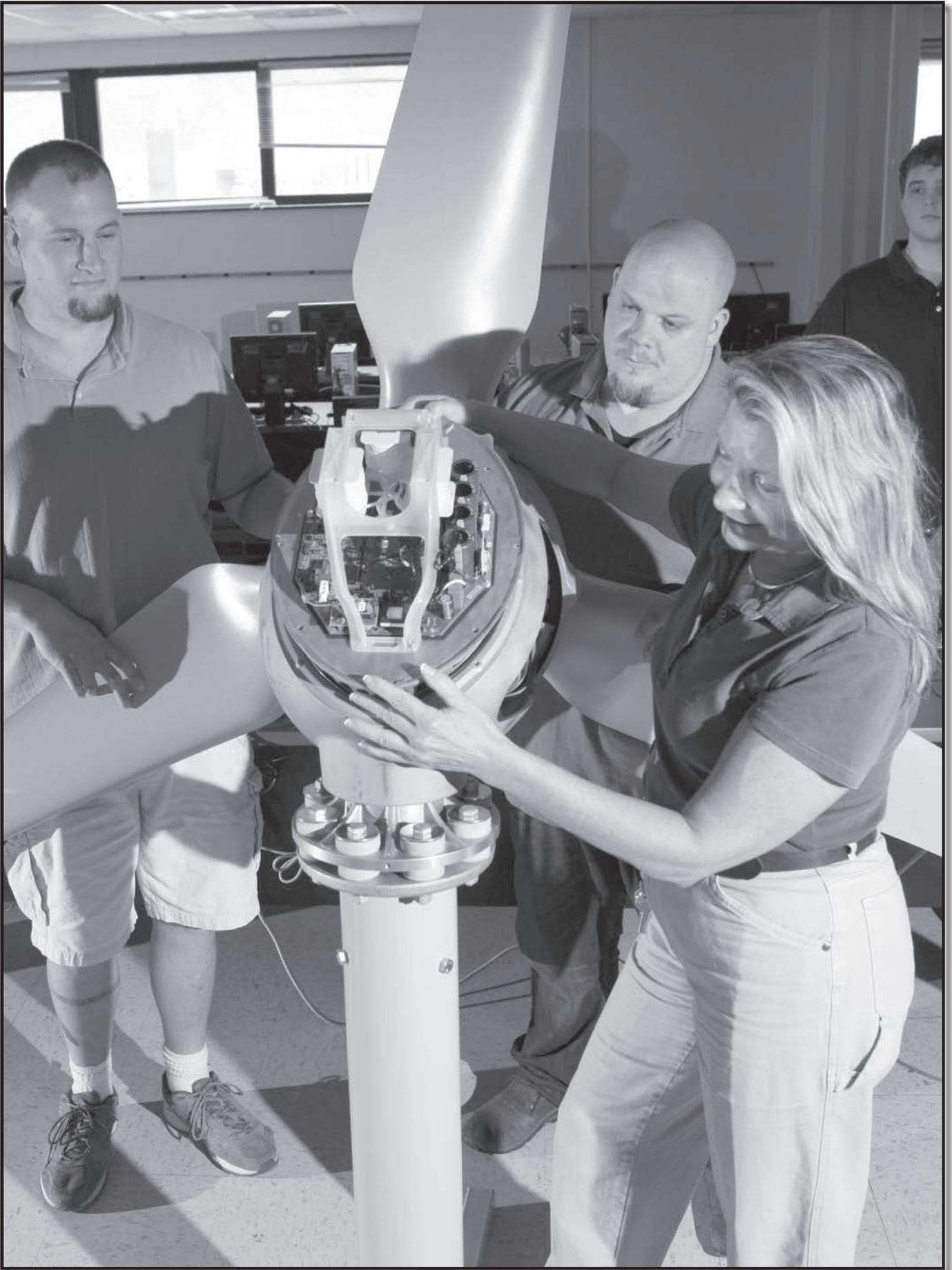
99 Thomas Nelson Dr.
P.O. Box 9407 / Hampton, VA 23670

Hampton Campus

	Room #	Building
A	1-12	**Harrison Hall**: Administrative Offices
B	100's	**Diggs Hall**: Business Office; Classrooms; Faculty Offices
C	100's	**Moore Hall**: Espada Conference Center; Human Resources
D	200's	**Griffin Hall**: Admissions & Records; Counseling Center; Bookstore; Financial Aid
E	200's	**Wythe Hall**: Library; Computer Labs; Classrooms; Faculty Offices
F	300's	**Hastings Annex**: Wellness Center
	300's	**Hastings Hall**: First Floor, Classrooms; Technology Labs
	400's	**Hastings Hall**: Second Floor, Classrooms; Science Labs
H	500's	**Automotive Building**: Classrooms; Auto Labs
I	600's	**Plant Services Building**: Receiving
J	800's	**Templin Hall**: First Floor, Classrooms; Auditoriums; Faculty Offices
	900's	**Templin Hall**: Second Floor, Classrooms
K	1000's	**Peninsula Workforce Development Center**: First Floor, Career Center; One-Stop Center
	2000's	**Peninsula Workforce Development Center**: Second Floor
L	700's	**Hampton III Building**: Classrooms; Continuing Education Office

VISITOR PARKING
STUDENT PARKING
FACULTY/STAFF PARKING
AUTOMATIC DOORS
HANDICAPPED PARKING
RAMPED ENTRANCE
MOTORCYCLE PARKING
HRT BUS STOP
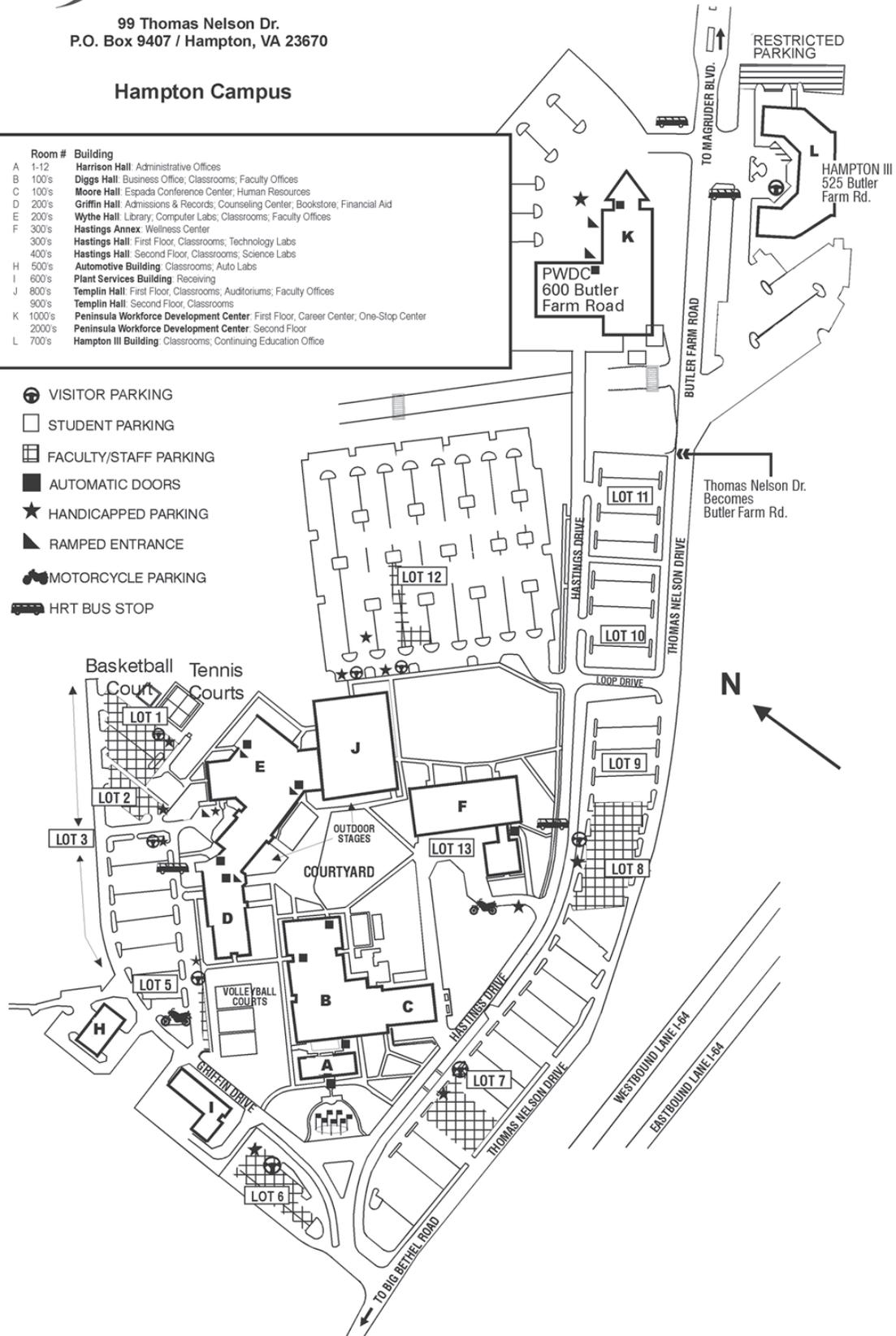
HISTORIC TRIANGLE
CAMPUS
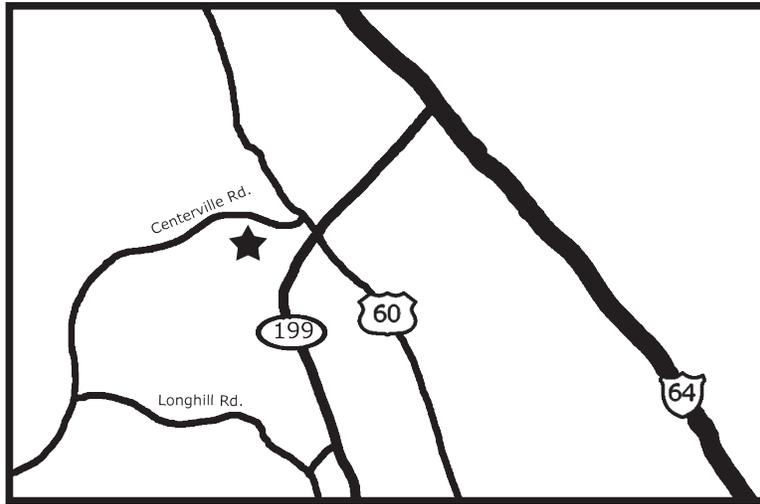
PENINSULA WORKFORCE
DEVELOPMENT CENTER HAMPTON
CAMPUS
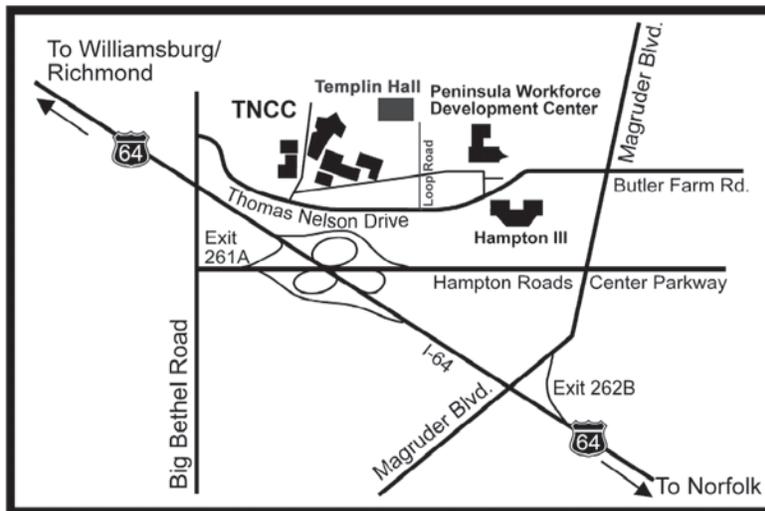
OPERATIONS INFORMATION & POLICIES

From time to time, practical questions arise that directly affect the lives of students at the College. The following are answers to some often-asked questions.

INCLEMENT WEATHER
When the weather creates hazardous travel conditions, the college administration will make a decision about canceling or delaying classes. Closings will be announced on the College's website. **www.tncc.edu**. Administrators will also notify the following television and radio stations regarding the cancellation of classes and operations of the college:

    WTKR-TV (Channel 3)
    WAVY-TV (Channel 10)
    WVEC-TV (Channel 13)
    WVBT-TV (Channel 14)
    WNIS (790 AM)
    WTAR (850 AM)
    WAFX (106.9 FM)
    WNOR (98.7 FM)
    WHRO (90.3 FM)
    WHRV (89.5 FM)
    WGH-FM (97.3 FM)
    WJCD (105.3 FM)
    WXMM (100.5 FM)
    WPYA (93.7 FM)
    WOWI (102.9 FM)
    WWDE (101.3 FM)
    WXGM (99.1 FM)

Sometimes the Hampton and Historic Triangle campuses experience different weather conditions. Students should always consult the website **www.tncc.edu** for announcements about closings at either or both campuses..

ELECTRONIC COMMUNICATION(EMAIL)
Thomas Nelson Community College issues student email addresses to all active students. Email is the primary means for official communication within TNCC. The College has the right to expect that such communications will be received and read in a timely fashion. Official email communications are intended to meet only the academic and administrative needs of the campus community and will be used for College business (academic and administrative) only. Students are expected to check their TNCC email account on a frequent basis in order to remain informed of College communications. It is recommended that students check email accounts daily. Students are responsible for the consequences of not reading College email communications in a timely fashion. All use of email will be consistent with other TNCC policies, and as stated in the TNCC Student Handbook.

TELEPHONES
There are pay phones available for student use in buildings and on campus. Additionally, on-campus calls can be made from any phone in any office. A TDD is available through the Student Development Office, Hampton Campus in Room 323 Hastings Hall for the hearing impaired.

SWITCHBOARD
Should a student need to reach a faculty or staff member or an administrative office and not know the phone number, the student may call the switchboard at 757/825-2700. Operation hours are from 8 a.m. - 5 p.m. Monday - Friday. On the Historic Triangle Campus, the student may call 757/253-4300 between the hours of 9 a.m. - 5 p.m., Monday - Friday.

AFTER-HOURS CONTACT PROCEDURE
Campus Police maintains a contact number to be used during nonworking hours. If a student needs the assistance of a campus police officer after 10 p.m. Monday - Friday, or on weekends and holidays, he or she should call 9-879-3649 from any Thomas Nelson office phone or 757/879-3649 from any residential or pay phone. The hearing impaired should use the Virginia Relay System, 1/800-828-1120.

MEDICAL EMERGENCIES
If a medical emergency arises between 8 a.m. - 10 p.m. Monday - Friday, call the Office of Campus Police, 757/825-2732. After 10 p.m. Monday - Friday, or on weekends and holidays, dial 9-879-3649 from any College office phone or 757/879-3649 from any residential or pay phone. Call boxes are also located throughout the Hampton campus. The hearing impaired should use the Virginia Relay System, 1-800-828-1120. If the caller is unable to get help when calling either of these numbers, contact the Rescue Squad by dialing 911 from any pay phone or 9-911 from any College office or classroom telephone.

EMERGENCY EVACUATION PROCEDURES
In the event of an emergency where the building must be evacuated, the college fire alarm system may be activated from any pull box. Faculty, staff, and students, other than those assigned specific duties, will:
* Ensure that all lights, office machines, electrical devices, etc., are turned off.
* Close and lock all safes, file cabinets, and other record repositories.
* Evacuate all buildings, closing office/classroom doors as they leave their respective areas, taking all personal belongings with them. In the event that a physically challenged student is in a class during an emergency, the instructor conducting the class will be responsible for ensuring that the individual is evacuated along with the rest of the students. Remember that the elevator is reserved for physically challenged persons. Do not use the elevator in case of fire.
* Comply with directions issued by authorized college personnel. All personnel will be directed to the nearest area assembly point until further instructions are received.
* Exercise calmness to move promptly to area assembly points.
* Remain on campus and not enter the building until a verbal all-clear signal has been given by Campus Police or Physical Plant.

BUILDING HOURS

College buildings are unlocked by 6 a.m., Monday - Friday. Buildings are usually locked at 10:30 p.m.. Those who need to get into any building at times other than when the buildings are opened, must contact Campus Police for information concerning access procedures. For access, students, staff, and faculty should contact Campus Police dispatch at 757/825-2732.

CHILDREN ON CAMPUS

Current college policy dictates that no child under the age of 15 years old may be left unsupervised at any time while on the Thomas Nelson campus, unless approved by the Vice President for Student Affairs. Any person who leaves a child unattended may be subject to disciplinary action or, in the case of a non-student, criminal action.

PARKING DECALS/VEHICLE REGISTRATION

All vehicles must be registered with the Parking Services Office and display a current College vehicle parking permit. Failure to register a vehicle and display a current parking permit may result in a parking citation, towing, or wheel locking of the vehicle. Information on how to obtain a parking decal can be found at http://tncc.edu/about-2/general-information-2/parking-services-information/

Visitors may park in a visitor's parking space or in any non-designated parking space. Visitors choosing to park in a non-designated parking space must obtain a visitor's parking permit from the Parking Services Office and display it on the front dashboard of the vehicle.

Temporary parking permits are also available in the Office of Campus Police. The Parking Office is located in Diggs Hall, Room 153 Hampton Campus and Room 122 at the Historic Triangle Campus. The office of Campus Police is located in Diggs Hall, Room 153 and Room 115, Historic Triangle Campus. Potential students are requested to display a temporary parking permit obtained from the Admissions Office in Griffin Hall, Hampton Campus Room 201 or Room 112 on the Historic Triangle Campus.

PHOTO ID REQUIRED

Thomas Nelson Community College photo IDs are required and are available in the Photo ID Office. To obtain a photo ID, faculty, staff, and students must present some form of pictured identification and an assigned employee EMPLID/student number.

The Photo ID offices are located in Room 109 in Diggs Hall, Hampton Campus and Room 111, Historic Triangle Campus. Campus Police is located in Room 153 in Diggs Hall, Hampton Campus and Room 115, Historic Triangle Campus. Should you have any questions, please call 757/825-3593 in Hampton and 757/253-4882 at the Historic Triangle Campus.

LOST & FOUND PROPERTY

The Office of Campus Police is the receiving department for all found or abandoned property. If a student finds an item, he or she may turn it in to the Campus Police in Diggs Hall, Room 153 or Room 112, Historic Triangle Campus. The Campus Police will then make every effort to return the property to its rightful owner. Those who have lost property can report to Room 112, Historic Triangle Campus, Monday - Friday, during normal business hours to claim their property. Proof of ownership will be required (brand name, color, ID marks, etc.), as well as a photo ID.

At the Historic Triangle Campus, after one month property will be transported and stored at the Hampton Campus.

All unclaimed property will be handled in the following manner:

1. Property valued at $100 or less will be held for three months.
2. Property valued in excess of $100 will be held for five months.

BULLETIN BOARDS

Notices pertaining to College functions and activities are posted regularly on designated bulletin boards around campus. Any items to be posted must be approved by the Vice President for Student Affairs or designee. Defacing or destroying signs, posters, notices, etc., that have been approved for posting is a violation of the Student Code of Conduct and all violators are subject to disciplinary action, or in the case of a non-student, criminal action.

INSTRUCTIONAL AND DEPARTMENTAL STAFF

(All phone numbers are included in the 757 area code.) All offices are located in Hampton unless specified otherwise.

ADMINISTRATION & DEPARTMENTS

Interim Vice President for Academic Affairs	Norman Hahn	9 Harrison Hall	825-2952
Interim Associate Vice President for Academic Affairs	Marcia Harrington	12A Harrison Hall	825-2889
Administrative Assistant	Cyndy Somerset	9 Harrison Hall	825-2952

BUSINESS, PUBLIC SERVICES, INFORMATION SYSTEMS AND MATHEMATICS DIVISION

Interim Dean	Raymond Muzia	122B Diggs Hall	825-2900
Assistant Coordinator	Sandra Dashiell	122A Diggs Hall	825-2724
Co-op Coordinator for Business	Sharon Cotman	921 Templin Hall	825-3880
Administrative Assistant	Pam Wood	122 Diggs Hall	825-3679

Business

Accounting	Kelly Hines	116 Diggs Hall	825-3667
Business Administration/Management/Marketing	Sandra Robertson	114 Diggs Hall	825-3678
Co-op Coordinator for Business	Sharon Cotman	921 Templin Hall	825-3880

Mathematics

Mathematics	Heng Fu	957 Templin Hall	825-2892

Public Services

Administration of Justice & Paralegal Studies	Dave Coffey	115 Diggs Hall	825-2787
Early Childhood Development	Teresa Frazier	328 Hastings Hall	825-3550
Emergency Medical Services	Dave Coffey	115 Diggs Hall	825-2787
Fire Science Technology	Dave Coffey	115 Diggs Hall	825-2787
Hospitality	Anne Andrews	103 Diggs Hall	825-3507
Human Services	Anne Andrews	103 Diggs Hall	825-3507

Information Systems Technology

Administrative Support Technology & Paralegal Svs	Darlene Putnam	102 Diggs Hall	825-3671
Information Systems Technology	Sanjeev Chopra	106 Diggs Hall	825-3669
Co-op Coordinator for IST/AST	Sharon Cotman	921 Templin Hall	825-3880

COMMUNICATIONS, HUMANITIES AND SOCIAL SCIENCES DIVISION

Dean	Mitchell Smith	854 Templin Hall	825-2799
Assistant Coordinator	Ursula Bock	855 Templin Hall	825-2991
Administrative Assistant	Marcia Scrivener	857 Templin Hall	825-2799

English

English	Lisa Ray	847 Templin Hall	825-3801

Humanities

Computer Arts/Fine Arts	Cecilia Wheeler	862 Templin Hall	825-3608
Foreign Languages	Isidoro Kessel	844 Templin Hall	825-3446
Humanities, Philosophy, Religion	Jerry Safko	849 Templin Hall	825-2946
Music	Michael Sundblad	868 Templin Hall	825-3659
Photography	Shar Wolff	101 Diggs Hall	825-2775
Speech	Sandra Calderon Garza	207K Historic Triangle Campus	258-6594

Social Sciences

Social Science	Ray Muzia	122 Diggs Hall	825-2900
Economics	Ray Muzia	122 Diggs Hall	825-2900
Geography/Political Science	Leo Keneally	329D Hastings Hall	825-2761
History	Eirlys Barker	329C Hastings Hall	825-3502
Psychology	Linda Haugh	329E Hastings Hall	825-2786
Sociology	Margaret Preble	329G Hastings Hall	825-3636

ENGINEERING, SCIENCE AND ALLIED HEALTH DIVISION

Dean	Patricia Taylor	321 Hastings Hall	825-2898
Assistant Coordinator	Beth Dickens	321 Hastings Hall	825-2898
Administrative Assistant	Nicole Houser	321 Hastings Hall	825-2898

Engineering and Engineering Technologies

Air Conditioning and Refrigeration	Craig Mims	313A Hastings Hall	825-2896
Automotive	Mark Burge	500 Automotive Building	825-3859
Drafting and Design	Tom Pringle	421C Hastings Hall	825-3624
Electronics Technology	Deborah Lichniak	300B Hastings Hall	825-2778
Engineering	Ji Hyon Mun	421B Hastings Hall	825-2930
Engineering Technology	Deborah Lichniak	300B Hastings Hall	825-2778
Materials Science	Julie Young	414 Hastings Hall	825-3622
Mechanical Engineering Technology	Julie Young	414 Hastings Hall	825-3622

Health Sciences

Dental Hygiene	Harold Marioneaux	4601 Opportunity Way, Williamsburg	258-6597
Health	Christy Hawkins	304 Hastings Hall	825-3691
Nursing	Hannah Anderson	931 Templin Hall	825-2809
Physical Education	Tracey Fluharty	333A Hastings Hall	825-2924

Computer Science

Computer Science	Homer Sharafi	425B Hastings Hall	825-2992

Science

Co-Chair Biology	Kim Demnicki	425E Hastings Hall	825-2759
Co-Chair Biology	Martin Zahn	4601 Opportunity Way, Williamsburg	258-6644
Chemistry	Riham Mahfouz	433C Hastings Hall	825-2796
Geology	Peter Berquist	303 Hastings Hall	825-2707
Physics	Elena Kuchina	949 Templin Hall	825-2745

ENROLLMENT MANAGEMENT

Associate Vice President for Student Affairs	Vicki Richmond	200A Griffin Hall	825-3519
Director of Enrollment Management	Kris Rarig	425 Hastings Hall	825-2801
Education Support Specialist	Geraldine Newson	200D Griffin Hall	825-2800
Placement Testing Coordinator	Yvonne Blow	209 Griffin Hall	825-2800
Educational Program Practitioner	Patricia Reese	208 Griffin Hall	825-2844
Education Support Specialist	Joanne Taylor	4601 Opportunity Way, Williamsburg	253-4882
Administrative Assistant	Cheryl Westray	200B Griffin Hall	825-3519

FINANCIAL AID

Director of Financial Aid	Kathryn Anderson	212 Griffin Hall	825-2848
Assistant Director of Financial Aid	Renee Peterson	212 Griffin Hall	825-2848
Financial Aid Manager	Lisa Smith	212 Griffin Hall	825-2848
Veteran Affairs Officer	Tim Freeman	212 Griffin Hall	825-2909
Financial Aid Advisor	Catina Copeland	212 Griffin Hall	825-2848
Financial Aid Advisor	Nicole Derry	4601 Opportunity Way, Williamsburg	253-4756
Financial Aid Advisor	Tanya Parrott	212 Griffin Hall	825-2848
Financial Aid Processor	Helen Stallings	212 Griffin Hall	825-2848
Financial Aid Processor	Felicia Carter	119 Diggs Hall	825-2848
Financial Aid Processor	Cassandra Creech	119 Diggs Hall	825-2848
Financial Aid Processor	Renee' Davis	119 Diggs Hall	825-2848
Financial Aid Processor	Lillian Fobbs	119 Diggs Hall	825-2848

INSTITUTIONAL RESEARCH AND EFFECTIVENESS

Director	James T. Walke	12 Harrison Hall	825-2716
Coordinator, Academic & Administrative Assessment		4601 Opportunity Way, Williamsburg	825-2716
Research and Survey Administration	Terry Allen	4601 Opportunity Way, Williamsburg	825-2715
Planning and Administrative Support		4601 Opportunity Way, Williamsburg	825-3885

LEARNING RESOURCE CENTER

Director	Aileen Schweitzer	227C Wythe Hall	825-2871
Academic Computer Lab	Sam Scott	255 Wythe Hall	825-2993
Academic Computer Lab	Ruth Coker	101 Historic Triangle Campus	258-6503
Library	Craig Amos	228 Wythe Hall	825-3829
Library	Richard Hodges	100 Historic Triangle Campus	258-6500
Makeup & Distance Learning Testing	Katherine Hart	254B Wythe Hall	825-3540
Math Center	Randall Stowe, Jr.	254C Wythe Hall	825-2884
Math Center	Randall Stowe, Jr.	106E Historic Triangle Campus	258-6515
Tutoring Center	Susan Graves	253 Wythe Hall	825-2804
Tutoring Center	Susan Graves	106 Historic Triangle Campus	258-6514
Writing Center	Marcia Shepherd	254A Wythe Hall	825-2940
Writing Center	Susie Engle-Hill	106F Historic Triangle Campus	258-6516

OUTREACH AND RECRUITMENT

Director	Kris Rarig	425A Hastings Hall	825-2801
Dual Enrollment Coordinator	Kate Richmond	4601 Opportunity Way, Williamsburg	825-2801
Interim Dual Enrollment Coordinator	SaraLynn Goergen	425A Hastings Hall	825-2706
Career Coach, Jamestown and Lafayette H.S.	Joyce Watson	4601 Opportunity Way, Williamsburg	825-3524
Career Coach, Phoebus High School	Doris Parks	425 Hastings Hall	825-3524
Career Coach, Heritage High School	DeBorah Littlejohn	425 Hastings Hall	825-3524
Achievable Dream High School			
Career Coach, Warhill High School	Suzy Lindley	4601 Opportunity Way, Williamsburg	258-6530

STUDENT SUCCESS – HAMPTON CAMPUS

Dean	Joyce Johnson	323A Hastings Hall	825-2827
Counselor/Coordinator ADA	Richard Hurst	323D Hastings Hall	825-2833
Counselor/Coordinator Credit Courses	Marilyn Starkes	323E Hastings Hall	825-2832
Counseling/Coordinator Orientation	Carmen Croswell	201E Griffin Hall	825-2790
Counselor/Faculty Advising	Janina Arrington	201J Griffin Hall	825-2862
Counselor/Non-Credit Courses	Chad Smith	201F Griffin Hall	825-2887
Counselor/COL	Tom Kellen	201A Griffin Hall	825-2834
Academic Planning & Transfer	Tonya Burton	201L Griffin Hall	825-3860

STUDENT SERVICES – HISTORIC TRIANGLE CAMPUS

Dean	Betsy Harrison	4601 Opportunity Way, Williamsburg	253-4755
Enrollment Services Coordinator	Joanne Taylor	4601 Opportunity Way, Williamsburg	253-4882
Financial Aid Advisor	JeVonda Moss-Pierce	4601 Opportunity Way, Williamsburg	253-4756
Professional Counselor		4601 Opportunity Way, Williamsburg	253-4331

INTRODUCTION

Thomas Nelson Community College is a two-year institution of higher education established as a part of a statewide system of 23 community colleges. It primarily serves the residents of the cities of Hampton, Newport News, Poquoson, and Williamsburg, and the counties of James City and York. The College operates under policies established by the State Board for Community Colleges and with the guidance of the Thomas Nelson Community College Board. The administration of the College is directly responsible to the chancellor of the Virginia Community College System (VCCS). The College is financed primarily by state funds, supplemented by contributions from the participating localities, the federal government, student tuition and fees, and private organizations and individuals.

ACCREDITATION

The associate's degree curricula of the College have been approved by the State Council of Higher Education for Virginia. The College is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award the associate degree. Questions concerning this accreditation should be addressed to: Commission on Colleges, Southern Association of Colleges and Schools, 1866 Southern Lane, Decatur, GA 30033, 404/679-4500. All other questions about Thomas Nelson Community College should be addressed to the College.

Thomas Nelson Community College has been approved by Veterans' Affairs for VA educational assistance and by the U.S. Department of Education for various federal funding programs. The College is affiliated with the American Association of Community Colleges as an institutional member and meets the standards established by the military and by the American Association of Community Colleges for acceptance as a Servicemembers Opportunity College.

HISTORY

Thomas Nelson Community College is named in honor of Thomas Nelson, Jr., who was a signer of the Declaration of Independence and an early colonial governor of the Commonwealth. Thomas Nelson, Jr., was a merchant in early Yorktown and served in the Virginia militia during the Revolutionary War. He was very active in leading a segment of the Virginia militia during the siege of Yorktown and the surrender of Cornwallis. During the siege, the story is that one of Nelson's men informed him that Cornwallis had set up headquarters in the Nelson House. When the soldier asked what should be done, Nelson is said to have responded, "Blow the damn thing down." Today one of the cannonballs is still lodged in the wall. Thomas Nelson, Jr., spent his fortune to aid the revolutionary cause and died a pauper.

The 1966 session of Virginia's General Assembly in active legislation established a statewide system of comprehensive community colleges. A local committee investigated the need for and feasibility of a community college for the region and requested the State Board for Community Colleges to approve an application to establish Thomas Nelson Community College. A site almost in the population center of the Peninsula area was selected and a local board of advisors was appointed. After the site was purchased by the City of Hampton, construction was begun on the initial phase of four buildings in August 1967, and the cornerstone was laid December 5, 1967. Construction was completed, and 1,232

students began classes on September 20, 1968. Thomas Nelson Community College graduated its first class of students with associate degrees on June 13, 1970. Since 1970, the College has graduated more than 14,000 students and has provided credit and non-credit instruction to many more residents of the Peninsula and nearby communities.

To better support the needs of the communities it serves, the College provides credit and non-credit training in the greater Williamsburg area. It opened a permanent site in Williamsburg in 1999 and the site was officially designated the Historic Triangle campus in 2003. Today, the College provides both credit and non-credit training at its new permanent facility at 4601 Opportunity Way, as well as non-credit and customized training at its new site in the Discovery Center in New Town. In August 2007, the College opened the Southeast Higher Education Center which expanded access to the citizens of the Southeast Newport News community. Through a partnership with the Achievable Dream Middle and High School, the College offers an array of general education courses. The College is committed to meeting the educational and training needs of the local population.

In the 1990s, the College expanded its emphasis on workforce development with additional programs to serve the needs of services area employers. In 2001, the College moved into the Peninsula Workforce Development Center in Hampton.

VISION STATEMENT

Thomas Nelson Community College will be the preeminent provider of the most technologically prepared and globally conscious individuals in the region.

MISSION STATEMENT

Thomas Nelson Community College changes lives, empowers students to succeed and enhances the social and economic vitality of the region through high quality education and workforce training, excellent service and innovative partnerships.

PHILOSOPHY

At Thomas Nelson Community College learning is fostered, lives are changed, excellence is an attitude, and responsiveness to our students and community is paramount.

CORE VALUES

Thomas Nelson Community College's strength lies in its value system which forms the foundation for its actions. The following core values embody the institution's guiding principles, ideals and beliefs and represent what is important to us and what we strive to be as members of the TNCC community:

1. Students First – We are passionate about our students' success and their futures, and are committed to providing outstanding education and training opportunities in a supportive collegiate environment that will equip students to compete in the global workforce.
2. Educational Excellence – We value high standards for learning and appreciate our dedicated faculty and staff who create learning environments that stimulate intellectual growth and academic achievement, encourage life-long learning, and help students realize their dreams.
3. Community Responsiveness – We affirm our commitment to

meeting the education and workforce training needs of our community and to building strong innovative partnerships that support the economic vitality of the region.

4. Integrity – We expect everyone to take responsibility for their actions, to engage in ethical behavior and to impart honesty, trust and transparency in all interactions.

5. Diversity – We are committed to exploring and understanding our similarities and differences and fostering inclusive working and learning environments that promote respect and appreciation for our diverse cultures, beliefs, lifestyles, and perspectives.

6. Mutual Respect & Shared Governance – We value the contributions of everyone, encourage the sharing of ideas, and commit to equitable treatment in all that we do. We acknowledge a shared responsibility for institutional success and improvement, and commit to shared decision making characterized by broad participation, openness, and teamwork.

CODE OF ETHICS

Thomas Nelson Community College is committed to supporting a collaborative environment noteworthy for its civility, integrity and mutual respect. The Code of Ethics establishes high standards of professionalism for employees and students.

• **Excellence**- We establish high standards in and out of the classroom and strive for excellence in all we do.

• **Respect**- We respect every individual and practice civility in our communication and conduct.

• **Integrity**- We reflect the principles of honesty, fairness and integrity in our communication and action to create a just and equitable learning and working environment.

• **Diversity**- We promote an inclusive working and learning environment with respect for and understanding of our individual differences, diverse cultures, and beliefs.

• **Responsibility**- We are accountable for our decisions and actions, and we exercise good stewardship of human and material resources.

• **Compliance**- We uphold the regulations, codes and statutes of the Commonwealth of Virginia and the policies, procedures and protocols of Virginia's Community Colleges and Thomas Nelson Community College.

• **Cooperation**- We are committed to working collaboratively to achieve our goals.

EDUCATIONAL PROGRAM GOALS

Thomas Nelson Community College shall provide financially accessible, high-quality, comprehensive educational programs and services. The purpose of these programs and services is to support the economic development of the Commonwealth and to meet the educational needs of citizens of all ages.

The educational program goals are as follows:

1. Provide associate degree programs to prepare individuals for careers as technical and paraprofessional workers, or for transfer as upper-division students to baccalaureate degree programs at four-year institutions.

2. Offer diploma and certificate programs to prepare persons for careers as technicians and as skilled and semi-skilled workers.

3. Conduct developmental courses to prepare students for other instructional programs.

4. Provide counseling and guidance services that will assist

individuals with decisions regarding occupational, educational, and personal goals.

5. Conduct industrial training programs where specific employment opportunities are available in new or expanding businesses, industries, and professions.

6. Provide continuing education programs for individuals who wish to continue and expand their learning experiences. Such programs may include credit and non-credit courses, seminars, and workshops.

7. Offer cultural and educational opportunities to the community.

RESPECT FOR COPYRIGHTS, INCLUDING SOFTWARE OF DIGITAL MEDIA

Thomas Nelson Community College does not condone or tolerate the unauthorized copying of copyrighted materials, including licensed computer software or digital media by staff, faculty, or students. The college shall adhere to and comply with all copyright laws, and expects all members of the college community to do so as well.

Members of the college community who violate this policy may be subject to discipline as defined by the Scholastic Dishonesty section of the Student Handbook; Section 3.12.0 of the VCCS Policy Manual; or Section 1.60 of the Department of Human Resource Management's Human Resource Policy on Standards of Conduct. Individuals engaged in the unauthorized copying, transfer, or use of software may also face civil suit, criminal charges, and/or penalties and fines. Subject to the facts and circumstances of each case, such individuals or departments shall be solely responsible for their defense and any resulting liability.

If you have questions about this policy, please contact the Thomas Nelson Information Security Officer at 757-825-3546, or the Director of Information Technology at 757-825-3513.

Who is the author of college works?
Copyright ownership for Thomas Nelson Community College works are determined in accordance with the Section 12 of the VCCS Policy Manual entitled "Intellectual Property," http://myfuture.vccs.edu/Portals/0/ContentAreas/PolicyManual/sec12.pdf .

WHAT IS COPYRIGHT INFRINGEMENT?

The law of copyright indicates that copyright protection applies to original works of authorship fixed in a tangible form of expression, directly or indirectly perceptible, including, but not limited to, literary works, musical works (including any accompanying works), dramatic works (including any accompanying music), motion pictures and other audiovisual works and sound recordings. The owner of copyright has exclusive rights to reproduce, perform, display, and/or prepare derivative works of the copyrighted work, and to distribute copies of the copyrighted work to the public by sale or other transfer or ownership, or by rental, lease or lending. Copyright infringement is the violation of any of a copyright owner's exclusive rights.

Examples of copyright infringement:

1. Copying the contents of someone's web page or use of video clips or sound recording without permission would in many

cases be infringement.
2. Unauthorized duplication, distribution or use of someone's intellectual property, including computer software is copyright infringement and is illegal and is subject to criminal and civil penalties.
3. Unauthorized duplication and distribution of sound recordings is infringement. (e.g. MP3 format).

WHAT IS FAIR USE?

The "fair use" of copyrighted works does not constitute infringement under copyright law. Fair use extends to the reproduction of copyrighted material for purposes such as criticism, comment, news reporting, teaching, scholarship, or research. In order to determine whether use of a work is fair use, consider:

1. the purpose and character of the use, including whether the material is used for nonprofit educational purposes rather than commercial gain;
2. the nature of the copyrighted work;
3. how much of the entire work is used; and
4. the effect of the use upon the potential market for or value of the copyrighted work.

EXAMPLES OF FAIR USE:

1. Quoting passages from, rather than a significant portion of, a book in a report for a class assignment.
2. Providing a link to someone's webpage in a report for a class assignment.

What are the penalties for copyright infringement?
Legal action available to the owner of the copyright includes obtaining an injunction preventing future infringement activity, as well as, monetary compensation that may exceed $150,000.

Who should you contact to report a claim of copyright infringement?
Contact the Thomas Nelson Information Security Officer at 757-825-3546 or the Director of Information Technology at 757-825-3513.

ADMISSION INFORMATION

Students are eligible for admission to Thomas Nelson Community College if they are high school graduates or the equivalent, or if they are 18 years of age or older and able to benefit from study at Thomas Nelson Community College.

The College reserves the right to evaluate 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 the college. The College also reserves the right to refuse admission to applicants that have been expelled or suspended from, or determined to be a threat, a potential danger or significantly disruptive by another college. Students whose admission is revoked after enrollment must be given due process. The College must have a procedure for determining when denial is warranted.

The College does not discriminate on the basis of race, color, religion, national origin, political affiliation, sex, age, or handicap in accordance with Section 504 of the Rehabilitation Act of 1973, or on the basis of other non-merit factors, and complies with the Civil Rights Act of 1964. There is no application fee for admission. Also, student identification cards are issued without charge.

INQUIRIES
Inquiries and requests for information pertaining to admission to the College should be addressed to:

Enrollment Services Office
Thomas Nelson Community College
99 Thomas Nelson Drive
Hampton, VA 23666   OR

Thomas Nelson Community College
4601 Opportunity Way
Williamsburg, VA 23188

Information may be obtained in person at the Welcome center on the Hampton campus, 221I Griffin Hall, or by telephone at 757/825-2800. Office hours are posted. Summer hours may differ. Information and forms are also available on the College's web page, **www.tncc.edu** and at the Historic Triangle campus at 4601 Opportunity Way in Williamsburg or by telephone at 757/253-4755.

CURRICULAR STUDENTS
Curricular students are those who work full or part-time toward the completion of a degree, certificate, or diploma offered by the College

The following items are required for official admission:

1. A completed official application for admission with social security number requested.
2. A completed Domicile Determination application for Virginia In-State tuition rates.
3. Official transcripts from all high schools, colleges, and universities attended. (A transcript is considered official when

signed by the acting school offical and submitted to the college in an approved sealed envelope.)
4. Additional information may be required by the college for admission to a specific program or curriculum.

Graduates who complete secondary school in a home school setting must provide a graduation date and may be required to provide documentation of coursework. The VCCS Student Information System academic records will be sufficient for colleges within the Virginia Community College System. High school transcripts may not be required if the record is more than 10 years old or the student has completed 20 semester hours (or equivalent) at a regionally accredited college or university.

NON-CURRICULAR STUDENTS
Non-curricular students are those individuals who currently do not intend to apply credits toward completion of a program of study (degree, diploma, or certificate) offered by the College. A non-curricular student, therefore, is not formally admitted to one of the academic programs.

The following items are required:
1. A completed offical application for admission.
2. A complete Domicile Determination application for Virginia In-State tuition rates.
3. An offical or unofficial copy of transcripts from all high schools, colleges and/or universities previously attended.

After applying to the College, all applicants will be assessed for academic placement prior to completing a Gatoration New Student Orientation session and meeting with the Admissions Counselor. The meeting with the Admissions Counselor will cover:
1. The student's educational interests.
2. Academic placement test scores and course prerequisites.
3. Student's entry into a specific curriculum or program at the College.

SENIOR CITIZENS
Senior citizens may apply for free tuition and fees provided by the Senior Citizens Higher Education Act of 1974. Senior citizen students must complete the application for admission, Domicile Determination application, and provide documentation to the Enrollment Services Office, Griffin Hall Room 208 in Hampton or at the Historic Triangle campus located at 4601 Opportunity Way in Williamsburg.

To be eligible for free tuition and fees for credit classes, part-time or full-time, a person must meet the following criteria and present documentation of each criteria for verification:
1. Be 60 years of age or older.
2. Be a legal resident of Virginia.
3. Had a taxable income not exceeding $15,000 for state income tax purposes for the year preceding the year in which enrollment is sought.
4. Be admitted to the college as a student.

To be eligible for free tuition for audit of credit classes or for taking non-credit classes (not to exceed three classes per semester) a person must meet the following criteria and present documentation of each criteria for verification:
1. Be 60 years of age or older.

2. Be a legal resident of Virginia.
3. Be admitted to the college as a student.

GENERAL ADMISSION REQUIREMENTS TO SPECIFIC COLLEGE CURRICULA

Before being admitted into specific college curricula, students must show evidence of having the requisite high school courses (or their equivalent) and must have undergone the assessment process required at the time of general admission to the College. For students who do not present high school and/or other appropriate transcripts, decisions regarding admission into curricula and placement will be based on the assessment process. At the time they are admitted to a given curriculum, students with deficiencies will be placed by an Admissions Counselor into the appropriate developmental courses which they will be required to complete in order to meet course prerequisites. If a student later changes his or her curriculum, the student is required to meet with an Admissions Counselor, who will review the results of the assessment process and the student's academic record to determine whether any changes in placement are appropriate.

Below are the requirements in English, mathematics, and other specialized subject areas.

ENGLISH

All curricula (certificate, diploma, and degree) require that students have completed four units of high school English (or their equivalent) with an average grade of "C" or better. In addition, prerequisites for placement into specific English courses are stated in the Course Descriptions section. Students with deficiencies in English will be required to take the appropriate developmental courses.

MATHEMATICS

Various curricula of the College require that students have completed the number and type of high school units of mathematics needed for the specific program of study:

Curricula requiring one unit of high school Mathematics: Accounting (non-transfer), Administration of Justice (non-transfer), Administrative Support Technology, Air Conditioning and Refrigeration, Automotive Technology, Computer Arts (non-transfer), Early Childhood Development, Electricity, Fine Arts (non-transfer), Dental Hygiene, Management, Nursing, Photography, Technical Studies.

Curricula requiring three units of college preparatory Mathematics: Accounting (transfer), Administration of Justice (transfer), Business Administration, Computer Arts (transfer), Computer-Aided Drafting and Design Technology, Early Childhood Development (transfer), Electronics Technology, Fine Arts, General Studies, Information Systems Technology, Liberal Arts, Mechanical Technology, Photography (transfer), Science, Social Science, and Technical Studies.

Curricula requiring four units of college preparatory Mathematics: Computer Science and Engineering.

In addition, prerequisites for placement into specific mathematics courses are stated in the Course Description section in this catalog. Students with deficiencies in mathematics will be required to take the appropriate developmental courses.

SPECIALIZED REQUIREMENTS

Certain curricula require high school units in subject areas besides English and mathematics. Students with deficiencies will be required to take the appropriate developmental courses as a condition for entering the curriculum of their choice.

Two units of high school laboratory science (biology and chemistry) are needed for students entering the Nursing Curricula.

For any additional admission guidelines to specific programs, students should consult the detailed description of their programs contained in this catalog.

ASSESSMENT AND PLACEMENT

To ensure that all students are as successful as possible in their academic courses, Thomas Nelson Community College has a Student Assessment and Placement Policy. The policy requires all new students to go through an assessment process before registering for classes. Certain categories of students can be screened and registered quickly; however, others must take a battery of placement tests to demonstrate their readiness for enrollment in certain areas.

Academic placement tests are administered by the Placement Testing Center in accordance with academic placement guidelines to determine initial placement in English, mathematics, and other courses. Students with a college degree, SAT or ACT scores, or any previous college credit should bring official or unofficial documents to demonstrate completion. Non-curricular students also are encouraged to submit any of the above information if available. This documentation becomes a part of the student's record and is used by professional counselors to advise students on appropriate courses in which to enroll. Students who do not have the above-named documentation must take the academic placement battery of tests administered by the Placement Testing Center. Students may also be referred for further testing by the Admissions counselor during advising. The Admissions counselor follows the Academic Placement Guidelines outlined in the Thomas Nelson Faculty Advising Handbook.

Any questions regarding the assessment process should be directed to the Enrollment Services Office staff, located in Room 208, Griffin Hall, telephone 757/825-2800. Assessment services are also provided at the Thomas Nelson Historic Triangle campus at 4601 Opportunity Way in Williamsburg. For more information, call 757/253-4755.

DUAL ENROLLMENT ADMISSIONS

Dual enrollment is restricted to high school juniors and seniors and home school students at the high school junior or senior level. Documentation of parental permission is required for all dual enrollment students. 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 provide a copy of the acknowledgement letter from the school district, or a copy of the letter filed by the parent/legal guardian declaring home school for religious exemption. Satisfactory placement scores must meet or exceed the federal Ability-to-Benefit standards. 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.

The following are requirements for admission of high school students to the College:

1. The applicant must be currently attending high school (summer semester excepted).
2. The applicant must furnish a completed Dual Enrollment Agreement form outlining the course(s) for which approval is granted and attesting to the student's good academic and behavioral standing at the high school. This form requires the parent's/guardian's and the high school principal's (or designee's) signature.
3. All applicants must take the placement test.
4. Since VCCS policy prohibits high school dual enrollment in developmental-level courses, the applicant must also score in the "credit class score range" on the College's assessment instrument.

HOMESCHOOL STUDENT ADMISSIONS

Homeschooled students and homeschooled graduates are welcome at TNCC. Homeschooled students are eligible to enroll in courses as Dual Enrolled students (on-campus) to complement their homeschool curriculum. Placement testing will be required of each student and all prerequisites must be adhered to as specified in this catalog. Homeschooled students must apply to the College using the normal application process and must also submit a TNCC High School Student Dual Enrollment Permission Form signed by the student, parent and school principal (parent) and must be submitted each semester. Homeschooled students seeking admission are required to provide a copy of the acknowledgment letter from the school district.

ADMISSIONS

The College also requests that a transcript be submitted to allow counselors to assist the student with the application and registration process.

Students who have completed secondary education requirements under the category of "religious exemption" or otherwise home schooled and who seek admission to Thomas Nelson Community College must fulfill the following requirements:

1. Complete an online Application for Admission.
2. Submit a copy of the Letter of Intent submitted to the school district in which they reside.
3. Submit a copy of an official transcript, which must contain a graduation date. (A transcript is considered official when it is in an unopened envelope and signed by the acting school official).
4. Complete the appropriate placement tests prior to registration.
5. Consult with a counselor.

ADMISSION TO A SPECIFIC CURRICULUM

In addition to the general admission requirements listed above, specific requirements are prescribed for certain curricula of the college. The specific requirements for the curriculum are listed in the Programs of Study section of this catalog.

ADMISSION TO COURSES

Admission to a specific course is possible when students meet the prerequisites for the course as given in the Course Descriptions section of this catalog.

CONTINUING EDUCATION COURSES

Persons interested in taking continuing education courses should contact the Office of Workforce Training and Continuing Education at 757/825-2937 or 757/825-2935.

CONVERTING FROM NON-CURRICULAR TO CURRICULAR

A non-curricular student who has completed a total of 16 semester hours at Thomas Nelson Community College, excluding credits in developmental studies, should identify a major or curriculum. The student must submit all official transcripts of any previous college coursework to the Office of Enrollment Services and complete a Request for Transfer Evaluation.

If the student cannot decide upon a curriculum or is not interested in pursuing an established program, the student will be allowed to remain non-curricular.

Curricular declarations or changes are done in the Counseling Center, Room 201 Griffin Hall, Hampton Campus or 4601 Opportunity Way, Historic Triangle campus.

ADMISSION PRIORITIES

When enrollments must be limited for any curriculum, first priority must be given to all qualified students who are domiciliary residents of the political subdivisions supporting the College, provided such students apply for admission to the program during a reasonable length of time prior to registration. The priority list is as follows:

1. Domiciliary residents of the political subdivisions supporting the College.
2. Other Virginia residents.
3. Out-of-state students.

FOREIGN STUDENTS

It is the policy of the College to admit qualified foreign students already residing in the service area. The College is not able to process requests of students applying from abroad or those requiring the college to initiate or maintain an F-1 student visa.

READMISSION

A new application to the College is required from those students whose enrollment has been interrupted for three years or more.

TRANSFER ADMISSION

A student transferring from another college is eligible for admission to Thomas Nelson Community College if the student is eligible for re-entrance at his or her last college attended.

If a transfer student is ineligible to return to the last institution of education attended, he/she may be ineligible to attend the College; however, students should contact the Office of Enrollment Services, Room 200 Griffin Hall, to obtain information regarding the admission policy, or call 757/825-2800.

ADMISSION PROCEDURES FOR TRANSFER STUDENTS ON ACADEMIC SUSPENSION OR DISMISSAL AT THEIR LAST COLLEGE

Suspension and dismissal are actions which indicate serious difficulty. Time should be provided to allow the student to reflect upon his/her academic situation, as well as to obtain necessary help.

ACADEMIC SUSPENSION

Students will be placed on academic suspension when they have attempted 24 or more credit hours; current status is academic probation; and their semester grade point average is less than 1.5. The statement "Academic Suspension" will appear on the student's permanent record. Academic suspension is usually imposed for a minimum of one semester. Once the student is informed (in writing or orally), he or she can submit an Application for Re-Admission to the Admissions Committee. Applications are available in the Office of Enrollment Services at the Hampton and Historic Triangle campus Admissions Offices. The completed Re-Admission application must be submitted to the Office of Enrollment Services. The recommended dates for submission that will ensure timely review by the Admissions Committee are July 10 -- Fall Semester, October 31 -- Spring Semester, and March 31 -- Summer Semester. In the event the committee is unable to meet or lacks a quorum, the application for readmission may be reviewed and acted upon by the Committee chair and the Associate Vice President for Student Affairs.

The student is notified in writing by the Admissions Committee of his/her enrollment eligibility for the semester requested. The student may be required to enroll in a special SDV 100 course or ENG 109 -- Study Skills. Any student who is not satisfied with the enrollment eligibility may request a review by the Associate Vice President for Student Affairs.

ACADEMIC DISMISSAL

Students readmitted following academic suspension who do not meet the minimum grade point average requirements as described above will be academically dismissed.

The statement "Academic Dismissal" will appear on the student's permanent record. Academic dismissal is usually permanent, unless with good cause, the student has applied and received approval by the Associate Vice President for Students Affairs.

Once the student is informed (in writing or orally), he or she can submit an Application for Re-Admission to the Associate Vice President for Student Affairs. Applications are available at the Hampton and campus Office of Enrollment Services. The completed Re-Admission application must be submitted to the Office of Enrollment Management. The recommended dates for submission that will ensure timely review by the Associate Vice President for Enrollment Services are: July 10 -- Fall Semester, October 31 -- Spring Semester, and March 31 -- Summer Semester.

The student is notified in writing by the Associate Vice President for Student Affairs on his or her enrollment eligibility for the semester requested. The student may be required to enroll in a special SDV 100 course or ENG 109 -- Study Skills. Any student who is not satisfied with the enrollment eligibility may request a review by the Vice President of Student Affairs.

Students readmitted following academic dismissal must follow the same requirements for continued enrollment as those readmitted following academic suspension.

ACADEMIC SUSPENSION OR DISMISSAL FROM OTHER INSTITUTIONS

Students who were placed on Academic Dismissal or Academic Suspension at their previous institution and are seeking to attend Thomas Nelson Community College must follow the policy outlined above.

Call 757/825-3519 if you have questions about the procedure described.

TRANSFER OF CREDITS

To request an official transfer credit evaluation, the student must complete and submit a Request for Transfer Evaluation form at the Office of Enrollment Services, Room 208 Griffin Hall at the Hampton campus, or 4601 Opportunity Way at the Historic Triangle campus. An official transcript must be on file from each institution previously attended; these should be sent directly from each institution to the Enrollment Services Office. The evaluation process can take 4-6 weeks to complete.

Thomas Nelson Community College accepts credits for courses completed with a grade of "C" or better at other institutions where the courses are equivalent to Thomas Nelson Community College courses as determined by the College. Courses meeting these criteria from institutions that are accredited by a regional accrediting body (such as the Commission on Colleges of the Southern Association of Colleges and Schools) are normally accepted. Courses from all other institutions are considered on a case-by-case basis. No credit with a grade of "D" or "Pass/Fail" transfers. It must be emphasized that the appropriateness of transfer credits to a particular degree program is dependent upon approval and acceptance by the division dean or designee in the student's program.

ARMED SERVICES SCHOOL

Academic credits may be awarded for military courses of formalized instruction. Generally, the College may assign lower-level credit as recommended by the American Council of Education in those programs for which the College offers instruction. Students who wish to have any courses evaluated should submit a DD295 (military education record), an AARTS transcript, a CCAF transcript, SMART transcript, or DD214, listing the complete name of service schools, course numbers (if applicable), and dates.

TRANSCRIPTS FROM INSTITUTIONS OUTSIDE THE U.S.

International credentials are accepted by the College for transfer credit; however, the College does not translate or evaluate foreign documents. Applicants with educational documents from outside the U.S. are referred to Josef Silny and Associates, International Education Consultants, 7101 SW 102 Avenue, Miami, FL 33173, info@jsilny.com or by a professional organization or agency that is a member of the National Association of Credential Evaluators or is approved by the Virginia Department of Education. The fee for this evaluation and the time required for completion of the evaluation vary with each agency, and is the responsibility of the student. Forms are available in the Office of Enrollment Services, Room

208, Griffin Hall at the Hampton campus and 4601 Opportunity Way at the Historic Triangle campus. Once the translated evaluation has been received, it is then reviewed in the Office of Enrollment Services to establish college course equivalencies.

ADVANCED PLACEMENT PROGRAM (AP)

For selected courses determined by the academic divisions, the College grants credit to students who have taken approved Advanced Placement (AP) examinations and have met Thomas Nelson Community College performance standards. Official test reports must be sent directly to the Enrollment Services Office at the Hampton Campus or 4601 Opportunity Way at the Historic Triangle campus to be evaluated. Consult the Advanced Standing Guide online at www.tncc.edu for more information.

COLLEGE LEVEL EXAMINATION PROGRAM (CLEP)

For selected courses determined by the academic divisions, Thomas Nelson Community College grants credit to students who have taken approved exams through the College Level Examination Program (CLEP). The program is designed for those individuals who have gained their education in academic areas in non-traditional ways outside the classroom. Official test reports must be sent directly to the Office of Enrollment Services to be evaluated. For more information about the approved exams and procedures for taking them, contact the Enrollment Services Office or consult the Advanced Standing Guide online at www.tncc.edu for more information.

CHALLENGE EXAMINATION

Students who have reason to believe that their previous educational studies or occupational experiences entitle them to an adjustment in the course work required in a curriculum may apply for a challenge examination. To obtain a challenge examination, it is the student's responsibility to inquire at the appropriate academic division to see if an examination is available for the course(s) in question. Consult the Advanced Standing Guide for more information. It should be noted that credits for experiential learning or by challenge examinations are generally not accepted for transfer credit by four-year colleges and universities. Furthermore, credit for experiential learning or by the College challenge examination may comprise no more than 25% of a student's curriculum (VCCS Policy 5.7.6.1.0.3).

CREDIT FOR EXPERIENTIAL LEARNING

In general, the College does not award credit for life experiences or for training in a work setting (other than for military schools as stated elsewhere). In those limited instances where a student may petition to receive credit based on experiential learning (submission of art, drafting, or photography portfolios or submission of work experience documentation for internship credit), the evidence provided must show student mastery of all learning outcomes specified for the course. Such credit is awarded only for specific courses in the curriculum in which the student is enrolled. It should be noted that credits for experiential learning or by College challenge examinations are generally not accepted for transfer credit by four-year colleges and universities. Furthermore, credit for experiential learning or by College challenge examination may comprise no more than 25% of a student's curriculum (VCCS

Policy 5.7.6.1.0.3).

TRANSFERRING TO OTHER INSTITUTIONS

Students planning to transfer to four-year colleges or universities are responsible for determining what is required by the departments of their intended major fields at those schools. The requirements there should guide the students in choosing their courses of study and electives. The College keeps a file of catalogs of many other colleges and schools in the Academic Planning Center located in Room 201 on the Hampton Campus. The Academic Planning Center will help a student choose a school and provide information on articulation agreements.

TRANSFER BETWEEN CURRICULA OR PROGRAMS

Students who want to change their program or course of study at the College should discuss their intention with their academic advisors. Once a decision to transfer to another curriculum has been made, the student must meet with an Admissions counselor to arrange a curriculum change.

Students using veteran's benefits are strongly advised to see the Veterans Affairs Office in the Financial Aid Office prior to initiating curriculum changes.

TRANSFER-BACK PROGRAM

If military and civilian students find themselves being relocated, they may contact the College to complete their degrees while attending colleges throughout the United States. These students may request prior approval to guarantee that courses completed at other colleges will transfer to Thomas Nelson Community College. Students should contact the appropriate academic division.

NOTICE OF CHANGE IN NAME, ADDRESS, OR OTHER DATA

Notification regarding change of name, address, or phone numbers should be filed promptly in the Office of Enrollment Services, Room 208 Griffin Hall, Hampton campus.

SERVICE MEMBERS OPPORTUNITY COLLEGES

Thomas Nelson Community College participates in the Servicemembers Opportunity Colleges (SOC) network of colleges and universities. SOC is sponsored by the American Association of State Colleges and Universities and the American Association of Community Colleges, in cooperation with 13 other national associations in higher education, the Office of the Secretary of Defense and the Military Services, including the National Guard and the Coast Guard. The College is a proud partner with SOCAD-2 (Army), SOCCOAST-2 (Coast Guard) and SOCNAV-2 (Navy) in helping service members and eligible family members complete their higher education goals.

The SOC network of colleges and universities gives students the ability to graduate from their home institution while attending a college or university where they are stationed. Twenty-five percent of the degree must be completed at Thomas Nelson Community College. The college must pre-approve courses not part of the SOC transferability tables. The SOC 2-year and 4-year programs allow students to complete their degrees without suffering loss of

credits due to permanent change of duty stations. There are SOC participating colleges and universities worldwide. The education center located on the base where military personnel are stationed should have a listing of all the SOC 2-year and 4-year colleges and universities to assist personnel who have moved from the College service area.

For information about SOC or to complete a SOC Student Agreement, contact the TNCC Transfer Specialist at 757/825-3517.

Navy personnel should complete the College SOCNAV form through the nearest Navy Campus Field Office. To find a Navy Campus Office, contact 757/444-7453. Thomas Nelson Community College pledges a continuous institutional effort, in conjunction with SOC, to help service members as they continue their education.

AMERICANS WITH DISABILITIES ACT POLICY STATEMENT

Thomas Nelson Community College complies with the requirements of the Americans with Disabilities Act (ADA) and provides reasonable accommodations to its employees and those receiving services from the college who are entitled to such accommodations by law. Employees and persons receiving services from the college who have disabilities that require accommodations are responsible for informing the appropriate college personnel of their disabilities that require such accommodations. Reasonable accommodations may include, but are not necessarily limited to:

1. Making existing facilities used by students and employees accessible to and usable by individuals with disabilities;
2. Acquiring or modifying equipment, desks, and devices;
3. Adjusting or modifying examinations, training, or academic materials, and policies;
4. Modifying academic or work schedules; and
5. Providing other reasonable assistance as required.

Individuals seeking information or voicing complaints should contact the coordinator of ADA Compliance. Any complaint must be written and clearly identify the non-compliance issue.

EQUAL EMPLOYMENT EDUCATIONAL OPPORTUNITY

It is the policy of the Thomas Nelson Community College to maintain and promote equal employment and educational opportunity without regard to race, color, sex, or age (except where sex or age is a bona fide occupational qualification), religion, disability, national origin, or other non-merit factors. Inquiries concerning this policy should be addressed to the affirmative action officer at Thomas Nelson Community College, 99 Thomas Nelson Drive, Hampton, VA 23666 and can be reached at 757/825-2728 or TDD 757/825-2853.

FINANCIAL INFORMATION

TUITION AND FEES

Tuition and other fees may have changed since the printing of the catalog. The current tuition and refund policies are printed in each semester's Schedule of Classes. Rates at catalog printing time are as follows:

Virginia Domiciliary	$103.00 per credit hour
Out-of-State Domiciliary	$279.60 per credit hour
Business Contract Rate	$134.50 per credit hour
Military Contract Rate	$153.00 per credit hour
Institutional Fee	$10.50 per semester
Institution Fee (summer)	$7.25
Auxiliary Fee	$8.00 per semster
Auxiliary Fee (summer)	$4.00 per semster
VCCS Technology Fee	$5.50 per credit
Capital Outlay Fee	$10.00 per credit hour
(Out-of-State students only)	

To confirm current rates, contact the Business Office. Tuition is subject to change by the State Board for Community Colleges and/or legislative action. Information is also available at **http://tncc.edu/students/financial-information/tuition-and-fees/**

PAYMENT

Tuition and fees may be paid by cash, check, money order, or credit card (VISA, American Express, MasterCard, or debit card). The College's MyTNCC (**www.tncc.edu**) registration system may be used to pay tuition and fees during registration periods via MasterCard or Visa or American Express. Checks or money orders must be for the exact amount made payable to Thomas Nelson Community College. Tuition and fees are not considered paid until check, money order, or credit card payment is honored by the paying agent.

The College participates with FACTS/Nel/Net Tuition Management to offer a tuition payment plan. This allows students, for a fee, to periodically pay their tuition and fees to FACTS/Nel/Net Management. The funds are transferred during that semester to the college. For more information, visit **www.tncc.edu**.

Payment of tuition and fees also enables the student to use the library, computer laboratory, and other facilities of the College. There are no special laboratory or library fees, but students are expected to pay charges for any school property (such as laboratory or shop equipment, supplies, library books, and materials) they damage or lose.

All students' accounts (with the Business Office, bookstore, or library) must be paid in full before students can register for classes or receive diplomas, degrees, certificates, or transcripts.

ELIGIBILITY FOR IN-STATE TUITION RATES

The Associate Vice President for Student Affairs or his/her designee is responsible for making determinations of eligibility for in-state tuition rates based on information provided by the student on the "Domicile Determination Form" included with the College application materials. Eligibility is determined in accordance with Section 23-7.4 of the Code of Virginia.

Generally, in order to be eligible for in-state tuition rates, the student or the person on whom the student is dependent must have been a legal "domiciliary" of Virginia for a period of at least one full year prior to the planned term of enrollment at the college. "Domicile" is a technical legal term, which means more than simple residency in the Commonwealth of Virginia. A legal domiciliary must demonstrate his or her intention of remaining in Virginia indefinitely. Demonstration of intent is usually accomplished through objective evidence such as a Virginia driver's license, automobile registration, voter registration, payment of Virginia state income taxes, ownership of real property, etc.

A student under the age of 24 is presumed to be dependent on the parent(s) for domicile purposes, unless the student provides clear and convincing evidence of independence. A student over the age of 24 may establish his or her own domicile independent of the parent(s).

Additional information about eligibility can be obtained from the Office of Enrollment Services, Room 208 on the Hampton campus or in Room117 at the Historic Triangle campus. A copy of the domicile law and guidelines for its use are also available for reference in the College library.

Upon receipt in the Enrollment Services Office, the domicile application will be reviewed by a staff member for a determination. If the applicant has been determined to be a non-resident for tuition purposes, he or she will be notified of the out-of-state classification in person and in writing.

If the applicant disagrees, he or she may request an immediate appeal, in writing, using the Reclassification Request for Virginia In-State Tuition Rates form. The Associate Vice President for Student Affairs or designee will respond to the appeal within ten business days. If the applicant disagrees with the second level decision, he or she may request a final appeal. This request must be made in writing, using the supplemental application form addressed to the Associate Vice President for Enrollment Services. An independent domicile appeals committee will review the case. The student may be present at the committee's meeting, if desired. A written determination will be sent to the applicant within ten business days of the hearing.

Should the applicant disagree with the final determination, he or she then has 30 days to take this matter to the appropriate circuit court. In all cases, domicile determinations and changes are made for subsequent semesters.

Domicile reclassification must be requested and determined on or before the first day of classes for the semester of eligibility.

CHANGING STATUS

If a student enters the College as an out-of-state student and believes that he or she has subsequently become a Virginia domiciliary, it is the student's respnsibility to complete the Reclassification Request for Virginia In-State Tuition Rates form in the Enrollment Services Office. If he or she is correct, he or she will become eligible for in-

state tuition rates for the next semester in which he or she enrolls.

SPECIAL SITUATIONS

All dependents of active duty military personnel assigned to permanent duty station in Virginia and who reside in Virginia are considered domiciled in the Commonwealth of Virginia for purposes of eligibility for in-state tuition. Active duty military personnel, that are stationed or assigned by their military service to a work location in Virginia and residing in Virginia, shall pay tuition to the college in an amount no more than the institution's in-state tuition rate.

SPONSORED STUDENTS

Sponsored students are required to have their sponsorships verified in writing. It is the student's responsibility to have a sponsor's authorization provided to the Business Office no later than the date of registration.

SENIOR CITIZENS

Students at least sixty years of age who have been domiciled in Virginia for one year are eligible to enroll in non-credit courses or to audit credit courses for free. Additionally, if their federally taxable income did not exceed $15,000 for the year preceding enrollment, senior citizens may take courses for credit without cost. Taxable income documentation must be submitted to the Office of Enrollment Services. Tuition-paying students are accommodated first. Thomas Nelson Community College complies with the Senior Citizens Higher Education Act of 1974. Interested persons should contact the Enrollment Services Office at the Hampton campus or the Office of Student Development at the Historic Triangle campus for details and assistance with credit courses, or the Office of Workforce Training and Continuing Education for non-credit courses.

WAIVED TUITION

Free tuition to state-supported institutions of higher learning is granted to eligible children (ages 16-29) of disabled or deceased veterans of the United States armed forces. Eligibility requires that, for the children to be eligible, the disabled or deceased veteran must have been a resident of Virginia at the time of entry into the armed forces. Also, the veteran must have been a resident of Virginia for at least five years prior to the student's date of application.

The amended section provides that free tuition and required fees be made available "from such funds as are appropriated for this purpose" for any child between the ages of sixteen and twenty-five whose parent has been killed in the line of duty while employed or serving as a law enforcement officer or firefighter or rescue squad member in Virginia. Certain conditions pertain to both entitlements, and students may contact the Veterans' Affairs Office for further information.

TUITION REFUNDS POLICY

If your class is canceled or you officially withdraw from the college or drop individual classes by the "drop with a refund" date using the process set forth in this college catalog, you will receive a full refund, within six to eight weeks after the "drop with refund date". Please refer to the academic calendar for the specific dates for each session.
- TNCC does not issue partial or pro-rated refunds.

- If a class was paid at the cashier's window by cash, check, or credit card a refund check will be mailed to the student, from the Commonwealth of Virginia's Department of the Treasury to the address on file in TNCC's Student Information System (SIS).
- If a class was paid online using the WEB, the refund will be batch processed back to the credit card used.
- You may also bring the same credit card to the cashier's window to receive the refund to your credit card.
- Enrollment cancellation does not guarantee you will be dropped from class for non-payment of tuition.

BOOKSTORE
(757/825-2864)
The College contracts with Follett Higher Education Group to provide bookstore services to students, faculty, and staff. Textbooks, school supplies, college apparel, giftware, and other course-related materials are available. The bookstore's operating hours are listed in the college schedule of classes, the bookstore's web page, and on the voice mail system.

BOOKS AND SUPPLIES

Students are expected to obtain their own books, supplies, and consumable materials needed in their studies.

BOOKSTORE REFUND POLICY

Students have five days from the start of each semester or within two days of the date purchased to receive a full refund on textbooks purchased at the bookstore. All textbooks must be in original condition and/or shrink-wrap. All computer and electronic products must be returned unopened. All purchases made with a check must wait ten days for a cash refund. A valid receipt is required for any refund. In addition, upon proof of drop/add, the bookstore will accept course material returns (textbooks) from students who have dropped a course up to the end of the official drop/add period. No exceptions to this policy will be made.

Due to recent changes in Federal law governing credit usage, Thomas Nelson Community College bookstore institutes the following credit card policy: All credit card purchases must be accompanied by card and card owner (name on credit card) at the time of purchase OR the cardholder must provide written permission detailing allowable charges and photocopies of front and back of card if card owner is not present. A photo ID must be provided at the time of sale. If you have any questions on this policy, please contact the bookstore at 757/825-2864.

PARKING SERVICES
(757/825-2766)
To provide for the security and safety of our students, all vehicles parked on campus must be registered and display a yearly parking permit. Students must abide by the rules and regulations as stated in the TNCC Parking Rules, Regulations and Fines brochure or risk being ticketed, booted or towed. Fines for violations of parking policies are paid at the Cashiers Window. A hold will be placed on accounts for unpaid parking fines preventing students from

registering for classes and receiving transcripts, as well as delaying refund checks. For additional information, visit www.tncc.edu.

FOOD SERVICES
(757/826-8066)

The cafeteria, located in Griffin Hall, provides hot and cold entrees. Food vending machines are available in Griffin Hall, Diggs Hall, Moore Hall, Hastings Hall, Hampton III, and at the Historic Triangle Campus.

BAD CHECKS AND PAST-DUE OBLIGATIONS

Continued attendance at the College is dependent upon proper settlement of all debts owed the institution. A check not honored by the bank on which it is drawn is considered to be a bad check, regardless of the reason initially provided by the bank. In the event that the bad check results from a bank error, the bank must acknowledge this fact in writing before the student can be relieved of the obligation. A $35 processing fee will be imposed for each returned check submitted to the Cashiers Window for tuition, bookstore, parking, library and club fee charges. If the payment is for an account that has been submitted to collections, the processing fee is $50.00. Future payments must be made either by cash, money order or credit cart.

A student who has a financial obligation to the College, for any reason, beyond the due date, or who has books or materials outstanding from the Learning Resource Center beyond the due date will be denied all services, including the issuance of transcripts and permission to register. If the student's obligation involves an unpaid bad check for tuition, the student will be deleted from all classes. For all other outstanding obligations, it is established college policy to pursue the collection through the debt set-off program involving a student's state tax refund and the use of a collection agency. If an obligation is sent to a collection agency, the student must pay the collection fee.

Paychecks of students in the College work-study program or employed by the College may be withheld until the obligation is paid or some other arrangement is established to satisfy the obligation.

FINANCIAL AID SERVICES
(757/825-2848)

Thomas Nelson Community College is committed to the belief that all eligible residents in its service area should have the opportunity to obtain a post-secondary education, regardless of their financial status. As a result, the College offers a variety of financial aid programs for students who qualify. Such aid is funded through federal and state agencies, local organizations, businesses, and the college itself. There is an aid program for every income level.

Financial aid is any grant, scholarship, loan, or paid employment offered to students for the purpose of helping them meet education-related expenses. Grants and scholarships are regarded as "gift" aid and need not be repaid, although they may carry certain provisions to which a student must adhere. Loans and employment (jobs) are referred to as self-help aid and require the student to fulfill an obligation in return (repay the loan or perform a job skill).

Most financial aid programs are based on the philosophy that the primary responsibility of paying college expenses rests with the student and his/her family. Therefore, most financial aid resources serve to supplement, rather than replace, the resources of the family. The College subscribes to this philosophy in administering its programs.

To qualify for federal and state financial aid and maintain your eligibility, you must:

1. Be accepted for admission to the College on a degree-seeking basis in a curriculum at least 16 credits in length;
2. Be enrolled in good standing in at least one credit course and maintain satisfactory academic progress;
3. Be a United States citizen, permanent resident of the United States or its trust territories, or an eligible non-citizen;
4. Not be in default on any student loan (Stafford, PLUS, SLS, or Perkins Loan);
5. Not owe a refund or overpayment on financial aid received at any institution of higher learning;
6. Have a high school diploma, GED, or the ability to benefit;
7. Not exceed 1.5 times the number of credits required to graduate from your selected curriculum;
8. Not have a drug conviction while receiving aid;
9. If male between ages 18-25, must be registered with the Selective Service.

TO APPLY FOR FINANCIAL AID

Students interested in applying for federal, state, and institutional financial assistance must adhere to the following steps:

1. Complete the Free Application for Federal Student Aid (FAFSA) online at www.fafsa.ed.gov. The Federal Title IV School code for Thomas Nelson Community College is 006871.
2. Return any requested information and/or verification forms to the Financial Aid office. This might include you and your parent's federal income tax forms, verification of citizenship status, verification of household size and number in college, Leave and Earnings Statement (LES), and other documents to confirm the information provided on your FAFSA application.

Priority deadlines by which the FAFSA must be completed for financial aid to be processed by the tuition deadlines are:

> May 1 for Fall Semester
> November 1 for Spring Semester
> May 1 for Summer Semester

These dates are established for equitable distribution of limited funds and to establish application dates by which students can expect that they will be awarded financial aid for which they are eligible in time to meet tuition deadlines.

Students who apply for financial aid and register for classes but decide not to attend must officially withdraw from college to avoid personal liability for any funds later awarded and charged for tuition, other institutional costs, and any funds received. Funds awarded are contingent on remaining fund balances. On occasion, due to funding reduction and other changes, an award is made to a student for which funds are no longer available. Awards for which there are no remaining funds will be cancelled.

SUMMER AID

To receive consideration for summer aid, students must complete the Summer Aid Application that is available when summer registration begins. The application can be found on the Financial Aid Services homepage under Forms.

RETURN OF TITLE IV FUNDS WHEN A STUDENT WITHDRAWS

Students receiving financial aid who withdraw or stop attending will, in most cases, be required to return a portion of the financial aid received. The Higher Education Act, as reauthorized and signed into law on October 7, 1998, established the Return of Title IV Funds Policy.

The concept behind the policy is that the college and the student are allowed to retain only the amount of Title IV (federal) aid that is earned. If a student withdraws or stops attending classes, a portion of the aid received is considered to be unearned and must be returned to the Title IV programs from which it was received. For Title IV purposes, the last date of attendance is one of the following: the date the formal withdrawal process begins, the date the student otherwise gives official notice of intent to withdraw (i.e., letter phone, call, email, in-person), the mid-point of the term, or the last documented date of attendance in an academically-related activity (i.e., documented attendance in a class or lab or submission of an assignment in a video course). If a student attends through 60% of the term, all Title IV aid is considered earned.

The Title IV programs that are covered by this policy are Unsubsidized Federal Direct Loans, Subsidized Federal Direct Loans, Federal Plus Loans, Federal Pell Grants, Federal Academic Competitiveness Grants (ACG), Federal Supplemental Opportunity Grants (SEOG), Commonwealth Grants, VGAP Grants, and in some cases, other state aid grants, GEAR UP Grants and SSS Grants to students.

When a financial aid recipient of federal and/or state aid withdraws or stops attending classes during an enrollment period, the amount of financial aid earned is determined by a specific formula that uses the first day of class through the last day of exams and the student's reported last day of attendance. If a student received less assistance than the amount earned, the excess funds must be returned by the College as determined by the calculation. The amount of assistance earned is determined on a pro rata basis.

For example, if a student completed 30% of the enrollment period, the student will have earned 30% of the aid/ he/she was originally scheduled to receive. Once a student completes more than 60% of the enrollment period, the student has earned all of the aid that he/she was scheduled to receive for that time period. If a student does not receive all of the aid that was earned, the student may be due a post-withdrawal disbursement. The College may automatically apply all or a portion of the student's post-withdrawal disbursement to outstanding charges for tuition and fees.

Once the College determines the dollar amounts and which individual aid programs must be repaid, the student will be notified of any amounts he/she owes. Any amount of unearned grant funds that a student must return is called an overpayment. Students must make arrangements to return the unearned grant funds. Funds that must be returned by the student to the loan programs can be paid in full in accordance with normal loan repayment terms. Unpaid balances will be reported to the National Student Loan Data System (NSLDS) and turned over to the Department of Education for collection. Until overpayments are repaid or satisfactory arrangements to repay have been made, the student will be ineligible for further Title IV aid at any institution.

Before withdrawing or stopping attendance in classes, the student should be aware of the proper procedure for withdrawing from classes and the consequences of either withdrawing or stopping attendance. Official withdrawal is always the responsibility of the student and questions regarding withdrawal should be addressed to the student's advisor or the Registrar's Office.

Requirements for Title IV program funds are separate from the College refund policy.

HOW TO USE FINANCIAL AID

Students may charge tuition and fees to most financial aid accounts. See the Schedule of Classes for book charge instruction each term. All funds not used for tuition, fees, and books are refunded to students. Financial Aid award letters are emailed to students and you may also view this information by logging into your account at MyTNCC (**http://tncc.myvccs.edu**). The Financial Aid Office uses the VCCS email address given to students.

FINANCIAL AID PROGRAMS AT THOMAS NELSON COMMUNITY COLLEGE

FEDERAL PELL GRANT PROGRAM

The Pell Grant Program, the largest grant program available, is a federal need-based grant. Eligibility is determined by the results of the Free Application for Federal Student Aid (FAFSA). The amount of the grant is based on Expected Family Contribution (EFC) and number of credit hours enrolled. All students who do not have a bachelor's are automatically considered for this grant. Awards are made throughout the year. For 2010-2011, the maximum award is $5,550. The Department of Education may adjust this figure yearly.

FEDERAL SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANTS (FSEOG)

The Federal Supplemental Educational Opportunity Grant (FSEOG) program provides federal funds to the College for making awards to students with exceptional need. Students attending at least half-time are eligible for FSEOG. FSEOG awards are made on a rolling basis. The amounts of FSEOG awards vary depending on the need, other aid offered, and the amount of funds appropriated. FSEOG is awarded until funds are exhausted.

ACADEMIC COMPETITIVENESS GRANT (ACG)

The Academic Competitiveness Grant (ACG) is a federally funded grant for students who have completed a rigorous curriculum in high school. Students must be enrolled at least half-time, and receiving a Federal Pell Grant in the same award year. Freshman students must have graduated after January 1, 2006; and sophomores after January 1, 2005. Sophomore students must also have a cumulative Grade Point Average (GPA) of 3.0.

COLLEGE SCHOLARSHIP ASSISTANCE PROGRAM (CSAP)

The College Scholarship Assistance Program (CSAP) is administered by the State Council of Higher Education for Virginia. The College is allocated funds to award to needy students who are Virginia residents and enrolled at least half-time. CSAP is usually given to the students with the greatest need. Awards are made on a rolling basis. The amounts of the awards vary depending on the need, other aid offered, and the amount of funds appropriated. CSAP is awarded until funds are exhausted.

COMMONWEALTH AWARD (COMA) AND VIRGINIA GUARANTEED ASSISTANCE PROGRAM (VGAP)

The Commonwealth Award (COMA) and Virginia Guaranteed Assistance Program (VGAP) awards are administered by the State Council of Higher Education for Virginia. The College is allocated funds to award in-state students who have remaining need. COMA awards are made to students who are enrolled in at least 6 credit hours. (COMA awards cover tuition and fees.) VGAP awards are made to dependent full-time students who graduated from a Virginia high school with a minimum 2.5 GPA, who have no prior college, and maintain a minimum 2.5 GPA while attending the College. VGAP awards cover tuition, fees, and assist with the cost of books. Awards are made on a rolling basis. COMA and VGAP are awarded until funds are exhausted.

PART-TIME TUITION ASSISTANCE PROGRAM (PTAP)

The Part-Time Tuition Assistance Program is a Virginia Community College System grant offered to Virginia state residents who register for 8 credits or less. The grant will pay for tuition and fees. It does not include books. PTAP is awarded until all funds are exhausted.

HIGHER EDUCATION TEACHER ASSISTANCE PROGRAM (HETAP)

The Higher Education Teacher Assistance Program is a state grant offered to students enrolled in transfer curricula who plan to become teachers. HETAP awards are made annually. To be considered for HETAP, students must be nominated by faculty. Awards are made to qualified students with the highest academic achievements. HETAP is awarded until funds are exhausted.

FEDERAL WORK-STUDY PROGRAM (FWS)

Under the Federal Work-Study (FWS) program, the College receives federal funds to provide on-campus and off-campus employment opportunities to a limited number of students with demonstrated need who are enrolled in at least 6 credits and are in good academic standing. Although it is not always possible to do so, every attempt is made to place students in jobs that match their academic majors, skills or past experiences, and/or desired area of employment. Students may not work more than 20 hours per week while classes are in session and 30 hours per week when classes are not in session, but may never exceed 8 hours per day. Students work at $8.00 per hour and payment is made by the Human Resources office of the college on a biweekly basis. Students are hired on a rolling basis. FWS is awarded until funds are exhausted.

FEDERAL DIRECT LOAN PROGRAM (FDLP)

The Federal Direct Loan Program (FDLP) provides eligible students with loans for the freshman and sophomore year. Loans made under the Federal Stafford Student Loan Program are low-interest, long-term loans. A student must be enrolled for at least 6 credits.

Students with financial need can obtain a subsidized Stafford Loan. This means the U.S. Department of Education will pay the interest charges to your lender on your behalf as long as you remain enrolled on at least a half-time basis (6 or more credits) and during a six-month period following enrollment (grace period). At the end of the grace period, repayment of the loan must begin and interest begins to accrue to the student borrower. Repayment may extend up to ten (10) years but borrowers must make payments of at least $50 per month. Students who do not qualify for the subsidized need-based Stafford Loan can obtain an unsubsidized non-need-based loan. Unlike the subsidized loan, the student is responsible for the interest obligation while enrolled. The student, while enrolled on at least a half-time basis (6 or more credits), may pay interest only or have the interest capitalized (added to the principal).

Federal law states that first-time loan borrowers must complete an Entrance Loan Counseling session. As part of our Debt Management Program, Thomas Nelson Community College requires all borrowers to complete online counseling sessions for each academic year. Repayment begins six months after a student leaves school because of graduation, other reasons, or drops below half-time level. Loan Request Forms are available in the Financial Aid Office. All loan applicants must have completed a FAFSA and may not have defaulted on prior loans or have excessive existing student loan debt. Students may not borrow more than the cost of their education minus expected family contribution (EFC) and other financial aid awarded. The Financial Aid office must approve all federal loans and reserves the right to refuse loan applications due to academic deficiency or evidence that a student may have difficulty managing loan debt.

FEDERAL DIRECT PLUS (PARENT LOAN FOR UNDERGRADUATE STUDENTS)

The Federal Direct PLUS Loan program is a non-need-based source of loan funds to the parent(s) of dependent students. Federal Direct PLUS loans may be used in conjunction with the Federal Direct Stafford Loans. Each year, parents of dependent students may borrow an amount equal to the cost of attendance less any financial aid including any federal loans. Repayment begins immediately unless the parent borrower is enrolled in college on at least a half-time basis. The interest rate is variable. Applications are available by visiting **www.tncc.edu**, Financial Aid Forms. See the Schedule of Classes booklet for the last day to apply. The PLUS loan is only available to parents. Guardians are ineligible.

OTHER FINANCIAL AID PROGRAMS

Scholarship Opportunities at Thomas Nelson Community College

The Thomas Nelson Community College Educational Foundation offers a number of scholarships to the College's students. These scholarships recognize outstanding performance and assist students in receiving a quality education. The availability of the scholarships is dependent upon the continued participation by the private donors/agencies and the earnings of the endowed scholarship

fund investments. Scholarships are designed to meet the needs of graduating high school seniors, entering freshmen, and returning students. They are available for either part- or full-time students. All scholarship funds will be used to pay tuition, fees, and books at the College only. Any monies remaining at the end of the semester(s) will be returned to the Thomas Nelson Community College Educational Foundation.

Thomas Nelson Community College Educational Foundation scholarship opportunities and the application can be found at **http://tncc.edu/students/financial-information/scholarships/scholarships-offered-tncc/**. An original completed application, essay, and any required supplemental material as stated by the specific scholarship (such as statements of recommendation), must be received in the Financial Aid Office by April 1 for the fall semester and November 1 for the spring semester to be considered for scholarship opportunities. Applications received after the deadline will be reviewed case by case and are contingent on the availability of scholarship funds. Students who receive financial aid grants or loans must report all public and private scholarship aid to the Financial Aid Office.

STANDARDS OF ACADEMIC PROGRESS FOR FINANCIAL AID PROGRAMS

The Standards of Academic Progress for financial aid recipients was designed to promote student retention for all students at the College who receive financial aid and to comply with federal and/or state regulations regarding financial aid eligibility in relation to qualitative and quantitative measures of academic achievement. All students applying for financial assistance must meet the standards of academic progress listed in this policy.

MONITORING ACADEMIC PROGRESS

Students who participate in state and/or federal financial aid programs are expected to attend all classes in which they are enrolled, as scheduled, and to put forth their best effort toward academic achievement in all coursework. Additionally, all students who participate in financial aid programs must be enrolled in an eligible curriculum (16 credits in length or longer) and cannot have attempted more than 150% of the number of credits at the College (including transfer credits which apply toward the declared degree). Developmental courses are excluded from this calculation. For the average 65 credit, 2-year degree, students become ineligible for additional aid after attempting 97 credits. The number of allowable credits is less for shorter programs. Students should plan academic programs and schedules carefully. Financial aid eligibility for developmental courses is limited to 30 credits of course attempts. Academic records of all degree and certificate seeking financial aid recipients are reviewed at the end of each semester.

In all cases, students must demonstrate positive movement toward graduation from an approved curriculum as measured both qualitatively (grades) and quantitatively (percentage of courses completed successfully). No financial aid benefits can be given for course audits at registration.

GRADE POINT AVERAGE (GPA)

The following minimum GPA standards must be achieved to maintain financial aid eligibility:
• Students who have attempted at least 13 credit hours must maintain at least a 1.5 cumulative GPA.
• Students who have attempted at least 25 credit hours must maintain at least a 1.75 cumulative GPA.
• Students who have attempted at least 48 credit hours must maintain a cumulative GPA of 2.0.

Students must have earned a 2.0 overall GPA by the time they have attempted 75% of their program. Developmental courses are not included in this calculation. Repeated courses are included in this calculation in accordance with the College's academic standards of progress.

UNSUCCESSFUL COURSE ATTEMPTS AND ACADEMIC PROGRESSION

Grades of F, I, W, X and U are considered unsuccessful course attempts. Excessive unsuccessful course attempts will result in loss of financial aid eligibility. Excessive unsuccessful course attempts are defined as failure to complete a minimum of 67% of all courses attempted. All courses attempted are included in this calculation. Student course completion rates are reviewed once a student has attempted 50% of the course work for their program of study or 24 credit hours (whichever comes first).

LOSS OF ELIGIBILITY

The Financial Aid Office will attempt to notify students who have not maintained satisfactory academic progress through their VCCS email. However, students are responsible for keeping track of their academic progress after each term. Failure to receive notice is not a valid reason to have financial aid reinstated or to have the appeal deadline extended. Students may appeal their financial aid suspension prior to the beginning of each term.

Academic records of returning students for any academic term who are applying for financial aid are reviewed to determine whether they meet eligibility requirements for financial aid. Financial aid suspension should not be confused with academic suspension which is suspension from the College. Students on financial aid suspension may still attend the College but will no longer receive financial aid.

Students who are placed on financial aid suspension are not reinstated until they meet minimum GPA and course completion rate standards for the number of credits attempted. It is the responsibility of the student to request that the financial aid staff review their academic progress.

APPEAL OF LOSS OF ELIGIBILITY

If students have mitigating circumstances, (i.e., death in family or personal illness) they may appeal suspension of financial aid. Students who appeal suspension should present a documented letter indicating reasons for not maintaining satisfactory academic progress. Reinstated students must meet specific conditions to maintain eligibility for financial aid assistance.

The Financial Aid Standards of Progress are subject to change. Please visit **www.tncc.edu** for the most up-to-date information.

VETERANS BENEFITS

Active duty service members, veterans, and their qualified dependents may be eligible for Veterans Affairs educational benefits authorized under specific chapters of Title 38 of the U.S. Code. The Veterans Affairs Office provides specialized customer services and information to assist students in establishing eligibility for and receipt of VA educational benefits. This office cannot determine eligibility, but can assist in the submission of applications and supporting documents. Only the Department of Veterans Affairs can determine student eligibility for benefits. The primary function of this office is to certify and report enrollment information to the VA to facilitate the receipt of benefits by eligible students.

OVERVIEW OF VA EDUCATION BENEFITS

There are various VA educational programs available, all of which have their own unique qualifying criteria and rates of payment. These programs do not pay a student's tuition and fees (except for Chapter 31); instead, students pay their own tuition and then receive monthly benefit payments from the VA. Eligible students may apply for advance payment of benefits. The benefit amount is determined by the student's training time. The VA established levels of training time as: full, 3/4, half, and less than half. Benefits for students training while on active duty and those training less than half-time are limited to the amount of tuition and fees paid. Since the number of credits determine the payment amount, it is absolutely essential that students immediately report all changes in enrollment (drops/adds) to the college's Office of Veterans Affairs.

ESTABLISH ELIGIBILITY AND RECEIVE BENEFITS

The Office of Veterans Affairs provides the forms and services necessary to establish eligibility for the VA educational program. Students may also access the required forms online at **www.tncc. edu** and submit these forms (and supporting documents) directly to the VA or visit the office for assistance. Students who establish eligibility without our assistance are required to provide a copy of their VA issued Certificate of Eligibility. Once a student's eligibility has been established, students must submit a Certification Request for VA Educational Programs in order to receive benefits. This form is available online and at the office. Continuing students, those currently receiving benefits at Thomas Nelson Community College, may mail or fax (757/825-3537) their signed request after enrolling for subsequent semesters. Students who mail or fax their request must follow-up via phone or email (va@tncc.edu) to ensure that the office has received the request.

VA EDUCATION PROGRAMS

The Post 9/11, Chapter 33

The Post 9/11 GI Bill provides financial support for education and housing to 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. You must have received an honorable discharge to be eligible for the Post 9/11 GI Bill.

The Post 9/11 GI Bill became effective for training on or after August 1, 2009. The amount of support that individuals may qualify for depends on where he/she lives and what type of degree is being pursued. For a summary of Post 9/11 GI Bill benefits, see the benefit comparison chart, http://www.gibill.va.gov/GI_Bill_Info/CH33/Benefit_Comparison_Chart.htm#911amount.

Approved training under the Post 9/11 GI Bill includes graduate and undergraduate degrees, and vocational/technical training. All training programs must be offered by an institution of higher learning (IHL) and approved for GI Bill benefits. Additionally, tutorial assistance, licensing and certification test reimbursement are approved under the Post 9/11 GI Bill. Pamphlets and factsheets about the Post 9/11 GI Bill can be found at http://www.gibill.va.gov/Training/Pamphlets.htm.

The Montgomery GI Bill-Active Duty (MGIB-AD), Chapter 30

The MGIB program provides up to 36 months of education benefits. This benefit may be used for degree and certificate programs, flight training, apprenticeship/on-the-job training, and correspondence courses. Generally, benefits are payable for 10 years following a student's release from active duty. Vietnam era veterans with remaining entitlement under Chapter 34 may also receive benefits under this chapter.

Vocational Rehabilitation (VOC REHAB), Chapter 31

The VA's Vocational Rehabilitation and Employment Service provide vocational counseling or special rehabilitation services to service-connected disabled veterans and dependents of veterans who meet certain program eligibility requirements. The VA will normally pay training expenses including tuition and fees, necessary books, supplies, and equipment. Benefits also include a monthly subsistence allowance.

Veterans Education Assistance Program (VEAP), Chapter 32

VEAP is available for students who first entered active duty between January 1, 1977, and June 30, 1985, and elected to make contributions from military pay to participate in this education benefit program. Contributions are matched on a $2 for $1 basis by the government. This benefit may be used for degree and certificate programs, flight training, apprenticeship/on-the-job training and correspondence courses.

Survivors' and Dependents' Educational Assistance Program (DEA), Chapter 35

DEA provides educational and training opportunities to eligible dependents of veterans who are permanently and totally disabled due to a service-related condition, or who died while on active duty or as a result of a service-related condition. The program offers up to 45 months of educational benefits, which may be used for degree and certificate programs, apprenticeship, and on-the-job training. Spouses may take correspondence courses under this chapter.

The Montgomery GI Bill-Selected Reserve (MGIB-SR), Chapter 1606

The MGIB-SR program may be available to students if they are a member of the Selected Reserve. The Selected Reserve includes the Army Reserve, Navy Reserve, Air Force Reserve, Marine Corps Reserve, and Coast Guard Reserve, and the Army National Guard and the Air National Guard. This benefit may be used for degree and certificate programs, flight training, apprenticeship/on-the-job training and correspondence courses.

Reserve Educational Assistance Program (REAP), Chapter 1607

REAP was established as a part of the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005. This program is designed to provide educational assistance to members of the Reserve components called or ordered to active duty in response to a war or national emergency (contingency operation) as declared by the President or Congress. Certain individuals who were activated after September 11, 2001, may be eligible for educational benefits or increased benefits.

Accelerated Payment for MGIB-AD

An accelerated payment is a lump sum payment of 60% of tuition and fees for certain high-cost, high-tech programs. To qualify, students must be enrolled in a high-tech program and must certify that they intend to seek employment in a high-tech industry as defined by the VA. Accelerated payment is paid instead of Montgomery GI Bill benefits that the student would otherwise receive.

Licensing and Certification

Students can receive reimbursement for licensing and certification tests they take on or after March 1, 2001. These tests must be specifically approved for the G.I. Bill. The VA can pay only for the cost of the tests and not other fees connected with obtaining a license or certification.

Tuition Assistance "Top-Up"

Tuition Assistance "Top-Up" benefits are equal to the difference between the total cost of a college course and the amount of tuition assistance that is paid by the military. Tuition Assistance (TA) and Top-Up are not administered through this office; students must request benefits for these programs through their unit's education services offices. When received from their unit's educational services office, students submit TA authorization forms directly to the TNCC cashier's office for payment of tuition only. Fees are the student's responsibility.

Educational Assistance Test Program Section 901 of Public Law 96-342

Section 901 is an Educational Assistance Test Program created by the Department of Defense Authorization Act of 1981 (Public Law 96342) to encourage enlistment and reenlistment in the armed forces. Benefits are available to individuals who entered on active duty after September 20, 1980, and before October 1, 1981 (or before October 1, 1982, if entry was under a delayed enlistment contract signed between September 30, 1989, and October 1, 1981).

Standards of Progress

The Department of Veterans Affairs requires that students receiving educational benefits maintain satisfactory progress. This office is required to submit notification of unsatisfactory progress to the VA when a student is placed on academic suspension or dismissal.

ADDITIONAL BENEFITS AVAILABLE TO ELIGIBLE STUDENTS

VA Work-Study Program

This program is available to any student receiving VA educational benefits who is attending school three-quarter (3/4) time or more. An individual working under this program may work at the school's Veterans Office, VA Regional Office, Financial Information VA Medical Facilities, or at an approved state employment office. Work-study students are paid at either the state or federal minimum wage, whichever is greater. The student must contact the school, medical facility, or employment office at which he/she desires employment to determine if positions are available prior to applying.

Tutorial Assistance Program

Assistance may be available to those who are eligible under Chapters 30, 32, 33, 35, and 1606 to aid student's expenses when tutoring becomes necessary. The allowance is a supplement to the monthly educational assistance check and is paid without entitlement charge for those under Chapter 35. Entitlement for those under other chapters will be charged if the tutorial assistance exceeds $600.

Restored Entitlement Program for Survivors (REPS)

This program restores certain Social Security benefits that were reduced or terminated. The benefit is payable to certain spouses and school age children who are survivors of armed forces members who died while on active duty before August 12, 1981, or died from disabilities relative to active duty before this date.

Virginia Military Survivors and Dependents Education Program

The Military Survivors and Dependents Program (MSDEP) provides educational benefits to spouses and children of military service members killed, missing in action, taken prisoner, or who became at least 90 percent disabled as a result of military service in an armed conflict. Military service includes service in the United States Armed Forces, United States Armed Forces Reserves, the Virginia National Guard, or the Virginia National Guard Reserves. Armed conflict includes military operations against terrorism or as the result of a terrorist act, a peace-keeping mission, or any armed conflict after December 6, 1941. This program waives tuition and fees in Virginia. Benefits are available for up to four years.

To be eligible, children and spouses of qualifying military service members must meet the following requirements.
- The child must be between ages 16 and 29; there are no age restrictions for spouses.
- The military service member must have been a Virginia citizen at the time he or she entered active duty or must have been a Virginia citizen for at least five years immediately prior to the date of the application for admission.
- In the case of a deceased military service member, the veteran's surviving spouse can meet the residency requirements if he or she lived in Virginia for at least five years prior to marrying the military service member or has been a citizen of Virginia for at least five years immediately prior to the date of application.

Eligibility is determined by the Virginia Department of Veterans Services. Please contact them at 540/857-7104.

ACADEMIC INFORMATION

CREDITS GRADING SYSTEM

Regular

The credit for each course is indicated after the title in the course description. One credit is equivalent to one collegiate semester hour credit. Each credit given for a course is based on approximately three hours of study in that course weekly by each student. The traditional course may consist of lectures, out-of-class study, laboratory and shop study, or combinations thereof as follows:

1. One hour of lecture plus an average of two hours of out-of-class study.
2. Two hours of laboratory or shop study plus an average of one hour of out-of-class study.
3. Three hours of laboratory or shop study with or without out-of-class assignments.
4. General usage courses are 1-5 credits with variable hours.

Continuing Education Units

The workforce development programs at Thomas Nelson Community College are designed to satisfy the vocational development, professional development, and personal growth needs of adults and workers on the Virginia Peninsula.

The Continuing Education Unit (CEU) is defined by the American Council of Education as "ten contact hours of participation in an organized continuing education experience under responsible sponsorship, capable direction, and qualified instruction."

The CEU is awarded to individuals who participate in those non-credit activities that have been organized to provide unified and systematic instruction measurable in duration of time, that are subject to goal achievement or performance evaluation for the participant, and that meet specific criteria.

GRADING SYSTEM

The quality of performance in any academic course is reported by a letter grade, the assignment of which is the responsibility of the instructor. These grades denote the character of study and 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
I   Incomplete
     No credit; used for verifiable unavoidable reasons. Since the "incomplete" extends enrollment in the course requirements, for satisfactory completion will be established through student/faculty consultation. The requirements of the course in which an "I" grade has been assigned must be met outside normal classes. Courses for which the grade of "I" has been awarded must be completed by the end of the subsequent semester; at that time, another grade must be awarded by the instructor based upon course work that has been completed. An "I" grade can be changed to a "W" grade only under mitigating circumstances that must be approved by the division dean and the Vice President for Academic Affairs or a designated academic administrator. A copy of this documentation must be placed in the student's academic file.

R   Re-Enroll
     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. In order to complete course objectives, students receiving an "R" grade must re-enroll and pay the specified tuition.

P   Pass
     No grade point credit; applies only to non-developmental studies courses. Only seven credit hours of "P" grade may be applied toward graduation.

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

U   Unsatisfactory
     No grade point credit; applies only to developmental studies, non-credit courses and selected credit courses.

W   Withdrawal
     No credit. A grade of "W" is awarded to students who withdraw or are withdrawn from a course after the add/drop period but prior to the completion of 60% of the session. To ensure that students remain in good standing, they must initiate and process the withdrawal form before the withdrawal deadline. After that time, the student will receive a grade of "F," except under mitigating circumstances that must be documented, and approved by the instructor, division dean, and Vice President for Academic Affairs. A copy of the documentation must be placed in the student's academic file.

X   Audit
     No credit. Permission of the division dean or another appropriate academic administrator is required for a student to audit a course. See Auditing a Course for additional information.

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

In the selected credit courses, students have the option of receiving a final grade of Pass (P) or Unsatisfactory (U) instead of a traditional letter grade. To determine what restrictions apply, a student is advised to see a counselor or an advisor.

GRADE REPORTS

Final grade reports are available to the student after the end of each semester via **www.tncc.edu, MyTNCC or https://tncc.**

my.vccs.edu/jsp/home.jsp. Final grades are a part of the student's permanent academic record. Errors should be reported to the Office of Enrollment Services within six weeks of the end of the semester in which the grade was given. Normally, a change of grade(s) cannot take place after the semester following the issuance of the grade.

TRANSCRIPTS

A student may request that a copy of his or her Student Permanent Record from the College be forwarded to other educational institutions, employers, or any person(s) designated by the student. If the student attended TNCC after 1977, requests to send transcripts to another member of the Virginia Community College System (VCCS) will not be honored. Electronic transcripts available via the VCCS Student Information System will be sufficient for colleges within the VCCS. The request must be authorized by the individual student by completing and signing a Transcript Request Form available in Enrollment Services at the Hampton campus or 4601 Opportunity Way, Historic Triangle campus, or by writing a request which includes the student's current and former names, Social Security number, dates of attendance, and signature. Transcript requests will generally be processed within seven-ten (7-10) business days. There is no fee for transcripts.

Due to limitations on access to student information under the Family Educational Rights and Privacy Act (FERPA) of 1974, telephone and third party requests for transcripts cannot be honored.

Financial aid transcripts are available at no cost through the Financial Aid Office.

CLASSIFICATION OF STUDENTS

All students are classified according to the following categories:

Curricular student: a student who has satisfied all college admission requirements and has been admitted to a curriculum.

Non-curricular student: a student who is not formally admitted to one of the curricula but who is classified according to one of the following student goals or conditions:
- updating employment skills for present job
- developing skills for new job
- career exploration
- personal satisfaction and general knowledge
- transient student
- non-degree transfer student
- high school student (with college approval only)
- general or curricular requirements pending (with college approval only)
- restricted enrollment (with college approval only)
- auditing a course

Freshman: a student who has fewer than 30 credits.

Sophomore: a student who has 30 or more credits completed in the designated curriculum, including relevant transfer credits.

Student status: full-time is a student enrolled in courses totaling 12 or more credit hours; part-time is a student enrolled in courses totaling less than 12 credit hours.

ACADEMIC LOAD

A full-time load is 12 semester hours, and the normal maximum full-time load is 18 credit hours. A curricular student wishing to carry an academic load of 19 credits (excluding the SDV 100 orientation) or more must have a 3.0 average or higher and the approval of his or her division chair. A non-curricuar student must obtain the approval of the Dean of Student Success (Hampton campus) or the Dean of Student Services (Historic Triangle campus).

If the student has received academic warning or is on academic probation, he or she may be required to take less than the normal course load.

EXAMINATIONS

All students are expected to take their final examinations at regularly scheduled times. No exceptions will be made for a student without the permission of the division dean and the instructor.

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. (Developmental credits are not included in this computation.) An overall GPA including all courses completed is computed each semester. See the next section for repeated course grade point averaging. Grade points are computed by multiplying the number of credits completed by the points for the grades earned. For example, for BIO 102-01 (4 credits), the student earned a B grade (3 points) = 12 grade points.

REPEATING A COURSE

A student will be limited to two enrollments in the same credit course. If a student requests to enroll in the same course more than twice, the need must be documented and approved by the Vice President for Academic Affairs. The limitation does not apply to the courses in the Curriculum Guide identified as General Usage Courses (e.g., 90, 195, 295). Please note that auditing or withdrawing from a course is considered an "attempt" for purposes of repeating a course.

Repeated courses affect the cumulative grade point average (GPA) in the following way(s):

1. Effective Fall 1996, only the most recent course attempt (taken in Fall 1996 or later) will be calculated into the cumulative GPA, and credit for all previous attempts will be forfeited. Grades from earlier attempts appear on the transcript in brackets.
2. For courses taken the first time during or after Summer 1994 and repeated before or during Summer 1996, only the most recent course attempt was calculated into the cumulative GPA, and credit for all previous attempts was forfeited. Grades from earlier attempts appear on the transcript in brackets.
3. When both/all attempts were made before Summer 1994, all semester grades were averaged into the cumulative GPA, and all semester credits earned were retained.
4. For a course taken before Summer 1994 and repeated once during or after Summer 1994 (but before Fall 1996), all semester grades were averaged into the cumulative GPA, and all semester credits earned were retained.
5. Certain courses, including general usage courses and those identified as "may be repeated for credit," are exempt from this procedure.

6. Repeated courses affect the completion of a degree in the following way: Only the most recent course attempt will be applied to the Program of Study. Please note that grades of "X," "I," and "W" will not count as a first or subsequent attempt for the purpose of GPA calculation, although they do count as attempts toward the two-enrollment limit rule.

AUDITING A COURSE

With permission of the appropriate division dean, a student may register for a course on an audit basis without taking the examination or receiving credit. The regular tuition and fee rate is charged. Requests for credit enrollment in a class will be given priority over audit enrollment. Audited courses carry no credit and do not count as part of one's course load.

Students desiring to change status in a course from audit to credit or from credit to audit must do so by the last day to add or make schedule changes. Please note that auditing a course is considered an "attempt" for purposes of repeating the course.

DEGREES AND CERTIFICATES

Thomas Nelson Community College offers the following degrees or certificates for students who successfully complete approved programs at the College:

1. Associate of Arts Degree (A.A.): Awarded to students who major in the liberal arts and who may plan to transfer to four-year colleges or universities after completing their community college programs.
2. Associate of Science Degree (A.S.): Awarded to students who major in specialized curricula such as business administration, engineering, sciences, social science and other preprofessional programs and who may plan to transfer to four-year colleges or universities after completing their community college programs.
3. Associate of Applied Arts Degree (A.A.A.): Awarded to students majoring in one of the arts-related curricula and planning to obtain full-time employment immediately upon graduation from the community college.
4. Associate of Applied Science Degree (A.A.S.): Awarded to students majoring in one of the occupational-technical curricula and planning to obtain full-time employment immediately upon graduation from the community college.
5. Certificate: Awarded to students who complete one of the approved curricula which are usually fewer than two years in length.
6. Career Studies Certificates: Awarded to students who complete one of the approved programs which are less than one year in length and comprise less than 30 credits of academic work.

GRADUATION REQUIREMENTS

Catalog of Record

The catalog to be used in determining graduation requirements is the one in effect at the time of the student's initial program placement into the curriculum, or any subsequent catalog of the student's choice. The catalog to be used in certifying the student's graduation shall have been in effect no more than seven years prior to the time of graduation.

PROGRAM REQUIREMENTS

To graduate, students must successfully complete all courses listed for a given curriculum. Any course substitutions must have the prior written approval of the division dean responsible for curriculum. (Course substitution forms are available in Office of Enrollment Services.) Students must maintain a grade point average of 2.0 for all courses required in the curriculum for graduation.

Some academic programs may choose to require students to take part in exit interviews, to complete surveys, to take licensure exams, to prepare portfolios, or to complete some other activity to demonstrate the acquisition of program and general education competencies. If the student is called upon to take part in such an activity, it becomes part of the institution's requirement for graduation in that program.

APPLICATION FOR GRADUATION

Applications are available in the Office of Enrollment Services, Room 208, Hampton Campus or 4601 Opportunity Way, Historic Triangle Campus and must be submitted by the deadline date: Summer Semester - June 1, Fall Semester - October 1, Spring Semester - March 1. Annual graduation ceremonies are held in May.

ASSOCIATE DEGREE REQUIREMENTS

To be eligible for graduation with an associate degree from the College, a student must have:

1. Met graduation requirements as described in the catalog of record. A student must have successfully completed all requirements listed in the catalog of record. Substitutions must be approved by the division dean;
2. Been recommended for graduation by the appropriate instructional authority in his or her curriculum;
3. Completed all course and credit-hour requirements applicable to an associate degree, of which at least 25% of credit semester hours must be acquired at the college;
4. Completed the general education requirements (course work in English, social science, mathematics, history, physical education, and student development) for an associate degree. (Veterans may request credit for physical education requirements based upon military training);
5. Earned a grade point average of at least 2.0 on all work attempted that is applicable toward graduation in his or her particular curriculum;
6. Participated in additional activities of the academic program as required. Some academic programs may choose to require students to take part in exit interviews, to complete surveys, to take license exams, to prepare portfolios, or to complete some program and general education competencies. If the student is called upon to take part in such an activity, it becomes part of the institution's requirement for graduation in that program;
7. Filed an application for graduation in Office of Enrollment Services at the Hampton campus or 4601 Opportunity Way, the Historic Triangle campus by the required deadline; and
8. Resolved all financial obligations to the college and returned all materials, including library books.

CERTIFICATE REQUIREMENTS

To be eligible for graduation with a certificate from the College, a student must have:

1. Met graduation requirements as described in the catalog of record. A student must have completed all requirements listed in the catalog of record. Substitutions must be approved by the division dean;
2. Been recommended for graduation by the appropriate instructional authority;
3. Fulfilled all of the course and credit hour requirements of the certificate curriculum as specified in the college catalog of record, with a minimum of 25% of the credits acquired at the college;
4. Completed the general education requirements (course work in English, social science, mathematics, history, physical education, and student development) for a diploma. (Veterans may request the college to waive physical education requirements and substitute another two semester hours to satisfy requirements for graduation);
5. Earned a grade point average of at least 2.0 on all work attempted that is applicable toward graduation in his or her particular curriculum;
6. Participated in additional activities of the academic program as required. Some academic programs may choose to require students to take part in exit interviews, to complete surveys, to take license exams, to prepare portfolios, or to complete some other activity to demonstrate the acquisition of program and general education competencies. If the student is called upon to take part in such an activity, it becomes part of the institution's requirement for graduation in that program;
7. Filed an application for graduation which may be waived in the case of the General Education Certificate in Office of Enrollment Services at the Hampton campus or 4601 Opportunity Way, the Historic Triangle campus by the required deadline; and
8. Resolved all financial obligations to the college and returned all materials, including library books.

CAREER STUDIES CERTIFICATE REQUIREMENTS

To be eligible for graduation with a career studies certificate from the College, a student must have:

1. Met program requirements as described in the catalog of record. A student must have completed all requirements listed in the catalog of record;
2. Been recommended to receive the career studies certificate by the appropriate instructional authority;
3. Fulfilled all course and credit hours required of the career studies certificate as specified in the college catalog of record with a minimum of 25% of the credits acquired at the college;
4. Earned a grade point average of at least 2.0 on all work attempted that is applicable toward graduation in his or her particular curriculum;
5. Filed an application for graduation in the Office of Enrollment Services at the Hampton campus or at the Historic Triangle campus by the required deadline;
6. Resolved all financial obligations to the college and returned all materials, including library books.

Additionally, upon recommendation of the instructional division and the Vice President for Academic Affairs, students who pursue a degree or diploma program but are unable to complete the degree or diploma requirements may be issued a career studies certificate if the portion of study completed is equivalent to an approved certificate program offered at the college. If an approved certificate in the student's area of study is not offered at the college, an Award of Completion may be granted which specifies instructional hours completed.

SECOND DEGREE OR CERTIFICATE

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

GRADUATION HONORS

Students who have attended Thomas Nelson Community College for a minimum of 25% of the total credits acquired are eligible for graduation honors. Appropriate honors based upon cumulative scholastic achievement are recorded on the student's permanent record as follows:

3.2 Grade Point Average: cum laude (with honor)
3.5 Grade Point Average: magna cum laude (with high honor)
3.8 Grade Point Average: summa cum laude (with highest honor)

PRESIDENT'S AWARD AND VICE PRESIDENT'S AWARD

The President's Award and the Vice President's Award, presented at commencement ceremonies each spring, will be based on the following criteria:

The President's Award recipient will be the graduating student who:
1. has attained the greatest cumulative grade point average (GPA);
2. has completed at least 60 semester credits of course work with the traditional grading system of quality points in his or her respective curriculum at the College;
3. is the recipient of an associate degree for the current year (summer, fall, or spring); and
4. has neither repeated any courses nor has substituted an alternate course or courses resulting in an elevation of the grade point average.

In the event of ties, the following criteria will be applied in descending order to break the tie:

First, preference will be given to individuals with credits obtained solely at Thomas Nelson Community College;

Then preference will be given to individuals who have successfully completed honors contract work as verified by the Honors Studies Program director;

Finally, preference will be given to the individual who has taken the most active role in college activities which can be documented.

Should all the above criteria result in multiple recipients, the President will make the final decision regarding the awards.

The Vice President's Award is presented by the Vice President for Student Affairs to the student who places second in the selection of the recipient of the President's Award.

ACADEMIC STANDING

The college keeps students informed of their academic standing. An appropriate statement will be placed on their Grade Reports when students are academically deficient and when they have regained acceptable academic standing. The college will help students persist in their effectiveness to meet the academic standards of the institution and ultimately attain graduation. Students are expected to maintain a 2.0 (C) grade point average and to be making normal academic progress toward graduation.

PRESIDENT'S HONOR ROLL

Students who have accumulated 24 grade point credit hours or more at Thomas Nelson Community College and whose cumulative grade point average (GPA) is 3.8 or above will be placed on the College President's Honor Roll.

VICE PRESIDENT'S LIST

Students who earned a cumulative grade point average (GPA) of 3.5 or above without any "F" or "U" grades during a semester in which they completed 12 or more grade point credit hours will be placed on the Vice President's List.

MERIT LIST

Students who enroll for fewer than 12 grade point credits during a semester and earn a grade point average (GPA) of 3.2 or above without any "F" or "U" grades will be placed on the Merit List.

GOOD ACADEMIC STANDING

Students are considered to be "in good academic standing" if they maintain a minimum grade point average (GPA) of 2.0 per semester, are eligible to re-enroll at the college, and are not on academic suspension or dismissal status.

ACADEMIC WARNING

Students will be placed on academic warning when their semester grade point average is less than 2.0. The statement "Academic Warning" will appear on the student's permanent record. Students on academic warning are encouraged to consult with their advisor/counselor, and take advantage of academic support services provided by the College.

ACADEMIC PROBATION

Students will be placed on academic probation when they have attempted twelve or more credit hours and their cumulative grade point average is less than 1.5.

The statement "Academic Probation" will appear on the student's permanent record until their cumulative average is 1.75 or better. While on probation, we encourage the student to see a counselor before registering to ensure academic success. While a grade point average between 1.75 and 1.99 may not result in formal academic probation, the student must earn a minimum of 2.0 in his/her curriculum to receive an associate degree, diploma, certificate, or career studies certificate. Students placed on academic probation are ineligible for appointive or elective office in student organizations unless special permission is granted by the Vice President for Student Affairs or appointed designee.

ACADEMIC SUSPENSION

Students will be placed on academic suspension when they have attempted 24 or more credit hours; current status is academic probation; and their semester grade point average is less than 1.5.

The statement "Academic Suspension" will appear on the student's permanent record. Academic suspension is usually imposed for a minimum of one semester. Once the student is informed (in writing or orally), he or she can submit an Application for Re-Admission to the Admissions Committee. Applications are available at the Office of Enrollment Services, Hampton, and Student Services Office, Historic Triangle. The completed Re-Admission application must be submitted to the Office of Enrollment Services. The recommended dates for submission that will ensure timely review by the Admissions Committee are: July 10 – Fall Semester, October 31 – Spring Semester, and March 31 – Summer Semester. In the event the committee is unable to meet or lacks a quorum, the application for readmission may be reviewed and acted upon by the Committee Chair and the Associate Vice President for Student Affairs.

The student is notified in writing, by the Admissions Committee of his/her enrollment eligibility for the semester requested. The student may be required to enroll in a SDV 100 course or ENG 109 – Study Skills. Any student who is not satisfied with the enrollment eligibility may request a review by the Associate Vice President for Student Affairs.

Following the student's reinstatement after academic suspension, the student must earn a minimum 2.0 grade point average for the semester in which he/she enrolls. The student must maintain a minimum 1.75 grade point average for each subsequent semester. The statement "Subject to Dismissal" shall be placed on the student's permanent record. Students who have been reinstated from academic suspension will remain subject to dismissal until the cumulative grade point average is raised to a minimum of 1.75. However, a minimum cumulative grade point average of 2.0 is required to graduate. Failure to attain a 1.75 GPA in each subsequent semester will result in academic dismissal.

ACADEMIC DISMISSAL

Students readmitted following academic suspension who do not meet the minimum grade point average requirements as described above will be academically dismissed.

The statement "Academic Dismissal" will appear on the student's permanent record. Academic dismissal is usually permanent, unless with good cause, the student has applied and received approval by the Associate Vice President for Student Affairs.

Once the student is informed (in writing or orally) of dismissal, he or she can submit an Application for Re-Admission to the Associate Vice President for Student Affairs. Applications are available at the Office of Enrollment Services, Hampton, and Student Services Ofice, Historic Triangle. The completed Application for Re-Admission must be submitted to the Office of Enrollment Services. The recommended dates for submission that will ensure timely review by the Associate Vice President for Student Affairs are: July 10 – Fall Semester, October 31 – Spring Semester, and March 31 – Summer Semester.
The student is notified in writing, by the Associate Vice President for Student Affairs on his or her enrollment eligibility for the semester requested. The student may be required to enroll in a SDV 100 course or ENG 109 – Study Skills. Any student who is not satisfied with the enrollment eligibility may request a review by the Vice President for Student Affairs.

Students readmitted following academic dismissal must follow the same requirements for continued enrollment as those readmitted

following academic suspension.

ACADEMIC SUSPENSION OR DISMISSAL FROM ANOTHER INSTITUTION

Students who were placed on Academic Dismissal or Academic Suspension at their previous institution and are seeking to attend Thomas Nelson Community College must follow the policies outlined above.

ACADEMIC RENEWAL POLICY

Enrolled students who have returned to the college after a separation of five years or more and who have completed 12 or more grade point credit hours with a minimum 2.5 grade point average may petition for academic renewal. The Academic Renewal Petition form must be submitted to the Office of Enrollment Services.

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 curricular 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 12 grade point credit hours completed after re-enrollment.

b) All grades received by the College remain 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) Academic renewal may be granted only once and cannot be revoked once approved.

e) Academic renewal may affect financial aid or leadership eligibility. These issues should be explored before the student petitions for academic renewal.

ATTENDANCE

Regular attendance is required in all classes. Students who enroll in a course but do not attend a minimum of one class meeting or the distance learning equivalent by the census date or earlier date as defined and published in the academic calendar will be administratively deleted from the course by the college. 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 instructional material missed and not subsequently obtained will affect the grade of the student, regardless of the reason for the absence. It is the responsibility of each instructor to explain his or her attendance policy in the course syllabus.

THE RESPONSIBILITY OF LATE REGISTRANTS

The student who enrolls and enters a course after the first class meeting should note that attendance records are being kept from the first day the class meets and not the first day of the new student's attendance. All class days missed before and after the student's entry into the class will be considered as absences on the instructor's roll.

The student is also responsible for the completion of all assignments, quizzes, and classes missed during the absence. All course work missed and not subsequently completed may affect the grade of the student.

REGISTRATION INFORMATION

A student must follow the registration procedures established by the College to register initially for a course or to change his or her schedule after initial registration.

Continuing students may register via the web on MyTNCC (http://tncc.my.vccs.edu). Information about the use of MyTNCC is available on the web. All students have access to MyTNCC for general information and for tuition payment, and each student should access the system at least once to change his or her personal identification number (PIN) to a unique 6-10 character alphanumeric PIN. The PIN is preset to the date of birth (MMDDYY format).

CHANGE OF REGISTRATION

Withdrawal from a class: A student may withdraw from a course without academic penalty only if an official withdrawal form is submitted to the Enrollment Services Office on the Hampton campus or on the Historic Triangle campus located at 4601 Opportunity Way, Suite 117 prior to completion of 60% of the session. The student may also initiate the withdrawal via the web on MyTNCC prior to the completion of 60% of the session. In this case, the student will receive a grade of "W." After 60% of the session, the student will receive a grade of "F" except under mitigating circumstances that must be documented and approved by the faculty member, division dean, and Vice President for Academic Affairs and a copy of this documentation must be placed in the student's academic file.

Students have the obligation to initiate their own withdrawals from classes. With the exception of Financial Aid personnel, college faculty and staff will not unilaterally withdraw students from classes. To remain in compliance with Title IV funding regulations, Financial Aid personnel will review last date of attendance data and may take necessary withdrawal action, on behalf of the student.

Addition of a course: Usually students may not enter a new class after the first week of a semester. Any request for entry after that time must be approved by the instructor of the class and the division chair or appropriate academic administrator.

RELEASE OF INFORMATION ON STUDENTS

All requests for official information on students should be referred to the Office of Enrollment Services. Student records are treated as confidential information available for the student's personal inspection and the student's personally authorized release, with very limited lawful exceptions. The College reserves the right to arrange mutually convenient appointments for student inspection of records and to impose reasonable charges for copies, should they be requested.

Name, address, telephone number, major field of study, dates of

attendance, degrees and awards received, and names of previous institutions attended can be released upon request unless a student notifies the Office of Enrollment Services by the end of the first week of classes that such directory information should remain confidential. Emergency requests for information will be handled by the Office of the Vice President for Student Affairs or another appropriate college official. The College is obligated to notify its students annually of its compliance with The Family Educational Rights and Privacy Act of 1974, Section 438, PUBL. 90-247, as amended, which sets forth requirements governing protection of students' right to privacy in their educational records. The U.S. Department of Education has published regulations implementing this act.

If any student in attendance believes that the College has failed to comply with the above act and/or regulations, the student may file a complaint with the U.S. Department of Education; or alternatively, the student may follow procedures established by the college.

STUDENT RECORDS RETENTION POLICY

The academic transcript is the only official record of a student's academic history, and the only document used for record reconciliation. All other student documents are subject to disposal by the college in accordance with Virginia Community College System policy.

The College will maintain student folder data for a three-year period from the date of separation from the College. Registration data, withdrawal data, and faculty grade reports will be maintained for three years from the date of origination.

FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT (FERPA)

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. They are:

1. The right to inspect and review the student's education records within 45 days of the day the College receives a request for access.

   Students should submit a written request to the Office of Enrollment Services Office, Room 208 Griffin Hall, Hampton campus identifying the record(s) they wish to inspect. The Enrollment Services staff will make arrangements for access and notify the student of the time and place where the records may be inspected.

2. The right to request the amendment of the student's education records that the student believes are inaccurate or misleading.

To amend a record they believe is inaccurate or misleading, students should write the college official responsible for the record, clearly identify the part of the record they want changed, and specify why it is inaccurate or misleading.

If the College decides not to amend the record as requested by the student, the College will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

3. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent.

One exception that permits disclosure without consent is disclosure to school officials with legitimate educational interests. A school official is a person employed by the college in an administrative, supervisory, academic, research, or support-staff position (including law enforcement unit personnel and health staff); a person or company with whom the College has contracted (such as an attorney, auditor, or collection agent), a person serving on the college's board of trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks.

A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility.

4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by the college to comply with the requirements of FERPA.

The name and address of the Office that administers FERPA are:

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

NOTICE REGARDING DIRECTORY INFORMATION

FERPA designates certain information as "directory information," which may be released upon request without the student's express written consent. It is the policy of the College not to publish a student directory; however, name, address, telephone number, major field of study, dates of attendance, degrees and awards received, and names of previous institutions attended can be released upon request unless a student notifies the Office of Enrollment Services by the end of the first week of classes that such directory information should remain confidential.

INSTITUTIONAL EFFECTIVENESS

In order for the college to measure the effectiveness of academic services to students and the community on a regular basis, a variety of assessment activities are conducted. Since assessment is a mechanism by which improvements can be accomplished at the college, it is in the best interests of everyone involved to give sincere and meaningful input when called upon to take part in any of these activities. Those selected to take part in an assessment activity will be given timely notification so that arrangements can be made to complete the required activity. Input will remain confidential and will be used by the college only for the purposes of institutional improvements.

EDUCATIONAL SERVICES

OFFICE OF OUTREACH AND RECRUITMENT
(757/825-2905)

The mission of the Office of Outreach and Recruitment is to establish and enhance relationships that attract a diverse student body to Thomas Nelson Community College and respond to the needs of the community served by the College. The primary goal of this office is to inform and attract students to the College where they will receive an affordable and quality post-secondary education.

The Office of Outreach and Recruitment includes Dual Enrollment, Career Pathways, Career Coaching and Recruiting. Activities and services such as high school visits, school presentations, participation in college fairs, coordinated campus visits, community meetings, and other education-related events are offered. In addition, the Office of Outreach and Recruitment collaborates with other departments to provide professional support for the College's outreach and recruitment efforts.

DUAL ENROLLMENT
(757/825-2801 Hampton Campus) or (757/258-6532 Historic Triangle Campus)

High school and homeschooled students may dual enroll with permission of their high school principals (or home schooling parents) to take courses on campus after satisfactory completion of the College's placement tests. High school students may choose to dual enroll by taking selected college credit courses in the high school at a reduced tuition rate. Dual enrolled students are not eligible to take developmental courses or to receive financial aid.

For information on participating in dual enrollment courses, high school students should speak with their high school counselor. General information may be obtained from the Dual Enrollment Coordinator at the College.

CAREER PATHWAYS
(757/825-2706)

The Greater Peninsula Career Pathways Consortium is a partnership of Hampton, Newport News, Poquoson, York County, and Williamsburg-James City County school divisions; New Horizons Regional Education Center; and Thomas Nelson Community College. The consortium's purpose is to develop and support a linkage between secondary and post-secondary schools, regional businesses and industries that provide sequential career pathway programs in high-demand fields such as information systems technology, automotive, manufacturing, business and other emerging fields.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. A Career Pathway is a coherent sequence of rigorous academic and career/technical education (CTE) courses commencing in the

secondary school and leading to an associate or baccalaureate degree and beyond, to industry-recognized certification, and/or to nationally or state-recognized licensure. Career Pathways are developed, implemented, and maintained by partnerships of secondary and postsecondary education, business, and employers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757/825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

See Advanced Standing Guide for more information.

DISTANCE LEARNING
(757/825-2807)
The College offers a variety of courses for students via the Internet and compressed video (linking several locations simultaneously with the instructor). For additional information, please visit the Distance Learning website at **http://tncc.edu/students/student-resources/distance-learning/**.

LEARNING RESOURCES CENTER
(757/825-2868)
The Learning Resources Center (LRC) is a multi-media center where a variety of instructional resources is provided for students, faculty, and the community. On the Hampton campus the LRC is located in Wythe Hall, and is comprised of six departments: the Academic Computer Lab, the library, the College Math Center, the College Writing Center, the Make-up and Distance Learning Testing Center and the Tutorial Learning Center.

Learning Resources services are also provided at the Historic Triangle campus. For more information about specific Historic Triangle LRC services and hours, please phone 757/258-6500.

ACADEMIC COMPUTER LAB
(757/825-2993)**http://tncc.edu/library/academic-computer-lab/**
The Academic Computer Lab (ACL) on the Hampton campus is located in Room 255 Wythe Hall, and serves all academic divisions with applications software and Internet access. Its services are available to all currently enrolled students, faculty, and staff of the College upon presentation of photo identification. Individual assistance with software applications is offered. Operational hours are posted and are on the ACL web page.

An open access computer lab is also available to students in Room 101 of the Learning Resources facility at the Historic Triangle. For more information about lab services and hours, please check the LRC web page or phone 757/258-6503.

LIBRARY
(757/825-2877) **www.tncc.edu/library**
The library on the Hampton campus is located in Wythe Hall and offers a wealth of information resources in all formats for students and faculty. In addition to a book collection of more than 50,000 volumes, the library provides periodicals, compact discs and other

instructional media, reference services, access to online databases and resources from any computer with an Internet connection. Students may also email a reference librarian for research assistance.

The library participates in the Virginia Tidewater Consortium program that allows students, faculty, and staff of member institutions to borrow books and use the facilities of consortium libraries.

The library charges for overdue materials and lost items. Persons who have overdue materials or who have fines assessed against them may be denied permission to register for classes or may have their grades held until their library obligations are met.

The library's hours vary according to the academic calendar and are posted in the library and on the library web page.

Library instructional materials, computers for research databases and research assistance are also available to students in the library at the Historic Triangle. For more information about library services and hours, check the web page or phone 757/258-6500.

COLLEGE MATH CENTER
(757/825-2884) **http://tncc.edu/library/college-math-center/**
The College Math Center, located on the Hampton campus in Room 254C Wythe Hall, offers individual assistance to all students of the College who use mathematics in their classes and who need help. In addition, a variety of instructional materials is available to help students review and improve their mathematical skills. Computer tutorials include pre-algebra, algebra, precalculus, calculus, geometry, technical math, math for liberal arts, and statistics. Hours vary according to the academic year, and are posted in the facility and on the Math Center web page.

Math instructional assistance is also available to students in Room 106E of the Learning Resources facility at the Historic Triangle. For more information about Math Center services and hours, check the web page or phone 757/258-6515.

COLLEGE WRITING CENTER
(757/825-2940)   **http://tncc.edu/library/college-writing-center/**
The College Writing Center on the Hampton campus is located in Room 254A, Wythe Hall. Its mission is to provide help in all aspects of the writing process, from preliminary brainstorming and outlining, to analysis and composition. All students, whether enrolled in an English class or not, may use the College Writing Center for assistance with writing skills. Individualized sessions are offered to help students think critically about their own writing and to offer suggestions that help make students' writing stronger. Software, sample student essays, and tutorial books are among the materials available for student use. Hours vary according to the academic year and are posted.

Writing instructional assistance is also available to students in Room 106F of the Learning Resources facility at the Historic Triangle. For more information about Writing Center services and hours, check the web page or phone 757/258-6516.

MAKE-UP AND DISTANCE LEARNING TESTING

CENTER

(757/825-3540) **http://tncc.edu/library/make-up-center/**
The Make-up and Distance Learning Testing Center on the Hampton campus is located in Room 254B, Wythe Hall, and provides a quiet and proctored setting for student testing. Proctoring is provided for make-up tests for students who have missed a classroom test, for distance learning tests, and for students with disabilities in accordance with the guidelines offered by the college disability coordinator.

Hours vary according to the academic year and are posted. Students must arrive at least one hour before closing and must show photo identification.

Make-up test proctoring is provided by appointment at the Historic Triangle campus in Room 124. Those students needing test proctoring should phone 757/258-6538 at least 24 hours in advance.

TUTORIAL LEARNING CENTER

(757/825-2804) **http://tncc.edu/library/tutorial-center/**
The Tutorial Learning Center, located on the Hampton campus in Room 253 Wythe Hall, offers free tutorial services to any of the College's students. Students must be currently enrolled in the credit class for which they are seeking assistance. Student volunteers serve as tutors and are available on an appointment basis. Tutoring is not guaranteed for every class or subject and depends on the availability of qualified tutors. Hours vary slightly throughout the academic year and are posted.

Peer student tutoring at the Historic Triangle campus is coordinated through the Tutorial Learning Center specialist. Students interested in receiving peer tutoring, or in becoming a tutor, should contact the TLC specialist at 757/825-2804.

OFFICE OF STUDENT DEVELOPMENT

The Office of Student Development provides students with a variety of student development support services designed to assist students in achieving academic and personal success. This division provides new and continuing students with opportunities and experiences that promote their academic and personal growth, while encouraging their personal responsibility in preparing for future success. The division supports the instructional programs of the college through coordinating advising/registration for new, continuing and returning students, crisis counseling, group counseling, disabled student services, orientation activities, student activities, and intervention strategies for students experiencing difficulties.

ACADEMIC ADVISING

The focus of the academic advising program is to assist students in developing an educational plan that is meaningful and compatible with their educational and career goals. This process requires an ongoing cooperative partnership between students, faculty, professional counselors, support staff, and administrators.

Formal academic advising begins with an initial advising session for new students in the Counseling Center, Room 201, Griffin Hall, Hampton Campus and Room 117, Historic Triangle Campus. Advising is reinforced in the College Success Skills course (SDV 100), in the Advising Areas or with the assignment of a full-time faculty member as the student's advisor. Student advising becomes final when the student completes his/her degree or has accomplished his/her personal goals.

In the Advising Area, students may see a faculty advisor and/or professional counselor to obtain a program study sheet, receive advice on course selection and/or change their major. Additionally, they may have their course work reviewed and receive information regarding transferring to a four-year institution.

Student (after their first semester) will be assigned a faculty member as their advisor, if they meet the following criteria:
• do not require Developmental English
• have 15 credits or more and
• have a 2.0 GPA or greater

Students may view articulation agreements in the Advising Area, but to obtain and sign a formal articulation agreement, they must go to the Academic Planning and Transfer Center, located in Room 201L Griffin Hall, Hampton Campus, or Room 117, the Historic Triangle Campus. The Advising Area is open each semester on a temporary basis. Consult the online Schedule of Classes for dates and times (www.tncc.edu).

SELF-ADVISING

The College recognizes that its students are adults who are responsible for their own academic progress toward graduation, including meeting all placement requirements and prerequisite courses. Additionally, students are responsible for selecting courses that fulfill the specific requirements of their degree and of any articulation agreement into which they have entered with a four-year college or university. Once students have completed one semester, they will automatically be considered as self-advising and continuing students. The advantage of self-advising status is that students do not need an advisor's signature to register for classes. However, students needing additional assistance are encouraged to visit the Advising Area to see an academic advisor.

THE COUNSELING CENTER

Career Services Liaison

The goals of the career services liaison are to promote career development and employability skills of individuals and provide information on services and programs available at the One Stop Career Center. The College uses the services of a professional counselor as a career liaison to provide career guidance to as many students as recommended by the Counseling Center. The office is located in Room 225 Griffin Hall, and the counselor can be reached by phone at 757/825-2852.

Counseling

The goal of counseling support services is to assist students in developing skills to make intelligent decisions regarding their educational, career, personal and social goals. Counselors in the Counseling Center (located in Room 201 Griffin Hall) see new, entering and non-curricular students while continuing students must see Counselors in the Office of Student Development. Professional Counselors interpret various educational assessments for students and

assist them with curriculum placement and schedule development. Counselors are available to assist students throughout their college experience with educational, career, and personal planning concerns. Students have an opportunity to confidentially discuss personal concerns in a non-judgmental environment. These services are free to all currently enrolled students. These offices work closely with community agencies and resources to refer students when appropriate and based on the needs of the student.

For information or a counseling appointment, call 757/825-2827 (Hampton) or 757/253-4755 (Historic Triangle).

Advising-Military Installations

Advising is provided by a college representative at the major installations in the College service region. Military personnel desiring educational and career advising may schedule an appointment with a college representative by contacting the post or base education center and scheduling an appointment. Students wishing to pursue a degree may receive further assistance at the campus Counseling Center. Appointments are not required. Full services, including admissions, assessment, advising, registration, and tuition payment are provided at the military installations .

College Success Skills (SDV 100)

All curricular students are required to take the one-credit College Success Skills course during their first semester of attendance. The objective of the College orientation program is to assist incoming students in becoming adequately acquainted with college life. More information on the orientation program may be obtained in the Office of Student Development located in Room 323 Hastings Hall or at 757/825-2827.

College Success Skills Waiver

Applicants to the college who have completed a two-year academic degree program, or any four-year academic degree at a regionally accredited U.S. institution of higher education, may request a waiver of the College Success Skills (SDV 100) course. Students requesting a waiver of SDV 100 will be required to fulfill the program requirements by the election of additional credit hours to compensate for the course waiver. Students receiving a waiver for the SDV 100 course assume all responsibility for knowledge of the college's policies on curricular requirements, scholastic honesty, and standards of conduct for the student body. The College may substitute other transfer credits earned to satisfy the total credit hour requirement of the degree. Students who have completed SDV 100 at other Virginia community colleges will receive, upon request, a copy of the college catalog and the current schedule. Transferring students who determine that they need additional information from the college may enroll in the SDV 100 course.

ACADEMIC PLANNING AND TRANSFER CENTER
(757/825-3647)
The Academic Planning and Transfer Center offers a variety of services designed to ensure the seamless transfer of students to four-year colleges or universities to complete their baccalaureate degree. The Academic Planning and Transfer Center is located in Room 201L Griffin Hall, within the Admissions and Welcome Center. College catalogs, transfer guides, and articulation agreements are available for reference. Students can also obtain information on educational institutions both in and outside of Virginia.

The Virginia state policy on transfer aims to enhance cooperation and consistency among institutions of higher education in Virginia. For comprehensive information on transfer opportunities for Virginia Community College students, please visit the www.myfuture.vccs. edu/transfer website.

Articulation within the Virginia Community College System (VCCS) is a dynamic process. The most reliable source of transfer information is the admission office at a four-year college. Students are encouraged to take a proactive role in confirming transfer information. For college-specific transfer information, contact an academic advisor, counselor, academic planning specialist or admission office of any Virginia community college or four-year university and ask for a transfer guide.
Services provided:
• Assist students with choosing a college/university
• Assist students with choosing a major and career planning
• Provide information on articulation and guaranteed admission agreements
• Provide information on the four-year college transfer admissions requirements
• Provide academic advising for selection of academic program transfer course equivalencies
• Serve as liaison with four-year college/university representatives

DISABLED STUDENT SERVICES
(757/825-2867, TDD 757/825-2853)
Thomas Nelson Community College is committed to creating an accessible environment for students with disabilities, while allowing the student the opportunity for growth, greater responsibility and empowerment. Students who will require more extensive accommodations, such as Sign Language Interpreters or textbooks in alternate formats, should contact Disabled Students Services AT LEAST four weeks prior to the start of classes. The student with a disability should contact the Office of Disabled Student Services (voice 757/825-2833 or 825-2867 and TDD 757/825-2853) at least two weeks prior to the start of classes to ensure there is adequate time to discuss any necessary and appropriate accommodations. The student is not required to disclose his or her disability with his/her instructor. It is recommended that the student registers with the Office of Disabled Student Services for accommodations. If the student chooses not to register, a faculty member is not required to provide any accommodations until he or she receives an official letter from the Office of Disabled Student Services. Prior to or during the meeting with the Disabled Student Services Counselor, the student

should provide recent documentation of the disability (within three years) and review all limitations (all of which are held in complete confidence). Disabled Student Services and the student discuss the appropriate accommodations the student may receive at the college during the initial meeting. The student is briefed on what his or her responsibilities are as well as the responsibilities of Disabled Student Services staff and faculty responsibilities. The purpose of this is to demonstrate to the student that the primary individual responsible for his or her needs is the student himself or herself. Disabled Student Services continues to act as a resource and advocate, but it is the student who is expected to accept the leadership role for meeting his or her own needs.

Following are some of the services available for students with disabilities:
• Access to Assistive Technology
• Coordination with community agencies
• Liaison with faculty
• Note-takers
• Testing accommodations
• Textbooks in an alternate format
• Tutoring assistance
• Interpreters for deaf students
• Counseling/advising services.

For further information, contact Disabled Student Services in Room 323 Hastings Hall or at 757/825-2867 or 757/825-2833.

Although admission to the college is open, admission to a specific program may be selective (based on the academic qualifications of the student).

STUDENT ACTIVITIES
(757/825-2863)
The Student Activities program is responsible for implementing, coordinating, and integrating the policies and procedures relating to the operation of campus organizations and activities. The Student Activities office is the hub for extracurricular programs and services, and students can obtain information on clubs and organizations, community service opportunities and scholarships, leadership development, students' rights and responsibilities, activities and events, intramural and intercollegiate sports and more. The office provides a variety of educational, cultural, recreational, and social experiences, and assists in integrating them with the college instructional program. Additionally, help is provided to individual students, informal groups, faculty, and staff to develop new activities and services that meet the needs of the college community. All campus-wide activities and events of interest appear on the monthly Student Activities calendar, TNCC Web calendar and TNCC Facebook page. For further information, contact the Student Activities staff in Room 224 Griffin Hall in Hampton and Suite 229 at the Historic Triangle campus or at 757/825-2863.

ALUMNI AFFAIRS
(757/825-2719)
Thomas Nelson Community College actively seeks to stay in contact with graduates and former students of the college. Information about current college events and activities and the successes of our alumni are posted on the web site and published in an alumni newsletter. For further information, contact the Office of Development and Alumni

Affairs at alumniaffairs@tncc.edu or by calling 757/825-2719.

PROGRAM INFORMATION

GENERAL EDUCATION AT THOMAS NELSON COMMUNITY COLLEGE
The following definition of general education and its components expresses those beliefs that guide the institution in the development of its associate degree programs. The Virginia Community College System (VCCS) has identified core competencies that all associate degree graduates are expected to achieve.

Thomas Nelson Community College has adopted the VCCS core competencies as its general education competencies. At the current time, there are SEVEN components that make up the VCCS core competencies. If the VCCS should identify additional core competencies or change the definitions of any of the current competencies, the College will follow its guidelines.

DEMONSTRATION OF COMPETENCIES
Thomas Nelson Community College ensures that all graduates of degree, diploma and certificate programs of 45 or more credits in length have attained appropriate levels of oral, written, quantitative and computer competencies during their matriculation. The competencies may be demonstrated by completing a dedicated course, mastering content embedded in one or more courses, or by demonstrating proficiency by examination. Whenever proficiency for a particular program of study is required by means of an examination, the program of study description in the catalog will indicate that expectation. Details of how to achieve the proficiencies are included as part of the program of study discussions during the SDV 100 College Success Skills course which is required during the first semester of attendance. Additionally, the College participates in the VCCS core competency assessment project in which a sampling of degree graduates are assessed on one or more core competencies each spring.

DEFINITION
VCCS (5.0.2.0) defines general education as that portion of the collegiate experience that addresses the knowledge, skills, attitudes, and values characteristic of educated persons. It is unbounded by disciplines and honors the connections among bodies of knowledge. TNCC's degree graduates will demonstrate competency in the following areas:

GENERAL EDUCATION goals and student learning outcomes (VCCS 5.0.2.2)

COMMUNICATION: A competent communicator can interact with others using all forms of communication, resulting in understanding and being understood.

CRITICAL THINKING: A competent critical thinker evaluates evidence carefully and applies reasoning to decide what to believe and how to act.

CULTURAL AND SOCIAL UNDERSTANDING: A culturally and socially competent person possesses an awareness, understanding

and appreciation of the inter connectedness of the social and cultural dimensions within and across local, regional, state, national, and global communities.

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)

PERSONAL DEVELOPMENT: An individual engaged in personal development strives for physical well-being and emotional maturity.

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.

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.

TNCC Minimum General Education Requirements

General Education	AA	AS	AAA	AAS
Communication[1] (Written & Oral)	6	6	3	3
Humanities/Fine Arts	6	6	3	3
Foreign Language (Intermediate Level)	6	0	0	0
Social/Behavioral Science	9	9[2]	3[3]	3[3]
Natural Science	7	7	0 }3[3]	0 }3[3]
Mathematics	6	6[4]	3	0
Personal Development (Health, Physical Education or Recreation & Student Development)[5]	2	2	2	2
Major field courses and electives	**18-21**	**24-27**	**49-53[6]**	**49-53[6]**
Total Credits for Degree[7]	**60-63**	**60-63**	**65-69[8]**	**65-69[8]**

Adapted from VCCS Table 5-1B

[1]Must include one English composition course.
[2]Six semester hours of social/behavioral sciences are required for engineering majors planning to transfer to a baccalaureate engineering degree program that requires 6 or fewer hours in this category, provided that the college/university publishes such requirements in its transfer guide.
[3]General education courses other than those designed for transfer may be used. SACS requires 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."
[4]Only 3 semester hours of Mathematics is required for General Studies.
[5]Personal development must include at least one student development course.
[6]AAA/AAS degrees must contain a minimum of 15 semester hours or General Education.
[7]All college-level course prerequisites must be included in the total credits required for each program.
[8]Credit range for AAA/AAS programs is 65-69 semester hours, including nursing. Credit range for engineering programs is 60-72, and other Health Technologies range 65-72

semester hours.

GENERAL EDUCATION ELECTIVES AND TRANSFER INFORMATION

The following information represents the number and distribution of general education course credits for the four types of degrees offered at Thomas Nelson Community College. The College, in keeping with the general education guidelines of the Virginia Community College System, has determined the number and distribution of general education courses in each program of study.

SELECTION OF GENERAL EDUCATION COURSES: A.A. AND A.S. DEGREES

Thomas Nelson Community College has college parallel transfer programs leading to the associate of arts (A.A.) and the associate of science (A.S.) degrees. These programs are designed so that students can parallel the College's course work with four-year college requirements. Students in A.S. and A.A. degree programs who are considering transferring to a four-year institution should consult with the institution and with the College's Academic Transfer and Planning Center early in their programs to assist with careful selection of courses.

Students should review the chosen college program of study carefully. Some programs of study require students to take a sequence of courses to satisfy a **General Education Elective**.

Because the process of transferring is dynamic, students are encouraged to have direct contact with the institution to which they plan to transfer. Students should utilize the Transfer Guide of that college in planning a program of study. Transfer Guides for most colleges can be found on the college's website. Transfer Guides and catalogs for many colleges are housed in the Academic Planning and Transfer Center in Room 201L Griffin Hall.

The Academic Planning and Transfer Center in Griffin Hall also has access to catalogs from colleges across the United States as well as their web sites.

TRANSFERABILITY OF COURSES

The courses below will satisfy the College's requirements for A.A. and A.S. degrees as noted in the programs of study. The courses do not automatically transfer to all Virginia institutions. It is the responsibility of the student to review the Transfer Guide of that college to determine the transferability of the selected course.

If a student is uncertain about the college to which he or she plans to transfer, the student should consider selecting courses from the Transfer Module. The Transfer Module is available online at http://myfuture.vccs.edu/transfer/.

SELECTION OF GENERAL EDUCATION COURSES: A.A.A. AND A.A.S. DEGREES

Thomas Nelson Community College has many career oriented programs leading to the associate of applied arts (A.A.A.) and the associate of applied science (A.A.S.) degrees. These programs require the selection of certain elective courses. These electives may be chosen from among all courses listed in the appropriate discipline. If a student in an A.A.A. or A.A.S. degree is considering possible transfer

to a four-year institution, the student should consult with his or her advisor early in the program to ensure optimal selection of courses and should read carefully the information in Selection of General Education Courses: A.A. and A.S. Degrees.

Students interested in transferring to a four-year college are encouraged to contact the Academic Planning and Transfer Center in Room 201L Griffin Hall for additional information. Additionally, the State Council of Higher Education in Virginia has developed a transfer program tool to assist community college students in selecting courses for transfer to four-year colleges. This tool is found at **http://myfuture.vccs.edu/transfer/.**

APPROVED GENERAL EDUCATION TRANSFER

ELECTIVES IN THE A.S. AND A.A. DEGREE PROGRAMS INCLUDE THE FOLLOWING:

Business
ACC 211-212	Principles of Accounting I-II
BUS 216	Probability and Statistics for Business and Economics
ECO 201-202	Principles of Economics I-II
ITE 115	Introduction to Computer Applications and Concepts
ITE 119	Information Literacy

Composition
ENG 111-112	College Composition I-II

Computer Science
CSC 200	Introduction to Computer Science
CSC 201	Computer Science I
CSC 202	Computer Science II
CSC 205	Computer Organization

Education
EDU 200	Introduction to Teaching as a Profession

Fine Arts
ART 121-122	Drawing I-II
ART 131-132	Fundamentals of Design I-II

Foreign Languages
ARA 101-102	Beginning Arabic I-II
ARA 201-202	Intermediate Arabic I-II
FRE 101-102	Beginning French I-II
FRE 201-202	Intermediate French I-II
GER 101-102	Beginning German I-II
GER 201-202	Intermediate German I-II
SPA 101-102	Beginning Spanish I-II
SPA 105-106	Beginning Spanish Ia-1b
SPA 107-108	Beginning Spanish IIa-IIb
SPA 201-202	Intermediate Spanish I-II

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 141-142	African-American History I-II

Humanities
ARA 101-102	Beginning Arabic I-II
ARA 201-202	Intermediate Arabic I-II
ART 101-102	History & Appreciation of Art I-II
ENG 121	Introduction to Journalism
ENG 210	Advanced Composition
ENG 211-212	Creative Writing
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
ENG 253-254	Survey of African-American Literature I-II
ENG 273-274	Women in Literature I-II
ENG 279	Film and Literature
FRE 101-102	Beginning French I-II
FRE 201-202	Intermediate French I-II
GER 101-102	Beginning German I-II
GER 201-202	Intermediate German I-II
HUM 201-202	Survey of Western Culture I-II
HUM 220	Introduction to African-American Studies
MUS 101-102	Basic Musicianship I-II
MUS 121-122	Music Appreciation I-II
PHI 101-102	Introduction to Philosophy I-II
PHI 211-212	The History of Western Philosophy
PHI 220	Ethics
PHT 110	History of Photography
REL 200	Survey of the Old Testament
REL 210	Survey of the New Testament
REL 231-232	Religions of the World I-II
SPA 101-102	Beginning Spanish I-II
SPA 105-106	Beginning Spanish Ia-Ib
SPA 107-108	Beginning Spanish IIa-IIb
SPA 201-202	Intermediate Spanish I-II

Laboratory Sciences
BIO 101-102	General Biology I-II
BIO 141-142	Human Anatomy and Physiology I-II
BIO 150	Introductory Microbiology
BIO 205	General Microbiology
BIO 256	General Genetics
BIO 270	General Ecology
BIO 275	Marine Ecology
GOL 105	Physical Geology
GOL 106	Historical Geology
CHM 101-102	General Chemistry I-II (for nonscience majors)
CHM 111-112	College Chemistry I-II
CHM 241-242	Organic Chemistry Laboratory I-II
PHY 201-202	General College Physics I-II
PHY 241-242	University Physics I-II (calculus-based)

Literature
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
ENG 253-254	Survey of African-American Literature I-II
ENG 273-274	Women in Literature I-II

Mathematics
MTH 151-152	Mathematics for the Liberal Arts I-II
MTH 158	College Algebra

MTH 163-164	Pre-Calculus I-II
MTH 173-174	Calculus with Analytic Geometry I-II
MTH 180	Finite Mathematics
MTH 240	Statistics
MTH 243	Probability and Statistics I
MTH 270	Applied Calculus
MTH 277	Vector Calculus
MTH 285	Linear Algebra
MTH 287	Mathematical Structures
MTH 291	Differential Equations

Physical & Health Education

PED	All PED courses
HLT	All HLT courses HLT 110

Social Sciences

ECO 201-202	Principles of Economics I-II
GEO 200	Introduction to Physical Geography
GEO 210	People & the Land: An Introduction to Cultural Geography
GEO 230	Political Geography
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 141-142	African-American History I-II
PLS 135	American National Politics
PLS 136	State & Local Politics
PLS 241	International Relations I
PSY 200	Principles of Psychology
PSY 215	Abnormal Psychology
PSY 216	Social Psychology
PSY 230	Developmental Psychology
PSY 231-232	Life Span Human Development I-II
PSY 235	Child Psychology
SOC 200	Principles of Sociology
SOC 211	Principles of Anthropology
SOC 215	Sociology of the Family
SOC 266	Minority Group Relations
SOC 268	Social Problems

Communication Studies and Theatre

CST 100	Principles of Public Speaking
CST 200	Advanced Public Speaking

ARTICULATION AGREEMENTS

Thomas Nelson Community College is a member of the Virginia Community College System (VCCS). Both the College and the VCCS have entered into articulation agreements with many of the four-year colleges and universities in Virginia such as Hampton University, Norfolk State University, Old Dominion University, St. Leo University, Strayer University, and Troy University. These agreements are developed jointly by representatives from the College or the VCCS and the four-year institutions. The articulation agreements are also known as "two-plus-two" programs. They list the appropriate courses to take at TNCC that will transfer to the four-year college towards the bachelor's degree. It is important for the student to indicate his or her intent to enroll in a "two-plus-two" program early. Students must see a counselor in the Counseling Center in 201 Griffin Hall to sign the articulation agreement.

Through a system-wide negotiated agreement, students who graduate from a Virginia Community College with an associate degree, the minimum grade point average, and any specified courses as listed in the agreement are guaranteed admission to many of the Commonwealth's colleges and universities. A complete listing of guaranteed admissions agreements can be found on the VCCS website at http://www.vccs.edu/transfer.

TNCC also has a program that allows TNCC students to co-enroll at the College of William and Mary. For information on these and other transfer agreements, please contact the Academic Planning and Transfer Center in Griffin Hall.

Several informal articulation agreements exist for some A.A.S. degrees. Early in their academic studies, students in A.A.S. degree programs who are considering transferring should discuss this fact with their academic program heads.

In addition to contacting the Academic Planning and Transfer Center, students who plan to transfer are strongly advised to contact the four year institution to verify current information concerning academic program and transferability of courses. Students are encouraged to utilize the four-year college's transfer guide to assist with planning. Many transfer resources are available in the Academic Planning and Transfer Center in Griffin Hall and they may be obtained from the senior institution. Most are available online. Students may obtain additional information from the State Council of Higher Education for Virginia (SCHEV) web site: **http://www.schev.edu/students/transfer/default.asp**

INSTITUTIONS WITH ARTICULATION AGREEMENTS
Cambridge College
ECPI College of Technology
Embry-Riddle Aeronautical University
Hampton University
Kaplan University (pending)
New Hampshire University
Norfolk State University
Old Dominion University
Radford University
St. Leo University
Strayer University
Troy University
University of Maryland University College
Virginia Tech -- College of Engineering & College of Agriculture and Life Sciences

INSTITUTIONS WITH GUARANTEED ADMISSION AGREEMENTS
Christopher Newport University
College of William and Mary
Emory & Henry College
Ferrum College
Longwood University
Lynchburg College
Mary Baldwin College
Norfolk State University
Old Dominion University
Radford University
Randolph College
Regent University
Regis University

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PROGRAMS OF STUDY

COLLEGE TRANSFER ASSOCIATE DEGREE PROGRAMS

ASSOCIATE OF ARTS

Liberal Arts
  English Education
  Foreign Languages
  International Studies

ASSOCIATE OF SCIENCE

Business Administration
Engineering
  General Studies
  Information Technology
Science
  Computer Science
  Education
  Math Education
Social Science
  Education

OCCUPATIONAL/TECHNICAL DEGREE PROGRAMS

ASSOCIATE OF APPLIED ARTS

Fine Arts

ASSOCIATE OF APPLIED SCIENCE

Accounting
Administration of Justice
Administrative Support Technology
  Communications, Management & Desktop
   Publishing
  Medical Office Administration
Automotive Technology
Computer Arts
Computer-Aided Drafting & Design Technology
Dental Hygiene
Early Childhood Development
Electronics Technology
  Computer Engineering Technology
  Electrical Engineering Technology
  Electromechanical Technology
Emergency Medical Services
Fire Science Technology
Human Services
Information Systems Technology

Management
  Marketing
Mechanical Engineering Technology
  Manufacturing Engineering Technology
  Marine Engineering
  Mechanical Design
  Modeling and Simulation
  Systems Analysis & Testing
Nursing
Paralegal Studies
Photography
  Visual Communications
Technical Studies:
 Construction Management
 Electrical Technology
 Engineering Technology
 Heating, Ventilation, Air Conditioning
  & Refrigeration

CERTIFICATES

Air Conditioning and Refrigeration
Automotive Technology
Communication Design Multi-Media
Computer-Aided Drafting & Design
  Technology
Early Childhood Development Assistant
General Education
Industrial Management
Legal Assistant
Public Management

CAREER STUDIES CERTIFICATES

Accounting
Administrative Support Technology
Administrative Assistant/Office Manager
Basic Administrative Skills
Benefits Program Specialist
Communications Management/Desktop
  Publishing
Medical Office Assistant
Air Conditioning and Refrigeration
Automotive Technology
Brakes/Steering/Suspension Specialist
Climate Control Specialist
Engine Performance Specialist
Transmission Repair Specialist
Business Principles
Child Development
Childcare Center Director
City   Management
CNC Machining Operations
Communication Design Interactive Media
Computer-Aided Drafting and Design
  Technology
Computer Science Teaching
Construction Leadership
Construction Management
Construction Supervision
Corporate Relations
Dental Hygiene
Diversity Training
Electronics Maintenance Technician
Electronics Production Technician
Electronics Technology

Emergency Medical Services - Basic
Emergency Medical Services - Intermediate
Emergency Medical Services - Paramedic
Financial Services Management
Fire Science
Fire Science Leadership
Food Service and Hospitality
Fundamentals of Organizational Leadership
Geographical Information Systems Technician
Gerontology
Hospitality Lodging Management
Hospitality Management
Information Assurance
Information Systems Technology
CISCO Networking
Microcomputer Applications
Project Management
Software Development
Web Design and E-Commerce
Web Design Specialist
International Studies
Interpreter Training
Managing Early Childhood Programs
Mathematics
Algebra I Add-On
Middle School Mathematics 6-8
Secondary Mathematics
Mechanical Engineering Technology
Electrical Mechanical Assembler
High Performance Manufacturing
Modeling and Simulation
Phlebotomy
Pre-Nursing
Professional Communications
Professional Writing
Real Estate
Recreation and Parks Management
School-Age Care
Selling Skills and Sales Management
Substance Abuse Counselor Assistant
Supervision
Total Quality Management
Training Specialist
Welding Technology
Youth Development

DEVELOPMENTAL STUDIES

Developmental courses at Thomas Nelson Community College are offered to help prepare individuals for admission to the occupational-technical and the university-parallel/college-transfer courses in the college. If students either have not completed appropriate educational courses or have compiled weak records in their past educational endeavors, developmental courses will help these students learn the basic skills necessary to succeed in other programs of the college. Developmental courses also serve the needs of these students who wish to upgrade their job skills or to study for self-improvement. Counselors place students in developmental courses on the basis of students' high school transcripts, test scores, and other available data concerning their achievement levels. An up-to-date listing of prerequisites for entrance into curricula is available from advisors and from the Counseling Center.

Each developmental studies course has been designed to meet specific objectives essential for entry into regular curriculum courses. Tests and other diagnostic techniques are administered to draw profiles of students' strengths and weaknesses, to measure academic progress, and to determine students' achievement of established course objectives.

In all developmental courses, special efforts are made to work with individual students in areas in which they are weak. Students are tested frequently to measure their progress, and instructional assistants are available for students needing additional help.

Some students in developmental studies may be taking all of their work at the developmental studies level while others may additionally be enrolled in some curriculum-level courses for which they are qualified. In general, developmental studies courses do not count toward graduation; but upon approval of the Vice President for Academic Affairs, some developmental studies courses may provide credit applicable to diploma or certificate programs. For their benefit, students are urged to complete all developmental work at the earliest possible opportunity.

While taking developmental studies courses, students must consult with their faculty advisors to select appropriate courses for successive academic semesters. Also, students are urged to consult with the counselors and division chair of their intended curricula for additional guidance or information.

Developmental Courses:

Biology
BIO 1   Foundations of Biology

Chemistry
CHM 1   Chemistry I

English as a Second Language
ESL 5   English as a Second Language: Reading I
ESL 6   English as a Second Language: Reading II
ESL 7   Oral Communication I
ESL 8   Oral Communication II
ESL 11   English as a Second Language: Composition I
ESL 12   English as a Second Language: Composition II

English – Writing
ENG 1 Preparing for College Writing I
ENG 3 Preparing for College Writing II

English – Reading
ENG 4 Reading Improvement I
ENG 5 Reading Improvement II

Mathematics
MTH 1 Developmental Mathematics
MTH 3 Algebra I
MTH 4 Algebra II

HONORS STUDIES PROGRAM

Purpose
The purpose of the Thomas Nelson Community College Honors Program is to provide the academically advanced student an enhanced educational experience beyond the requirements of a traditional classroom environment. The Honors Program provides an environment of heightened intellectual inquiry which furthers critical thinking skills, communication skills, and an appreciation of an interdisciplinary approach to global awareness. Honors courses are limited to small enrollments and are facilitated by seasoned faculty members who encourage independent thought and active participation from the honors student in the learning experience.

The Honors Program is available to students who have demonstrated high scholastic achievement, clear educational goals, and high levels of self-direction and motivation. The student accepted into the Honors Program will undertake honors quality work in designated honors classes. A student can also complete the requirements for the Honors Program by fulfilling contracts for course credit which are developed with the instructors of regular courses that are not offered at the honors level.

Under limited circumstances, a qualified student may receive permission to register for an honors section of a course without requesting admission to the Honors Program. For further information, contact the Honors Coordinator.

Admission
For general admission and program requirements, refer to Admission Requirements to the College and Curriculum Requirements at the beginning of the Admission Information section of the catalog.

Recent high school graduates must demonstrate a grade point average of 3.25 and must complete the application for the Honors Program. The application is available from the Office of Student Services, the Honors Program Coordinator or online from the College's internet website. Following acceptance to the College and the submission of the Honors Program application, the applicant will have an interview with the Honors Coordinator, who will determine acceptance into the program.

Current Thomas Nelson Community College students must have completed at least 15 college credit hours with a grade point average of 3.25, and must have a recommendation from a current faculty member to be considered for admission to the Honors Program. Current students applying to the Program will have an interview with the Honors Program Coordinator. Exceptions to these guidelines can be made on a needs basis.

Program Requirements
Successful completion of the Honors Program is contingent on continued academic excellence in regular course work, participation in honors level course work, academic success in honors level courses, and continued enrollment in the College. To receive honors designation on the diploma at graduation, the student must satisfactorily complete at least 15 credit hours in courses which are offered at the honors level. The student must complete at least one semester of the one-credit honors colloquium series. The honors colloquia are a series of seminars and group activities which focus on particular themes dependent upon that semester's honors colloquium faculty leader. Themes will vary from one semester to the next, allowing the honors student to enroll in the colloquia for up to three semesters.

Students may also fulfill a portion of the required 15 credit hours by completing honors contracts. Awarding of honors credit for contract coursework is contingent upon fulfillment of the contract in accordance with the standards specified in the contract.

Honors Program Benefits
Members of the college's Honors Program are provided with unique opportunities. Some of the benefits include:
- Stimulating classes that provide challenging course work and class discussions
- Designation of Honors courses on the student's transcript
- Recognition at graduation for successful completion of the Honors Program
- Mentor relationships with faculty
- Personalized academic advisement
- Invitation for membership in Phi Theta Kappa for eligible students
- Opportunity to meet, work, and socialize with other Honors students
- Co-curricular activities sponsored by the Honors Program

For Further Information
Students interested in pursuing coursework as part of the Honors Program can contact the Honors Coordinator:
Jacqueline L. Spencer
Phone: 757/825-2929
E-mail: spencerj@tncc.edu

COLLEGE TRANSFER ASSOCIATE DEGREE PROGRAMS

The Associate of Arts (A.A.) and Associate of Science (A.S.) degree programs are designed for students who plan to transfer to a four-year college or university to complete a baccalaureate degree. These programs parallel the course work required during the freshman and sophomore years of the four-year degree. Students in A.A. and A.S. degree programs who are considering transferring to a four-year college should consult with their faculty advisor early in their program to assist with careful selection of courses.

ASSOCIATE OF ARTS
Liberal Arts
Liberal Arts with Specialization in English Education
Liberal Arts with Specialization in Foreign Languages
Liberal Arts with Specialization in International Studies

ASSOCIATE OF SCIENCE
Business Administration
Engineering
General Studies
Information Technology
Science
Science with Specialization in Computer Science
Science with Specialization in Education
Science with Specialization in Math Education
Social Science
Social Science with Specialization in Education

LIBERAL ARTS (648)

Purpose: This degree is designed for students who plan to transfer to a four-year institution to complete a Bachelor of Arts (B.A.) degree. By exposing students to a variety of academic disciplines, the Liberal Arts program seeks to foster in students an appreciation of many areas of knowledge and to lay the foundation for students to become life-long learners. The program emphasizes communication, analytical, computational, and critical thinking skills, all of which provide versatility in an ever-expanding global job market. Liberal Arts graduates become teachers, librarians, journalists, foreign service officers, economists, medical doctors lawyers, and psychologists, among many other professions.

Recommended Preparation: Satisfactory completion of the following high school units or equivalent: 4 units of English, 2 units of mathematics (algebra and geometry), 2 units of laboratory science, 1 unit of history, and 3 to 4 units of foreign language.

For articulation information, **General Education Elective**s, and transfer information: See Program Information section in this catalog.

Computer competencies are infused throughout the courses in this curriculum, which does not require an additional computer course.

General Education Electives: See section on General Education for A.A. degree in this catalog.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

For more information, contact the **Communications**, **Humanities and Social Sciences Division** in Room 857 Templin Hall, 757/825-2799, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111-112	College Composition I-II	3-3
CST 100	Principles of Public Speaking	3
- - -	Literature Survey I-II[1]	3-3
- - -	Humanities Electives[1]	6
- - -	Foreign Language III-IV[1,2]	4-4
- - -	Social Science Electives[1]	6
HIS	History I and II[1]	3-3
MTH	Mathematics I-II[3]	3-3
- - -	Laboratory Science I-II	4-4
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
	Total General Education Course Credits	**58**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
	General Electives[1]	6
	Total Major and Other Course Credits	**6**
	Total Minimum Credits	**64**

[1]See the General Education Electives and Transfer Information section of this catalog for a list of approved courses. Substitutions for sequence courses require division approval. For selection of specific science, history, social science, and humanities courses, consult the catalog of the anticipated four-year transfer college or university.
[2]Students completing the A.A. in Liberal Arts must demonstrate intermediate college-level (201-201) proficiency in a language other than English. The 201-202 courses require a prerequisite proficiency equivalent to the 101-102 sequence in the language. Placement testing determines initial foreign language level. Students completing 101-102 foreign language may use those credits to met the general elective requirements. Credit by exam (through CLEP) for previous experience is available for some languages. Students whose native language is not English may substitute general electives for foreign language upon the approval of the dean of Communications, Humanities and Social Sciences.
[3]Choose from the following sequence: MTH 158-240, MTH 151-152, MTH 163-164 or MTH 163-270. Consult the 2+2 articulation agreement and/or the anticipated transfer institution for advice on the appropriate sequence..

Prerequisite for MTH 240: MTH 158 or MTH 163 or MTH 166 or equivalent.

SUGGESTED COURSE SEQUENCE FOR FULL-TIME STUDY

Fall	**Spring**	**Fall**	**Spring**
ENG 111	ENG 112	General Elective	General elective
Foreign Language III	Foreign Language IV	HIS I	HIS II
HUM elective	HUM elective	HLT/PED	HLT/PED
MTH I	MTH II	Lab Science I	Lab Science II
Social Science	Social Science	Literature I	Literature II
SDV 100		CST 100	

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

LIBERAL ARTS (648-01)
SPECIALIZATION IN ENGLISH EDUCATION

Purpose: This degree is designed for students who plan to transfer to a four-year institution to complete a Bachelor of Arts (B.A.) degree in English, with the intention of teaching language arts in middle schools or high schools. The program emphasizes communication, analytical, computational and critical thinking skills, providing essential skills for an educator.

Recommended Preparation: Satisfactory completion of the following high school units or equivalent: 4 units of English, 2 units of mathematics (algebra and geometry), 2 units of laboratory science, 1 unit of history, and 3 to 4 units of foreign language.

For articulation information, **General Education Elective**s, and transfer information: See Program Information section in this catalog.

Computer competencies are infused throughout the courses in this curriculum, which does not require an additional computer course.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

For more information, contact the **Communications, Humanities and Social Sciences Division** in Room 857 Templin Hall, 757/825-2799, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111-112	College Composition I and II	3-3
- - -	Foreign Language III and IV[1]	4-4
CST 100	Principles of Public Speaking	3
- - -	Literature Survey I and II	6
- - -	Humanities Electives	6
- - -	Social Science Electives[2]	3-3
HIS	History I and II	6
MTH	Mathematics I and II[3]	3-3
- - -	Laboratory Science I and II	4-4
HLT/PED	Health or Physical Education Elective(s)[4]	2
SDV 100	College Success Skills	1
	Total General Education Course Credits	58

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
EDU 200	Introduction to Teaching as a Profession	3
- - -	General Electives[5]	3
	Total Major and Other Course Credits	6
	Total Minimum Credits	64

[1]Students completing the A.A. in Liberal Arts must demonstrate intermediate college-level (201-201) proficiency in a language other than English. The 201-202 courses require a prerequisite proficiency equivalent to the 101-102 sequence in the language. Placement testing determines initial foreign language level. Students completing 101-102 foreign language may use those credits to met the general elective requirements. Credit by exam (through CLEP) for previous experience is available for some languages. Students whose native language is not English may substitute general electives for foreign language upon the approval of the dean of Communications, Humanities and Social Sciences.
[2]Social science electives recommended include: PSY 200, PSY 215, PSY 216, PSY 235, PSY 230 or PSY 231-232. Consult advisor or catalog of the transfer institution.
[3]Choose from the following sequences: MTH 158-240, MTH 151-152, MTH 163-164, MTH 180-240 or MTH 163-270.
Consult with intended transfer institution for advice on appropriate sequence. Prerequisite for MTH 240: MTH 158 or MTH 163 or MTH 166 or equivalent.
[4]The HLT/PED requirement may be met by a single 2-credit or 3-credit course or a combination of two 1-credit courses. Students majoring in English Education would benefit from HLT 106, HLT 110, HLT 183, HLT 200, HLT 215, PED 102-105 and PED 206.
[5]Humanities and social science courses are suggested general electives. Humanities electives recommended include HUM 201-202, HUM 220. Additional ENG courses may also provide appropriate electives, such as ENG 121-122, ENG 134, ENG 210, ENG 211-212 or ENG 279. Consult advisor or catalog of the transfer institution.

SUGGESTED COURSE SEQUENCE FOR FULL-TIME STUDY

Fall	Spring	Fall	Spring
ENG 111	ENG 112	Social Science	Social Science
Foreign Language III	Foreign Language IV	Literature I	Literature II
MTH I	MTH II	HIS I	HIS II
Laboratory Science I	Laboratory Science II	Humanities	Humanities
PED/HLT	CST 100	EDU 200	General elective
SDV 100		PED/HLT	

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

LIBERAL ARTS (648-03)
SPECIALIZATION IN FOREIGN LANGUAGES

Purpose: This program is designed for students who plan to transfer to a four-year institution to complete a Bachelor of Arts (B.A.) degree in a specific language and literature, in Modern Foreign Languages and Literatures, in a related area studies or interdisciplinary studies program, or in a combination of modern languages with humanities and social sciences. The program seeks to develop in students an awareness and appreciation of other cultures and to give them an opportunity to prepare themselves for employment in an increasingly global society.

Recommended Preparation: Satisfactory completion of the following high school units or equivalent: 4 units of English, 2 units of mathematics (algebra and geometry), 2 units of laboratory science, 1 unit of history, and 3-4 units of foreign language.

For articulation, **General Education Elective**s and transfer information: See program information section of this catalog.

Computer competencies are infused throughout the courses in this curriculum, which does not require an additional computer course.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

For more information, contact the **Communications, Humanities and Social Sciences Division** in Room 857 Templin Hall, 757/825-2799 or at **www.tncc.edu.**

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111-112	College Composition I and II	3-3
CST 229	Intercultural Communication	3
ENG	Literature Survey Elective[2]	3
- - -	Humanities/Fine Arts Electives[1]	6
- - -	Foreign Language III and IV[1,3]	4-4
- - -	Social Science Electives[1,4]	3-3
HIS	History I and II[1,5]	3-3
MTH 151-152	Math for the Liberal Arts I-II[1,6]	3-3
- - -	Laboratory Science I-II[1,7]	4-4
HLT/PED	Health or Physical Education Elective(s)[8]	2
SDV 100	College Success Skills	1
	Total General Education Course Credits	**55**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
- - -	Global Electives[1,9]	6
- - -	General Elective(s)[10]	3
	Total Major and Other Course Credits	**9**
	Total Minimum Credits	*64*

[1]See the General Education Electives and Transfer Information section for a list of approved courses. Substitutions for sequence courses require division approval. For selection of specific science, history, social science, and humanities courses, consult the catalog of the transfer institution.
[2]Any 200-level literature course with an ENG prefix satisfies this requirement; however, ENG 251-252 is recommended.
[3]Students completing an A.A. in Liberal Arts must demonstrate intermediate college-level (201-202) proficiency in a language other than English. The 201-202 courses require a prerequisite proficiency equivalent to the 101-102 sequence in the language. Placement testing determines initial foreign language level. Students completing 101-102 foreign language may use those credits to meet the general elective requirements. Credit by exam (CLEP) for previous experience is available for some languages. Students whose native language is not English may substitute general electives for foreign language upon approval by the dean of Communications. Humanities and Social Sciences.
[4]Social science electives recommended include: ECO 201-202, HIS 101-102, HIS 111-112, PSY 200, PSY 215, PSY 216, PSY 230, PSY 235, PSY 231-232.
[5]HIS 101-102 or HIS 111-112 are recommended.
[6]MTH 163-164, MTH 180-240 or MTH 163-270. Prerequisite for MTH 240: MTH 158 or MTH 163 or MTH 166 or equivalent.
[7]The laboratory science elective may be selected from biology, chemistry, geology, or physics with a lab component.
[8]The HLT/PED requirement may be met by a single 2-credit or 3-credit course or a combination of two 1-credit courses.
[9]Students who wish to achieve intermediate (201-202) proficiency in a second foreign language may choose from: ARA 201-202, FRE 201-202, GER 201-202, and SPA 201-202. Students may also choose from: ART 101-102, BUS 230, ENG 251-252, GEO 210, GEO 221-222, GEO 230, PLS 241, REL 231-232, or other global courses.
[10]Humanities or social science recommended. Suggested courses include: ENG 251-252, HUM 201-202, MUS 121-122, PHI 211-212, PLS 241, REL 231-232, SOC 211, and SOC 268.

SUGGESTED COURSE SEQUENCE FOR FULL-TIME STUDY

Fall	Spring	Fall	Spring
ENG 111	ENG 112	Social Science	Social Science
Foreign Language III	Foreign Language IV	ENG	General elective
MTH 151	MTH 152	Global elective	Global elective
Laboratory Science I	Laboratory Science II	HIS I	HIS II
PED/HLT	CST 229	HUM/ART	HUM/ART
SDV 100		PED/HLT	

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

LIBERAL ARTS (648-02)
SPECIALIZATION IN INTERNATIONAL STUDIES

Purpose: This degree is designed to prepare students who intend to transfer to a four-year institution to complete a Bachelor of Arts (B.A.) degree in International Studies or Modern Foreign Languages. The International Studies specialization will broaden the student's education to include an emphasis on other cultures and countries in recognition of the increasing interdependence of today's world.

Recommended Preparation: Satisfactory completion of the following high school units or equivalent: 4 units of English, 2 units of mathematics (algebra and geometry), 2 units of laboratory science, 1 unit of history, and 3 to 4 units of foreign language.

For articulation, **General Education Elective** and transfer information: See Program Information section in this catalog.

Computer competencies are infused throughout the courses in this curriculum, which does not require an additional computer course.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

For more information, contact the **Communications, Humanities and Social Sciences Division** in Room 857 Templin Hall, 757/825-2799, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course	Course Title	Credits
ENG 111-112	College Composition I and II	3-3
CST 229	Intercultural Communication	3
ENG	Literature Survey Elective[1,2]	3
- - -	Humanities/Fine Arts Electives[1]	6
- - -	Foreign Language III and IV[1,3]	4-4
ECO 201-202	Principles of Economics I and II	3-3
HIS	History I and II[1,4]	3-3
MTH 151-152	Math for the Liberal Arts I and II[1,5]	3-3
- - -	Laboratory Science I and II[1,6]	4-4
HLT/PED	Health or Physical Education Elective(s)[7]	2
SDV 100	College Success Skills	1
	Total General Education Course Credits	55

MAJOR AND OTHER COURSES

Course	Course Title	Credits
- - -	Global Electives[1,8]	6
	General Elective(s)[9]	3
	Total Major and Other Course Credits	9
	Total Minimum Credits	64

[1]See **General Education Elective**s and Transfer Information section of the catalog for approved courses. Substitutions for sequence courses require division approval. For selection of specific science, history, social science, and humanities courses, consult the catalog of the transfer institution.
[2]Any 200-level literature course with an ENG prefix satisfies this requirement; however, ENG 251-252 is recommended.
[3]Students completing this degree must demonstrate intermediate college-level (201-202) proficiency in a language other than English. The 201-202 courses require a prerequisite proficiency equivalent to the 101-102 sequence in the language. Placement testing determines initial foreign language level. Students completing 101-102 foreign language may use those credits to meet the general elective requirements. Credit by exam (through CLEP) for previous experience is available for some languages. Students whose native language is not English may substitute general electives for foreign language upon approval of the dean of Communications and Humanities.
[4]HIS 101-102 or HIS 111-112 are recommended.
[5]MTH 151-152 is recommended; however any of the following sequences may be substituted: MTH 158-240, MTH 163-164, MTH 180-240 or MTH 163-270. Prerequisites for MTH 240: MTH 158 or MTH 163 or MTH 166 or equivalent.
[6]The laboratory science elective may be selected from biology, chemistry, geology, or physics with a lab component.
[7]The HLT/PED requirement may be met by a single 2-credit or 3-credit course or a combination of two 1-credit courses.
[8]Students may choose from ARA 101-102, ARA 201-202, ART 101-102, BUS 230, ENG 251-252, GEO 210, GEO 221-222, GEO 230, PLS 241, REL 231-232 or other global courses.
[9]Humanities or social science recommended, including ENG 251-252, HUM 201-202, MUS 121-122, PHI 211-212, PLS 241, REL 231-232, SOC 211 and SOC 268.

SUGGESTED COURSE SEQUENCE FOR FULL-TIME STUDY

Fall	Spring	Fall	Spring
ENG 111	ENG 112	ECO 201	ECO 202
Foreign Language III	Foreign Language IV	ENG	General Elective
MTH 151	MTH 152	Global Elective	Global Elective
Laboratory Science	Laboratory Science	HIS I	HIS II
PED/HLT	CST 229	HUM/ART	HUM/ART
SDV 100		PED/HLT	

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

BUSINESS ADMINISTRATION (213)

Purpose: This degree is designed for a person who plans to transfer to a four-year institution to complete a baccalaureate degree program in business.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

For articulation, **General Education Elective**s and transfer information, see the Program Information section of this catalog.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111-112	College Composition I and II	3-3
CST 100	Principles of Public Speaking	3
---	Humanities or Fine Arts Electives[1]	3-3
HIS	History I and II[2]	3-3
MTH	Mathematics I and II[3]	3-3
- - -	Laboratory Science I and II[4]	4-4
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
Total General Education Course Credits		**38**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
ACC 211-212	Principles of Accounting I and II	3-3
ECO 201-202	Principles of Economics I and II	3-3
- - -	Electives[5,6]	12
Total Major and Other Course Credits		**24**
Total Minimum Credits		*62*

[1]For selection of humanities or fine arts electives, refer to the Approved General Education Transfer Electives in the A.S. and the A.A. Degree Program section of the catalog.
[2]Suggested history sequences include: HIS 101-102, HIS 111-112, HIS 121-122 and HIS 141-142..
[3]Suggested math sequences include: MTH 151-152, MTH 163-164, MTH 163-270 and MTH 158-240.
[4]Suggested science sequences include: BIO 101-102, CHM 101-102, GOL 105-106 and PHY 201-202
[5]For ease of transfer, refer to the approved General Education Electives in this catalog.
[6]Consult the bulletin of the institution of transfer for electives.

When choosing courses listed in 2-4 above, consult the bulletin of the institution of transfer.

SUGGESTED COURSE SEQUENCE FOR FULL-TIME STUDY

Fall	Spring	Fall	Spring
Elective	HIS I	ACC 211	ACC 212
ENG 111	ENG 112	ECO 201	ECO 202
HLT/PED	Laboratory Science	HIS II	Elective
Laboratory Science	MTH II	Elective	HLT/PED
MTH I	CST 100	HUM/ART	HUM/ART
SDV 100	Elective		

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

ENGINEERING (831)

Purpose: Opportunities for engineering graduates should increase as the world continues to become more technologically oriented. Preparation for the engineering profession is based on a rigorous program of study, especially in mathematics and science.

This degree is designed for persons who plan to transfer into a four-year college or university Bachelor of Science degree program in one of the many engineering fields. The curriculum includes a basic core of courses in mathematics, science, engineering, and general studies, which provide the student with the fundamentals needed for transfer into a baccalaureate engineering program.

Thomas Nelson Community College offers options to complete the first two years of study in a broad range of engineering disciplines. Based on elective selections, a student may specialize in Mechanical, Electrical, Computer, Civil, or Chemical Engineering.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757/825-2898, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition I	3
ENG 112 or	College Composition II or	
ENG 115	Technical Writing	3
- - -	Humanities Electives[1]	6
- - -	Social Science Electives[2]	6
MTH 173-174	Calculus with Analytic Geometry I and II	4-4
PHY 241-242	University Physics I and II	4-4
HLT/PED	Health or Physical Education Elective	1
SDV 100	College Success Skills	1
	Total General Education Course Credits	36

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
CHM 111	College Chemistry I	4
CHM 112 or	College Chemistry II or	
MTH 285	Linear Algebra[3]	3/4
- - -	Engineering Electives[4]	9
EGR 110 or	Engineering Graphics or	
CSC 202	Computer Science II	3
EGR 120	Introduction to Engineering[5]	2
EGR 126 or	Computer Programming for Engineers or	
CSC 201	Computer Science I	3
EGR 140	Engineering Mechanics-Statics	3
MTH 277	Vector Calculus	4
MTH 291	Differential Equations	3
	Total Major and Other Course Credits	34/35
	Total Minimum Credits	70/71

[1]Two semesters of humanities electives may be selected from the areas of ART, ENG, HUM, MUS, PHI, REL, and foreign languages. See the Program Information section for a list of approved electives. Humanities electives should be selected in conjunction with an advisor after the student has examined the requirements at the transfer institution.
[2]Two semesters of social science electives may be selected from the areas of ECO, GEO, HIS, PLS, PSY, SOC. See the Program Information section for a list of approved electives. Social Science electives should be selected in conjunction with an advisor after the student has examined the requirements at the transfer institution.
[3]Students planning to transfer to Virginia Tech should take MTH 285.
[4]Recommended Engineering electives: Mechanical or Civil Engineering: EGR 245, EGR 246, and EGR 260. Electrical or Computer Engineering: EGR 260, EGR 261, EGR 277, EGR 278; Chemical Engineering, Advanced Chemistry (see advisor). Environmental Engineering: EGR 245, EGR 246, and BIO 101. For Computer Engineering: CSC 201, CSC 202 should be taken;.
[5]EGR 120 meets CSC 201 prerequisite.

SUGGESTED COURSE SEQUENCE FOR FULL-TIME STUDY

Fall	Spring	Summer	Fall	Spring
CHM 111	CHM 112 or	HUM elective	EGR elective	EGR elective
EGR 110	MTH 285	Social Science	HLT/PED	EGR elective
EGR 120	EGR 126 or		HUM elective	MTH 277
ENG 111	CSC 201		MTH 291	ENG 112 or 115
MTH 173	EGR 140		PHY 242	Social Science
SDV 100	MTH 174			
	PHY 241			

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

GENERAL STUDIES (699)

Purpose: This degree is designed for students who desire a specific course of studies transferable to a designated four-year college program for which no other curriculum provides satisfactory preparation. The student and a counselor design a curriculum to meet the specific requirements of the transfer college. Both the curriculum and the transfer college's requirements remain in the student's file. Before being admitted to the curriculum, the student must meet with the designated program counselor to clarify the student's educational goals and to declare formally his or her objectives. At that time, the student and counselor must complete a specific curricular plan in accordance with the requirements of the transfer institution. The student's objectives and plan will be filed, then regularly reviewed by the counselor and adjusted if required.

A student may also be assigned temporarily to the General Studies curriculum while pursuing general education courses in anticipation of being admitted to an Allied Health or Medical Laboratory curriculum. A student so assigned will not be considered as a candidate for an Associate of Science Degree in General Studies.

For articulation, **General Education Elective**s and transfer information, see the Program Information section of this catalog.

Program Requirements: The specific courses required for the degree are listed during the first-year schedule, though they may be taken any time within the two-year period. Electives for the last two semesters' schedule must be chosen to create a coherent curriculum in accord with the student's declared educational objectives, must be taken from the list of approved transfer courses identified in the Transfer Information section of this catalog (or be demonstrated as appropriate to the student's intended four-year program), and must be approved by the counselor. The approved electives (16-19 credits) must be listed on the General Studies "Declaration of Objectives" form. College credits previously earned by the student must be approved by the dean of the **Communications and Humanities Division** for applicability to the General Studies degree. Applications for graduation that do not meet these criteria will not be approved.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

For more information, contact the **Communications, Humanities and Social Sciences Division** in Room 857 Templin Hall, 757/825-2799, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111-112	College Composition I and II	3-3
CST 100	Principles of Public Speaking	3
- - -	Humanities Electives	6
HIS	History I and II	3-3
- - -	Social Science Electives	6
MTH	Mathematics Elective	3
- - -	Laboratory Science I and II	4-4
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
Total General Education Course Credits		41

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
- - -	Approved Electives[1]	16-19
- - -	Computer Elective[2]	3
Total Major and Other Course Credits		19-22
Total Minimum Credits		60-63

[1]Electives must be chosen to create a coherent curriculum in accord with the student's declared educational objectives, must be taken from the list of approved transfer courses identified in the Program Information section of this catalog (or be demonstrated as appropriate to the student's four-year program), and must be approved by the counselor. Electives may not duplicate other curriculum courses. For example, ENG 101 may not be part of this curriculum because it contains materials already covered in ENG 111.
[2]Students may select CSC 200 Introduction to Computer Science, ITE 119 Information Literacy or other approved computer elective.

SUGGESTED COURSE SEQUENCE FOR FULL-TIME STUDY

Fall	**Spring**	**Fall**	**Spring**
ENG 111	ENG 112	Computer Elective	HLT/PED
HIS I	HIS II	HLT/PED	Lab Science II
HUM elective I	HUM elective II	Lab Science I	Approved Electives
MTH	Social Science II	Approved Electives	
Social Science I	CST 100		
SDV 100			

INFORMATION TECHNOLOGY* (340)

Purpose: The Associate of Science degree in Information Technology is designed for students who plan to transfer to four-year institutions to complete a baccalaureate degree program in Information Technology or related field.

Transfer Information: Since four-year institutions can vary in their courses and GPA requirements, please consult a transfer specialist, counselor or faculty advisor regarding specific requirements and course selection.

For articulation and General Education requirements, see the Program Information Section of the catalog.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757-825-2900 or at www.tncc.edu

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111-112	College Composition I and II	3-3
CST 100	Principles of Public Speaking	3
- - -	Humanities/Fine Arts Electives[1]	6
---	Social Science Electives[2]	6
HIS	History Elective[3]	3
MTH 240	Statistics[4]	3
MTH 270	Applied Calculus[4]	3
---	Laboratory Science I-II[5]	4-4
---	Health Elective	2
SDV 100	College Success Skills	1
	Total General Education Course Credits	**41**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
ITE 119	Information Literacy	3
ITE 120	Principles of Information Systems	3
ITE 221	PC Hardware and OS Architecture	3
ITP 100	Software Design	3
---	Transfer Electives[6]	9
	Total Major and Other Course Credits	**21**
	Total Minimum Credits	**62**

*IT courses must be taken within the last 5 years to apply to graduation.

[1]The humanities/fine arts electives may be selected from the list under "Humanities and Fine Arts."
[2]The social science electives may be selected from the following: economics, geography, history, political science, psychology or sociology.
[3]HIS 101, HIS 102, HIS 111, HIS 112, HIS 121 or HIS 122 is recommended.
[4]MTH 163 is a prerequisite for both MTH 240 and MTH 270.
[5]The science electives may be selected from biology, chemistry, physics, geology, or the natural science 100 series courses with a lab component, excluding NAS 161-162. A two-semester sequence is required.
[6]When choosing general transfer electives, consult the bulletin of the institution of transfer. MTH 163 can be used as one of the electives.

Electives should be selected with the advice of a counselor or faculty advisor to meet the requirements of the transfer institution.

SUGGESTED COURSE SEQUENCE FOR FULL-TIME STUDY

Fall	**Spring**	**Fall**	**Spring**
ENG 111	ENG 112	CST 100	HIS elective
ITE 119	ITP 100	MTH 240	MTH 270
ITE 120	ITE 221	Lab Science I	Lab Science II
Social Science I	Social Science II	HUM/ART	HUM/ART
Health	Transfer elective	Transfer elective	Transfer elective
SDV 100			

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

SCIENCE (880)

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard. org/vccs/SearchMajor.action.

Purpose: With the tremendous emphasis on scientific discoveries and technological developments in today's society, there is a great demand for scientists and scientifically oriented people in business, government, industry, and the professions. This degree, with a major in physical or natural science, is designed for persons who are interested in a preprofessional or scientific program and who plan to transfer to four-year institutions to complete baccalaureate degree programs. Students interested in a computer science major should refer to the section on Science/ Specialization in Computer Science.

Special Admission and **Program Requirements:** Students planning to transfer to a four-year college or university should see Selection of General Education Courses section of this catalog.

For articulation and **General Education Elective**s and transfer information, see the Program Information section of the catalog.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757/825-2898, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111-112	College Composition I and II	3-3
- - -	Speech Elective[1]	3
- - -	Humanities Electives[2]	6
- - -	Social Science Electives[3]	6
- - -	History Electives I-II	3-3
MTH 163-164	Pre-Calculus I and II	3-3
- - -	Laboratory Science I-II[4]	4-4
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
	Total General Education Course Credits	44

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
- - -	Computer Science Elective	3
- - -	Laboratory Science III-IV[4]	4-4
- - -	Transferable Electives[5]	6
	Total Major and Other Course Credits	17
	Total Minimum Credits	61

[1]One course selected from CST 100 or CST 200.
[2]Two semesters of humanities may be selected from the areas of literature, religion, art, music, philosophy and humanities. See the Program Information section for a list of approved courses.
[3]Two semesters of social science may be selected from the disciplines of ECO, GEO, PLS, PSY, SOC, Social Science electives should be selected in conjunction with an advisor after the student has examined the requirements at the transfer institution.
[4]Two-semester laboratory science may be selected from the following: BIO 101-102, BIO 141-142, CHM 111-112, CHM 241-242, CHM 245-246, GOL 105-106, PHY 201-202, PHY 241-242 or any two of the following: BIO 150, BIO 247, BIO 270.
[5]Electives should be selected after consulting the catalog of the anticipated transfer institution. Note: CHM 101-102 does not satisfy laboratory science or elective credits for this program.

SUGGESTED COURSE SEQUENCE FOR FULL-TIME STUDY

Fall	**Spring**	**Fall**	**Spring**
ENG 111	Comp. Science Elective	Elective	Elective
HIS I	ENG 112	HUM	HUM
HLT/PED	HIS II	Lab Science III	Lab Science IV
Lab Science I	HLT/PED	Social Science	Social Science
MTH 163	Lab Science II		
CST Elective	MTH 164		
SDV 100			

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

SCIENCE (880-01)

SPECIALIZATION IN COMPUTER SCIENCE

Purpose: This degree is designed to prepare students to transfer into a bachelor's degree program in computer science. The curriculum emphasizes the study of science, mathematics, and the use of computing in a scientific setting.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757/825-2898, or at **www.tncc.edu.**

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111-112	College Composition I and II	3-3
CST	Speech[1]	3
- - -	Humanities Electives[2]	6
- - -	Social Science Electives[3]	6
- - -	Elective (non-major)	3
MTH 173-174	Calculus with Analytic Geometry I and II	4-4
HIS	History Electives	6
- - -	Laboratory Science I and II[4]	4-4
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
Total General Education Course Credits		**49**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
CSC 200	Introduction to Computer Science	3
CSC 201-202	Computer Science I and II	4-4
CSC 205	Computer Organization	3
Total Major and Other Course Credits		**14**
Total Minimum Credits		*63*

[1]One course selected from CST 100 or CST 200.
[2]Two semesters of humanities may be selected from the areas of literature, religion, art, music, philosophy and humanities. See the Program Information section for a list of approved courses.
[3]Two semesters of social science may be selected from the disciplines of ECO, GEO, PLS, PSY, SOC, Social Science electives should be selected in conjunction with an advisor after the student has examined the requirements at the transfer institution.
[4]Two-semester laboratory science may be selected from the following: BIO 101-102, BIO 141-142, CHM 111-112, CHM 241-242, CHM 245-246, GOL 105-106, PHY 201-202, PHY 241-242 or any two of the following: BIO 150, BIO 247, BIO 270.

NOTE: Electives should be selected after consulting the catalog of the anticipated transfer institution. CHM 101-102 does not satisfy elective credits for this program.

SUGGESTED COURSE SEQUENCE FOR FULL-TIME STUDY

Fall	Spring	Fall	Spring
CSC 200	CSC 201	CSC 202	CSC 205
ENG 111	ENG 112	Elective	HUM Elect. II
HIS I	HIS II	HUM Elective I	Lab. Science II
HLT/PED	HLT/PED	Lab. Science I	Soc. Science II
MTH 173	MTH 174	Soc. Science I	CST
SDV 100			

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

SCIENCE (880-02)
SPECIALIZATION IN EDUCATION

Purpose: With the tremendous emphasis on scientific discoveries and technological developments in today's society, there is a great demand for scientists and scientifically oriented people in business, government, industry, and the professions. This degree, with a major in physical or natural science, is designed for persons who are interested in a preprofessional or scientific program and who plan to transfer to four-year institutions to complete baccalaureate degree programs. Students interested in a computer science major should refer to the section on Science/ Specialization in Computer Science.

Special Admission & Program Requirements: Students planning to transfer to a four-year institution should see the Selecting General Education Courses section of this catalog.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/ or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

For articulation, **General Education Elective**s and transfer information, see the Program Information section of the catalog.

For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757/825-2898, or at **www.tncc.edu.**

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111-112	College Composition I and II	3-3
CST	Speech Elective[1]	3
- - -	Humanities Electives[2]	6
- - -	Social Science Electives[3]	6
- - -	Geography Elective[4]	3
- - -	History Electives I-II	3-3
MTH 163-164	Pre-Calculus I and II	3-3
- - -	Laboratory Science I and II[5]	4-4
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
	Total General Education Course Credits	47

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
- - -	Computer Science Elective[6]	3
EDU 200	Introduction to Teaching as a Profession	3
GOL 105	Physical Geology	4
PHY 201	General College Physics I	4
- - -	Transferable Electives	3
	Total Major and Other Course Credits	17
	Total Minimum Credits	64

[1]One course selected from CST 100 or CST 200.
[2]Two semesters of humanities may be selected from the areas of literature, religion, art, music, philosophy and humanities. See the Program Information section for a list of approved courses.
[3]Two semesters of social science may be selected from the disciplines of ECO, GEO, PLS, PSY, SOC, Social Science electives should be selected in conjunction with an advisor after the student has examined the requirements at the transfer institution.
[4]Students may select GEO 200, GEO 210, GEO 221, GEO 222 or GEO 230.
[5]Two-semester laboratory science may be selected from the following: BIO 101-102, BIO 141-142, CHM 111-112, CHM 241-242, GOL 105-106, PHY 201-202, PHY 241-242 or any two of the following: BIO 150, BIO 247, BIO 270.
[6]Computer Science elective must be selected from CSC.

NOTE: Electives should be selected after consulting the catalog of the anticipated transfer institution. CHM 101-102 does not satisfy elective credits for this program.

SUGGESTED COURSE SEQUENCE FOR FULL-TIME STUDY

Fall	Spring	Fall	Spring
ENG 111	Comp. Sci.Elective	EDU 200	Elective
HIS I	ENG 112	HUM elective I	HUM elective II
HLT/PED	HIS II	GOL 105	PHY 201
Lab Science I	HLT/PED	GEO elective	Soc. Science II
MTH 163	Lab. Science II	Soc. Science I	
CST elective	MTH 164		
SDV 100			

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

SCIENCE (880-03)

SPECIALIZATION IN MATH EDUCATION

Purpose: There is a great demand for qualified math teachers in K-12. This degree is designed for persons who are interested in teaching mathematics at the secondary level and who plan to transfer to a four-year institution to complete a baccalaureate degree in mathematics education.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111-112	College Composition I and II	3-3
CST	Speech Elective[1]	3
- - -	Humanities Electives[2]	6
- - -	Social Science Electives[3]	6
- - -	History Electives 1-II	3-3
MTH 163-164	Pre-Calculus I-II	3-3
- - -	Laboratory Science I and II[4]	4-4
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
	Total General Education Course Credits	44

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
MTH 173-174	Calculus I and II	4-4
- - -	Transferable Elective[5]	3
- - -	Computer Science Elective	3
EDU 200	Introduction to Teaching as a Profession	3
	Total Major and Other Course Credits	17
	Total Minimum Credits	61

[1]One course selected from CST 100, CST 105 or CST 110.
[2]Two semesters of humanities may be selected from the areas of literature, religion, art, music, philosophy and humanities. See the Program Information section for a list of approved courses.
[3]Two semesters of social science may be selected from the disciplines of ECO, GEO, PLS, PSY, SOC, Social Science electives should be selected in conjunction with an advisor after the student has examined the requirements at the transfer institution.
[4]Two-semester laboratory science may be selected from the following: BIO 101-102, BIO 141-142, CHM 111-112, GOL 105-106, PHY 201-202, PHY 241-242.
[5]Electives should be selected after consulting the catalog of the anticipated transfer institution. CHM 101-102, PHY 101-102 do not satisfy the elective credits for this program.

SUGGESTED COURSE SEQUENCE FOR FULL-TIME STUDY

Fall	Spring	Fall	Spring
MTH 163	MTH 164	MTH 173	MTH 174
ENG 111	ENG 112	EDU 200	CSC Elective
HLT/PED	HLT/PED	Lab Sci I	Lab Sci II
Hum Elective I	HUM Elective II	HIS Elective I	HIS Elective II
Soc Elective I	Soc Elective II	Elective	
SDV 100	CST		

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

SOCIAL SCIENCE (882)

Purpose: This degree is designed for students who plan to transfer. For General Education and Transfer Information see the Program Information section of this catalog.
Students enrolled in the cohort group must consult with an advisor before registering for courses.

Students desiring to transfer should explore the 2+2 articulation agreement with Old Dominion University.

Transfer to a four-year institution to complete a bachelor's degree in the social sciences. By guiding students to an appreciation of many different fields of knowledge, the Social Science program attempts to educate the whole person and to increase students' awareness of themselves, their fellow men and women, and the world around them.

General Education Elective: See section on General Education for A.A. degree in this catalog.

Graduation Requirement: Before receiving a degree in Social Science, students must participate in an exit interview at a time and place arranged by the college.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

For more information, contact the **Communications, Humanities and Social Sciences Division** in Room 857 Templin Hall, 757/825-2799, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111-112	College Composition I-II	3-3
CST 100	Principles of Public Speaking	3
- - -	History Electives[1]	6
- - -	Social Science Elective[2]	3
- - -	Humanities Electives[1]	6
MTH	Mathematics I-II[3]	3-3
- - -	Laboratory Sciences I-II[1]	4-4
- - -	Computer Elective[4]	3
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
	Total General Education Course Credits	**44**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
- - -	Social Science Electives[2]	9
- - -	Approved Electives[1]	9
	Total Major and Other Course Credits	**18**
	Total Minimum Credits	*62*

[1]All history, humanities, laboratory science, social science and approved elective courses must be selected from the list of approved transfer courses in the Program Information section of this catalog. For selection of specific history, humanities, and laboratory science and elective courses, refer to the bulletin of the four-year transfer institution.
[2]Social science courses must be selected from courses having an ECO, GEO, HIS, PLS, PSY or SOC prefix found in the approved transfer courses listing in the Program Information section of this catalog. For selection of specific social science courses, a student is advised to refer to the bulletin of the four-year college to which he or she expectt to transfer with particular attention to lower level social science requirements of his or her major.
[3]Students must select from the following: MTH 163-164, MTH 157-158, MTH 158-240 and MTH 163-240, MTH 163-270 or higher.
[4]Students may select CSC 200, ITE 119 or one of the other computer science courses from the list of approved transfer electives.

SUGGESTED COURSE SEQUENCE FOR FULL-TIME STUDY

Fall	Spring	Fall	Spring
ENG 111	ENG 112	HUM elective	HUM Elective
HIS elective	HIS elective	Elective	Elective
MTH I	MTH II	HLT/PED	Elective
CSC elective	Soc elective	Lab Sci elective	Lab Sci elective
SDV 100	CST 100	Soc elective	Soc elective

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

SOCIAL SCIENCE (882-01)
SPECIALIZATION IN EDUCATION

Purpose: This degree is designed for students who plan to transfer to a four-year institution to complete a bachelor's degree in the social sciences. By guiding students to an appreciation of many different fields of knowledge, the Social Science program attempts to educate the whole person and to increase students' awareness of themselves, their fellow men and women, and the world around them.

General Education Elective: See section on General Education for A.A. degree in this catalog.

Graduation Requirement: Before receiving a degree in Social Science, students must participate in an exit interview at a time and place arranged by the college.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

For more information, contact the **Communications, Humanities and Social Sciences Division in room 857 Templin Hall, 757/825-2799**, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111-112	College Composition I-II	3-3
CST 100	Principles of Public Speaking	3
- - -	Literature Elective	3
- - -	History Electives[1]	6
- - -	Social Science Elective[2]	3
- - -	Humanities Elective[1]	3
MTH	Mathematics[3]	3-3
- - -	Laboratory Sciences[1]	4-4
- - -	Computer Elective[4]	3
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
	Total General Education Course Credits	44

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
EDU 200	Introduction to Teaching as a Profession	3
- - -	Geography Elective[5]	3
- - -	Social Science Electives[2]	6
- - -	Approved Electives[1]	6
	Total Major and Other Course Credits	18
	Total Minimum Credits	62

[1]All history, humanities, laboratory science, social science and approved elective courses must be selected from the list of approved transfer courses in the Program Information section of this catalog. For selection of specific history, humanities, and laboratory science and elective courses, refer to the bulletin of the four-year transfer institution.
[2]Social science courses must be selected from courses having an ECO, GEO, HIS, PLS, PSY or SOC prefix found in the approved transfer courses listing in the Program Information section of this catalog. The following are also for acceptable electives: ART 101, 102, 106; HUM 201, 202; MUS 121, 122; SPD 151, 152.
For selection of specific social science courses, a student is advised to refer to the bulletin of the four-year transfer institution.
[3]Students must select from the following: MTH 158 or 163 and 240 (or higher).
[4]Students may select ITE 119 or CSC 200 or one of the other computer science courses from the list of approved transfer electives.
[5]Students may select from GEO 200, GEO 210, GEO 221, GEO 222, or GEO 230.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

APPLIED ASSOCIATE DEGREE PROGRAMS

The Associate of Applied Arts (A.A.A.) and Associate of Applied Science (A.A.S.) degree programs are two-year degrees designed primarily to prepare students for employment in jobs in fine arts, music, photography, or a technical field. Although these curricula are not designed for transfer to a four-year college or university, in many cases the courses do transfer. Students are encouraged to consult with their faculty advisor when planning their curriculum.

ASSOCIATE OF APPLIED ARTS

Fine Arts

ASSOCIATE OF APPLIED SCIENCE

Accounting
Administration of Justice
Administrative Support Technology
Administrative Support Technology - Communications Management/Desktop Publishing
Administrative Support Technology - Medical Office Administration
Automotive Technology
Computer Arts
Computer-Aided Drafting and Design Technology
Dental Hygiene
Early Childhood Development
Electronics Technology
Electronics Technology - Computer Engineering Technology
Electronics Technology - Electrical Engineering Technology
Electronics Technology - Electromechanical Technology
Emergency Medical Services
Fire Science Technology
Human Services
Information Systems Technology
Management
Management - Marketing
Mechanical Engineering Technology
Mechanical Engineering Technology - Manufacturing Engineering Technology
Mechanical Engineering Technology - Marine Engineering
Mechanical Engineering Technology - Mechanical Design
Mechanical Engineering Technology - Modeling and Simulation
Mechanical Engineering Technology - Systems Analysis and Testing
Nursing
Paralegal Studies
Photography
Photography - Visual Communications
Technical Studies - Construction Management
Technical Studies - Electrical Technology
Technical Studies - Engineering Technology
Technical Studies - Heating, Ventilation, Air Conditioning & Refrigeration

FINE ARTS (530)

Purpose: This degree is designed to provide students with extensive studio experience in a variety of media, tools, and working methodologies; to establish within them a solid basis for critical thinking, discernment, and discrimination in the visual arts; to give them sufficient knowledge of art history as a foundation to visual literacy; to encourage them in the continuing investigation of contemporary trends in the fine arts as revealed through actual production and critical treatises; and to provide them with a background in general education that will complement and balance the studio concentration.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

Computer Competency: Students in this degree are required to demonstrate computer competency prior to graduation. The competency may be demonstrated by satisfactory performance on a test or by satisfactory completion of ART 283 or PHT 135. Students should check with their advisor or division office for details on completing this requirement.

For more information, contact the **Communications, Humanities and Social Sciences Division** in Room 857 Templin Hall, 757/825-2799, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111-112	College Composition I and II	3-3
CST 100	Principles of Public Speaking	3
- - -	Literature Survey I and II or History I and II	3-3
- - -	Social Science Electives	6
ART/PHT	Computer Elective[1]	3
MTH 120	Introduction to Mathematics[2]	3
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
Total General Education Course Credits		**30**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
ART 101-102	History and Appreciation of Art I and II	3-3
ART 121-122	Drawing I and II	3-3
ART 131-132	Fundamentals of Design I and II	3-3
ART 221-222	Drawing III and IV	3-3
ART 287	Portfolio and Resume Preparation	1
ART 241	Painting	3
ART/PHT	Art or Photography Electives	6
PHT 164	Introduction to Digital Photography	3
Total Major and Other Course Credits		*37*
Total Minimum Credits		**67**

[1]Students may select either ART 283 Computer Graphics I or PHT 135 Electronic Darkroom.

[2]MTH 151 or MTH 163 may be substituted provided that the student has met the prerequisites.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

ACCOUNTING (203)

Purpose: This degree is designed primarily for persons who seek full-time employment in the accounting field immediately upon completion of the community college program. Persons who are seeking their first employment in an accounting position and those presently in accounting who seek a promotion may benefit from this program.

Special Admission and Program Requirements: Students who receive a grade lower than "C" in any prerequisite accounting course will be required to repeat the course and earn a grade of "C" or higher.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students, who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition I	3
CST 100	Principles of Public Speaking	3
	Humanities/Fine Arts Elective	3
ECO 201 or	Principles of Economics I-Macroeconomics or	
ECO 120	Survey of Economics	3
MTH 120 or	Introduction to Mathematics or [1]	
MTH 151 or	Mathematics for the Liberal Arts I or	
MTH 158	College Algebra	3
ITE 115	Introduction to Computer Applications and Concepts[2]	3
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
Total General Education Course Credits		21

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
- - -	Degree-Related Elective[3]	3
ACC 124	Payroll Accounting	3
ACC 211-212	Principles of Accounting I and II	3-3
ACC 215	Computerized Accounting	3
ACC 221-222	Intermediate Accounting I and II	3-3
ACC 240	Fraud Examination	3
ACC 261	Principles of Federal Taxation I	3
ACC 275	Capstone Seminar in Accounting	3
BUS 100	Introduction to Business	3
BUS 121	Business Mathematics I	3
BUS 241	Business Law I	3
FIN 215	Financial Management	3
ITE 140	Spreadsheet Software	3
Total Major and Other Course Credits		45
Total Minimum Credits		66

[1]Students planning to transfer to a four year institution should take MTH 151, MTH 158, MTH 180 or MTH 240.
[2]ITE 119 may be substituted for ITE 115.
[3]Degree-related electives may be selected from the following ACC, BUS, IT, ECO, MKT.

SUGGESTED COURSE SEQUENCE FOR FULL-TIME STUDY

Fall	Spring	Fall	Spring
ACC 211	ACC 124	ACC 215	ACC 222
BUS 100	ACC 212	ACC 221	ACC 240
ENG 111	BUS 121	ACC 261	ACC 275
MTH 120	HUM/ART	BUS 241	Degree Elective
ITE 115	ITE 140	FIN 215	ECO 201
SDV 100	CST 100	HLT/PED	HLT/PED

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

ADMINISTRATION OF JUSTICE (400)

Purpose: This degree is designed to provide a broad foundation that will prepare the student to enter any of the varied fields of law enforcement or to prepare for professional advancement.

Special Admission and Program Requirements: Students planning to transfer to a four-year institution should see Selection of General Education Courses section of this catalog.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111-112	College Composition I and II	3-3
CST 100	Principles of Public Speaking	3
- - -	Humanities/Fine Arts Elective	3
SOC 200	Principles of Sociology	3
PSY 100	Principles of Applied Psychology[1]	3
MTH 120	Introduction to Mathematics[2]	3
- - -	Laboratory Science	4
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
	Total General Education Course Credits	**28**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
ADJ 100	Survey of Criminal Justice	3
ADJ 105	The Juvenile Justice System	3
ADJ 116	Special Enforcement Topics	3
ADJ 131	Legal Evidence I	3
ADJ 201	Criminology I	3
ADJ 211	Criminal Law, Evidence, and Procedures I	3
ADJ 229	Law Enforcement and the Community	3
ADJ 236	Principles of Criminal Investigation	3
ADJ --- or	Major Elective or	
ADJ 290	Coordinated Internship in Administration of Justice	3
HMS 251	Substance Abuse I	3
ITE 115	Introduction to Computer Applications and Concepts[3]	3
PBS 255	Management of the Modern City	3
- - -	Elective (major or non-major)	3
	Total Major and Other Course Credits	**39**
	Total Minimum Credits	**67**

[1]PSY 200 may be substituted for PSY 100.
[2]Students who plan to transfer should choose MTH 240, MTH 180 or MTH 151.
[3]ITE 119 may be substituted for ITE 115.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

ADMINISTRATIVE SUPPORT TECHNOLOGY (298)

Purpose: This degree prepares students for full-time employment immediately upon completion of the two-year degree. With the rapid development of business, industry, and government in Virginia, there is a great demand for qualified office professionals. Students who are seeking employment in an office environment and those who are seeking promotion may benefit from this program.

Special Admission and Program Requirements: Students must receive a grade of "C" or better in all sequential Administrative Support Technology courses.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process..

For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition I	3
ENG/CST	English II or Speech I[1]	3
- - -	Humanities/Fine Arts Elective	3
PSY 126	Psychology for Business and Industry[2]	3
ECO 110 or	Consumer Economics or	
ECO 120 or	Survey of Economics or	
ECO 201	Principles of Economics I – Macroeconomics	3
MTH 120	Introduction to Mathematics	3
ITE 115 or	Introduction to Computer Applications and Concepts	
ITE 119	or Information Literacy	3
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
Total General Education Course Credits		**24**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
ACC 211 or	Principles of Accounting I or	
ACC 115	Applied Accounting	3
AST 101-102	Keyboarding I[3] and II	3-3
AST 107	Editing and Proofreading Skills	3
AST 230	Introduction to Office Technology	3
AST 232	Microcomputer Office Applications	3
AST 234	Records and Database Management	3
AST 238	Word Processing Advanced Operations	3
AST 243	Office Administration I	3
AST 244 or	Office Administration II or	
BUS 230	International Business Practice Firm	3/4
AST 253	Advanced Desktop Publishing I	3
BUS 100	Introduction to Business	3
BUS 235	Business Letter Writing	3
BUS 241	Business Law I	3
Total Major and Other Course Credits		**42/43**
Total Minimum Credits		*66/67*

[1] ENG II requirement may be met by ENG 115, CST 100, CST 126 or CST 227.
[2] PSY 200 may be substituted.
[3] Student may request Challenge Exam to show proficiency in AST 101 keyboarding skills.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

ADMINISTRATIVE SUPPORT TECHNOLOGY (298-01)
SPECIALIZATION IN COMMUNICATIONS MANAGEMENT & DESKTOP PUBLISHING

Purpose: This degree prepares students for full-time employment immediately upon completion of the two-year degree. With the rapid development of business, industry, and government in Virginia, there is a great demand for qualified office professionals. Students who desire to increase their knowledge and skills in communication technology, presentation skills, desktop publishing, and web page design will benefit from this program.

Special Admission and Program Requirements: Students must receive a grade of "C" or better in all sequential Administrative Support Technology courses.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process..

For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition I	3
ENG/CST	English II or Speech[1]	3
- - -	Humanities/Fine Arts Elective	3
PSY 126	Psychology for Business and Industry[2]	3
ECO 110 or	Consumer Economics or	
ECO 120 or	Survey of Economics or	
ECO 201	Principles of Economics I - Macroeconomics	3
MTH 120	Introduction to Mathematics	3
ITE 115 or	Introduction to Computer Applications and Concepts	
ITE 119	or Information Literacy	3
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
	Total General Education Course Credits	**24**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
ACC 211 or	Principles of Accounting I or	
ACC 115	Applied Accounting	3
AST 101-102	Keyboarding I and II[3]	3-3
AST 107	Editing/Proofreading Skills	3
AST 230	Introduction to Office Technology	3
AST 234	Records and Database Management	3
AST 238	Word Processing Advanced Operations	3
AST 243	Office Administration I	3
AST 253	Advanced Desktop Publishing I	3
AST 254	Advanced Desktop Publishing II	3
BUS 200 or	Principles of Management or	
BUS 165	Small Business Management	3
BUS 235	Business Letter Writing	3
ITD 110	Web Page Design I	3
ITD 210	Web Page Design II	4
	Total Major and Other Course Credits	**43**
	Total Minimum Credits	*67*

[1]ENG II requirement may be met by ENG 115, CST 100, CST 126 or CST 227.
[2]PSY 200 may be substituted.
[3]Student may request Challenge Exam to show proficiency in AST 101 keyboarding skills.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

ADMINISTRATIVE SUPPORT TECHNOLOGY (298-02)
SPECIALIZATION IN MEDICAL OFFICE ADMINISTRATION

Purpose: This program prepares students for employment and/or promotion in medical office administration. Over the next several years, career opportunities in medical office administration are expected to grow.

Special Admission and Program Requirements: Students must receive a grade of "C" or better in all sequential Administrative Support Technology courses.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

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For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757-825-2900, or at **www.tncc.edu**

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
BIO 100 or	Basic Human Biology or	
BIO 101	General Biology I	3/4
ENG 111	College Composition I	3
ENG 115 or CST	English II or Speech[1]	3
HLT 143	Medical Terminology I	3
ITE 115 or	Introduction to Computer Applications and Concepts	
ITE 119	or Information Literacy	3
PHI 220	Ethics	3
SOC 200	Principles of Sociology	3
SDV 100	College Success Skills	1
Total General Education Course Credits		22/23

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
ACC 211 or	Principles of Accounting I or	
ACC 115	Applied Accounting	3
AST 101-102	Keyboarding I and II[2]	3-3
AST 107	Editing and Proofreading Skills	3
AST 230	Introduction to Office Technology	3
AST 232	Microcomputer Office Applications	3
AST 234	Records and Database Management	3
AST 238	Word Processing Advanced Operations	3
AST 243	Office Administration I	3
AST 244	Office Administration II	3
AST 253	Advanced Desktop Publishing I	3
BUS 100 or	Introduction to Business or	
BUS 201	Organizational Behavior	3
BUS 235	Business Letter Writing	3
HLT 106	First Aid and Safety	2
MDA 208 or	Medical Office Coding or	2
---	Elective[3]	3
Total Major and Other Course Credits		46
Total Minimum Credits		68/69

[1]Students may choose ENG 115, CST 100, CST 126 or CST 227.
[2]Students may request Credit by Exam (through Testing Center) to show proficiency in keyboarding skills.
[3]Student may choose HLT 110 or SPA 163.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

AUTOMOTIVE TECHNOLOGY (909)

Purpose: In order to maintain new and changing automotive systems, the automotive technician needs current training. This degree provides training for new mechanics and also serves the continuing education needs of the trained mechanic working in the field.

Admission & Program Requirements: This is an open-entry program for maximum flexibility. The program allows students to tailor their schedules to easily complete the required course work choosing from day and night courses. Students may choose from five career studies certificates that can be used as a stand-alone certificate or as a building block to the Automotive Technology Certificate and A.A.S. degree programs. For specific questions, call the Automotive program head at 757-825-2948.

Students gain the competencies needed for ASE certification and use ASE approved textbooks. In addition to automotive fundamentals and technical skills, the Automotive Technology Certificates and A.A.S. Degree program provide academic foundations in communications and mathematics. Students with ASE certifications should refer to the Advanced Standing Guide for potential college credits. Students who plan to continue their education should consult with their academic advisor to discuss articulation opportunities with Virginia's four-year institutions.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

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Students in this degree are required to demonstrate computer competency prior to graduation. The competency may be demonstrated by satisfactory performance on a test or by satisfactory completion of ITE 115 Introduction to Computer Applications and Concepts. Check with your advisor or division office for details.

For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757/825-2898, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition	3
CST 127	Workshop in Interpersonal Skills	2
- - -	Humanities Elective[1]	3
MTH 103	Applied Technical Mathematics	3
- - -	Social Science Elective[1]	3
HLT 106	First Aid and Safety	2
SDV 100	College Success Skills	1
Total General Education Course Credits		**17**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
AUT 112	Automotive Engines II	4
AUT 125	Anti-Pollution Systems	3
AUT 126	Auto Fuel and Ignition Systems	5
AUT 141	Auto Power Trains I	4
AUT 236	Automotive Climate Control	4
AUT 242	Automotive Electricity II	4
AUT 245	Automotive Electronics	4
AUT 251	Automotive Transmissions I	4
AUT 266	Automotive Alignment, Suspension and Steering	4
AUT 267	Automotive Suspension and Braking Systems	4
AUT 273	Automotive Driveability and Tune-up I	3
AUT 275	Shop Management	3
AUT 295	Hybrid, Electric and Fuel Cell Vehicles	3
Total Major and Other Course Credits		**49**
Total Minimum Credits		*66*

[1]Refer to General Education section for social science and humanities electives.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

COMPUTER ARTS (506)

Purpose: This degree trains students to use the computer for animating and editing video productions. This program will be able to combine the skills of the graphic artist, photographer, and videographer. The computer will be used to format type, lay out pages, draw, paint, manipulate photographs, and combine moving images with sound.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

For more information, contact the **Communications, Humanities and Social Sciences Division** in Room 857 Templin Hall, 757/825-2799, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	English Composition	3
CST 100	Principles of Public Speaking	3
- - -	Social Science Elective	3
ART 250	History of Design	3
MTH 120	Introduction to Mathematics[1]	3
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
Total General Education Course Credits		**18**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
ART 121-122	Drawing I and II	3-3
ART 131	Fundamentals of Design I and II	3
ART 141	Typography I	3
ART 208	Video Techniques	4
ART 228-229	Multimedia Graphic Design I and II	4-4
ART 251	Communication Design I	3
ART 283	Computer Graphics I	3
ART 291-292	Computerized Graphic Design I and II	4-4
PHT 164	Introduction to Digital Photography	3
ART 263-264	Interactive Media Design I-II	3-3
ART 203	Animation I	4
Total Major and Other Course Credits		**51**
Total Minimum Credits		**69**

[1]MTH 151, MTH 240, MTH 158 or MTH 163 may be substituted provided that the student has met the prerequisites.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

COMPUTER-AIDED DRAFTING & DESIGN TECHNOLOGY (729)

Purpose: This degree is designed to prepare individuals with skills to work as designers and CAD operators. Students also have the opportunity to explore digital and rapid prototyping. The program can also lead to further courses in mechanical and civil engineering technology at the bachelor's degree level.

Cooperative Education: Students enrolled in this program may apply for admission to the Cooperative Education Program. Information is available in the Mathematics, Engineering and Technologies division office, and applications may be obtained from the Workforce Services and Cooperative Education office. Acceptance into the program is contingent upon availability of work positions and a minimum cumulative GPA of 2.5.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

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For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757/825-2898, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition	3
ENG 115	Technical Writing	3
- - -	Humanities Elective[1]	3
- - -	Social Science Electives[1]	6
MTH 115-116 or	Technical Mathematics I and II or	
MTH 163-164	Precalculus I and II[2]	3-3
PHY 201-202	General College Physics I and II	4-4
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
Total General Education Course Credits		32

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
CAD 151-152	Engineering Drawing Fundamentals I and II	3-3
CAD 202	Computer Aided Drafting and Design II	4
CAD 211	Advanced Technical Drafting I	3
CAD 241	Parametric Solid Modeling I	4
CAD 280	Design Capstone Project	3
MEC 113	Materials and Processes of Industry	3
MEC 131	Mechanics I: Statics for Engineering Technology	3
MEC 132	Mechanics II: Strength of Materials for Engineering Technology	3
MEC 133	Mechanics III: Dynamics for Engineering Technology	2
- - -	Electives[3]	6
Total Major and Other Course Credits		37
Total Minimum Credits		69

[1]Refer to the General Education Section on social sciences and humanities electives.
[2]Students planning in the future to pursue a bachelor's degree in Engineering Technology should take alternative courses.
[3]Electives may be selected from DRF, MEC or EGR for electives.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

DENTAL HYGIENE (118)[1]

Purpose: Thomas Nelson Community College's Dental Hygiene program is designed to prepare highly qualified dental hygienists through excellence in teaching, patient care, and responsive community service by utilizing state-of-the-art facilities.

The goals established for Thomas Nelson's Dental Hygiene program are:
-To provide dental hygiene students with a world-class education by using quality faculty and state of the art technology.
-To produce graduation and retention rates that are comparable to other Dental Hygiene programs in Virginia.
-To provide all dental hygiene graduates with 100% job placement.
-To establish a program of study that allows students to transfer to a Bachelor of Science degree in Dental Hygiene (BSDH) at four-year colleges and universities.
-To prepare dental hygiene students to communicate in a manner that promotes positive interpersonal relationships with patients, peers, employers and the community.
-To prepare dental hygiene students with the skills and competencies required to provide total patient care by performing dental hygiene services in an effective and efficient manner which will exemplify high ethical standards and professional conduct.
-To prepare students to successfully obtain a 100% pass rate on the National Boards and Southern Regional Board Examinations.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757/825-2898, or at **www.tncc.edu**.

Course #	Course Title	Credits
ENG 111	College Composition	3
CST 100	Principles of Public Speaking	3
CHM 110	Survey of Chemistry	3
BIO 145	Human Anatomy and Physiology for Health Sciences	5
BIO 150	Introductory Microbiology	4
SDV 100	College Success Skills	1
Total		19

First Semester #

DNH 115	Histology/Head and Neck Anatomy	3
DNH 130	Oral Radiography for Dental Hygiene	2
DNH 141	Dental Hygiene I	5
DNH 120	Management of Emergencies	2
---	Humanities	3
Total		15

Second Semester #

DNH 142	Dental Hygiene II	5
DNH 145	General and Oral Pathology	2
DNH 146	Periodontics for the Dental Hygienist	2
DNH 214	Practical Materials for Dental Hygiene	2
HLT 138	Principles of Nutrition	2
Total		13

Third Semester #

DNH 143	Dental Hygiene III	4
Total		4

Fourth Semester #

DNH 216	Pharmacology	2
DNH 226	Public Health Dental Hygiene I	2
DNH 244	Dental Hygiene IV	5
PSY 200	Introduction to Psychology I	3
Total		12

Fifth Semester #

DNH 227	Public Health Dental Hygiene II	1
DNH 230	Office Practices and Ethics	1
DNH 235	Management of Dental Pain and Anxiety	2
DNH 245	Dental Hygiene V	5
Total		9
Total Minimum Credits		72

[1]Met ADA initial accreditation.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

EARLY CHILDHOOD DEVELOPMENT (636)

Purpose: This degree is designed to provide individuals with the necessary skills and knowledge to work in early childhood education programs. The program brings classroom theory and practical experiences together. Students will be placed in a coordinated internship in an appropriate school or childcare center to gain this supervised field experience.

Special Admission and Program Requirements: Current information and eligibility requirements may be obtained from the early childhood program head.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

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GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111-112	English Composition I and II	3-3
CST 100	Principles of Public Speaking	3
- - -	Humanities/Fine Arts Elective	3
- - -	Elective[1]	3
MTH 120 or	Introduction to Mathematics or	
MTH 158	College Algebra[2]	3
HLT 106	First Aid and Safety	2
SDV 100	College Success Skills	1
Total General Education Course Credits		21

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
CHD 119	Introduction to Reading Methods[3]	3
CHD 118	Methods & Materials in the Language Arts for Children	3
CHD 120	Introduction to Early Childhood Education	3
CHD 145	Teaching Art, Music & Movement to Children	3
CHD 146	Methods and Materials for Teaching Math, Science, and Social Studies for Children	3
CHD 165	Observation and Participation in Early Childhood[4]	3
CHD 166	Infant and Toddler Programs	3
CHD 205	Guiding the Behavior of Young Children	3
CHD 210	Introduction to Exceptional Children[5]	3
CHD 215	Models of Early Childhood Education Programs	3
CHD 216	Early Childhood Programs, School, and Social Change	3
CHD 265	Advanced Observation and Participation in Early Childhood/Primary Settings[6]	3
CHD 270	Administration of Early Childhood Education Programs[7]	3
CHD 298	Seminar and Project[8]	1
EDU 235	Health, Safety and Nutrition Education	3
PSY 235	Child Psychology	3
Total Major and Other Course Credits		46
Total Minimum Credits		67

[1] It is strongly suggested that students take SOC 215.
[2] Students planning to pursue a bachelor's degree should take MTH 158.
[3] Must have completed CHD 118.
[4] Prerequisite: CHD 120 or written permission of instructor and completion or enrollment in CHD 205. Additional requirement include a TB test and criminal background check.
[5] Prerequisite: CHD 120 or CHD 121 or permission of instructor.
[6] Prerequisite: CHD 165 or written permission of instructor.
[7] Must have completed 15 hours of Child Development.
[8] Corequisite: CHD 265.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

ELECTRONICS TECHNOLOGY (981)

Purpose: With the rapid growth of the electronics and fiber optics industry and the steady demand for qualified electronics technicians, there is an ongoing need for trained personnel to meet these requirements. The two-year program in Electronics Technology can also lead to further courses in electrical engineering technology at the bachelor's degree level.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

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For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757-825-2898, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition I	3
ENG 112 or	College Composition II or	
ENG 115	Technical Writing	3
- - -	Humanities Elective[1]	3
- - -	Social Science Electives[1]	6
MTH 115-116 or	Technical Mathematics I and II or	
MTH 163-164	Precalculus I and II[2]	3-3
PHY/CHM	Physics/Chemistry with Lab[3]	4
HLT/PED	Health or Physical Education Elective(s)	1
SDV 100	College Success Skills	1
Total General Education Course Credits		**27**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
ELE 238	Control Circuits	3
ELE 239	Programmable Controllers	3
ETR 104	Electronic Fundamentals with Computer Applications	4
ETR 113-114	DC and AC Fundamentals I-II	4-4
ETR 148	Amplifiers and Integrated Circuits	4
ETR 231	Principles of Lasers & Fiber Optics I	3
ETR 250	Solid State Devises	4
ETR 261	Microprocessor Applications I	4
ETR 279	Digital Principles, Terminology and Applications	4
ETR 286	Principles and Applications of Robotics	3
Total Major and Other Course Credits		**40**
Total Minimum Credits		*67*

[1] Refer to the General Education Section on Social Sciences and Humanities electives. Students planning to pursue a bachelor's degree in Electronics/Electrical Engineering Technology should select these courses after referring to the catalog of the appropriate four-year university.
[2] Students planning to pursue a bachelor's degree in Electrical Engineering Technology should take the alternate courses.
[3] PHY 201 General College Physics I is recommended. Students planning to pursue a bachelor's degree in Electrical Engineering Technology should also take PHY 202.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

ELECTRONICS TECHNOLOGY (981-02)

SPECIALIZATION IN COMPUTER ENGINEERING TECHNOLOGY

Purpose: The electronics industry is rapidly integrating computer-based tools and processes into all parts of the research, design, and manufacturing processes. The objective of this program is to provide training for jobs such as communications, electronics or instrumentation technicians, and/or computer/digital circuits technicians. The two-year program in Electronics Technology can also lead to further courses in electrical engineering technology at the bachelor's degree level.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

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For more information, contact the **Engineering, Science and Allied Health Division** in Room 857 Templin Hall, 757/825-2898, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	English Composition I	3
ENG 112 or	College Composition or	
ENG 115	Technical Writing	3
- - -	Humanities Elective[1]	3
- - -	Social Science Electives[1]	6
MTH 115-116 or	Technical Mathematics I-II or	
MTH 163-164	Precalculus I-II[2]	3-3
PHY/CHM	Physics/Chemistry with Lab[3]	4
HLT/PED	Health or Physical Education Elective(s)	1
SDV 100	College Success Skills	1
Total General Education Course Credits		**27**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
ETR 104	Electronic Fundamentals with Computer Applications	4
ETR 113-114	DC and AC Fundamentals I-II	4-4
ETR 148	Amplifiers and Integrated Circuits	4
ETR 231	Laser and Fiber Optics I	3
ETR 261	Microprocessor Application I	4
ETR 279	Digital Principles, Terminology and Applications	4
ETR 286	Principles and Applications of Robotics	3
ITP 100	Software Design	3
ITP 132 or	C++ Programming I or	
CSC 201	Computer Science I	4
ITP 232 or	C++ Programming II or	
ITP 120 or	Java Programming or	
CSC 202	Computer Science II	4
Total Major and Other Course Credits		**41**
Total Minimum Credits		**68**

[1]Refer to the General Education section on Social Sciences and Humanities electives. Students planning to pursue a bachelor's degree in Electronics/Electrical Engineering should select these courses after referring to the catalog of the appropriate four-year institution.
[2]Students planning to pursue a bachelor's degree in Electrical Engineering Technology should take the alternative courses.
[3]PHY 201 General College Physics I is recommended. Students planning to pursue a bachelor's degree in Engineering Technology should also take PHY 202.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

ELECTRONICS TECHNOLOGY (981-04)
SPECIALIZATION IN ELECTRICAL ENGINEERING TECHNOLOGY

Purpose: This specialization in the Electronics Technology field is designed for those students who plan to pursue a bachelor's degree. The specialization provides a seamless transfer to Old Dominion University's program in Electrical Engineering Technology.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757/825-2898, or at **www.tncc.edu.**

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition I	3
ENG 112 or	College Composition II or	
ENG 115	Technical Writing	3
- - -	Humanities Elective[1]	3
- - -	Social Science Electives[1]	6
MTH 163-164	Precalculus I -II	3-3
MTH 173	Calculus I	4
PHY 201-202	General College Physics I - II	4-4
HLT/PED	Health or Physical Education Elective	1
SDV 100	College Success Skills	1
	Total General Education Course Credits	35

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
ELE 239	Programmable Controllers	3
ETR 104	Electronic Fundamentals with Computer Applications	4
ETR 113-114	DC and AC Fundamentals I-II	4-4
ETR 148	Amplifiers and Integrated Circuits	4
ETR 231	Principles of Lasers & Fiber Optics I	3
ETR 250	Solid State Devices	4
ETR 261	Microprocessor Application I	4
ETR 279	Digital Principles, Terminology and Applications	4
	Total Major and Other Course Credits	34
	Total Minimum Credits	69

[1]Refer to the General Education Section on Social Sciences and Humanities electives. Students planning to pursue a bachelor's degree in Electrical Engineering Technology should select these courses after referring to the catalog of the appropriate four-year institution.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

ELECTRONICS TECHNOLOGY (981-01)
SPECIALIZATION IN ELECTROMECHANICAL TECHNOLOGY

Purpose: With the rapid growth of automation in industry and the steady demand for qualified electromechanical technicians, there is an increasing need for trained personnel that possess system-oriented competencies in a combination of electricity, electronics, mechanics, pneumatics, optics, and thermal applications. The two-year program in Electronics Technology can also lead to further courses in electrical engineering technology at the bachelor's degree level.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

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For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757/825-2898, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition I	3
ENG 112 or	College Composition II or	
ENG 115	Technical Writing	3
- - -	Humanities Elective[1]	3
- - -	Social Science Electives[1]	6
MTH 115-116 or	Technical Mathematics I and II or	
MTH 163-164	Precalculus I and II[2]	3-3
PHY/CHM	Physics/Chemistry with Lab[3]	4
HLT/PED	Health or Physical Education Elective(s)	1
SDV 100	College Success Skills	1
Total General Education Course Credits		27

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
ELE 239	Programmable Controllers	3
ETR 104	Electronic Fundamentals with Computer Applications	4
ETR 113-114	DC and AC Fundamentals I-II	4-4
ETR 148	Amplifiers and Integrated Circuits	4
ETR 231	Lasers and Fiber Optics	3
ETR 279	Digital Principles, Terminology and Applications	4
ETR 286	Principles and Applications of Robotics	3
MEC 131	Mechanics I: Statics for Engineering Technology	3
MEC 132	Mechanics II: Strength of Materials for Engineering Technology	3
MEC 133	Mechanics III: Dynamics for Engineering Technology	2
MEC 161	Basic Fluid Mechanics - Hydraulics/Pneumatics	3
Total Major and Other Course Credits		40
Total Minimum Credits		67

[1]Refer to the General Education section on Social Sciences and Humanities electives. Students planning to pursue a bachelor's degree in Electronics/Electrical Engineering should select these courses after referring to the catalog of the appropriate four-year institution.
[2]Students planning to pursue a bachelor's degree in Electrical Engineering Technology should take the alternative courses.
[3]PHY 201 General College Physics I is recommended. Students planning to pursue a bachelor's degree in Electrical Engineering Technology should also take PHY 202.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

EMERGENCY MEDICAL SERVICES (146)

Purpose: The curriculum is designed to provide students with the knowledge and proficiency needed to obtain Emergency Medical Technician Paramedic certification. Students will have the opportunity to become a Certified Medical Technician - Paramedic through the National Registry.

Special Admission and Program Requirements: Students planning to transfer to a four-year college or university should see Selecting General Education Courses section of this catalog.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For further information, see Developmental Studies.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition I	3
BIO 100	Basic Human Biology[1]	3
- - -	Humanities/Fine Arts Elective[2]	3
- - -	Social Sciences Elective [2, 3]	3
MTH 126 or	Mathematics for Allied Health or	
MTH 120	Introduction to Mathematics[4]	3
HLT/PED	Health or Physical Education Elective	1
SDV 100	College Success Skills	1
Total General Education Course Credits		**17**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
EMS 100	CPR for Healthcare Providers	1
EMS 111	Emergency Medical Technician – Basic[5]	7
EMS 120	Emergency Medical Technician – Basic Clinical[6]	1
EMS 151	Introduction to Advanced Life Support	4
EMS 153	Basic ECG Recognition	2
EMS 155	Advanced Life Support – Medical Care	4
EMS 157	Advanced Life Support – Trauma Care	3
EMS 159	Advanced Life Support – Special Populations	2
EMS 170	Advanced Life Support Internship I	1
EMS 172	Advanced Life Support Clinical Internship II	2
EMS 173	Advanced Life Support Field Internship II	1
EMS 201	EMS Professional Development	2
EMS 205	Advanced Pathophysiology	3
EMS 207	Advanced Patient Assessment	3
EMS 209	Advanced Pharmacology	4
EMS 211	Operations	2
EMS 242	Advanced Life Support Clinical Internship III	1
EMS 243	Advanced Life Support Field Internship III	1
EMS 244	Advanced Life Support Clinical Internship IV	1
EMS 245	Advanced Life Support Field Internship IV	1
ITE 119	Information Literacy[7]	3
Total Major and Other Course Credits		**49**
Total Minimum Credits		**66**

[1]Students may substitute BIO 145 or BIO 100. Nursing students are encouraged to take BIO 145.
[2]A list of approved electives may be found in this catalog.
[3]Students planning on entering the nursing program should take SOC 200 as one of their Social Science electives.
[4]Students who plan to transfer to a four-year institution should choose MTH 151, MTH 157, or MTH 180.
[5]A current Red Cross or American Heart Association CPR certification is required to start this class. EMS 100 fulfills this requirement. Student with a current certification may receive transfer credit for EMS 100.
[6]EMS 120 must be taken concurrently with EMS 111.
[7]ITE 115 may be taken in place of ITE 119 and should be taken by students planning to transfer to a four-year institution.

The EMS courses are delivered by the Center for Emergency Medical Training and Services. Prospective students should check their web site, www.Center4ems.org, for the program requirements and updates.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

FIRE SCIENCE TECHNOLOGY (427)

Purpose: The Fire Science program will prepare a new student for an exciting new career in a public or private Fire Science field, and enhance career advancements of current fire fighters. The student will learn both the theoretical concepts and practical application of fire suppression, fire science management, fire prevention techniques, arson investigation, and the mitigation of hazardous material accidents.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

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For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111-112	English Composition I-II	3-3
CST 100	Principles of Public Speaking	3
- - -	Humanities/Fine Arts Elective	3
- - -	Social Science Electives	6
MTH 120 or	Introduction to Mathematics or	
MTH 151 or	Mathematics for the Liberal Arts or	
MTH 157 or	Elementary Statistics or	
MTH 180	Finite Mathematics[1]	3
- - -	Natural Sciences Elective[2]	4
ITE 115	Introduction to Computer Applications and Concepts (or higher IT course)[3]	3
HLT/PED	Health or Physical Education Elective[4]	2
SDV 100	College Success Skills	1
	Total General Education Course Credits	31

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
FST 100	Principles of Emergency Services	3
FST 110	Fire Behavior and Combustion	3
FST 112	Hazardous Materials Chemistry	3
FST 115	Fire Prevention	3
FST 120	Occupational Health & Safety	3
FST 205	Fire Protection Hydraulics & Water Supply	3
FST 210	Legal Aspects of Emergency Services	3
FST 215	Fire Protection Systems	3
FST 220	Building Construction for Fire Protection	3
FST 235	Strategy & Tactics	3
FST 240	Fire Administration	3
FST 245	Fire & Risk Analysis[5]	3
	Total Major and Other Course Credits	36
	Total Minimum Credits	67

[1]Students transferring to a four-year institution should select MTH 240 or MTH 180.
[2]Students should select from BIO 101, CHM 101 or BIO 145.
[3]ITE 119 may be substituted for ITE 115.
[4]Contact the Program Head at 825-2785 for instructions and procedures for granting credit for experience.
[5]FST 240 is the prerequisite for FST 245.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

HUMAN SERVICES (480)

Purpose: This program is designed to prepare students for careers in the human services industry. It also helps prepare them to continue in the study at 4-year universities. This is directly related to the college's plan to meet community workforce needs. This program is offered in response to expressed needs from local employers and agencies. The program will focus on the training and preparation of entry-level to mid-level social and human services assistants.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111-112	English Composition I-II	3-3
HUM	Humanities Elective	3
SOC 200	Principles of Sociology I	3
MTH	Mathematics Elective	3
HLT	Health Elective	2
SDV 100	College Success Skills	1
	Total General Education Course Credits	18

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
HMS 100	Introduction to Human Services	3
HMS 121	Basic Counseling Skills I	3
HMS 139	Community Resources and Services	3
HMS 141	Group Dynamics I	3
HMS 226	Helping Across Cultures	3
HMS 228	Productive Problem Solving	3
HMS 251	Substance Abuse I	3
HMS 290	Coordinated Internship	3
ITE 115 or	Introduction to Computer Applications & Concepts	
ITE 119	or Information Literacy	3
CST 126	Interpersonal Communications	3
PLS 135 or	American National Politics or	
PLS 136	State and Local Politics	3
PSY 230	Developmental Psychology	3
SOC 215	Sociology of the Family	3
---	Approved Human Services Electives[1]	6
---	Approved Elective	3
	Total Major and Other Course Credits	48
	Total Minimum Credits	66

[1]Approved Electives: CHD 210, HMS 231, HMS 106, PSY 215, ADJ 105, ADJ 140, ADJ 145 and ADJ 229.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

INFORMATION SYSTEMS TECHNOLOGY[1] (299)

Purpose: This program prepares students for entry-level positions in the field of technology. The courses are offered in day and evening sessions. Some courses are offered on weekends and most IT courses are available through distance learning.

Program Entrance Requirements: COMPASS placement test scores in writing, reading and mathematics are used for initial placement in English, mathematics and required program courses. Additionally, students should be proficient in basic keyboarding before entering this program.

Dual Enrollment: Some IT courses may be available through dual enrollment in Hampton, York County, Newport News, Poquoson and Williamsburg/James City County. See your guidance counselor or call the College Outreach and Recruitment Director at 757/825-2801.

Certifications: The College does not require certifications as part of the degree program; however, students may be prepared for various certifications after successful completion of specific courses. Contact the program head for additional information.

Job Placement: Assistance in job placement is provided through the College's Career Center upon completion of the degree program.

Transfer: This degree program is not designed for transfer to a four-year program; however, graduates of this program may have the opportunity to transfer into certain four-year programs. For further information, contact the Academic Planning and Transfer Center at 757/825-3647 or the program head.

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For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757-825-2900, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition I	3
ENG II or	English II or[2]	
CST	Speech	3
- - -	Humanities/Fine Arts Elective[3]	3
PSY 200	Principles of Psychology	3
---	Social Science Elective[4]	3
MTH 158	College Algebra[5]	3
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
	Total General Education Course Credits	**21**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
BUS 100	Introduction to Business	3
BUS 201	Organizational Behavior	3
ITD 110	Web Page Design I	3
ITD 130	Database Fundamentals	3
ITE 119	Information Literacy	3
ITE 120	Principles of Information Systems	3
ITE 160	Introduction to E-Commerce	3
ITN 100	Introduction to Telecommunications	3
ITP 100	Software Design	3
ITP 258	Systems Development Project[6]	3
IT ---	Degree Related Electives[7]	18
	Total Major and Other Course Credits	**48**
	Total Minimum Credits	*69*

[1]IT courses must be taken within the last 5 years to apply to graduation.
[2]Select from ENG 112 or ENG 115 or CST 100 or CST 126 or CST 227.
[3]The humanities/fine arts elective may be selected from the list under "Humanities." Electives should be selected with the advise of a counselor or faculty advisor.
[4]Social Science electives may be selected from the list under "Social Sciences." Electives should be selected with advice of a counselor or faculty advisor.
[5]MTH requirement may be met by completing MTH 158 or higher.
[6]To be taken only after the student has completed at least 18 hours of IT coursework.
[7]Select electives based on the specific Career Study Certificate that meets the career objectives of the student.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

MANAGEMENT (212)

Purpose: With the rapid development of business and industry in Virginia, there is a great demand for qualified personnel to assist business management in this economic growth. This degree is designed primarily for persons who seek full-time employment in business management immediately upon completion of the community college program. Persons who are seeking their first employment in a managerial position and those currently in management seeking promotion may benefit from this program.

Note: The Management curriculum has been approved by the Service-members Opportunity College Associate Degree Program for Military Personnel (SOCAD) as a common curriculum in the SOCAD network. Student agreement forms and other information are available in the Office of Continuing Education and Community Services, Off-Campus Programs.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

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For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111-112	College Composition I and II	3-3
CST 227	Industrial and Organizational Communication	3
- - -	Humanities/Fine Arts Elective	3
ECO 120	Survey of Economics	3
MTH 120	Introduction to Mathematics[1]	3
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
Total General Education Course Credits		21

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
ACC 211-212	Principles of Accounting I and II	3-3
BUS 100	Introduction to Business	3
BUS 121	Business Mathematics I	3
BUS 200	Principles of Management	3
BUS 201	Organizational Behavior	3
BUS 220 or	Introduction to Business Statistics or	
BUS 210	Total Quality Statistical Tools	3
BUS 241	Business Law I	3
ITE 115	Introduction to Computer Applications and Concept[2]	3
MKT 100	Principles of Marketing	3
PLS 135	American National Politics	3
- - -	Degree-Related Electives[3]	12
Total Major and Other Course Credits		45
Total Minimum Credits		66

[1]Students planning to transfer to a four-year institution should take MTH 151, MTH 158, MTH 180 or MTH 240.
[2]ITE 119 may be substituted for ITE 115.
[3]At least two of the four electives must have a BUS prefix. The remaining two must be selected from the following: ACC, BUS, ECO, IND, IT, MKT, REA, AST 236.

SUGGESTED COURSE SEQUENCE FOR FULL-TIME STUDY

Fall	**Spring**	**Fall**	**Spring**
BUS 100	BUS 121	ACC 211	ACC 212
ENG 111	BUS 200	BUS 220 or 210	BUS 201
ITE 115	ECO 120	BUS 241	Elective III
MKT 100	Elective I	Elective II	Elective IV
MTH 120	ENG 112	HLT/PED	HLT/PED
SDV 100	PLS 135	CST 227	HUM/Fine Arts

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

MANAGEMENT (212-02)

SPECIALIZATION IN MARKETING

Purpose: This degree fulfills Virginia's need for trained management personnel with expertise in marketing.

Note: The Management curriculum has been approved by the Servicemembers Opportunity College Associate Degree Program for Military Personnel (SOCAD) as a common curriculum in the SOCAD network. Student agreement forms and other information are available in the Office of Continuing Education and Community Services, Off-Campus Programs.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

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For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111-112	College Composition I and II	3-3
CST 227	Industrial and Organizational Communication	3
- - -	Humanities/Fine Arts Elective	3
ECO 120	Survey of Economics	3
MTH 120	Introduction to Mathematics[1]	3
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
Total General Education Course Credits		**21**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
ACC 211-212	Principles of Accounting I and II	3-3
BUS 100	Introduction to Business	3
BUS 121	Business Mathematics I	3
BUS 200	Principles of Management	3
BUS 201	Organizational Behavior	3
BUS 220 or	Introduction to Business Statistics or	
BUS 210	Total Quality Statistical Tools	3
BUS 241	Business Law I	3
ITE 115	Introduction to Computer Applications and Concepts[2]	3
MKT 100	Principles of Marketing	3
MKT 110	Principles of Selling	3
MKT 220	Principles of Advertising	3
MKT 271	Consumer Behavior	3
PLS 135	American National Politics	3
- - -	Degree-Related Elective[3]	3
Total Major and Other Course Credits		**45**
Total Minimum Credits		**66**

[1]Students planning to transfer to a four-year institution should take MTH 151, MTH 158, MTH 180 or MTH 240.
[2]ITE 119 may be substituted for ITE 115.
[3]Students are required to select their degree-related elective from the following : ACC 215, MKT 216, MKT 210, BUS 165, BUS 230, ITE 170, AST 253.

SUGGESTED COURSE SEQUENCE FOR FULL-TIME STUDY

Fall	Spring	Fall	Spring
BUS 100	BUS 121	ACC 211	ACC 212
ENG 111	BUS 200	BUS 220	HLT/PED
ITE 115	ECO 120	BUS 241	HUM/Fine Arts
MKT 100	Elective	Elective II	MKT 110
MTH 120	ENG 112	HLT/PED	MKT 220
SDV 100	PLS 135	CST 227	

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

MECHANICAL ENGINEERING TECHNOLOGY (956)

Purpose: The objective of this degree is to prepare individuals with entry-level job skills who are qualified to work as mechanical technicians with engineers and technical consultants. The program is designed to prepare students who are planning to complete a bachelor's degree in Mechanical Technology. Knowledge and skills acquired by graduates include basic drafting skills, machine shop operations, materials and processes of manufacturing, computer programming, statics, dynamics, fluid mechanics and machine design. Courses in calculus and chemistry provide the prerequisites for the junior level courses in a bachelor's program.

Cooperative Education: Students enrolled in Mechanical Engineering Technology may apply for admission to the cooperative education program. Information is available in the **Engineering, Science and Allied Health Division** office. An application may be obtained from the Workforce Services and Cooperative Education office. Acceptance into the program is contingent upon availability of work positions and a minimum cumulative GPA of 2.5.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

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For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757-825-2898, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition I	3
ENG 115	Technical Writing	3
- - -	Humanities Elective[1]	3
- - -	Social Science Elective[2]	3
ECO 201	Principles of Economics I	3
MTH 163-164	Precalculus I and II	3-3
PHY 201-202	General College Physics I and II	4-4
HLT/PED	Health or Physical Education Elective(s)	1
SDV 100	College Success Skills	1
	Total General Education Course Credits	**31**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
CHM 111	College Chemistry I	4
DRF 151	Engineering Drawing Fundamentals I	3
DRF 211 or	Advanced Technical Drafting I or	
DRF 241	Parametric Solid Modeling	3
MEC 100	Introduction to Engineering Technology	2
MEC 103	Electronic Circuits and Instrumentation	4
MEC 113	Materials and Processes of Industry	3
MEC 131	Mechanics I—Statics for Engineering Technology	3
MEC 132	Mechanics II—Strength of Materials for Engineering Technology	3
MEC 133	Mechanics III—Dynamics for Engineering Technology	2
MEC 161 or	Basic Fluid Mechanics—Hydraulics/Pneumatics or	
MEC 220	Introduction to Polymers and Composites	3
MTH 173	Calculus with Analytic Geometry I	4
---	Elective[3]	3
	Total Major and Other Course Credits	**37**
	Total Minimum Credits	**68**

[1]Students planning to transfer to a ODU under the Articulation Agreement should choose one from: ART 201, ART 202, MUS 121, MUS 122, ENG 241, ENG 242, ENG 243, ENG 244, ENG 251, ENG 252, or ENG 253.
[2]Students planning to transfer to a ODU under the Articulation Agreement should choose one from: HIS 101, HIS 111, HIS 112, or HIS 122.
[3]Elective may be selected from MEC, DRF or IND 145.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

MECHANICAL ENGINEERING TECHNOLOGY (956-04)
SPECIALIZATION IN MANUFACTURING ENGINEERING TECHNOLOGY

Purpose: The objective of this degree is to prepare individuals with entry-level job skills who are qualified to work as manufacturing engineering technicians. Knowledge and skills acquired by graduates include basic drafting skills, materials and processes of manufacturing, quality control, numerical control, metrology, statics and composites.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. it is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757-825-2898, or at **www.tncc.edu.**

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition I	3
ENG 115	Technical Writing	3
--	Humanities Elective	3
ECO 201	Principles of Economics I	3
--	Social Science Elective	3
MTH 115-116 or	Technical Math I-II or	
MTH 163-164	Precalculus I-II	3-3
PHY 201-202	General College Physics I-II	4-4
HLT/PED	Health or Physical Education Elective(s)	1
SDV 100	College Success Skills	1
Total General Education Course Credits		31

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
DRF 151	Engineering Drawing Fundamentals I	3
DRF 211 or	Advanced Technical Drafting I or	
DRF 241	Parametric Solid Modeling I	3
ELE 239	Programmable Controllers	3
IND 140	Quality Control	2
IND 145	Introduction to Metrology	3
IND 181	World Class Manufacturing I	3
MAC 121	Numerical Control I	3
MEC 100	Introduction to Engineering Technology	2
MEC 103	Electrical Circuits and Instrumentation	4
MEC 113	Materials and Processes of Industry	3
MEC 131	Mechanics I-Statics for Engineering Technology	3
MEC 161 or	Hydraulics/Pneumatics or	
MEC 220	Introduction to Polymeric and Composite Materials	3
---	Elective[1]	3
Total Major and Other Course Credits		38
Total Minimum Credits		69

[1]Elective may be selected from MEC, DRF or MAC.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

MECHANICAL ENGINEERING TECHNOLOGY (956-01)
SPECIALIZATION IN MARINE ENGINEERING

Purpose: This degree is designed as a cooperative education program with Newport News Shipbuilding and is in conjunction with its formal apprenticeship program. Through this program, shipyard employees are provided the opportunity to complete an associate in applied science degree.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. it is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757-825-2898, or at **www.tncc.edu.**

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition I	3
ENG 115	Technical Writing	3
ECO 201	Principles of Economics I	3
MTH 163-164	Precalculus I and II	3-3
PHY 201-202	General College Physics I and II	4-4
- - -	Humanities Elective	3
- - -	Social Science Elective	3
HLT/PED	Health or Physical Education Elective(s)	1
SDV 100	College Success Skills	1
Total General Education Course Credits		**31**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
CHM 111	College Chemistry I	4
CAD 151	Engineering Drawing Fundamentals I	3
CAD 241	Parametric Solid Modeling I	4
MAR 120	Introduction to Ship Systems[1]	3
MAR 211	Naval Architecture I[1]	3
MAR 212	Naval Architecture II[1]	3
MEC 113	Materials and Processes of Industry	3
MEC 131	Mechanics I-Statics for Engineering Technology	3
MEC 132	Mechanics II-Strength of Materials for Engineer Tech	3
MTH 173	Calculus with Analytic Geometry I	4
---	Elective[2]	3
Total Major and Other Course Credits		**36**
Total Minimum Credits		**67**

[1]MAR courses are not offered at Thomas Nelson Community College. Courses are taught at Newport News Shipbuilding and articulated to TNCC.
[2]A course from the following disciplines may be used: MEC, CAD or IND 145.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

MECHANICAL ENGINEERING TECHNOLOGY (956-02)
SPECIALIZATION IN MECHANICAL DESIGN

Purpose: The objective of this degree is to prepare individuals with entry-level skills who are qualified to work as mechanical technicians with engineers and technical consultants. Knowledge and skills acquired by graduates include basic drafting skills, machine shop operations, materials and processes of manufacturing, computer programming, statics, dynamics, fluid mechanics and machine design.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

Cooperative Education: Students enrolled in Mechanical Engineering Technology may apply for admission to the cooperative education program. Information is available in the **Engineering, Science and Allied Health Division** office and an application may be obtained from the Workforce Services and Cooperative Education office. Acceptance into the program is contingent upon availability of work positions and a minimum cumulative GPA of 2.5.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757-825-2898, or at **www.tncc.edu.**

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition I	3
ENG 115	Technical Writing	3
---	Humanities Elective[1]	3
ECO 201	Principles of Economics I	3
---	Social Science Elective[2]	3
MTH 115-116 or	Technical Mathematics I and II or	
MTH 163-164	Precalculus I and II[3]	3-3
PHY 201-202	General College Physics I and II	4-4
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
Total General Education Course Credits		**32**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
DRF 151-152	Engineering Drawing Fundamentals I-II	3-3
DRF 211 or	Advanced Technical Drafting I or	
DRF 241	Parametric Solid Modeling I	3/4
MEC 100	Introduction to Engineering Technology	2
MEC 103	Electronic Circuits and Instrumentation	4
MEC 113	Materials and Processes of Industry	3
MEC 131	Mechanics I-Statics for Engineering Technology	3
MEC 132	Mechanics II-Strength of Materials for Engineering Technology	3
MEC 133	Mechanics III-Dynamics for Engineering Technology	2
MEC 161	Basic Fluid Mechanics-Hydraulics/Pneumatics	3
MEC 210 or	Machine Design or	
MEC 297	Cooperative Education in Mechanical Technology	3
MEC 220	Introduction to Polymeric and Composite Materials	3
---	Elective [4]	3
Total Major and Other Course Credits		**38/39**
Total Minimum Credits		*70/71*

[1]Students who are in the NGNN co-op program will be required to complete PHI 220.
[2]Students who are in the NGNN co-op program will be required to complete PSY 126 or PSY 200.
[3]Students who are planning to transfer should complete MTH 163-164.
[4]Elective may be selected from MEC, DRF or IND 145.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

MECHANICAL ENGINEERING TECHNOLOGY(956-05)
SPECIALIZATION IN MODELING AND SIMULATION

Purpose: This specialization prepares students for entry level positions in modeling and simulation as engineering technicians. Knowledge and skills acquired by the graduates for the mechanical engineering technology degree are enhanced by courses that utilize modeling and simulation software for engineering applications. Courses in calculus and chemistry provide the prerequisites for junior level courses in a bachelor's program.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757-825-2898, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition I	3
ENG 115	Technical Writing	3
---	Humanities Elective	3
ECO 201	Principles of Economics I	3
---	Social Science Elective	3
MTH 163-164	Precalculus I and II	3-3
PHY 201-202	General College Physics I and II	4-4
HLT/PED	Health or Physical Education Elective(s)	1
SDV 100	College Success Skills	1
Total General Education Course Credits		**31**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
CHM 111	College Chemistry I	4
DRF 151	Engineering Drawing Fundamentals I	3
DRF 211	Advanced Technical Drafting I	3
DRF 295	Modeling and Simulation Using Inventor	3
MTH 240	Statistics	3
MTH 287	Mathematical Structures	3
MEC 113	Materials and Processes of Industry	3
MEC 131	Mechanics I-Statics for Engineering Technology	3
MEC 132	Mechanics II-Strength of Materials for Engineering Technology	3
SIM 201-202	Modeling and Simulation I-II	3-3
MTH 173	Calculus and Analytic Geometry I	4
Total Major and Other Course Credits		**38**
Total Minimum Credits		**69**

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

MECHANICAL ENGINEERING TECHNOLOGY (956-03)
SPECIALIZATION SYSTEMS ANALYSIS AND TESTING

Purpose: This degree is designed to prepare individuals with skills for entry-level positions as engineering analyst technicians in materials and testing.

Cooperative Education: Students enrolled in Systems Analysis and Testing may apply for admission to the cooperative education program with Newport News Shipbuilding. Information is available in the **Engineering, Science and Allied Health** office and applications are available in the Cooperative Education and Career Services office. Acceptance into the program is contingent upon availability of work positions and a minimum cumulative GPA of 2.5.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757-825-2898, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition I	3
ENG 115	Technical Writing	3
---	Humanities Elective	3
ECO 201	Principles of Economics I	3
---	Social Science Elective	3
MTH 115-116 or	Technical Mathematics I-II or	
MTH 163-164	Precalculus I and II	3-3
PHY 201-202	General College Physics I and II	4-4
HLT/PED	Health or Physical Education Elective(s)	1
SDV 100	College Success Skills	1
Total General Education Course Credits		**31**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
DRF 151	Engineering Drawing Fundamentals I	3
DRF 161	Blueprint Reading	2
IND 140 or	Quality Control or	
IND 145	Introduction to Metrology	2/3
MEC 100	Introduction to Engineering Technology	2
MEC 103	Electronic Circuits and Instrumentation	4
MEC 113	Materials and Processes of Industry	3
MEC 131	Mechanics I-Statics for Engineering Technology	3
MEC 132	Mechanics II-Strength of Materials for Engineering Technology	3
MEC 133	Mechanics III-Dynanmics for Engineering Technology	2
MEC 161 or	Basic Fluid Mechanics-Hydraulics/Pneumatics or	
MEC 220	Introduction to Polymeric and Composite Materials	3
MTH 240	Statics	3
---	Electives	6
Total Major and Other Course Credits		**36/37**
Total Minimum Credits		*67/68*

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

NURSING

The Nursing Department at Thomas Nelson Community College provides residents of the Virginia Peninsula with comprehensive instruction in the art and science of nursing extending through the associate degree level. This program is fully approved by the Virginia Board of Nursing. The program is accredited by the National League for Nursing Accrediting Commission (NLNAC), 3343 Peachtree Road NE, Suite 500, Atlanta, GA 30326, (www.nlnac.org). This agency serves as a resource for program information and tuition and fee structures. The course of study is designed to provide individuals with the knowledge and skills required for employment as entry-level registered nurses, to continue their education at four-year institutions, and to become generally educated citizens who function in a complex world.

The Associate Degree Nursing Program has as its mission the preparation of a graduate who is eligible to take and successfully pass the National Council Licensure for Registered Nurses (NCLEX-RN). This leads to licensure as a registered nurse.

The Nursing Program strives to be responsive to the educational and skill needs of area hospitals and related health care agencies and believes that learning is a life-long process; therefore, the Nursing Program offers non-curricular nursing courses designed to continue and expand learning experiences and enhance professional growth for nurses in the community.

The Nursing Program is committed to high academic performance as reflected in its student admission and progression standards.

The TNCC Nursing Department currently offers three admission options to qualified students. These include:
- Pre-licensure Program Hampton Campus: Admits 50-60 students yearly in the fall semester (August)
- Pre-licensure Program Historic Triangle Campus: Admits 30 students yearly in the spring semester (January)
- LPN to RN Articulation Program (Hampton Campus): admission varies depending upon available space. Students are admitted yearly in the spring semester (January)

Admission and Program Requirements: For general admission to the college, see the Admissions Information section of this catalog. Admission to the Nursing Program is a separate process and requires a separate application. Detailed information on the nursing admission process is available in the Enrollment Services Office at both campuses and the Nursing Office, Room 926, Templin Hall, Hampton campus.

First consideration for admission to the Nursing Program will be given to domiciliary residents of Hampton, Newport News, Williamsburg, Poquoson, James City County and York County. If there are other spaces available, consideration will be given to:
(1) other Virginia domiciliary residents
(2) out-of-state applicants
(3) international students with student and diplomatic visas.

Students are encouraged to pursue the Pre-Nursing Career Studies Certificate Curriculum in preparation for application to the Nursing Program. The nursing program promotion policies require that students complete BIO 101, BIO 141, BIO 142 and BIO 150 with a grade of "C" or higher. Official high school transcripts must be sent to the Enrollment Services Office (Room 208 Griffin Hall) at the College. Unofficial transcripts are not acceptable. This transcript must show grades through

the 12th grade and date of graduation. High school seniors will need to submit, upon graduation, an official high school transcript that bears the official seal of the high school and shows grades through the 12th grade and date of graduation. If applicable, a copy of GED scores and/or certificate should be forwarded to the Admissions and Welcome Center. Applicants should contact other colleges at which credits have been earned and request that official transcripts be sent directly to the Enrollment Services Office. In order for official college transcripts to be evaluated, a Transfer Evaluation Form must be submitted to the Enrollment Services Office.

High school prerequisites needed prior to submission of a nursing application include one year each of algebra and chemistry or the equivalent of the high school course at an accredited college or university. These courses must be completed with a minimum grade of "C." Students not having the necessary prerequisites may fulfill the Nursing Program admission requirements at the College by enrolling in the appropriate courses and receiving a minimum grade of "C" or "P" as appropriate.

The following courses meet the nursing program prerequisite requirements:

Chemistry: CHM 1, or CHM 101, or CHM 111. This requirement will be waived if the student has a documented passing grade in any higher level CHM course.

Algebra: MTH 3. This requirement will be waived if the student has a documented passing grade in any higher level MTH course.

In addition to high school prerequisites, the following courses **MUST** be completed before applying to the Nursing Program.

BIO 101: General Biology I
BIO 141: Human Anatomy and Physiology I
ENG 111: College Composition I

The nursing program promotion policies require that students complete BIO 101, BIO 141, BIO 142, BIO 150, and ENG 111 with a grade of "C" or higher.

Important note to all transfer students: No transfer credit shall be given for courses with grades lower than "C." If all courses completed have been transferred to the College, no GPA is documented and this requirement is waived. If any curricular courses were taken at the College, curricular GPA must be a 2.50 or above. If the only courses taken at the College were non-curricular, the cumulative GPA must be 2.500 or above.

Students requesting to transfer from another nursing program MUST meet all nursing program admission criteria. These students are only admitted as seats become open; therefore, there is a limited space for transfer admission directly into the nursing program. In addition, these students must have two letters of recommendation from previous nursing school faculty sent to the Thomas Nelson Community College, Department of Nursing (one letter must be from the last clinical instructor), and copies of NUR syllabi and unit guides. Credit will be given to those nursing courses taken no longer than three years prior to transferring into the College's Nursing Program at the discretion of the chair.

Other Information about the Nursing Program
Board of Nursing, Code of Virginia: The nursing law of Virginia addresses criteria for application for licensure. The Virginia Board of Nursing may deny the opportunity of testing to any applicant who has willingly committed a felony/misdemeanor under laws of the Commonwealth of Virginia or of the United States.

Bachelor of Science in Nursing: Four area colleges offer a bachelor of science degree in Nursing: Hampton University, Norfolk State University, Old Dominion University, and Virginia Commonwealth University. Credit for nursing courses taken at the College can be given at all these institutions. Contact the specific institution for further information.

Clinical Experiences: Clinical experiences are assigned each semester in NUR 180, NUR 200, NUR 202, NUR 212, and NUR 213. Days of the week and clinical hours vary and some evening clinicals may be required. Clinical assignments are made by the nursing instructors and some consideration is given to outside work schedules. When conflicts occur, it is the responsibility of the student to meet the clinical objectives and thereby put the clinical schedule as a first priority.

Criminal Background Checks and Drug Testing: Criminal background checks and drug testing are a mandatory part of the nursing admission requirements. The student will be responsible for the cost of these screenings. If the criminal background check or drug screen indicates a finding which prohibits a student from attending a clinical agency, the student cannot successfully meet the course requirements and will not be able to continue in the nursing program. Students are responsible for the cost of the background check and drug testing.

Drug Policy: Certain clinical agencies implement random urinary drug screenings. Nursing students, if selected by the agency, may be included in this testing. These drug screening policies are the procedures of the clinical agencies, not the college. The college drug policy is followed as stated in the Thomas Nelson Community College Catalog.

ADA Requirements: Title II of the ADA prohibits discrimination against a "qualified individual with a disability." This term is defined as an individual with a disability who can perform the "essential functions" of a position, with or without reasonable accommodation.

In order for a student with a disability to be admitted to the Thomas Nelson Community College Nursing Program, the student must:
1. meet the prerequisite admission standards as defined in the College catalog
2. perform the essential functions for participation in the nursing program with or without reasonable accommodation.

Generally, the term essential functions includes those fundamental duties that the individual who holds the position must be able to perform, either unaided or with the assistance of a reasonable accommodation.

A reasonable accommodation is "any change in the student environment or in the way things are customarily done that enables an individual with a disability to enjoy equal opportunities." In order to be considered for appropriate accommodations the student must make a request with Disabled Student Services (Room 324 Hastings Hall). Since the ADA expressly prohibits inquiries regarding disabilities, the responsibility of disclosure is borne by the individual having the disability.

The reasonableness of an accommodation is determined on a case-by-case basis. The accommodation offered does not have to be the "best available" but needs to be sufficient to meet the needs of the individual being accommodated.

The nursing faculty has determined that to successfully complete the classroom and clinical components of the College Nursing Program, the student must be able to perform defined essential functions. These essential functions include but are not limited to the following:

Attendance: Regular classroom and clinical attendance as defined by the nursing department student policies.

Essential Mental Abilities:
1. Maintain reality orientation accompanied by short and long term memory.
2. Adapt to school and clinical environment.
3. Follow rules and instructions.
4. Assimilate and apply knowledge acquired through lectures, discussions, demonstrations and readings.
5. Comprehend and apply basic mathematical skills.
6. Demonstrate safe nursing practice within the defined clinical time period.
7. Demonstrate critical thinking skills by the comprehension and application of abstract concepts.

Essential Communication Skills:
1. Speak clearly in order to communicate with patients, families, health care team members, peers and faculty.
2. Interact appropriately and communicate effectively with individuals, families, and groups from a variety of social, cultural, and intellectual backgrounds.
3. Communicate and organize thoughts in order to prepare written documents.
4. Prepare written documents that are correct in style, grammar and mechanics.

Essential Physical Abilities:
1. Stand and walk for six to eight hours a day.
2. Walk for prolonged periods from one area to another over an eight-hour period.
3. Bend, squat and kneel.
4. Assist in lifting or moving clients of all age groups and weights.
5. Perform CPR (i.e., move above patient to compress chest and manually ventilate patient).
6. Work with arms fully extended overhead.
7. Use hands for grasping, pushing, pulling, and fine manipulation.
8. Demonstrate eye/hand coordination for manipulation of equipment, i.e., syringes, procedures, etc.

Essential Sensory Abilities:
1. Possess tactile ability to differentiate changes in sensation.
2. Possess tactile ability sufficient for physical assessment.
3. Possess auditory acuity to note slight changes in the client's condition, i.e. lung sounds, etc.
4. Possess auditory acuity to hear patient calls for assistance without facing the patient.
5. Possess auditory acuity to interpret various equipment signals and use the telephone.
6. Possess visual acuity to read and distinguish colors, to read handwritten orders, and other handwritten and printed data.
7. Possess visual acuity to clearly view monitors and scales in order to correctly interpret data.
8. Possess olfactory ability sufficient to detect differences in odor.

For more information, contact the **Nursing Department in Room 926 Templin Hall, 757/825-2808, or at www.tncc.edu.**

NURSING PROGRAM ADMISSION REQUIREMENTS
NURSING 5-SEMESTER PROGRAM

Thomas Nelson Community College offers Pre-licensure Nursing Programs at both the Hampton Campus and the Historic Triangle Campus. Admission criteria and curricular requirements are the same for both programs. Application dates for the Hampton Campus are February 1-March 31. Application dates for the Historic Triangle Campus are September 1-September 30.

STEPS TO ADMISSION

STEP 1   Apply to the College.
Official high school transcripts, GED certificate, and any official college transcripts must be sent to the Admissions and Welcome Center.
In order for official college transcripts to be evaluated, a Transfer Evaluation Form must be completed and submitted to the Enrollment Services office

STEP 2   Take College Placement Tests in Math, Writing, and Reading.
As required by the College's placement test results, all developmental courses MUST be satisfactorily completed prior to applying to the Nursing Program.

STEP 3   Meet Nursing Program Prerequisite Requirements.
The following courses will meet the Nursing Program prerequisite requirements:
High School Chemistry. One year required with a final course grade of "C" or higher. If the high school prerequisite has not been met, any of the following courses will satisfy this requirement: CHM 1, CHM 101, CHM 111, or any higher level CHM course.
High School Algebra. One year required with a final course grade of "C" or higher. If the high school prerequisite has not been met, the following course will satisfy this requirement: MTH 3 or any higher level MTH course.

In addition to the high school prerequisites, the following courses **MUST** be completed before applying to the Nursing Program.
BIO 101: General Biology I
BIO 141: Human Anatomy and Physiology I
ENG 111: College Composition I

The nursing program promotion policies require that students complete BIO 101, BIO 141, BIO 142, BIO 150, and ENG 111 with a grade of "C" or higher.

STEP 4   Begin the Pre-Nursing Career Studies Curriculum Courses to Earn Points Toward Admission.
Students are advised to pursue the Pre-Nursing Career Studies Certificate Curriculum in preparation for application to the Nursing Program.

The Nursing Department receives more applications for admission to the program than there are spaces available. Therefore, applications are reviewed and ranked by the Nursing Department.

A point value has been assigned to each of the Pre-Nursing Curricular Courses. For courses successfully completed prior to the application period, the points will be awarded as follows:

BIO 142	5 points
BIO 150	5 points
HLT 130 or HLT 138	2 points
PSY 200 or PSY 230	2 points
CST 100 or CST 126	2 points
PHI 220	2 points
SDV 100	2 points

The student must have a curricular GPA of 2.500 or above the semester prior to applying to the Nursing Program. The curricular GPA is calculated using all pre-nursing curricular courses (listed above) including BIO 101, BIO 141, and ENG 111 that have been completed. The Enrollment Services Office will calculate the curricular GPA.

IMPORTANT NOTE TO ALL TRANSFER STUDENTS: No transfer credit shall be given for courses with grades lower than "C". If all courses completed have been transferred to the College, no GPA is documented and this requirement is waived. If any curricular courses were taken at the College, curricular GPA must be a 2.500 or above. If the only courses taken at the College were non-curricular, the cumulative GPA must be 2.500 or above.

STEP 5: Apply to the Nursing Program.
Application Period of February 1 to March 31 for Hampton Pre-licensure Program. Application Period of September 1 to September 30 for Historic Triangle Pre-licensure Program. Nursing applications are available in the Enrollment Services Office at both campuses during the application periods listed above.

Pre-admission testing, The Test of Essential Academic Skills (TEAS V) is required during the application period. The College's Nursing Department requires students to complete a TEAS V when applying to the program. The TEAS V evaluates essential areas for academic success in the Nursing Program., The cost for the TEAS V is $25.00 and must be paid by check or money order (payable to Thomas Nelson Community College). Payment is due at the time of testing. Photo identification is also required at the time of testing. A required score on the TEAS V will be determined by the nursing department and will be used in conjunction with the accumulated points to determine admission status into the Nursing Program. The test version and cost is subject to change.

Official high school transcripts, GED certificate, and any official college transcripts must be on file in the Enrollment Services Office prior to completion of an application.

All students who apply to the Nursing Program will be notified of their admission status by mail. Students applying to the Hampton Campus will be notified by mid April. Students applying to the Historic Triangle Campus will be notified by mid October. There are two types of acceptance: conditional and alternate.

Conditional Acceptance: All students who are awarded conditional acceptance must attend a mandatory orientation session. During this session students will receive information regarding submission of a pre-entrance medical exam, immunization records, validation of successful completion of the American Heart Association's Healthcare Provider CPR course, and a criminal background check and drug screen. Failure to meet all of the requirements by the due dates identified will result in cancellation of acceptance status to the program.

Alternate Status: Alternates have met the admission requirements but the number of applications that were received exceeded the number of students that could be accepted. Normally, the Nursing Program has students who decline admission, and attrition occurs.

Should seats become available, students with alternate status may then be offered conditional acceptance based upon their point totals and TEAS V scores. In the event that alternates have equal points, curricular GPA will be used to determine admission status. If alternates are not offered admission, they will be given first admission priority during the following year's admission process. Alternates who are not admitted MUST reapply in the following year's admission period, must maintain a minimum curricular GPA of 2.50, and must retake the TEAS V test.

Students are encouraged to pursue the Pre-Nursing Career Studies Certificate in preparation for application to the Nursing Program.

For more information, contact the **Nursing Department** in Room 926 Templin Hall, 757/825-2808, or at **www.tncc.edu**.

NURSING (156)

HAMPTON CAMPUS (FALL ADMISSION)

Students are encouraged to pursue the Pre-Nursing Career Studies Certificate in preparation for application to the Nursing Program.

For more information, contact the **Nursing Department** in Room 926 Templin Hall, 757/825-2808, or at **www.tncc.edu**.

The following courses are included in the total number of credits required for the A.A.S. in Nursing Degree, but must be completed before applying to the Nursing Program.

BIO 101	General Biology I	4
BIO 141	Human Anatomy and Physiology I	4
ENG 111	College Composition I	3
	Total Credits	11

The nursing program promotion policy requires that students complete BIO 141, BIO 142, BIO 150 and ENG 111 with a "C" or higher.

Course #	Course Title	Credits
FIRST SEMESTER (FALL)		
BIO 142	Human Anatomy and Physiology II	4
NUR 100	Introduction to Nursing and Health	1
NUR 104	Fundamentals of Nursing	6
NUR 105	Nursing Skills	2
NUR 117	Communication, Nursing Process, and Care Planning	1
NUR 135	Drug Dosage Calculations	2
SDV 100	College Success Skills	1
	Total Credits	17
SECOND SEMESTER (SPRING)		
BIO 150	Introductory Microbiology	4
NUR 180	Essentials of Maternal/Newborn Nursing	3
NUR 200	Essentials of Mental Health Nursing	3
NUR 202	Medical/Surgical Nursing I	3
	Total Credits	13
THIRD SEMESTER (SUMMER)		
HLT 130 or	Nutrition and Diet Therapy or	
HLT 138	Principles of Nutrition	2
	Total	2
FOURTH SEMESTER (FALL)		
CST 100	Principles of Public Speaking or	
CST 126	Interpersonal Communication	3
NUR 212	Second Level Nursing II	8
PSY 200 or	Principles of Psychology or	
PSY 230	Developmental Psychology	3
	Total Credits	14
FIFTH SEMESTER (SPRING)		
NUR 213	Second Level Nursing III	8
NUR 254	Dimensions of Professional Nursing	1
PHI 220	Ethics	3
	Total Credits	12
Total Minimum Credits		69

BIO 141, BIO 142, and BIO 150 must be taken within the last ten years to apply toward graduation.

NUR 298 recommended course.

NURSING (156)
HISTORIC TRIANGLE CAMPUS (SPRING ADMISSION)

Students are encouraged to pursue the Pre-Nursing Career Studies Certificate in preparation for application to the Nursing Program.

For more information, contact the **Nursing Department** in Room 926 Templin Hall, 757/825-2808, or at **www.tncc.edu**.

The following courses are included in the total number of credits required for the A.A.S. in Nursing Degree, but must be completed before applying to the Nursing Program.

BIO 101	General Biology I	4
BIO 141	Human Anatomy and Physiology I	4
ENG 111	College Composition I	3
	Total Credits	11

Course #	Course Title	Credits
FIRST SEMESTER (SPRING)		
BIO 142	Human Anatomy and Physiology II	4
NUR 100	Introduction to Nursing and Health	1
NUR 104	Fundamentals of Nursing	6
NUR 105	Nursing Skills	2
NUR 117	Communication, Nursing Process, and Care Planning	1
NUR 135	Drug Dosage Calculations	2
SDV 100	College Success Skills	1
	Total Credits	17
SECOND SEMESTER (SUMMER)		
HLT 130 or	Nutrition and Diet Therapy or	2
HLT 138	Principles of Nutrition	2
	Total Credits	2
THIRD SEMESTER (FALL)		
BIO 150	Introductory Microbiology	4
NUR 180	Essentials of Maternal/Newborn Nursing	3
NUR 200	Essentials of Mental Health Nursing	3
NUR 202	Medical/Surgical Nursing I	3
	Total Credits	13
FOURTH SEMESTER (SPRING)		
CST 100 or	Principles of Public Speaking or	
CST 126	Interpersonal Communication	3
NUR 212	Second Level Nursing II	8
	Total Credits	11
OPTIONAL SEMESTER (SUMMER)		
PSY 200 or	Principles of Psychology or	
PSY 230	Developmental Psychology	3
	Total Credits	3
FIFTH SEMESTER (FALL)		
NUR 213	Second Level Nursing III	8
NUR 254	Dimensions of Professional Nursing	1
PHI 220	Ethics	3
	Total	12
	Total Minimum Credits	69

BIO 141, BIO 142, and BIO 150 must be taken within the last ten years to apply towards graduation.

NUR 298 recommended course.

LPN TO RN ARTICULATION PROGRAM
NURSING 4-SEMESTER PROGRAM

The Thomas Nelson Community College Associate Degree Nursing Program offers an optional articulation plan for eligible licensed practical nurses to become registered nurses. Detailed information on the LPN Articulation nursing admission process is available in the Enrollment Services Office (Room 208 Griffin Hall) and the Nursing Office (Room 926, Templin Hall).

In order to apply to the LPN to RN Articulation Program, applicants must not only complete Steps 1-6 but also have a current unrestricted LPN license.

STEPS TO ADMISSION

STEP 1   Apply to the College.
Official high school transcripts, GED certificate, LPN school transcripts, and any official college transcripts must be sent to the Admissions and Welcome Center.

In order for official college transcripts to be evaluated a Transfer Evaluation Form must be completed and submitted to the Admissions and Welcome Center.

STEP 2   Take College Placement Tests in Math, Writing, and Reading.
As required by the College's placement test results, all developmental courses MUST be satisfactorily completed prior to applying to the Nursing Program.

STEP 3   Meet Nursing Program Prerequisite Requirements.
The following courses will meet the nursing program prerequisite requirements:
High School Chemistry. One year required with a final course grade of "C" or higher. If the high school prerequisite has not been met, any of the following courses will satisfy this requirement: CHM 1, CHM 101, CHM 111 or any higher level CHM course.
High School Algebra. One year required with a final course grade of "C" or higher. If the high school prerequisite has not been met, the following course will satisfy this requirement: MTH 3 or any higher level MTH course.

In addition to the high school prerequisites, the following courses **MUST** be completed before applying to the LPN to RN Articulation Program.

BIO 101: General Biology II
BIO 141: Human Anatomy and Physiology I
BIO 142: Human Anatomy and Physiology II
ENG 111: College Composition I

The nursing program promotion policies require that students complete BIO 101, BIO 141, BIO 142, BIO 150, and ENG 111 with a grade of "C" or higher.

STEP 4   Begin the Pre-Nursing Career Studies Curriculum Courses to Earn Points Toward Admission.
Students are advised to pursue the Pre-Nursing Career Studies Certificate Curriculum in preparation for application to the program. The Nursing Department receives more applications for admission to the program than there are spaces available. Therefore, applications are reviewed and ranked by the Nursing Department.

A point value has been assigned to each of the Pre-Nursing Curricular courses. For courses successfully completed prior to the application period, the points will be awarded as follows:

BIO 150	5 points
HLT 130 or HLT 138	2 points
PSY 200 or PSY 230	2 points
CST 100 or CST 126	2 points
PHI 220	2 points
SDV 100	2 points

The student must have a curricular GPA of 2.500 or above in the semester prior to applying to the nursing LPN to RN Articulation Program. The curricular GPA is calculated using all Pre-Nursing Curricular courses (listed above) including BIO 101, BIO 141, BIO 142, and ENG 111 that have been completed. The Enrollment Services Office will calculate the curricular GPA.

IMPORTANT NOTE TO ALL TRANSFER STUDENTS: No transfer credit shall be given for courses with grades lower than "C." If all courses completed have been transferred to the College, no GPA is documented and this requirement is waived. If any curricular courses were taken at the College, curricular GPA must be a 2.500 or above. If the only courses taken at the College were non-curricular, the cumulative GPA must be 2.500 or above.

STEP 5   Apply to the LPN to RN Articulation Nursing Program.
(Application period September 1 to October 31 or the last workday in October). Nursing applications are available in the Admissions and Welcome Centers at both campuses during the application period.

NOTE: First consideration for admission to the program will be given to any student awarded Alternate Status (and not offered a seat) in the previous year's admission period who upon reapplication continues to meet all admission criteria.

Second consideration for admission to the program will be given to LPNs who have graduated from articulated LPN schools within 5 years of LPN graduation. The following LPN programs are included: Norfolk, Portsmouth, Virginia Beach, Chesapeake or Suffolk Public Schools, Lafayette, Riverside, New Horizons, Medical Careers Institute, and Rappahannock Community College.

Third consideration for admission to the program will be given to LPNs who are domiciliary residents of Hampton, Newport News, Williamsburg, Poquoson, James City County and York County. If there are other spaces available, consideration will be given to
(1) other Virginia residents;
(2) out-of-state applicants;
(3) international students with student and diplomatic visas.

The Enrollment Services Office will accept completed applications in person and attach a copy of the student's curriculum progress report, a copy of high school transcripts and /or GED, a copy of the LPN school transcript and a copy of the LPN license.

Official high school transcripts, GED certificate, and any official college transcripts must be on file in the Enrollment Services Office prior to completion of an application.

All students who apply to the Nursing Program will be notified of their admission status by mail on or before mid November. There are two types of acceptance: conditional and alternate.

Conditional Acceptance: All students who are awarded conditional acceptance must attend a mandatory orientation session. During this session students will receive information regarding submission of a pre-entrance medical exam, immunization records, validation of successful completion of the American Heart Association's Healthcare Provider CPR course, and a criminal background check and drug screen. Failure to meet all of the requirements by the due dates identified will result in cancellation of acceptance status to the program.

Alternate Status: Alternates have met the admission requirements but the number of applications that were received exceeded the number of students that could be accepted. Normally, the Nursing Program has students who decline admission, and attrition occurs. Should seats become available, students with alternate status may then be offered conditional acceptance based upon their point totals. In the event that alternates have equal points, curricular GPA will be used to determine admission status. If alternates are not offered admission, they will be given first admission priority during the following year's admission process. Alternates who are not admitted MUST reapply in the following year's admission period and must maintain a minimum curricular GPA of 2.500.

LPN TO RN ARTICULATION PROGRAM

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

Course #	Course Title	Credits
BIO 101	General Biology	4
BIO 141-142	Human Anatomy and Physiology I-II[1]	4-4
ENG 111	College Composition I	3

The nursing program promotion policies require that students complete BIO 141, BIO 142, BIO 150 and ENG 111 with a "C" grade or higher.

FIRST SEMESTER (SPRING)

BIO 150	Introductory Microbiology[1]	4
NUR 115	LPN Transition I[2]	3
NUR 180	Essentials of Maternal/Newborn Nursing[3]	3
NUR 200	Essentials of Mental Health Nursing[3]	3
SDV 100	College Success Skills	1
	Total	14

SECOND SEMESTER (SUMMER)

HLT 130 or	Nutrition and Diet Therapy or	
HLT 138	Principles of Nutrition	2
	Total	2

THIRD SEMESTER (FALL)

CST 100 or	Principles of Public Speaking or	
CST 126	Interpersonal Communication[4]	3
NUR 212	Second Level Nursing II	8
PSY 200 or	Principles of Psychology I or	
PSY 230	Developmental Psychology	3
	Total	14

FOURTH SEMESTER (SPRING)

NUR 213	Second Level Nursing III	8
NUR 254	Dimensions of Professional Nursing	1
PHI 220	Ethics	3
	Total	12

IN THE LPN TO RN ARTICULATION AGREEMENT, CREDIT IS AWARDED FOR THE FOLLOWING COURSES AFTER SUCCESSFUL COMPLETION OF NUR 115:

NUR 100	Introduction to Nursing and Health	1
NUR 104	Fundamentals of Nursing	6
NUR 105	Nursing Skills	2
NUR 202	Medical/Surgical Nursing I	3
	Total	12
	Total Minimum Number of Credits	69

[1]Course must be successfully completed within the past ten years.
[2] NUR 115 will be taught during the first five weeks of spring semester.
[3]NUR 180 will be taught during the second five weeks of spring semester.
[4]NUR 120 will be taught during the third five weeks of spring semester.

PARALEGAL STUDIES (260)

Purpose: The curriculum is designed to provide students with the level of knowledge and proficiency needed to provide services to clients under the direction and supervision of a lawyer in firms involved in a variety of specializations within the legal field.

Special Admission & Program Requirements: Students planning to transfer to a four-year college or university should see the Selecting General Education Courses section of this catalog.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/ or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For further information, see **Developmental Studies.**

For more information contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 of Diggs Hall, 757-825-2900, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111-112	College Composition I-II	3-3
CST 100	Principles of Public Speaking	3
- - -	Humanities/Fine Arts Elective	3
PSY 200 or	Principles of Psychology or	
SOC 200	Principles of Sociology[1]	3
- - -	Social Sciences Elective	3
MTH 120	Introduction to Mathematics[1]	3
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
	Total General Education Course Credits	**24**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
ADJ 131	Legal Evidence	3
ADJ 211	Criminal Law, Evidence & Procedures I	3
BUS 241 or	Business Law I or	
PBS 240	Constitutional Law	3
LGL 110	Introduction to Law and the Legal Assistant	3
LGL 115	Real Estate Law for Legal Assistants	3
LGL 117	Family Law	3
LGL 125	Legal Research	3
LGL 216	Trial Preparation and Discovery Practice	3
LGL 225	Estate Planning and Probate	3
LGL 230	Legal Transactions	3
LGL 290	Coordinated Internship in Legal Assisting	3
ITE 115	Introduction to Computer Applications and Concepts[2]	3
PBS 200	Ethics in the Public Sector	3
- - -	Degree Related Electives or Transfer Electives	6
	Total Major and Other Course Credits	**45**
	Total Minimum Credits	*69*

[1]Students who plan to transfer to a four-year institution should choose MTH 151, MTH 157 or MTH 180.
[2]ITE 119 may be substituted fro ITE 115.

PHOTOGRAPHY (502)

Purpose: The purpose of this degree is to provide students with a broad foundation in photography and imaging technology. The program will help students increase their expressive capabilities in the visual arts by developing an understanding of artistic theories as well as the technical skills necessary to be a photographer.

This degree is designed to prepare students for full-time employment in the field of photography as well as to transfer to a professional art school or a four-year college. Students planning to transfer to a professional art school or four-year institution should ascertain the acceptance of the various Thomas Nelson Community College courses.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

For more information, contact the **Communications, Humanities and Social Sciences Division** in Room 857 Templin Hall, 757/825-2799, or at **www.tncc.edu.**

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition I	3
CST 100	Principles of Public Speaking	3
- - -	Social Science Electives[1]	6
MTH 120	Introduction to Mathematics[2]	3
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
Total General Education Course Credits		18

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
ART 121	Drawing I	3
ART 131-132	Fundamentals of Design I and II	3-3
ART 287	Portfolio and Resume Preparation	1
ART ---	Art History Elective	3
ART/PHT	Art/Photography Studio Electives	9
PHT 101 or	Photography I or	
PHT 164	Introduction to Digital Photography	3
PHT 102	Photography II	3
PHT 110	History of Photography	3
PHT 135	Electronic Darkroom	3
PHT 206	Large Format Photography	3
PHT 221	Studio Lighting I	3
PHT 264	Digital Photography	3
PHT 270	Digital Imaging I	3
PHT 297	Cooperative Education in Photography	1
Total Major and Other Course Credits		47
Total Minimum Credits		65

[1]See the General Education Electives and Transfer Information section of this catalog for a list of approved courses. Substitutions for sequence courses require division approval. For selection of specific science, history, social science, and humanities courses, the student should consult the catalog of the anticipated transfer school or four-year college or university.
[2]MTH 151 or MTH 163 may be substituted provided that the student has met the prerequisites.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

PHOTOGRAPHY (502-01)
SPECIALIZATION IN VISUAL COMMUNICATIONS

Purpose: The area of visual communications is one of the fastest growing and rapidly evolving fields in the arts. Visual communications specialists enjoy finding creative ways to express their ideas. Integrating studio and digital photography, photographic history, design, typography, desktop publishing and marketing, the visual communications specialist is a valuable resource in the workplace.

This degree specialization focuses on critical problem-solving skills, aesthetics and history to provide students with an understanding of the impact of visual imagery. All students in this program receive the foundation of knowledge and skills necessary to pursue a career in print media.

Students planning to transfer to a professional art school or four-year institution should ascertain the acceptance of the various Thomas Nelson Community College courses.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

For more information, contact the **Communications, Humanities and Social Sciences Division** in Room 857 Templin Hall, 757/825-2799, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition I-II	3
CST 100	Principles of Public Speaking	3
- - -	Social Science Electives[1]	6
MTH 120	Introduction to Mathematics[2]	3
HLT/PED	Health or Physical Education Elective	2
SDV 100	College Success Skills	1
Total General Education Course Credits		18

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
ART 121	Drawing I	3
ART 131-132	Fundamentals of Design I-II	3-3
ART 287	Portfolio and Resume Preparation	1
ART 141	Typography	3
ART 251	Communication Design I	3
ART 291	Computerized Graphic Design I	4
MKT 220 or	Introduction to Advertising or	3
PHT 227	Photographic Careers	
PHT 101 or	Photography I or	
PHT 164	Introduction to Digital Photography	3
PHT 102	Photography II	3
PHT 110	History of Photography	3
PHT 135	Electronic Darkroom	3
PHT 206	Large Format Photography	3
PHT 221	Studio Lighting I	3
PHT 264	Digital Photography	3
PHT 270	Digital Imaging I	3
PHT 297	Cooperative Education in Photography	1
Total Major and Other Course Credits		48
Total Minimum Credits		66

[1] See the General Education Electives and Transfer Information section of this catalog for a list of approved courses. Substitutions for sequence courses require division approval. For selection of specific science, history, social science, and humanities courses, the student should consult the catalog of the anticipated transfer school or four-year college or university.
[2] MTH 151 or MTH 163 may be substituted provided that the student has met the prerequisites.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

TECHNICAL STUDIES (718-06)
SPECIALIZATION IN CONSTRUCTION MANAGEMENT

Purpose: This curriculum is designed to prepare construction employees and supervisors with the job skills needed for employment as construction mangers. The courses are also designed to encourage individuals already working in the construction industry to update their skills and obtain the Associate in Applied Science degree.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757/825-2898, or at **www.tncc.edu/met**

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition I	3
ENG 115	Technical Writing	3
PHI 220	Ethics	3
ECO 120 or	Survey of Economics or	
ECO 201	Principles of Economics I	3
PSY 126 or	Psychology for Business and Industry or	
PSY 201	Introduction to Psychology	3
MTH 103	Applied Technical Mathematics I	3
HLT 106	First Aid and Safety	2
SDV 100	College Success Skills	1
Total General Education Course Credits		**21**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
BLD 188	Introduction to Construction Supervision	3
BLD 108	Construction Leadership and Motivation	2
BLD 215	OSHA 30 Construction Safety	2
BLD 116	Communication for Construction Supervisors	2
BLD 118	Problem Solving and Decision Making	2
BLD 117	Contract Documents and Construction Law	2
BLD 109	Understanding and Managing Project Costs	2
BLD 119	Accident Prevention and Loss Control	2
BLD 216	Productivity Improvement for the Construction Mgr.	2
BLD 217	Managing the Construction Project	2
BLD 231	Construction Estimating I	3
BLD 247	Construction Planning and Scheduling	3
BLD 200	Sustainable Construction	2
DRF 161	Blueprint Reading I	2
CAD 195	Topics: Drafting & Design: Green Design & Engineering	3
ITE 115	Basic Computer Literacy	3
---	Elective[1]	3
BLD 297	Cooperative Education/Internships	6
Total Major and Other Course Credits		**46**
Total Minimum Credits		***67***

[1]Elective may be selected from BLD, MTH 115, GEO 200, or DRF 151.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

TECHNICAL STUDIES (718-03)
SPECIALIZATION IN ELECTRICAL TECHNOLOGY

Purpose: This degree prepares individuals with job-entry level skills who are qualified to work as electricians and as electrical technicians. Knowledge and skills acquired by graduates include basic knowledge of electricity and electronics, residential and commercial wiring, industrial applications and programmable logic controllers.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757/825-2898, or at **www.tncc.edu/met.**

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition I	3
ENG 115	Technical Writing	3
---	Humanities Elective	3
---	Social Science Electives	3
MTH 103	Applied Technical Math I	3
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
Total General Education Course Credits		**18**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
DRF 135	Electrical/Electronic Blueprint Reading	2
ELE 127	Residential Wiring Methods	3
ELE 131	National Code I	3
ELE 132	National Code II	3
ELE 133	Practical Electricity	3
ELE 150	AC and DC Circuit Fundamentals	3
ELE 173	Commercial Wiring Methods	3
ELE 225	Electrical Control Systems	4
ELE 238	Control Circuits	3
ELE 239	Programmable Logic Controllers	3
ETR 297	Cooperative Education / Internships	6
BLD 215	OSHA 30 Construction Safety	2
---	Electives[1]	9
Total Major and Other Course Credits		**47**
Total Minimum Credits		**65**

[1]Electives may be selected from BLD, BUS, ELE, ETR 231, and IND 145.

Most electrical courses in this program are offered only through approved electrical apprenticeship programs with credits articulating into the degree program.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

TECHNICAL STUDIES (718-04)
SPECIALIZATION IN ENGINEERING TECHNOLOGY

Purpose: Developed with support of business and industry, this degree combines all the areas of knowledge demanded of the new engineering technician. Graduates have a broad skill base that is desirable in a variety of employment opportunities. This degree program contains the core SpaceTEC curriculum and prepares the graduate to take the core certification exam for aerospace technicians

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757/825-2898, or at **www.tncc.edu\met**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition I	3
ENG 115	Technical Writing	3
PHI 220	Ethics	3
---	Social Science Electives[1]	6
MTH 115-116 or	Technical Mathematics I-II or	
MTH 163-164	Precalculus I-II[2]	3-3
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
Total General Education Course Credits		24

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
DRF 151	Engineering Drawing Fundamentals	3
ETR 104	Electronic Fundamentals with Computer Applications	4
ETR 113	Electronics Devices I	4
ETR 114	Electronics Troubleshooting	4
ETR 279	Digital Logic Circuits	4
ETR 231	Principles of Lasers and Fiber Optics I	3
ETR 286	Principles and Applications of Robotics	3
ETR 297	Cooperative Education/Internships	6
IND 141	Safety and Quality in the Aerospace Industry	3
IND 145	Introduction to Metrology	3
MEC 113	Materials and Processes of Industry	3
MEC 195	Introduction to Aerospace Workplace	2
MEC 220	Introduction to Polymeric and Composite Materials	3
Total Major and Other Course Credits		45
Total Minimum Credits		69

[1]Refer to the General Education section on Social Science electives.
[2]Students planning to pursue a bachelor's degree should take the alternative courses.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

TECHNICAL STUDIES (718-02)

SPECIALIZATION IN HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION TECHNOLOGY

Purpose: This degree serves the needs of business and industry for advanced studies in air conditioning and refrigeration. The program provides training for estimators, managers, superintendents, and advanced technicians who want to develop a broad base of background for career advancement.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757/825-2898, or at **www.tncc.edu\met**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition	3
ENG 115	Technical Writing	3
- - -	Humanities Elective	3
- - -	Social/Behavioral Science Elective[1]	3
MTH	Mathematics Elective[2]	3
PED/HLT	Health or Physical Education Elective	1
SDV 100	College Success Skills	1
Total General Education Course Credits		**17**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
AIR 134	Circuits and Controls	4
AIR 154-155	Heating Systems I-II	3-3
AIR 158	Mechanical Codes	2
AIR 171	Basic Refrigeration	6
AIR 176	Air Conditioning	6
AIR 181	Planning and Estimating	2
AIR 210	Air Conditioning and Refrigeration Analysis	3
AIR 235	Heat Pumps	3
ELE 150	A.C. and D.C. Circuit Foundations	3
- - -	Electives[3]	9
- - -	Work-based Learning	6
Total Major and Other Course Credits		**50**
Total Minimum Credits		*67*

[1]Students who plan to transfer should complete ECO 201.
[2]Mathematics courses should be selected from MTH 103, MTH 115, MTH 163.
[3]Electives must be selected from ITE 120, ITE 119, ELE 239, EGR 110, IND 140, BUS 100, BUS 210, CST 100.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

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CERTIFICATE PROGRAMS

The certificate programs are designed to prepare students for employment immediately upon completion and to provide additional education for those already employed. These programs can generally be completed within two semesters and are not designed for transfer to a four-year college or university. In many cases, courses included in the certificate programs apply to the two-year associate degree. Students are encouraged to consult with their advisor when planning their curriculum. Thomas Nelson Community College offers the following certificate programs:

Air Conditioning and Refrigeration
Automotive Technology
Communication Design Multi-Media
Computer-Aided Drafting and Design Technology
Early Childhood Development Assistant
General Education
Industrial Management
Legal Assistant
Public Management

AIR CONDITIONING AND REFRIGERATION (903)

This program satisfies the classroom requirement for the Journeyman licensing classroom contact hours.

Purpose: The Certificate Program in Air Conditioning and Refrigeration is designed to provide training for air conditioning and refrigeration installation and service technicians. With the rapid growth of residential and commercial air conditioning and the developments taking place in the industry, there is a growing demand for trained service technicians.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For further information, see Developmental Studies.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757/825-2898, or at **www.tncc.edu.**

Course #	Course Title	Credits
ENG 111	College Composition I	3
MTH 103	Survey of Technical Mathematics I and II	3
SDV 100	College Success Skills	1
HLT 106	First Aid and Safety	2
- - -	Social Science Elective	3
AIR 134	Circuits and Controls I	4
AIR 154	Heating Systems I	3
AIR 158	Mechanical Codes	2
AIR 171	Refrigeration I (Basic)	6
AIR 176	Air Conditioning[1]	6
AIR 181	Planning and Estimating I	2
AIR 235	Heat Pumps	3
ELE 150	AC and DC Circuit Fundamentals	3
Total Minimum Credits		41

[1]Students interested in EPA-CFC certification (federal licensure for handling refrigerants) should take this course prior to the EPA-CFC testing.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

AUTOMOTIVE TECHNOLOGY (902)

Students should contact the Automotive Department for the recommended course sequence.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757/825-2898, or at **www.tncc.edu.**

Course #	Course Title	Credits
AUT 112	Automotive Engines II	4
AUT 125	Anti-Pollution Systems	3
AUT 126	Auto Fuel and Ignition Systems	5
AUT 141	Auto Power Trains I	4
AUT 236	Automotive Climate Control	4
AUT 242	Automotive Electricity II	4
AUT 245	Automotive Electronics	4
AUT 251	Automotive Transmissions I	4
AUT 266	Automotive Alignment, Suspension and Steering	4
AUT 267	Automotive Suspension and Braking Systems	4
AUT 273	Automotive Driveability and Tune-Up I	3
AUT 275	Shop Management	3
ENG 111	English Composition	3
- - -	General Education Electives[1]	6
Total Minimum Credits		55

[1]General education electives must be selected from CST 127, Humanities elective, MTH 103, Social Science elective, or HLT 106.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

COMMUNICATION DESIGN MULTI-MEDIA (504)

This curriculum is designed to prepare the student for employment as a visual communicator in the field of multi-media production and to broaden the skills of those presently employed in the profession. Upon successful completion, the program prepares students to work as visual communicators in the field of multi-media production.

For more information, contact the **Communications, Humanities and Social Sciences Division** in Room 857 Templin Hall, 757/825-2799, or at **www.tncc.edu**.

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition	3
- - -	Social Science Elective	3
SDV 100	College Success Skills	1
Total General Education Course Credits		7

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
ART 121	Drawing I	3
ART 131	Fundamentals of Design I	3
ART 278	3D Computer Design I	4
ART 279	3D Computer Design II	4
ART 208	Video Techniques	4
ART 228	Multimedia Graphic Design I	4
ART 283	Computer Graphics I	3
PHT 265	Mass Media into the Twenty-First Century	3
Total Major and other course credits		28
Total Minimum Credits		35

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

COMPUTER-AIDED DRAFTING AND DESIGN TECHNOLOGY (727)

This certificate is designed to prepare individuals with job skills to work as designers and CAD operators. Students also have the opportunity to explore digital and rapid prototyping. The program can also lead to further courses in mechanical and civil engineering technology at the bachelor's degree level.

To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757/825-2898, or at **www.tncc.edu\met**..

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	College Composition	3
- - -	Social Science Elective[1]	3
MTH 115-116 or	Technical Mathematics I and II or	
MTH 163-164	Precalculus I and II	3-3
HLT/PED	Health or Physical Education Elective(s)	2
SDV 100	College Success Skills	1
Total General Education Course Credits		**15**

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
CAD 151-152	Engineering Drawing Fundamentals I and II	3-3
CAD 202	Computer Aided Drafting and Design II	4
MAC 161	Machine Shop Practices I[2]	3
MEC 131	Mechanics I: Statics for Engineering Technology	3
MEC 132	Mechanics II: Strength of Materials for Engineering Technology	3
Total Major and Other Course Credits		**19**
Total Minimum Credits		*34*

[1] Refer to the General Education section on Social Science electives.
[2] Students may select from DRF, MEC or EGR electives.
[3] Electives may be selected from DRF, CAD, MEC, IND, EGR.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

EARLY CHILDHOOD DEVELOPMENT ASSISTANT (632)

The program is designed to prepare persons as early childhood teacher assistants and to upgrade the skills of those presently serving in that capacity. Specifically, the objectives of the program are to prepare persons as teacher assistants in childcare and preschool centers, or as family child care providers.

Special Admission and Program Requirements: A coordinated internship is required of all majors in order to provide supervised field experience.

To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For further information, see Developmental Studies.

For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757-825-2900, or at **www.tncc.edu.**

GENERAL EDUCATION COURSES

Course #	Course Title	Credits
ENG 111	English Composition I	3
SOC 215	Sociology of the Family	3
MTH 120 or	Introduction to Mathematics	
MTH 158 or	College Algebra or higher	3
HLT 106	First Aid and Safety	2
SDV 100	College Success Skills	1
Total General Education Course Credits		12

MAJOR AND OTHER COURSES

Course #	Course Title	Credits
CHD 118	Methods & Materials in the Language Arts for Children	3
CHD 120	Introduction to Early Childhood Education	3
CHD 145	Teaching Art, Music and Movement to Children	3
CHD 165	Observation and Participation in Early Childhood/ Primary Settings[1]	3
CHD 205	Guiding the Behavior of Children	3
CHD 215	Models of Early Childhood Programs	3
EDU 235	Health, Safety & Nutrition for Children	3
Total Major and Other Course Credits		21
Total Minimum Credits		33

[1]Prerequisite: CHD 120 and must have completed or be enrolled in CHD 205.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

GENERAL EDUCATION (695)*

Thomas Nelson Community College is offering this certificate program to all students who have completed a prescribed number of core courses in general education for an associate degree. In part, this certificate is intended to remind students that they are well on their way to earning an associate degree, and to encourage them to continue their progress.

Associate degrees, in addition to their purely educational value, serve as gateways to employment and provide an opportunity for transfer to a senior institution via one of the many articulation agreements currently available to VCCS students.

Students enter the General Education Certificate program by meeting the usual general admission requirements established by the College. After entering, students must next take any developmental coursework required by their placement tests. Finally, to earn the Certificate, students must complete 31 credit hours of approved college-level courses with a grade point average of at least 2.0.

As the objective of this Certificate is to document the completion of a core of general education courses, this Certificate does not lead to a specific job or career. However, it helps affirm to potential employers that a student has a solid, valuable foundation in the skills of basic math as well as in spoken and written English.

For more information, contact the **Communications, Humanities, and Social Sciences Division** in Room 857 Templin Hall, 757/825-2799, or at **www.tncc.edu**.

Course #	Course Title	Credits
SDV 100	College Success Skills	1
ENG 111	College Composition I	3
MTH	Transfer level Math[1]	3
HIS	Transfer level History	3
Humanities or Fine Arts		6
Natural Science	Transfer Natural Science I-II (BIO or CHM or GOL or PHY)[2]	4-4
Communications	Transfer elective	3
Social/Behavior Sciences	Transfer elective	6
Total Minimum Credits		*33*

*Students should contact their advisor or a counselor to assure courses taken are consistent with their transfer or career goals.
[1]MTH course should be selected from student program, recommendation from advisor/counselor or from transfer school program.
[2]Select a sequence of transfer courses that meets program requirements or that of the transfer school program.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

INDUSTRIAL MANAGEMENT (991)

This program satisfies the requirements of local businesses in their continuing search for employees qualified in supervisory and management skills. The objectives have evolved over the life of the program to that of enhancing management potential through a broader based program while also preparing the student to advance to an associate and ultimately to a baccalaureate degree.

To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For further information, **see Developmental Studies.**

For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or at **www.tncc.edu**.

Course #	Course Title	Credits
ACC 211-212	Principles of Accounting I and II	3-3
BUS 201	Organizational Behavior	3
BUS 205	Human Resources Management	3
BUS 209	Continuous Quality Improvement	3
BUS	Degree Related Elective[1]	3
ECO 201-202	Principles of Economics I and II	3-3
ENG 111-112	College Composition I and II	3-3
Total Minimum Credits		30

[1]For degree-related elective, students may select BUS 111, BUS 146, BUS 200, or BUS 210.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

LEGAL ASSISTANT (261)

This program is designed to prepare individuals in legal and related subjects to perform as legal assistants under the supervision of an attorney. The objective of the program is to train qualified individuals to be legal assistants.

Special Admission & Program Requirements: The student must complete the ENG 111 requirement before taking more than 3 credit hours in the curriculum or must have departmental approval.

To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For further information see Developmental Studies.

For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or at **www.tncc.edu**.

Course #	Course Title	Credits
BUS 241	Business Law I	3
ENG 111-112	College Composition I and II[1]	3-3
LGL 110	Introduction to Law and the Legal Assistant	3
LGL 115	Real Estate Law for Legal Assistants	3
LGL 117	Family Law	3
LGL 125	Legal Research	3
LGL 216	Trial Preparation and Discovery Practice	3
LGL 230	Legal Transactions	3
CST 100	Principles of Public Speaking	3
Total Minimum Credits		30

[1]Student must complete ENG 111 before taking more than 3 credit hours in the curriculum.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

PUBLIC MANAGEMENT (457)

This certificate is designed to offer students a credential for advancing one's career at entry-level governmental or non-profit positions.

For more information contact the Division of **Business, Public Services and Social Sciences** in room 122 of Diggs Hall, 757-825-2900 or at **www.tncc.edu**.

Course #	Course Title	Credits
BUS 111	Principles of Supervision	3
ENG 111	College Composition	3
ITE 115	Basic Computer Literacy[1]	3
MTH 120	Introduction to Mathematics[2]	3
PBS 100	Introduction to Public Administration	3
PBS 105	Personnel Management in the Public Sector	3
PBS 116	Public Budgeting and Finance	3
PBS 240	Constitutional Law	3
PBS 255	Management of the Modern City	3
PBS 266	Group Leadership	3
SDV 100	College Success Skills	1
Total Minimum Credits		31

[1]ITE 119 may be substituted for ITE 115.
[2]It is strongly suggested that students planning on transferring to a four-year institution take MTH 151, MTH 240 or MTH 180 in place of MTH 120.

POSSIBLE CAREER OPPORTUNITIES

In order to review a listing of possible career opportunities available upon completion of this program, please visit the VA Wizard at https://www.vawizard.org/vccs/SearchMajor.action.

CAREER STUDIES CERTIFICATE PROGRAMS

The career studies certificate programs are designed to prepare students for employment immediately upon completion and to provide additional education for those already employed. These programs supply basic skills and may be completed in one or two semesters and are not designed for transfer to a four-year college or university. In many cases, courses included in the career studies certificate programs apply to the two-year associate degree. Students are encouraged to consult with their advisor when planning their curriculum. Thomas Nelson Community College offers the following career studies certificate programs.

Accounting
Administrative Assistant/Office Manager
Air Conditioning and Refrigeration
Algebra I Add-On
Basic Administrative Skills
Benefits Program Specialist
Brakes/Steering/Suspension Specialist
Business Principles
CNC Machining Operations
Child Development
Childcare Center Director
City Management
Climate Control Specialist
Communication Design Interactive Media
Communications Management/Desktop Publishing
Computer-Aided Drafting and Design Technology
Computer Science Teaching
Construction Leadership
Construction Management
Construction Supervision
Corporate Relations
Dental Hygiene
Diversity Training
Electrical Mechanical Assembler
Electronics Maintenance Technician
Electronics Production Technician
Electronics Technology
Emergency Medical Services - Basic
Emergency Medical Services -Intermediate
Emergency Medical Services - Paramedic
Engine Performance Specialist
Financial Services Management
Fire Science
Fire Science Leadership
Food Service and Hospitality
Fundamentals of Organizational Leadership
Geographical Information Systems Technician
Gerontology

High Performance Manufacturing
Hospitality Lodging Management
Hospitality Management
Information Assurance
Information Systems Technology: CISCO Networking
Information Systems Technology: Microcomputer Applications
Information Systems Technology: Project Management
Information Systems Technology: Software Development
Information Systems Technology: Web Design/ E-Commerce
Information Systems Technology: Web Design Specialist
International Studies
Interpreter Training
Managing Early Childhood Programs
Medical Office Assistant
Middle School Mathematics 6-8
Modeling and Simulation
Phlebotomy
Pre-Nursing
Professional Communications
Professional Writing
Real Estate
Recreation and Parks Management
School-Age Care
Secondary Mathematics
Selling Skills and Sales Management
Substance Abuse Counselor Assistant
Supervision
Total Quality Management
Training Specialist
Transmission Repair Specialist
Welding Technology
Youth Development

ACCOUNTING (221-203-02)

This certificate provides students with sufficient accounting background to qualify for entry-level employment.

Admission & Program Requirements: Students who receive a grade lower than "C" in any prerequisite accounting course will be required to repeat the course and earn a grade of "C" or higher. For general admission and program requirements, see Admission Requirements to College Curricula at the beginning of the Admission Information section of this catalog.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

Course #	Course Title	Credits
ACC 124	Payroll Accounting	3
ACC 211-212	Principles of Accounting I and II	3-3
ACC 221-222	Intermediate Accounting I and II	3-3
ACC 275	Capstone Seminar in Accounting	3
ACC	Accounting Elective[1]	3
ITE 115	Introduction to Computer Applications and Concepts[2]	3
Total Minimum Credits		24

[1]The electives are to be selected from the following courses:

ACC 215	Computerized Accounting	3
ACC 240	Fraud Examination	3
ACC 261	Principles of Federal Taxation I	3

[2]ITE 119 may be substituted for ITE 115

For more information about this career studies certificate, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757- 825-2900, or at **www.tncc.edu**.
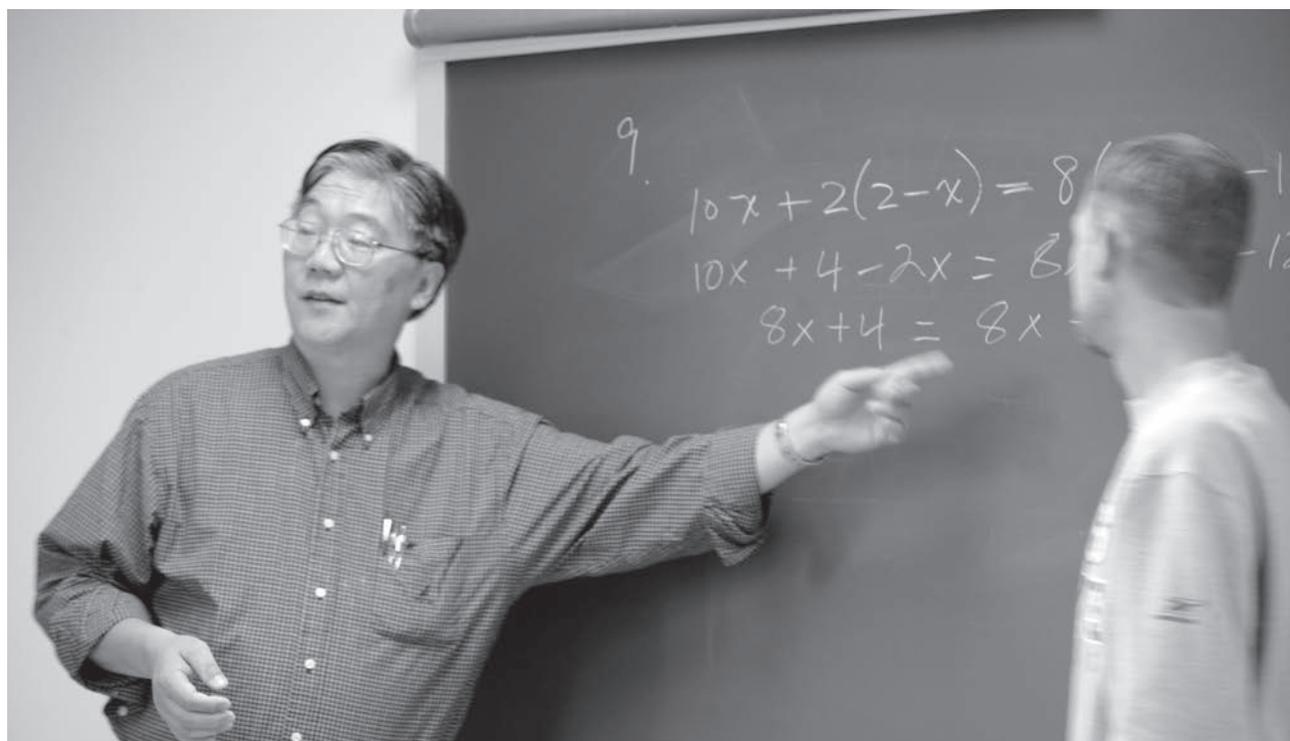
ADMINISTRATIVE SUPPORT TECHNOLOGY

Four Administrative Support Technology career studies programs are offered. The credits taken may be applied toward an A.A.S. degree in Administrative Support Technology:

ADMINISTRATIVE ASSISTANT/OFFICE MANAGER (221-298-01)

This specialization is designed for individuals preparing to be a productive administrative professional in today's office or for those seeking promotion. It provides students with skills in computer software applications, problem solving, human relations, and team building.

Course #	Course Title	Credits
AST 101-102	Keyboarding I and II	3-3
AST 234	Records and Database Management	3
AST 232	Microcomputer Office Applications	3
AST 238	Word Processing Advanced Operations	3
AST 243-244	Office Administration I and II	3-3
- - -	Electives[1]	6
Total Minimum Credits		27

[1]Electives may be selected from the following areas: AST, BUS, ITD, ITE, ITN, ITP, MKT.

BASIC ADMINISTRATIVE SKILLS (221-298-02)

This certificate provides instruction in basic office administration skills. Keyboarding, editing and proofreading skills, and basic computer literacy are emphasized. Students will prepare for entry-level administrative support positions.

Course #	Course Title	Credits
AST 101	Keyboarding I	3
AST 102	Keyboarding II	3
AST 107	Editing and Proofreading Skills	3
AST 230	Introduction to Office Technology	3
Total Minimum Credits		12

COMMUNICATIONS MANAGEMENT/DESKTOP PUBLISHING (221-299-04)

This specialization is designed for individuals who want to increase their knowledge and skills in communications technologies, web page design, and desktop publishing. To begin this program, AST 101-102 and ITE 115[1] proficiency or department approval is required.

Course #	Course Title	Credits
AST 205	Business Communications[1]	3
AST 253	Advanced Desktop Publishing I	3
AST 254	Advanced Desktop Publishing II	3
ITD 110	Web Page Design I	3
Total Minimum Credits		12

[1]BUS 235 may be substituted for AST 205

MEDICAL OFFICE ASSISTANT (221-285-01)

Purpose: This certificate is designed for students who are seeking employment in the medical office administration field. Over the next several years, opportunities for employment in this field are expected to grow.

Course #	Course Title	Credits
AST 101	Keyboarding I[1]	3
AST 102	Keyboarding II	3
AST 107	Editing and Proofreading Skills	3
AST 230	Introduction to Office Technology	3
AST 234	Records and Database Management	3
AST 243	Office Administration I	3
HLT 143	Medical Terminology I	3
MDA 208	Medical Office Coding	2
- - -	Elective [2]	3
Total Minimum Credits		26

[1]Student may request Credit by Exam (through Testing Center) to show proficiency in keyboarding and Microsoft Word.

[2]Select from PHI 220, SPA 163, or BUS 100.

For more information about career studies certificates in Administrative Support Technology, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757- 825-2900, or at **www.tncc.edu**.

AIR CONDITIONING AND REFRIGERATION (221-903-10)

Upon completion of the career studies program, the student will receive a career studies certificate. The credits taken may be applied toward the certificate in Air Conditioning and Refrigeration.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

Course #	Course Title	Credits
AIR 134	Circuits and Controls I	4
AIR 154	Heating Systems I	3
AIR 158	Mechanical Codes	2
AIR 171	Refrigeration I (Basic)	6
AIR 176	Air Conditioning[1]	6
AIR 181	Planning and Estimating I	2
AIR 235	Heat Pumps	3
ELE 150	AC and DC Circuit Fundamentals	3
Total Minimum Credits		29

[1]Students interested in EPA-CFC certification (federal licensure for handling refrigerants) should take this course prior to EPA-CFC testing.

For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757/825-2898, or at **www.tncc.edu**.

AUTOMOTIVE TECHNOLOGY

These certificates offer courses in a variety of speciality areas.

BRAKES/STEERING/SUSPENSION SPECIALIST (221-909-02)

Course #	Course Title	Credits
AUT 242	Automotive Electricity II	4
AUT 245	Automotive Electronics	4
AUT 267	Automotive Suspension and Braking Systems	4
AUT 266	Automotive Alignment, Suspension and Steering	4
Total Minimum Credits		16

CLIMATE CONTROL SPECIALIST (221-909-45)

Course #	Course Title	Credits
AUT 236	Automotive Climate Control	4
AUT 242	Automotive Electricity II	4
AUT 245	Automotive Electronics	4
Total Minimum Credits		12

ENGINE PERFORMANCE SPECIALIST (221-909-48)

Course #	Course Title	Credits
AUT 112	Automotive Engines II	4
AUT 125	Anti-Pollution Systems	3
AUT 126	Auto Fuel and Ignition Systems	5
AUT 242	Automotive Electricity II	4
AUT 245	Automotive Electronics	4
AUT 273	Automotive Driveability and Tune-Up I	3
Total Minimum Credits		23

TRANSMISSION REPAIR SPECIALIST (221-909-49)

Course #	Course Title	Credits
AUT 141	Auto Power Trains I	4
AUT 242	Automotive Electricity II	4
AUT 251	Automotive Transmissions I	4
Total Minimum Credits		12

For more information about career studies certificates in Automotive Technology, contact the **Engineering, Science and Allied Health Division in** Room 321 Hastings Hall, 757/825-2898, or at **www.tncc.edu**.

BENEFITS PROGRAM SPECIALIST (221-480-14)

Course #	Course Title	Credits
HMS 100	Introduction to Human Services	3
HMS 161	Professional Skill Development for Human Services	3
HMS 162	Communication Skills for the HMS Professional	3
SOC 215	Sociology of the Family	3
HMS 226	Helping Across the Cultures	3
HMS 290	Internship in Human Services	3
Total Minimum Credits		18

For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or at **www.tncc.edu**.

BUSINESS PRINCIPLES (221-212-04)

This certificate is designed for data entry positions that require several critical skills. Knowledge of business processes must be coupled with an understanding of accounting principles. Equally critical is the ability to use good human relations and communications skills. This program develops these competencies and allows participants to succeed in this challenging and demanding field.

Course #	Course Title	Credits
ACC	Any introductory level ACC course	3
BUS 100	Introduction to Business	3
BUS 201	Organizational Behavior	3
BUS 235	Business Letter Writing	3
Total Minimum Credits		12

For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or at **www.tncc.edu**.

CNC MACHINING OPERATIONS (221-938-63)

This certificate program is structured to provide the student with the enabling skills to enter the workplace with a fundamental understanding of set-up, programming and operation of computer numerical controlled (CNC) turning centers and milling machines. This understanding will contribute to the student becoming a valued addition in today's workplace.

Course #	Course Title	Credits
DRF 151	Engineering Drawing Fundamentals I	3
DRF 226	Computer Aided Machinery	4
IND 140	Quality Control	2
IND 145	Introduction to Metrology	3
MAC 121	Computer Numerical Control I	3
MAC 122	Computer Numerical Control II	3
MAC 161	Machine Shop Practices I	3
MTH 115 or	Technical Mathematics I or	
MTH 163	Precalculus I	3
Total Minimum Credits		24

For more information, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall or at 757-825-2898 or **www.tncc.edu**.

CHILD CARE CENTER DIRECTOR (221-636-60)

Course #	Course Title	Credits
CHD 120	Introduction to Early Childhood Education	3
CHD 205	Guiding the Behavior of Children	3
CHD 118	Methods & Materials in Language Arts for Children	3
CHD 166	Infant and Toddler Programs	3
CHD 210	Introduction to Exceptional Children	3
CHD 216	Early Childhood Programs, School & Social Change	3
CHD 225	Curriculum Development for School-Age Childcare	3
CHD 270	Administration of Early Childhood Ed Programs	3
EDU 235	Health, Safety, & Nutrition Education	3
Total Minimum Credits		27

For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757-825-2900, or at **www.tncc.edu**.

CHILD DEVELOPMENT (221-636-04)

This certificate is designed to prepare students for an entry-level position or to upgrade skills of those presently working with young children.

Course #	Course Title	Credits
CHD 118	Methods and Materials in Language Arts for Children	3
CHD 120	Introduction to Early Childhood Development	3
CHD 145	Teaching Art, Music & Movement to Children	3
CHD 205	Guiding the Behavior of Children	3
EDU 235	Health, Safety, and Nutrition Education	3
Total Minimum Credits		15

For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757-825-2900, or at **www.tncc.edu**.

CITY MANAGEMENT (221-465-77)

This certificate is designed to offer students a certificate for advancing one's career in governmental or non-profit positions. It provides a basic introduction to theory, skills, and principles underlying public administration in federal, state, and local government organizations. The requirements of this certificate are linked to the Certificate in Public Management and the Associate of Applied Sciences degree in Public Administration.

Course #	Course Title	Credits
PBS 100	Introduction to Public Administration	3
PBS 105	Personnel Management in the Public Sector	3
PBS 116	Public Budgeting and Finance	3
PBS 255	Management in the Modern City	3
And one of the following two courses		
PBS 240	Constitutional Law	3
PBS 266	Group Leadership	3
Total Minimum Credits		15

For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or at **www.tncc.edu**.

COMMUNICATION DESIGN INTERACTIVE MEDIA (221-511-01)

This certificate is designed to prepare the student for employment as an animator or web designer in the field of multimedia design and to broaden the skills of those presently employed in the profession.

Course #	Course Title	Credits
ART 121	Drawing I	3
ART 131	Fundamentals of Design I	3
ART 141	Typography I	3
ART 150	History of Film and Animation	3
ART 283	Computer Graphics 1	3
ART 203-204	Animation I-II	4-4
ART 263-264	Design for the Web 1-II	3-3
Total Minimum Credits		29

For more information about this career studies certificate, contact the **Communications, Humanities and Social Sciences Division** in **R**oom 857 Templin Hall, 757/825-2799, or at **www.tncc.edu**.

COMPUTER-AIDED DRAFTING AND DESIGN TECHNOLOGY(221-729-01)

This certificate offers courses in AutoCAD and Inventor software. All courses are available in distance learning format.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

Course #	Course Title	Credits
CAD 151-152	Engineering Drawing Fundamentals I and II	3-3
CAD 202	Computer Aided Drafting and Design II	4
CAD 211	Advanced Technical Drafting 1	3
CAD 241 or	Parametric Solid Modeling I or	
CAD 280	Design Capstone Project	4/3
Total Minimum Credits		17/16

For more information about career studies certificates in automotive technology, contact the **Engineering, Science and Allied Health Division in** Room 321 Hastings Hall, 757/825-2898, or at **www.tncc.edu**.

COMPUTER SCIENCE TEACHING (221-624-72)

This certificate offers the required courses for a certified teacher to complete an add-on endorsement in computer science. It also includes courses that licensed teachers may use for re-certification purposes.

Course #	Course Title	Credits
CSC 200	Introduction to Computer Science	3
CSC 201	Computer Science I	4
CSC 202	Computer Science II	4
CSC 205	Computer Organization	3
MTH 287	Mathematical Structures	3
Total Minimum Credits		17

For more information about career studies certificates in automotive technology, contact the **Engineering, Science and Allied Health Division in** Room 321 Hastings Hall, 757/825-2898, or at **www.tncc.edu**.

CONSTRUCTION

CONSTRUCTION LEADERSHIP (221-212-06)

Course #	Course Title	Credits
BLD 108	Construction Leadership and Motivation	2
BLD 116	Communication for Construction Supervisors	2
BLD 118	Problem Solving and Decision Making	2
BLD 188	Introduction to Construction Supervision	3
BLD 215	OSHA 30 Construction Safety	2
Total Minimum Credits		11

CONSTRUCTION SUPERVISION (221-212-07)

Course #	Course Title	Credits
BLD 109	Understanding and Managing Project Costs	2
BLD 117	Contract Documents and Construction Law	2
BLD 119	Accident Prevention and Loss Control	2
BLD 247	Construction Planning and Scheduling	3
Total Minimum Credits		9

CONSTRUCTION MANAGEMENT (221-212-09)

Course #	Course Title	Credits
BLD 216	Productivity Improvement for the Construction Manager	2
BLD 217	Managing the Construction Project	2
BLD 231	Construction Estimating I	3
BLD 200	Sustainable Construction	2
DRF 161	Blueprint Reading I	2
CAD 195	Topics: Green Design & Engineering	3
MTH 103	Applied Technical Mathematics I	3
Total Minimum Credits		17

For more information about career studies certificates in Construction, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757/825-2989, or at **www.tncc.edu**.

CORPORATE RELATIONS (221-212-65)

This certificate is intended to provide local businesses with employees who can serve as an effective interface between departments, with other companies, and with customers.

Course #	Course Title	Credits
BUS 121	Business Mathematics I	3
HMS 141	Group Dynamics I	3
HMS 226	Helping Across Cultures	3
MKT 110	Principles of Selling	3
PSY 126	Psychology for Business and Industry[1]	3
Total Minimum Credits		15

[1]PSY 200 may substitute for PSY 126.

For more information about this career studies certificate, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or www.tncc.edu.

DENTAL HYGIENE (221-118-02)

This certificate is intended to provide local businesses with employees who can serve as an effective interface between departments, with other companies, and with customers.

Course #	Course Title	Credits
BIO 145	Human Anatomy and Physiology for Health Sciences[1]	5
BIO 150	Introductory Microbiology[1]	4
CST 100	Principles of Public Speaking	3
CHM 110	Survey of Chemistry	3
ENG 111	College Composition I	3
SDV 100	College Success Skills	1
Total Minimum Credits		19

[1]Student must complete BIO courses with a grade of "B" or better.

For more information about career studies certificates in dental hygiene, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757/825-2898, or at www.tncc.edu

DIVERSITY TRAINING (221-480-15)

Course #	Course Title	Credits
HMS 226	Helping Across Cultures	3
HMS 195	Topics in Human Services	1
GEO 210	People and the Land: An Introduction to Cultural Geography	3
HUM 220 or	Introduction to African American Studies or	
SOC 266	Minority Group Relations	3
REL 231	Religions of the World I	3
Total Minimum Credits		13

NOTE: For other options or course substitutions refer to the list provided by the Diversity Committee.

For more information about career studies certificate contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or at www.tncc.edu.

ELECTRONICS TECHNOLOGY

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway may receive college credit as well as high school credit for successful completion of the course through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905, for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

ELECTRONICS MAINTENANCE TECHNICIAN (221-981-05)

This program is designed to advance the skills of the production technician or process operator to that of a process specialist or technician. For those who require entry-level skills, the Career Studies Certificate in Electronic Production Technician is recommended.

Course #	Course Title	Credits
ETR 115	D.C. and A.C. Circuits	3
ETR 126	Electronic Troubleshooting	3
ETR 179	Digital Logic Circuits	3
ETR 231	Principles of Lasers and Fiber Optics I	3
IND 145	Introduction to Metrology	3
MTH 115 or	Technical Math I or	
MTH 163	Precalculus I	3
Total Minimum Credits		18

ELECTRONICS PRODUCTION TECHNICIAN (221-981-10)

This certificate provides entry-level skills for the production technician.

Course#	Course Title	Credits
DRF 161	Blueprint Reading I	2
ELE 225	Electrical Control Systems	4
ELE 239	Programmable Controllers	3
ETR 104	Electronic Fundamentals with Computer Applications	4
ETR 286	Principles and Applications of Robotics	3
MTH 115 or	Technical Mathematics I or	
MTH 163	Precalculus I	3
MEC 269	Fluid Power-Pneumatic Systems	3
Total Minimum Credits		22

ELECTRONICS TECHNOLOGY (221-981-15)

This certificate program provides entry-level skills for employees entering jobs where they will be performing electronics assembly and similar technically oriented skilled job activities.

Course #	Course Title	Credits
ETR 104	Electronic Fundamentals with Computer Applications	4
ETR 113-114	DC and AC Fundamentals I-II	4-4
ETR 148	Amplifiers and Integrated Circuits	4
ETR 279	Digital Principles, Terminology and Applications	4
MTH 115-116 or	Technical Mathematics I-II or	
MTH 163-164	Precalculus I-II	3-3
Total Minimum Credits		26

For more information about career studies certificates in Electronics Technology, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757/825-2898, or **www.tncc.edu**.

EMERGENCY MEDICAL SERVICES

EMERGENCY MEDICAL SERVICES - BASIC (221-146-01)

This certificate program prepares students to become Emergency Medical Technicians at the entry level. Students will have the opportunity to become a Certified Medical Technician - Basic.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that the students will be appropriately prepared to pursue this program of study. For further information see Developmental Studies.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

Course#	Course Title	Credits
EMS 100	CPR for Healthcare Providers	1
EMS 111	Emergency Medical Technician – Basic[1]	7
EMS 120	Emergency Medical Technician – Basic Clinical[2]	1
HLT/PED	Health or Physical Education Elective	1
MTH 126 or	Mathematics for Allied Health or	
MTH 120	Introduction to Mathematics	3
---	Social Science Elective[3, 4]	3
SDV 100	College Success Skills	1
Total Minimum Credits		17

[1] A current Red Cross or American Heart Association CPR certification is required to start this class. EMS 100 fulfills this requirement. Students with a current CPR certification may receive transfer credit for EMS 100.
[2] EMS 120 must be taken concurrently with EMS 1113
[3] A list of approved electives may be found in the 20011– 2012 catalog.
[4] Students planning on entering the nursing program should take SOC 200 as a social science elective.

EMERGENCY MEDICAL SERVICES - INTERMEDIATE (221-146-03)

This certificate program prepares students to become Emergency Medical Technicians at the National EMT - Intermediate Level. Students will have the opportunity to become a Certified Medical Technical - Intermediate through the National Registry.

To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that the students will be appropriately prepared to pursue this program of study. For further information see Developmental Studies.

Course #	Course Title	Credits
EMS 151	Introduction to Advanced Life Support	4
EMS 153	Basic ECG Recognition	2
EMS 155	Advanced Life Support - Medical Care	4
EMS 157	Advanced Life Support - Trauma Care	3
EMS 159	Advanced Life Support - Special Populations	2
EMS 170	Advanced Life Support Internship I	1
EMS 172	Advanced Life Support Clinical Internship II	2
EMS 173	Advanced Life Support Field Internship II	1
Total Minimum Credits		19

EMERGENCY MEDICAL SERVICES - PARAMEDIC (221-146-05)

This curriculum prepares current EMT-Intermediate certificate holders to complete the EMT Paramedic Certification. Students will have the opportunity to become a Certified Medical Technician - Paramedic through the National Registry.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that the students will be appropriately prepared to pursue this program of study. For further information see Developmental Studies.

Course #	Course Title	Credits
EMS 201	EMS Professional Development	2
EMS 205	Advanced Pathophysiology	3
EMS 207	Advanced Patient Assessment	3
EMS 209	Advanced Pharmacology	4
EMS 211	Operations	2
EMS 242	Advanced Life Support Clinical Internship III	1
EMS 243	Advanced Life Support Field Internship III	1
EMS 244	Advanced Life Support Clinical Internship IV	1
EMS 245	Advanced Life Support Field Internship IV	1
BIO 100	Basic Human Biology	3
Total Minimum Credits		21

For more information about career studies certificates in EMS, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or **www.tncc.edu.**

FINANCIAL SERVICES MANAGEMENT (221-212-11)

This certificate is designed to prepare individuals working in customer service positions with the skills and training necessary for promotion as well as to prepare individuals for entry-level positions involving customer service within the financial services industry.

Tech Prep Career Pathways is a comprehensive program of specific Career Pathways that provides a seamless transition for students from secondary to postsecondary education and the skilled workforce, and that positions students for high wage, high demand, and/or high skill careers. Students who choose to take a course that is part of a Tech Prep Career Pathway, may receive college credit as well as high school credit for successful completion of the course, through the Dual Enrollment program. Please contact the Office of Outreach and Recruitment, 757-825-2905 for information on the list of courses, their availability, and the dual enrollment application/enrollment process.

Course #	Course Title	Credits
ACC 211	Principles of Accounting I	3
BUS 100	Introduction to Business	3
BUS 111	Principles of Supervision I	3
BUS 117	Human Relations and Leadership Development	3
BUS 235	Business Letter Writing	3
FIN 110	Principles of Banking	3
MKT 100 or	Principles of Marketing or	
MKT 110	Principles of Selling	3
CST 100 or	Principles of Public Speaking or	
CST 227	Industrial and Organizational Communication	3
Total Minimum Credits		24

For more information about this career studies certificate, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or **www.tncc.edu.**

FIRE SCIENCE

FIRE SCIENCE (221-427-02)

Purpose: This curriculum prepares students with an introduction to current and future advances in the field of fire science. It is designed to be fully transferable into the associate of applied science degree program where more in-depth knowledge is acquired.

There are no physical requirements such as height, weight, eyesight, or physical dexterity; however, students must understand that such requirements may exist for employment in the fire or rescue services fields.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For further information see Developmental Studies.

Course #	Course Title	Credits
ENG 111	College Composition I	3
FST 100	Principles of Emergency Services	3
FST 110	Fire Behavior and Combustion	3
FST 112	Hazardous Materials Chemistry	3
FST 115	Fire Prevention	3
FST 120	Occupational Safety and Health for the Fire Service	3
ITE 115	Introduction to Computer Applications and Concepts[2]	3
SDV 100	College Success Skills	1
- - -	Laboratory Science[1]	4
Total Minimum Credits		26

[1]Must be a biology, chemistry, geology or physics course that includes a laboratory component. Students intending to transfer should refer to the catalog of the institution or students may select from BIO 101, CHM 101 or BIO 151. Recommend CHM 101.

[2]ITE 119 may substitute for ITE 115.

FIRE SCIENCE LEADERSHIP (221-427-06)

Course #	Course Title	Credits
FST 120	Occupational Safety & Health for Fire Service	3
FST 135	Fire Instructor I	3
FST 140	Fire Officer I	4
FST 210	Legal Aspects of Fire Service	3
FST 220	Building Construction for Fire Protection	3
FST 235	Strategy & Tactics	3
FST 237	Emergency Service Supervision	3
FST 240	Fire Administration	3
FST 290 or	Coordinated Internship or	
FST 297	Cooperative Education	4
Total Minimum Credits		29

For more information about career studies certificates in Fire Science**,** contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or **www.tncc.edu**.

FOOD SERVICE HOSPITALITY (221-241-64)

Course #	Course Title	Credits
ENG 111	College Composition I	3
HLT 138	Nutrition	2
HRI 101-102	Hotel-Restaurant Organization and Management I-II	3-3
HRI 105	Introduction to Culinary Arts	1
HRI 115	Food Service Managers Sanitation Certification[1]	1
HRI 190 or	Coordinated Internship or	
HRI 197	Cooperative Education	3
HRI 215	Food Purchasing	3
HRI 224	Recipe and Menu Management	3
MKT 170	Customer Service	2
MTH 120	Introduction to Mathematics[2]	3
SDV 100	College Success Skills	1
Total Minimum Credits		28

[1]Currently being taught through Continuing Education

[2] Higher MTH is recommended for transfer

For more information about this career studies certificate**,** contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or **www.tncc.edu**.

FUNDAMENTALS OF ORGANIZATIONAL LEADERSHIP (221-212-13)

This certificate focuses on the development of leadership, and supervisory and managerial skills. In addition, it provides an introductory course in microcomputer software and allows for an elective of the participant's choice related to his/her position.

Course #	Course Title	Credits
- - -	Elective chosen from BUS, IT, AST	3
BUS 111	Principles of Supervision	3
BUS 117	Human Relations and Leadership Development	3
BUS 200	Principles of Management	3
ITE 115	Introduction to Computer Applications and Concepts[1]	3
Total Minimum Credits		15

[1]ITE 119 may substitute for ITE 115.

For more information about this career studies certificate**,** contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or **www.tncc.edu**.

GEOGRAPHICAL INFORMATION SYSTEMS (GIS) TECHNICIAN (221-719-71)

Course #	Course Title	Credits
GEO 200	Introduction to Physical Geography	3
ITD 130	Database Fundamentals	3
GIS 200-201	Geographical Information Systems I-II	4-4
GIS 205	GIS 3-D Analysis	4
GIS 210	Understanding Geographic Data	4
Total Minimum Credits		22

For more information about this career studies certificate, contact the **Business, Public Services, Information Systems and Mathematics Division** in room 122 Diggs Hall, 757/825-2900, or **www.tncc.edu**.

GERONTOLOGY (221-480-08)

This curriculum prepares persons for jobs with public and private agencies that must develop and deliver comprehensive planning and programming of services for older people. The program includes special courses to provide skills in understanding, assisting and working with the elderly. An interest in working with elderly persons is necessary for success in this field. Occupational objectives of program graduates include social worker aide, nursing home administration aide, and program director/coordinator of senior citizen and multi-purpose service centers.

To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study.

Course #	Course Title	Credits
HMS 121 or	Basic Counseling Skills or	
HMS 141	Group Dynamics I	3
HMS 231	Gerontology I	3
HMS 139	Community Resources and Services	3
SOC 200	Introduction to Sociology	3
SDV 100	College Success Skills	1
HMS 106	Working with Death and Dying	3
HMS 226	Helping Across Cultures	3
PSY 230	Developmental Psychology	3
HMS 290	Coordinated Internship in Human Services	3
Total Minimum Credits		25

HOSPITALITY LODGING MANAGEMENT (221-775-02)

Course #	Course Title	Credits
SDV 100	College Success Skills	1
ENG 111	College Composition	3
HRI 101-102	Hotel Restaurant Organization and Management I-II	3-3
HRI 154	Principles of Hospitality Management	3
HRI 165	Hotel Housekeeping and Engineering Management	4
HRI 190 or	Coordinated Internship or	
HRI 197	Cooperative Education	3
HRI 265	Hotel Front Office Operations	3
MKT 100	Principles of Marketing	3
MKT 170	Customer Service	2
Total Minimum Credits		28

For more information about this career studies certificate, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or **www.tncc.edu**.

HOSPITALITY MANAGEMENT (221-775-01)

Course #	Course Title	Credits
SDV 100	College Success Skills	1
MTH 120	Introduction to Mathematics[1]	3
HLT 106	First Aid and Safety	2
BUS 117	Leadership Development	3
MKT 100	Principles of Marketing	3
MKT 170	Customer Service	2
TRV 240	Principles of Event Planning and Management	3
RPK 100	Introduction to Recreation, Parks & Leisure Studies	3
HRI 134	Food and Beverage Service Management	3
HRI 154	Principles of Hospitality Management	3
HRI 290	Coordinated Internship or Cooperative Education	3
Total Minimum Credits		29

[1]Higher Math is recommended for transfer.

For more information about this career studies certificate, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or **www.tncc.edu.**.

INFORMATION ASSURANCE* (221-732-09)

Course #	Course Title	Credits
ITE 193	Ethics for the Information Age	3
ITE 119	Information Literacy	3
ITE 221	PC Hardware and OS Architecture	3
ITN 109	Internet and Network Foundation	3
ITN 260	Network Security Basics	3
ITN 267	Legal Topics in Network Security	3
ITP 251 or	Systems Analysis and Design or	
ITE 197	Cooperative Education in ITE	3
BUS 106	Security Awareness for Managers	3
BUS 212	Disaster Recovery Planning for Managers	3
Total Minimum Credits		27

*IT courses must be taken within the last 5 years to apply to graduation.

For more information about this career studies certificate, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or **www.tncc.edu.**

INFORMATION SYSTEMS TECHNOLOGY

INFORMATION SYSTEMS TECHNOLOGY: CISCO NETWORKING* (221-732-10)

This certificate is designed to prepare students for employment in the computer networking field.

Course #	Course Title	Credits
ITN 154	Networking Fundamentals - CISCO	4
ITN 155	Introductory Routing - CISCO	4
ITN 156	Basic Switching and Routing - CISCO	4
ITN 157	WAN Technologies - CISCO	4
Total Minimum Credits		16

*IT Courses must be taken within the last 5 years to apply to graduation.

INFORMATION SYSTEMS TECHNOLOGY: MICROCOMPUTER APPLICATIONS* (221-299-03)

This certificate is designed to prepare students for employment in business where there is a need for individuals with skills using word-processing, spreadsheet, database, and presentation software.

Course #	Course Title	Credits
ITD 110	Web Page Design I	3
ITD 130	Database Fundamentals	3
ITE 119	Information Literacy	3
ITE 120	Principles of Information Systems	3
ITE 140	Spreadsheet Software	3
ITE 170	Multimedia Software	3
ITE 215	Advanced Computer Applications and Integration	3
AST 253	Advanced Desktop Publishing I	3
Total Minimum Credits		*24*

*IT courses must be taken within the last 5 years to apply to graduation

INFORMATION SYSTEMS TECHNOLOGY: PROJECT MANAGEMENT* (221-299-73)

This certificate is designed to prepare students for employment in businesses where there is a need for individuals with information technology project management skills. It is structured for those individuals with prior technology experience.

Course #	Course Title	Credits
BUS 200	Principles of Management	3
ITN 120	Wireless-Network Administration (WNA)	3
BUS 201	Organizational Behavior	3
ITP 170	Project Management	3
BUS 211	Managing Technology Resources	3
BUS 212	Disaster Recovery Planning for Managers	3
ITP 251	Systems Analysis and Design	3
ITP 258	Systems Development Project	3
Total Minimum Credits		24

*IT courses must be taken within the last 5 years to apply to graduation.

INFORMATION SYSTEMS TECHNOLOGY: SOFTWARE DEVELOPMENT* (221-299-01)

This certificate is designed to prepare students for employment in business as applications programmers in command-line and GUI level programming.

Course #	Course Title	Credits
ITD 130	Database Fundamentals	3
ITP 100	Software Design	3
ITE 221	PC Hardware and OS Architecture	3
ITN 100	Introduction to Telecommunications	3
ITP 112 or	Visual Basic.NET I or	
ITP 120	Java Programming I	4
ITP 212 or	Visual Basic.NET II or	
ITP 220	Java Programming II	4
ITP 251	Systems Analysis and Design	3
ITP 258	Systems Development Project	3
Total Minimum Credits		26

IT courses must be taken within the last 5 years to apply to graduation.

INFORMATION SYSTEMS TECHNOLOGY: WEB DESIGN/E-COMMERCE* (221-352-05)

This certificate is designed to prepare students for employment in business where there is a need for individuals with web design/E-Commerce skills.

Course #	Course Title	Credits
ITD 110	Web Page Design I	3
ITD 210	Web Page Design II	4
ITD 112	Designing Web Page Graphics	3
ITD 212	Interactive Web Design	4
ITD 220	E-Commerce Administration	3
ITE 160	Introduction to E-Commerce	3
ITP 100	Software Design	3
ITP 112 or	Visual Basic.NET I or	
ITP 120	Java Programming I	4
Total Minimum Credits		27

'TT courses must be taken within the last 5 years to apply to graduation.

INFORMATION SYSTEMS TECHNOLOGY: WEB DESIGN SPECIALIST* (221-352-02)

This certificate is designed to prepare students for employment in business where there is a need for individuals with web design skills. This certificate prepares students for the CIW (Certified Internet Webmaster) Professional certification; however, there are two other certifications that can be earned: ITN 109 prepares students for Network+ certification, ITN 109 together with ITD 110 prepares students for CIW Associate certification. Students may choose to enroll in a 1 credit Certification Preparation Course (ITD 55) to brush up on their skills.

Course #	Course Title	Credits
ITD 110	Web Page Design I	3
ITD 210	Web Page Design II	4
ITD 112	Designing Web Page Graphics	3
ITD 212	Interactive Web Design	4
ITN 109	Internet And Network Foundations	3
ITD 130	Database Fundamentals	3
Minimum Total Credits		20

For more information about career studies certificates in Information Systems Technology**,** contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or **www.tncc.edu**.

INTERNATIONAL STUDIES (221-212-17)

This program is offered to provide individuals in the community and on campus an option to explore an understanding of international issues. It is appropriate for business and military personnel who are anticipating a journey overseas or need to be engaged in some international business endeavor. The program would also offer local citizens anticipating study abroad an increased awareness of international relations.

Courses in this program meet requirements in either the A.S. in Social Science or the A.A. in Liberal Arts.

Course #	Course Title	Credits
ENG 111	College Composition I	3
HIS 111-112	History of World Civilization I-II	3-3
GEO 221-222	Regions of the World I-II	3-3
PLS 241	International Relations I	3
---	Electives	6
SDV 100	College Success Skills	1
Total Minimum Credits		25

[1]Electives: choose from languages (SPA 101-102, FRE 101-102, GER 101-102, ARA 101-102); GEO 210, GEO 230; SOC 200; REL 231, REL 232.

For more information, contact the **Communications, Humanities and Social Sciences Division** in Room 857 Templin Hall, 757/825-2799, or at **www.tncc.edu**.

INTERPRETER TRAINING (221-648-29)

To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For further information, see Developmental Studies.

Prerequisite: Completion of ASL 201 or division approval is required for admission into this program.

Course #	Course Title	Credits
INT 105	Interpreting Foundations 1	3
INT 107	Translation Skills	3
INT 133	ASL-to-English Interpretation I	3
INT 134	English-to-ASL Interpretation I	3
INT 141	Transliterating I	3
INT 193	Studies in Transliterating	3
INT 233	ASL-to-English Interpretation II	3
INT 234	English-to-ASL Interpretation II	3
INT 236	Interpreting in Special Situations	3
Total Minimum Credits		27

Students are admitted into the Interpreter Training Program in "cohorts" at specified times. For more information contact the **Communications, Humanities and Social Sciences Division** in Room 857 Templin Hall, 757/825-2799, or at www.tncc.edu.

MANAGING EARLY CHILDHOOD PROGRAMS (221-636-61)

This career studies certificate is designed for those individuals considering a director position or those who are already working as a director.

Course #	Course Title	Credits
BUS 165	Small Business Management	3
CHD 120	Introduction to Early Childhood Education	3
CHD 205	Guiding the Behavior of Children	3
CHD 270	Administration of Early Childhood Programs	3
CHD 290	Coordinated Internship in Early Childhood Education	3
EDU 235	Health, Safety, and Nutrition Education	3
ITE 115	Introduction to Computer Applications and Concepts[1]	3
Total Minimum Credits		21

[1]ITE 119 may be substituted for ITE 115.

For more information about this career studies certificate, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall or at 757/825-2900 or **www.tncc.edu**.

MATHEMATICS

ALGEBRA I ADD ON (221-624-74)

This career studies certificate contains the courses required for currently licensed teachers to receive an Algebra I Add-on endorsement.

Course #	Course Title	Credits
MTH 150	Topics in Geometry	3
MTH 163-164	Precalculus I-II	3-3
MTH 173-174	Calculus with Analytic Geometry I-II	4-4
MTH 240	Statistics	3
MTH 285	Linear Algebra	3
MTH 287	Mathematical Structures	3
CSC 200	Introduction to Computer Science	3
Total Minimum Credits		29

MIDDLE SCHOOL MATHEMATICS 6-8 (221-624-73)

This career studies certificate contains the courses necessary to prepare middle school teachers to take the Math Praxis II for grades 6-8.

Course #	Course Title	Credits
MTH 150	Topics in Geometry	3
MTH 151	Mathematics for the Liberal Arts I	3
MTH 158	College Algebra	3
MTH 240	Statistics	3
Total Minimum Credits		12

SECONDARY MATHEMATICS (221-624-75)

This career studies certificate contains the courses necessary to prepare high school teachers to take the Secondary Math Praxis II exam.

Course #	Course Title	Credits
MTH 173-174	Calculus with Analytic Geometry 1-II	4-4
MTH 200	Abstract Algebra	3
MTH 240	Statistics I	3
MTH 250	College Geometry	3
MTH 277	Vector Calculus	4
MTH 285	Linear Algebra	3
MTH 287	Mathematical Structures	3
Total Minimum Credits		27

For more information about the career studies certificates in Mathematics, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or **www.tncc.edu**.

MECHANICAL ENGINEERING TECHNOLOGY

ELECTRICAL/MECHANICAL ASSEMBLER (221-991-56)

This certificate may be achieved by the completion of the High Performance Manufacturing Career Studies Certificate and an additional 12 hours of course work.

Course #	Course Title	Credits
CAD 151	Engineering Drawing Fundamentals I	3
ETR 104	Electronic Fundamentals with Computer Applications	4
IND 140	Quality Control	2
IND 145	Introduction to Metrology	3
IND 181	World Class Manufacturing	3
MEC 113	Materials and Processes of Industry	3
MTH 115 or	Technical Mathematics I or	
MTH 163	Precalculus I	3
Total Minimum Credits		21

HIGH PERFORMANCE MANUFACTURING (221-991-28)

This certificate program provides the graduate with the basic skills necessary to successfully perform job functions in the modern manufacturing plant where Statistical Process Control (SPC) and Total Quality Management (TQM) principles are used.

Course #	Course Title	Credits
DRF 151	Engineering Drawing Fundamentals I	3
IND 140	Quality Control	2
IND 181	World Class Manufacturing I	3
MTH 115 or	Technical Mathematics I or	
MTH 163	Precalculus I	3
Total Minimum Credits		11

MODELING AND SIMULATION (221-956-01)

The need for modeling and simulation and its application is growing rapidly in the Hampton Roads area as well as statewide. Modeling and Simulation applies to many domains that include transportation, military, homeland security, serious gaming, medical, and social sciences.

Course #	Course Title	Credits
MTH 163-164	Precalculus I-II	3-3
MTH 240	Statistics	3
MTH 287	Mathematical Structures	3
PHY 201	General College Physics	4
SIM 201-202	Modeling and Simulation I-II	3-3
---	Electives[1]	6
Total Minimum Credits		28

For more information about the career studies certificates in **Mechanical Engineering Technology, contact the Engineering, Science and Allied Health Division** in Room 321 of Hastings Hall, 757-825-2898, or at **www..tncc.edu/met**.

PHLEBOTOMY (221-151-02)

This certificate is designed to prepare a laboratory practitioner whose primary function is to obtain, process, and transport patient blood specimens. Although emphasis is on venipuncture and micro-collection techniques, topics such as medical terminology, basic anatomy and physiology, infection control, safety, quality assurance, inter-personal communication, management, medicolegal and professionalism are covered as they relate to the role of the phlebotomist in the medical laboratory.

This certificate includes student participation in over 120 hours of supervised, clinical phlebotomy experience in various health care settings. Note: Satisfactory completion of this career studies certificate qualifies individuals to participate in national certification examinations for phlebotomy.

Course #	Course Title	Credits
MDL 100	Introduction to Medical Laboratory Technology	2
MDL 105	Phlebotomy	3
MDL 106	Clinical Phlebotomy	4
Total Minimum Credits		9

For more information about this career studies certificate, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757/825-2898, or at **www.tncc.edu**.

PRE-NURSING (221-156-02)

This certificate offers foundational courses from the A.A.S. in Nursing curriculum to prepare students for entry into the Nursing Program. Although completion of this certificate does not guarantee admission to the program, the career studies certificate provides a curriculum that accurately reflects the intentions and goals of the students enrolled.

To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For further information see Developmental Studies.

Nursing Program Prerequisites: High school prerequisites needed prior to submission of nursing application include one year each of algebra and chemistry or the equivalent of the high school courses at an accredited college or university. These courses must be completed with a minimum grade of "C." Students not having the necessary prerequisites may fulfill the Nursing Program admission requirements at TNCC by enrolling in the appropriate courses listed below and receiving a minimum grade of "C" or "P" as appropriate. The following courses meet the Nursing Program prerequisite requirement:

Chemistry: Any of the following: CHM 1, CHM 101, CHM 111. This requirement will be waived if the student has a documented passing grade in any higher level CHM course.

Algebra: MTH 3. This requirement will be waived if the student has a documented passing grade in any higher level MTH course.

In addition to the high school prerequisites, the following courses **MUST** be completed before applying to the Nursing Program.

Course #	Course Title	Credits
BIO 101	General Biology	4
BIO 141	Human Anatomy and Physiology I[1]	4
ENG 111	College Composition	3
	Total Credits	11

The nursing program promotion policies require that students complete BIO 101, BIO 141, BIO 142, BIO 150 and ENG 111 with a grade of "C" or higher.

Course #	*Course Title*	*Credits*
BIO 142	Human Anatomy and Physiology II[1]	4
BIO 150	Introductory Microbiology[1]	4
PHI 220	Ethics	3
PSY 200 or	Principles of Psychology I or	
PSY 230	Developmental Psychology	3
CST 100 or	Principles of Public Speaking or	
CST 126	Interpersonal Communication	3
SDV 100	College Success Skills	1
	Total Credits	*18*
	Total Minimum Credits	*29*

BIO 141, BIO 142, and BIO 150 must be taken within the last ten years to apply towards graduation.

For more information about this career studies certificate, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757/825-2898, or at **www.tncc.edu**.

PROFESSIONAL COMMUNICATIONS (221-298-42)

The high-performance workplace, Internet e-business, government agencies, and smaller high-tech businesses require technically knowledgeable, skilled communicators to prepare Web materials, publications, presentation graphics and media. This certificate prepares students to employ a range of publishing and media technologies for the workplace.

Course #	Course Title	Credits
AST 253-254	Advanced Desktop Publishing I and II[1]	3-3
ENG 111	College Composition I	3
ENG 115	Technical Writing	3
ITE 170	Multimedia Software[2]	3
ART 208	Introduction to Video Techniques	4
CST 227	Industrial and Organizational Communication	3
Total Minimum Credits		22

[1]Students must have word processing/keyboarding skills before taking this course. AST 101 and AST 102 will be required for students without these skills.

[2]Students must have word processing software knowledge before taking this course. ITE 115 Introduction to Computer Applications and Concepts will be required for students without these skills.

For more information about this career studies certificate, contact the **Communications, Humanities and Social Sciences Division in R**oom 857 Templin Hall, 757/825-2799, or at **www.tncc.edu**.

PROFESSIONAL WRITING (221-699-43)

The high-performance workplace, Internet e-businesses, government agencies and smaller high-tech businesses require technically knowledgeable, skilled communicators to prepare documentation, reports, manuals, and publications, and to prepare and present briefings and oral presentations. This certificate prepares students to perform the range of skills involved in writing, revising and editing workplace documents, publications and presentations.

Course #	Course Title	Credits
ENG 111	College Composition I	3
ENG 116	Writing for Business	3
ENG 134	Grammar for Writing and Speaking	3
ENG 137	Communication Processes I	3
- - -	Degree-Related Electives[1]	1-3
Total Minimum Credits		13-15

[1]ENG 121, ENG 115, and CST 126 are 3 credits; CST 127 is 1-2 credits.

For more information about this career studies certificate, contact the **Communications, Humanities and Social Sciences Division in R**oom 857 Templin Hall, 757/825-2799, or at **www.tncc.edu**.

REAL ESTATE (221-273-01)

This certificate is designed to prepare students for the Real Estate License and the Real Estate Brokers License.

Course #	Course Title	Credits
REA 100	Principles of Real Estate[1,2]	4
REA 110	Real Estate Sales	3
REA 215	Real Estate Brokerage[2]	3
REA 216	Real Estate Appraisal[2]	3
REA 217	Real Estate Finance[2]	3
REA 245	Real Estate Law[2]	3
BUS 241 or	Business Law I or	
REA 246 or	Real Estate Economics or	
REA 225	Real Property Management	3
Total Minimum Credits		22

[1]Course required for Real Estate License.

[2]Course required for Virginia Brokers License.

For more information about this career studies certificate, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall or at 757/825-2900 or **www.tncc.edu**.

RECREATION AND PARKS MANAGEMENT (221-460-30)

Course #	Course Title	Credits
SDV 100	College Success Skills	1
MTH 120	Introduction to Mathematics	3
HLT 106	First Aid and Safety	2
MKT 170	Customer Service	2
BUS 117	Leadership Development	3
RPK 100	Introduction to Recreation, Parks & Leisure Studies	3
RPK 135	Program Planning	3
RPK 146	Recreation Facilities Management & Design	3
RPK 265	Risk Management	3
RPK 201	Recreation and Parks Management	3
RPK 290 or	Coordinated Internship or	
RPK 297	Cooperative Education	3
Total Minimum Credits		29

For more information about this career studies certificate, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall or at 757/825-2900 or **www.tncc.edu**.

SCHOOL-AGE CARE (221-636-09)

This certificate is specifically designed for those individuals working with school-age children in before-and-after school programs.

Course #	Course Title	Credits
CHD 220	Introduction to School-Age Child Care	3
CHD 225	Curriculum Development for School-Age Child Care	3
CHD 230	Behavior Management for School-Age Child Care	3
CHD 235	Health and Recreation for School-Age Child Care	3
HLT 106	First Aid and Safety	2
Total Minimum Credits		14

For more information contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall or at 757/825-2900 or **www.tncc.edu**.

SELLING SKILLS AND SALES MANAGEMENT (221-212-23)

This certificate is intended to prepare students for jobs as sales representatives, entry-level retail managers, or other sales-related positions in local businesses. Beyond providing a foundation in sales and marketing, this program also prepares students for work leading toward a business-related associate degree.

Course #	Course Title	Credits
MKT 100	Principles of Marketing	3
MKT 110	Principles of Selling	3
MKT 216	Retail Organization and Management	3
MKT 170 or	Customer Service or	
MKT 210	Sales Management	2/3
MKT 220	Principles of Advertising	3
---	Degree-Related Elective[1]	3
---	Social Science[2]	3
CST 100	Principles of Public Speaking	3
Total Minimum Credits		23/24

[1]MKT 271, ITE 119, or any course with BUS prefix.
[2]Select one of the following: PSY 100, ECO 110, PLS 135.

For more information contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall or at 757/825-2900 or **www.tncc.edu**.

SUBSTANCE ABUSE COUNSELOR ASSISTANT (221-480-30)

Course #	Course Title	Credits
ENG 111	English Composition I	3
HMS 121	Basic Counseling Skills	3
HMS 139	Community Resources and Services	3
HMS 141	Group Dynamics I	3
HMS 226	Helping Across Cultures	3
HMS 251	Substance Abuse I	3
HMS 258	Case Management and Substance Abuse	3
HMS 290	Coordinated Internship in Human Services	3
- - -	Social Science Elective[1]	3
SDV 100	College Success Skills	1
Total Minimum Credits		28

[1]Select from the following: SOC 200, 215 or PSY 230.

For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 727-825-2900 or at **www.tncc.edu**.

SUPERVISION (221-212-25)

This certificate is intended to provide local businesses with employees who have received specialized quality-related training.

Course #	Course Title	Credits
BUS 201	Organizational Behavior	3
BUS 205	Human Resource Management	3
BUS 209	Continuous Quality Improvement	3
CST 100	Principles of Public Speaking	3
---	Career Elective (Departmental Approval)	3
Total Minimum Credits		15

For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 727-825-2900 or at **www.tncc.edu**.

TOTAL QUALITY MANAGEMENT (221-212-37)

This certificate is intended to provide local businesses with employees who have received specialized quality-related training.

Course #	Course Title	Credits
BUS 100	Introduction to Business	3
BUS 117	Human Relations and Leadership Development[1]	3
BUS 209	Continuous Quality Improvement	3
BUS 210	Total Quality Statistical Tools	3
ITE 115	Introduction to Computer Applications and Concepts	3
Total Minimum Credits		15

[1] BUS 201 may be substituted for BUS 117 with departmental approval.

For more information contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall or at 757/825-2900 or **www.tncc.edu**.

TRAINING SPECIALIST (221-212-81)

This certificate program is intended to prepare students to satisfy the requirements of local businesses for staff prepared to develop training programs for their employees.

Course #	Course Title	Credits
AST 236	Specialized Software Applications	3
BUS 205	Human Resource Management	3
BUS 295	Topics in Business: Instructional Design	3
ENG 111	College Composition I	3
MKT 100	Principles of Marketing	3
MTH 120 or	Introduction to Mathematics or	
BUS 121	Business Mathematics I	3
PSY 100 or	Principles of Applied Psychology or	
BUS 201	Organizational Behavior	3
CST 100	Principles of Public Speaking	3
- - -	Career Elective[1]	3
Total Minimum Credits		27

[1] Choose from MKT 220, ITD 110 or ITE 170

For more information contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall or at 757/825-2900 or **www.tncc.edu**.

WELDING TECHNOLOGY (221-995-01)

Purpose: This program is structured to provide the student with the enabling skill to enter the workplace with a fundamental understanding of welding technology; the underlying skills necessary to interpret welding instructions; set-up and perform welding processes using the most advanced applications found in today's workplace.

Course #	Course Title	Credits
WEL 117	Oxyfuel Welding and Cutting	3
WEL 123	Shielded Metal Arc Welding (Basic)	3
WEL 124	Shielded Metal Arc Welding (Advanced)	3
WEL 135	Inert Gas Welding	2
WEL 145	Welding Metallurgy	3
WEL 150	Welding Drawing and Interpretation	3
WEL 130 or	Inert Gas Welding or	
WEL 160	Gas Metal Arc Welding	3
MTH 115	Technical Mathematics I	3
Total Minimum Credits		23

For more information about this career studies certificate, contact the **Engineering, Science and Allied Health Division** in Room 321 Hastings Hall, 757/825-2898, or at **www.tncc.edu**.

YOUTH DEVELOPMENT (221-480-62)

The certificate is designed to provide youth workers with professional training.

To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For further information, see **Developmental Studies.**

Course #	Course Title	Credits
ADJ 105	The Juvenile Justice System	3
HMS 121	Basic Counseling Skills I	3
HMS 139	Community Resources and Services	3
HMS 141	Group Dynamics I	3
HMS 170	Creativity and Youth Engagement	3
HMS 171	Advancing Youth Development	2
HMS 226	Helping Across Cultures	3
HMS 290	Coordinated Internship in Human Services	3
PSY 231	Life Span Human Development I	3
SOC 215	Sociology of the Family	3
Total Minimum Credits		29

For more information, contact the **Business, Public Services, Information Systems and Mathematics Division** in Room 122 Diggs Hall, 757/825-2900, or at **www.tncc.edu.**

COURSE DESCRIPTIONS

Courses numbered 1-9 are developmental studies courses. The credits earned in these courses are not applicable toward an associate degree and do not transfer to a four-year college. If a grade of "R" has been earned, students may re-register for these courses in subsequent semesters as necessary until the course objectives are completed.

Courses numbered 10-99 are basic occupational courses for diploma and certificate programs. The credits earned in these courses are applicable toward diploma and certificate programs but are not applicable toward an associate degree and do not transfer to a four-year college.

Courses numbered 100-199 are freshman-level courses applicable toward an associate degree and/or toward diploma and certificate programs.

Courses numbered 200-299 are sophomore-level courses applicable toward an associate degree and/or toward diploma and certificate programs.

General Usage Courses
(may repeat for credit)
General usage courses apply to multiple curricula and may carry a variety of prefix designations. The descriptions of the courses are identical for each different prefix and may be repeated for credit.

Course Credits
The credit for each course is indicated after the title in the course description. One credit is equivalent to one collegiate semester hour. Each credit given for a course is based on approximately three hours of study in that course weekly by each student. Courses may consist of lectures, out-of-class study, laboratory and shop study, or combinations thereof.

Course Hours
The number of lecture hours in class each week (including lectures, seminar, and discussion hours) and/or the number of laboratory hours in class each week (including laboratory, shop, supervised practice, and cooperative work experiences) are indicated for each course in the course description. The numbers of lecture and laboratory hours in class each week are also called "contact" hours because it is time spent under the direct supervision of a faculty member. In addition to the lecture and laboratory hours in class each week, each student must spend some time on out-of-class assignments under his or her own direction. Usually each credit per course requires an average of three hours of out-of-class work each week.

Prerequisites:
All courses at Thomas Nelson Community College have reading prerequisites, except those that are specifically exempted. Students who are placed into ENG 4 and/or ENG 5, Reading Improvement I-II, must complete these courses before enrolling in any non-exempt course.

If any other prerequisites are required before a student may enroll in a course, they will be identified in the course description. Unless otherwise noted, courses in special sequence (usually identified by numerals I-II) must be taken in order. When corequisites are required for a course, they should be taken at the same time. The prerequisites or their equivalent must be completed satisfactorily before a student may enroll in a course unless special permission is obtained from the major division chair and the instructor. Students who register in violation of college prerequisites are subject to administrative withdrawal.

ACCOUNTING

ACC 115 Applied Accounting (3 credits) Presents practical accounting procedures for retail stores, professional individuals in firms, and personal service occupations. Covers the accounting cycle, journals, ledgers, preparation of financial statements and payrolls, and checking account management. Lecture 3 hours per week.

ACC 124 Payroll Accounting
(3 credits) Prerequisite: ACC 211. Presents accounting systems and methods used in computing and recording payroll to include payroll taxes and compliance with federal and state legislation. Lecture 3 hours per week.

ACC 211-212 Principles of Accounting I-II
(3 credits/3 credits) Prerequisites: for ACC 211 ENG 5 if required by student's placement and MTH 3 or MTH 120; for ACC 212, ACC 211 with a grade of "C" or better. Presents accounting principles and their application to various businesses. Covers the accounting cycle, income determination, and financial reporting. Studies services, merchandising, and manufacturing operation, including internal controls, analysis of financial statements, cost accounting systems, and managerial concepts. Lecture 3 hours per week.

ACC 215 Computerized Accounting
(3 credits) Pre- or Corequisite: ACC 211 or equivalent. 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. Lecture 3 hours per week.

ACC 221-222 Intermediate Accounting I-II
(3 credits/3 credits) Must be taken in sequence. Prerequisite: ACC 212 or equivalent. 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. Lecture 3 hours per week.

ACC 240 Fraud Examination
(3 credits) Covers the principles and methodology of fraud detection and deterrence. Provides an introduction to the various ways fraud and occupational abuses occur, methods to identify the risk of exposure to loss from fraud, and appropriate prevention, detection, and investigation approaches. Lecture 3 hours per week.

ACC 261 Principles of Federal Taxation I
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Presents the study of federal taxation as it relates to individuals and related entities. Includes tax planning, compliance, and reporting. Lecture 3 hours per week.

ACC 275 Capstone Seminar in Accounting
(3 credits) Prerequisite: ACC 211, ACC 221, pre- or co-requisite: ACC 222 or appropriate accounting experience and consent of instructor. Integrates knowledge in financial accounting, managerial/cost accounting, computer techniques, business ethics, general ledger, and communication skills in preparing a professional student portfolio. Provides a learning experience that allows the student to apply broad knowledge of the accounting profession through discipline specific projects; involves the integration of individual and team activities to simulate workplace situations. Lecture 3 hours per week.

ACC 295 Topics in Accounting
(3 credits) Provides an opportunity to explore topical areas of interest to or needed by students.

May be used also for special honors courses. May be repeated for credit. Lecture 3 hours per week.

ACC 297 Cooperative Education in Accounting
(3 credits) Prerequisite: Permission of instructor required. Student participates in on-the-job training for pay in approved business, industrial, and service firms. Program is coordinated by the college's Cooperative Education Office. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

ADMINISTRATION OF JUSTICE

ADJ 100 Survey of Criminal Justice
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. 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 115 Patrol Procedures
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Describes, instructs, and evaluates street level procedures commonly employed by patrol officers in everyday law enforcement operations. Lecture 3 hours per week.

ADJ 116 Special Enforcement Topics
(3 credits) Prerequisite: ENG 3, ENG 5 if required by individual student's placement. Considers contemporary issues, problems, and controversies in modern law enforcement. Lecture 3 hours per week.

ADJ 118 Crisis Intervention and Critical Issues
(3 credits) Prerequisite: ENG 3, ENG 5 if required by individual student's placement. Addresses basic problems involved in crisis intervention and current critical issues in law enforcement and the administration of justice; emphasizes practical approaches to discover and implement solutions. Lecture 3 hours per week.

ADJ 131 Legal Evidence I
(3 credits) Prerequisite: ENG 3, ENG 5 if required by individual student's placement. Surveys the identification, degrees, and admissibility of evidence for criminal prosecution; examines pre-trial and trial procedures as they pertain to the rules of evidence. Lecture 3 hours per week.

ADJ 140 Introduction to Corrections
(3 credits) Prerequisite: ENG 3, ENG 5 if required by individual student's placement. 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 145 Corrections and the Community
(3 credits) Prerequisite: ENG 3, ENG 5 if required by individual student's placement. Studies and evaluates the relationships and interactions between correctional organizations and free society. Focuses on the shared responsibility of the community and corrections agencies to develop effective programs for management and treatment of criminal offenders. Lecture 3 hours per week.

ADJ 171-172 Forensic Science I-II
(3 credits/3 credits) Introduces students 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 per week.

ADJ 201 Criminology I
(3 credits) Prerequisite: ENG 3, ENG 5 if required by individual student's placement. Studies current and historical data pertaining to criminal and other deviant behavior. Examines theories that explain crime and criminal behavior in human society. Lecture 3 hours per week.

ADJ 211 Criminal Law, Evidence & Procedures I
(3 credits) Prerequisite: ENG 3, ENG 5 if required by individual student's placement. 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 229 Law Enforcement and the Community
(3 credits) Prerequisite: ENG 3, ENG 5 if required by individual student's placement. 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) Prerequisite: ENG 3, ENG 5 if required by individual student's placement. Surveys the fundamentals of criminal investigation procedures and techniques. Examines crime scene search for the collecting, handling, and preserving of evidence. Lecture 3 hours per week.

ADJ 247 Criminal Behavior
(3 credits) Prerequisite: ENG 3, ENG 5 if required by individual student's placement. Introduces and evaluates the concepts of normal and abnormal behavior. Focuses on the psychological and sociological aspects of criminal and other deviant behavior patterns. Lecture 3 hours per week.

ADJ 290 Coordinated Internship in Police Science
(1-5 credits) Prerequisite: ENG 3, ENG 5 if required by individual student's placement. Criminal background check. Supervised 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.

ADMINISTRATIVE SUPPORT TECHNOLOGY

AST 101 Keyboarding I

(3 credits) Must be taken in sequence. Teaches the alpha/numeric keyboard with emphasis on correct techniques, speed, and accuracy. Teaches formatting of basic personal and business correspondence, report, and tabulation. Lecture 3 hours per week.

AST 102 Keyboarding II
(3 credits) Prerequisite: AST 101 with "C" or better or departmental approval. Develops keyboarding

and document productions skills with emphasis on preparation of specialized business documents. Continues skill-building for speed and accuracy. Lecture 3 hours per week.

AST 107 Editing/Proofreading Skills
(3 credits) Prerequisite: ENG 3, ENG 5 if required by individual student's placement. 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 197 Cooperative Education in Office Systems Technology
(3 credits) Prerequisite: Approval of Cooperative Education coordinator. Supervised on-the-job training in approved business firms or governmental organizations is coordinated by the Cooperative Education coordinator. Credit/work ratio not to exceed 1:5 ration. Variable hours.

AST 205 Business Communications
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Teaches techniques of oral and written communications. Emphasizes writing and presenting business-related materials. Lecture 3 hours per week.

AST 230 Introduction to Office Technology
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Introduces principles, methods, and techniques involved in office technology. Emphasizes the use of microcomputer equipment and software. Lecture 3 hours per week.

AST 232 Microcomputer Office Applications
(3 credits) Prerequisite: AST 102 or departmental approval. Teaches production of business documents using word processing, databases, and spreadsheets. Emphasizes document production to meet business and industry standard. Lecture 3 hours per week.

AST 234 Records and Database Management
(3 credits) Prerequisite: AST 101 or departmental approval. Teaches filing and records management procedures using microcomputer database software. Incorporates both manual and electronic methods for managing information. Lecture 3 hours per week.

AST 236 Specialized Software Applications
(3 credits) Prerequisite: AST 101 or equivalent or AST 117 or departmental approval. Teaches specialized integrated software applications on the microcomputer. Emphasizes document production to meet business and industry standards. Lecture 3 hours per week.

AST 238 Word Processing Advanced Operations
(3 credits) Prerequisite: AST 102 with "C" or better. Teaches advanced word processing features including working with merge files, macros, and graphics; develops competence in the production of complex documents. Lecture 3 hours per week.

AST 243 Office Administration I
(3 credits) Must be taken in sequence. Prerequisite: AST 102 or departmental approval. 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. Lecture 3 hours per week.

AST 244 Office Administration II
(3 credits) Prerequisite: AST 243 or equivalent. 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. Lecture 3 hours per week.

AST 245 Medical Machine Transcription
(3 credits) Prerequisite: AST 101, HLT 143. Develops machine transcription skills, integrating operation of transcribing equipment with understanding of medical terminology. Emphasizes dictation techniques and accurate transcription of medical documents in prescribed formats Lecture 3 hours per week.

AST 253 Advanced Desktop Publishing Using Microsoft Publisher
(3 credits) Prerequisite: AST 101 or ITE 115 or ITE 119. Introduces specific desktop publishing software. Teaches document layout and design, fonts, type styles, style sheets, and graphics. Lecture 3 hours per week.

AST 254 Advanced Desktop Publishing II
(3 credits) Prerequisite: AST 253 with a grade of "C" or better or departmental approval. Presents advanced features of desktop publishing software, culminating in the layout and design of complex multi-page documents. Lecture 3 hours per week.

AST 271 Medical Office Procedures
(3 credits) Prerequisite: AST 101; Corequisite AST 102 or equivalent. Covers medical office procedures, records management, preparation of medical reports, and other medical documents. Lecture 3 hours per week.

AST 295 Topics in Medical Insurance and Coding
(3 credits) This course will help students prepare for a career as a coding and billing specialist. Students will learn the fundamentals of health insurance coverage, the insurance claim cycle and coding diagnosis and procedures. Participants gain hands-on practice in coding insurance claims. Lecture 3 hours per week.

AST 297 Cooperative Education in Administrative Support Technology
(3 credits) Prerequisite: Approval of Cooperative Education coordinator. Supervised on-the-job training in approved business firms or governmental organizations. The work is coordinated by the Cooperative Education coordinator. Credit/work ratio not to exceed 1:5 hours. Variable hours.

AIR CONDITIONING AND REFRIGERATION

AIR 134 Circuits and Controls I
(4 credits) Presents circuit diagrams for air conditioning units, reading and drawing of circuit diagrams, types of electrical controls. Includes analysis of air conditioning circuits, components, analysis and characteristics of circuits and controls, testing and servicing. Introduces electricity for air conditioning which includes circuit elements, direct current circuits and motors, single and three-phase circuits and motors, power distribution systems, and protective devices. Studies the electron and its behavior in passive and active circuits and components. Demonstrates electronic components and circuits as applied to air conditioning system. Lecture 3 hours + lab 3 hours, total 6 hours per week.

AIR 137 Air Conditioning Electronics Survey
(2 credits) Studies electronics and its applications in the HVAC field. Covers computers, programmable controllers, and microprocessors in the HVAC industry. Lecture 1 hour + lab 3 hours, total 4 hours per week.

AIR 154-155 Heating Systems I-II
(3 credits/3 credits) Introduces types of fuels and their characteristics of combustion; types, components and characteristics of burners, and burner efficiency analyzers. Studies forced air heating systems including troubleshooting, preventive maintenance and servicing. Lecture 2 hours + lab 2 hours, total 4

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hours per week.

AIR 158 Mechanical Codes
(2 credits) Presents mechanical code requirements for installation, service, and inspection procedures. Uses the BOCA Code in preparation for the Master's card. Lecture 2 hours per week.

AIR 171 Refrigeration I
(6 credits) Introduces basic principles of refrigeration. Includes refrigeration systems, cycles, and use and care of refrigeration tools. Studies shop techniques including soldering, brazing, leak testing, tube testing, tube bending, flaring, and swagging. Analyzes mechanical (vapor compression) systems. Assembles and repairs them including evacuating, charring, testing, and electrical repairs. Introduces advanced troubleshooting and repairs for domestic, commercial and industrial units. Includes medium, low, and ultra low temperature systems of the single and multiple unit types. Includes equipment selection, system balancing, and installation procedures. Lecture 4 hours + lab 6 hours, total 10 hours per week.

AIR 176 Air Conditioning
(6 credits) Presents residential and commercial air conditioning systems, including air conditioning principles, psychometrics, and pressure balancing. Includes window units, residential central systems, small commercial (air- and water-cooled condensers) and automobile units. Lecture 4 hours + lab 4 hours, total 8 hours per week.

AIR 181 Planning and Estimating I
(2 credits) Presents fundamentals of blueprint reading as applied to the building trades. Emphasizes air conditioning distribution, designing and drawing residential and commercial systems take-off of materials, and estimating the cost of the systems. Lecture 1 hour + lab 3 hours, total 4 hours per week.

AIR 210 Air Conditioning and Refrigeration Analysis
(3 credits) Reviews principles of refrigeration and air conditioning. Studies components, types, and applications. Includes types of refrigeration systems such as multistage and cascade, selection and balancing of major components, and absorption systems. Lecture 2 hours + lab 3 hours, total 5 hours per week.

AIR 235 Heat Pumps
(3 credits) Studies theory and operation of reverse cycle refrigeration including supplementary heat as applied to heat pump systems including service, installation, and maintenance. Lecture 2 hours + lab 2 hours, total 4 hours per week.

AIR 240 Direct Digital Controls I (DDC I)
(3 credits) Prerequisite: ETR 179 or equivalent. Studies the principals of direct digital controls. Presents common terms used within the HVAC control industry. Describes the function and operating characteristics of sensors, controllers, and final control devices. Describes transfer function for a control devise and details the development of equations for typical control transfer functions. Lecture 2 hours. + lab 2 hours, total 4 hours per week.

AIR 241 Direct Digital Controls II (DDC II)
(3 credits) Prerequisite: AIR 240. Studies electronics and its applications in the HVAC field. Covers computers, programmable controllers, and microprocessors in the HVAC industry. Describes the construction, operation, and installation of more commonly used HVAC sensors, controllers, and final control devices. Covers the selection of a controller based upon the process characteristics, calibration of a control loop for best efficiency. Describes how to develop flow charts. Lecture 2 hours + lab 2 hours. total 4 hours per week.

AMERICAN SIGN LANGUAGE

ASL 101-102 American Sign Language I-II
(3 credits/3 credits) Prerequisite: Must be taken in sequence; ENG 5 if required by individual student's

placement. Introduces the fundamentals of American Sign Language (ASL) used by the Deaf Community, including basic vocabulary, syntax, fingerspelling, and grammatical non-manual signals. Focuses on communicative competence. Develops gestural skills as a foundation for ASL enhancement. Introduces cultural knowledge and increases understanding of the Deaf Community. Lecture 3 hours per week.

ASL 115 Fingerspelling and Numbers Use in ASL
(2 credits) Prerequisite: ASL 101 or permission of instructor. Provides intensive practice in comprehension and production of fingerspelled words and numbers with emphasis on clarity and accuracy. Focuses on lexicalized finger spelling and numeral incorporation as used by native users of American Sign Language. Lecture 2 hours per week.

ASL 201 American Sign Language III
(3 credits) Prerequisite: ASL 102. Develops vocabulary, conversational competence, and grammatical knowledge with a total immersion approach. Introduces increasingly complex grammatical aspects including those unique to ASL. Discusses culture and literature. Contact with the Deaf Community is encouraged to enhance linguistic and cultural knowledge. Lecture 3 hours + lab 1 hour, total 4 hours per week.

ARABIC

ARA 101-102 Beginning Arabic I-II
(5 credits/5 credits) Must be taken in sequence. Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Introduces understanding, speaking, reading, and writing skills and emphasizes basic Arabic sentence structure. Discusses the diversity of cultures in the Arab world. Lecture 5 hours per week.

ARA 193 Studies in Arabic
(4 credits) Prerequisites: ENG 3, ENG 4 if required by individual student's placement. Covers new content not covered in existing courses in the discipline. Allows instructor to explore content and instructional methods to assess the course's viability as a permanent offering. Lecture 4 hours per week.

ARA 201-202 Intermediate Arabic I-II
(4 credits/4 credits) Must be taken in sequence. Prerequisites for ARA 201: ARA 102. Continues to develop understanding, speaking, reading and writing skills and emphasizes basic Arabic sentence structure. Discusses the diversity of cultures in the Arab world. Classes are conducted in Arabic. Lecture 4 hours per week.

ARTS

ART 101-102 History and Appreciation of Art I-II
(3 credits/3 credits) Recommended to be taken in sequence. Prerequisite: ENG 5 if required by individual student's placement. Presents the history and interpretation of architecture, sculpture, and painting. Begins with prehistoric art and follows the development of western civilization to the present. 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) Must be taken in sequence. 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. The cost of drawing supplies is estimated to be $125 per semester. Lecture 1 hour + studio instruction 4 hours, total 5 hours per week.

ART 131-132 Fundamentals of Design I-II
(3 credits/3 credits) Must be taken in sequence. Explores the concepts of two-and three-dimensional design and color. May include field trips as required. There will be an approximate cost of $150 the first semester for supplies. Lecture 1 hour + studio instruction 4 hours, total 5 hours per week.

ART 141 Typography I
(3 credits) Studies the history of letter forms and typefaces and examines their uses in contemporary communication media. Emphasizes applications to specific design problems. Includes identification and specification of type, copy fitting and hands-on typesetting problems. Lecture 2 hours + studio instruction 4 hours, total 6 hours per week.

ART 150 History of Film and Animation
(3 credits) Exposes the student to the rich history of temporal imagery from the invention of the zootrope and kinetoscope through the rise of the moving picture industry and the development of the first animated films to present day television. Chronicles the impact of the moving image in the twentieth century. Discusses the design and concept of influential works as well as the relationship between these earlier forms of moving graphics and today's innovative video technology. Lecture 3 hours week.

ART 203 Animation I
(4 credits) Prerequisite: ART 121 or ART 122. Introduces the student to the basic techniques of animation, both traditional and computer generated. Teaches theoretical elements of the aesthetics of sequential imagery. Provides practical experience in animation. Exposes students to a variety of animation techniques through lectures, presentations, classroom work, and outside assignments. Lecture 2 hours + 4 lab hours per week, total 6 hours per week.

ART 204 Animation II
(4 credits) Prerequisite: ART 203. Continues to develop the student's skills in the techniques of animation. Emphasizes the electronic means of transforming both two-and-three dimensional designs into complete, high quality animations and transferring them to videotape. Teaches the advanced techniques of three-dimensional computer animation. Lecture 2 hours + 4 lab hours per week, total 6 hours per week.

ART 207 3D Model Rendering
(4 credits) Prerequisite: ART 121, ART 131, ART 208, ART 283. Introduces the student to the basic principles of three- dimensional objects and environments with both traditional methods and materials and those inherent in the microcomputer-based system. Lecture 2 hours + lab 4 hours per week, total 6 hours per week..

ART 208 Video Techniques
(4 credits) Prerequisite: ENG 5 if required by individual student's placement. (Substitutes for PHT 126) Addresses the fundamentals of video technology as applied to the creation of multimedia projects. Focuses on the aesthetics of editing. Extends the capabilities of graphic designers and artists and allows them to transfer art work and animation from the computer to video, and to capture video frames for use in multimedia design on the computer. Instructs students in the development of sophisticated typographic design. Lecture 2 hours + lab 4 hours per week, total 6 hours per week.

ART 221-222 Drawing III-IV
(3 credits/3 credits) Must be taken in sequence. Prerequisite: ART 122. Introduces advanced concepts and techniques of drawing as applied to the figure, still life, and landscape. Gives additional instruction in composition, modeling, space, and perspective.

Encourages individual approaches to drawing. The cost of drawing supplies is estimated to be $85 per semester. Lecture 1 hour + studio instruction 4 hours, total 5 hours per week.

ART 228-229 Multimedia Graphic Design I-II
(4 credits/4 credits) Must be taken in sequence. Prerequisites for ART 228: ART 121, ART 131. ART 208. Prerequisites for ART 229: ART 228 and ART 141. Introduces concepts of graphic design specific to multimedia interactivity. Incorporates design methodology in preparation and implementation of flow charts and storyboards. Includes studio projects exploring the functionality, look and feel of multimedia presentations for CD-ROM, the Internet, and games. Implements hardware, software and production techniques required for multimedia development. Includes basic animation principles, sound and the option to include video. Lecture 2 hours + lab 4 hours, total 6 hours per week.

ART 231-232 Sculpture I-II
(3 credits/3 credits) Must be taken in sequence. Prerequisite: ART 131. 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. Lecture 1 hour + studio instruction 4 hours, total 5 hours per week.

ART 241-242 Painting I-II
(3 credits/3 credits) Must be taken in sequence. Prerequisite: ART 122 or divisional approval. Introduces abstract and representational painting in acrylic and/or oil with emphasis on color composition and value. The initial investment for painting supplies is approximately $150, with supplementary expenses in the following semester. Lecture 1 hour + studio instruction 4 hours, total 5 hours per week.

ART 243 Watercolor I
(4 credits) Prerequisite: ART 131 or divisional approval. Presents abstract and representational painting in watercolor with emphasis on design, color, composition, technique, and value. The initial investment for supplies is estimated to be at least $125. Lecture 2 hours + studio instruction 4 hours, total 6 hours per week.

ART 245 Portrait Painting
(3 credits) Prerequisites: ART 122 and ART 241. Explores portrait painting as representational and abstract art. Emphasizes analytical study of the head, using a variety of mediums. The initial investment for painting supplies is approximately $150, with supplementary expenses in the following semester. Lecture 2 hours + studio instruction 3 hours, total 5 hours per week.

ART 246 Figure Painting
(3 credits) Prerequisites: ART 122 and ART 241. Concentrates on the human figure as subject matter for painting. Emphasizes composition as it relates to figure study. Explores formal and informal approaches to include representation and abstraction using various painting media. The initial investment for painting supplies is approximately $150, with supplementary expenses in the following semester. Lecture 2 hours + studio instruction 3 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) Must be taken in sequence. Prerequisite for ART: 251: ART 283 or PHT 135, ART 141, ART 131. For ART 252: ART 251. 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. Finished work is

produced on the computer. Lecture 2 hour + studio instruction 3 hours total 5 hours per week.

ART 263-264 Interactive Design I-II
(3 credits/3 credits) Prerequisites: For ART 263: ART 131, ART 141, ART 208, ART 283. For ART 264: ART 263. Focuses on creative concepts of design problem solving for interactive design: techniques specific to web, multimedia for the web, and other interactive design products. Advanced interactive design functions such as animation, rollovers, and audio are covered in ART 264. Lecture 2 hours + lab 3 hours, total 5 hours per week

ART 278-279 3D Computer Design I-II
(4 credits/4 credits) Prerequisites: For ART 278: ART 283 or instructors permission. For ART 279: ART 208 and ART 278. Introduces fundamental concepts in 3D model building and animation: spline extrusion and motion, point editing, texture and mapping, ray tracing, rotoscoping, physical simulations, forward and inverse kinematics. Lecture 2 hours + lab 4 hours, total 6 hours per week.

ART 283 Computer Graphics I
(3 credits) Must be taken in sequence. Prerequisite: ENG 5 if required by individual student's placement. Utilizes microcomputers and software to produce computer graphics. Employs techniques learned to solve studio projects which reinforce instruction and are appropriate for portfolio use. Lecture 2 hours + studio instruction 3 hours , total 5 hours per week.

ART 287 Portfolio and Resume Preparation
(1 credit) Prerequisite: Vary by program of study. See advisor. Permission of instructor required. Focuses on portfolio preparation, resume writing, and job interviewing for students. Recommended for students in the final semester of their programs. Lecture 1 hour + studio instruction 2 hours, total 3 hours per week.

ART 291-292 Computerized Graphic Design I-II
(4 credits/4 credits) Must be taken in sequence. Prerequisites: ART 121, ART 131, ART 141, and (ART 283 or PHT 135). Introduces students to using the computer as a publishing system. Examines stages of a publication from typesetting, laying out, creating and digitizing of illustrations and photographs, to the final printing. Requires students to write, design, illustrate and print pamphlets on the computer, including one full-color publication. Lecture 2 hours + studio instruction 4 hours, total 6 hours per week.

ART 296 On-Site Training in Art
(1-5 credits) Prerequisites: ART 141, ART 208, ART 283, and ART 291. Specializes in career orientation and training program without pay in selected businesses and industry. Program is supervised and coordinated by the college. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

ART 297 Cooperative Education in Commercial Art
(1-5 credits) Prerequisites: ART 141; PHT 126 or ART 208; ART 228, ART 251, ART 283 or PHT 135 and permission of instructor. Supervised on-the-job training for pay in approved business, industrial, and service firms coordinated by the college's cooperative education office. 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.

ART 298 Seminar and Project in Art
(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. It is a one-semester course designed to accommodate students who wish to continue studio work beyond the limits of requirements for a degree program. It is also open to those who wish to expand their studio experience whether enrolled in a degree program or not. Problems are assigned on an individual basis

incorporating previous study and supervised by the instructor. The course may be repeated for credit. Variable hours per week.

AUTOMOTIVE

AUT 112 Automotive Engines II
(4 credits) Presents analysis of power, cylinder condition, valves, and bearings in the automotive engine to establish the present condition, repairs, or adjustments. Lecture 3 hours + lab 3 hours, total 6 hours per week.

AUT 125 Anti-Pollution Systems
(3 credits) Studies various anti-pollution systems used on modern automobiles, installation, inspection, repair and service. Lecture 2 hours + lab 3 hours, total 5 hours per week.

AUT 126 Auto Fuel and Ignition Systems
(5 credits) Studies automobile ignition and fuel systems, their functions in operation of engine. Includes carburetors, fuel pumps, ignition systems, troubleshooting, engine test and adjustment, and tune-up. Lecture 4 hours + lab 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 3 hours + lab 3 hours, total 6 hours per week.

AUT 211 Automotive Systems II
(4 credits) Presents advanced theory and detailed study of automobile systems. Provides laboratory periods for actual field practice in troubleshooting. Lecture 3 hours + lab 3 hours, total 6 hours per week.

AUT 236 Automotive Climate Control
(4 credits) Introduces principles of refrigeration, air conditioning controls and adjustment, and general servicing of automotive air conditioning systems. Lecture 3 hours + lab 3 hours, total 6 hours per week.

AUT 242 Automotive Electricity II
(4 credits) Introduces electricity and magnetism, symbols, and circuitry as applied to alternators, regulators, starters, lighting systems, instruments, gauges and accessories. Lecture 3 hours + lab 3 hours, total 6 hours per week.

AUT 245 Automotive Electronics
(4 credits) Prerequisite: AUT 242. Introduces field of electronics as it applies to the modem automobile. Emphasizes basic circuit operation, diagnosis and repair of digital indicator and warning systems. Lecture 3 hours + lab 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 3 hours + lab 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 + lab 6 hours, total 8 hours per week.

AUT 267 Automotive Suspension and Braking Systems
(4 credits) Presents the operation, design, construction, repair and servicing of braking and suspension systems. Explains use of tools and test

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equipment, evaluation of test results, estimation and repair cost, front and rear suspension alignment, power and standard steering, and power, standard and disc brakes. Lecture 3 hours + lab 3 hours, total 6 hours per week.

AUT 273 Automotive Driveability and Tune-Up I
(3 credits) Presents diagnostic and service procedures for automatic electrical and mechanical systems. Teaches use of tools and test equipment, evaluation of test results, and estimation of repair cost. Emphasizes performance of required service. Lecture 2 hours + lab 3 hours, total 5 hours per week.

AUT 275 Shop Management
(3 credits) Studies shop layout, personnel management, cost analysis, record keeping and quality control. Discusses shop manager, service salesman, and service writer's roles in customer relations. Lecture 3 hours per week.

BIOLOGY

BIO 1 Foundations of Biology
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Develops a basic understanding of plant and animal form, function, and relationships. Prepares students who have a deficiency in high school biology. Lecture 3 hours per week.

BIO 100 Basic Human Biology
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Presents basic principles of human anatomy and physiology. Discusses cells, tissues, and selected human systems. Lecture 3 hours per week.

BIO 101-102 General Biology I-II
(4 credits/4 credits) Must be taken in sequence. Prerequisites: ENG 1, ENG 5 if required by individual student's placement; MTH 3 or equivalent. Explores fundamental characteristics of living matter from the molecular level to the ecological community with emphasis on general biological principles. Introduces the diversity of living organisms, their structure, function, and evolution. Lecture 3 hours, recitation and lab 3 hours; total 6 hours per week.

BIO 107 - Biology of the Environment
(4 credits) Prerequisite: ENG 1, ENG 5, and MTH 3. Presents the basic concepts of environmental science through a topical approach. Includes the scientific method, population growth and migration, use of natural resources and waste management, ecosystem simplification recovery, evolution, biogeochemical cycles, photosynthesis and global warming, geological formations, atmosphere and climate, and ozone depletion and acid deposition. Lecture 3 hours + lab 3 hours, total 6 hours per week.

BIO 141-142 Human Anatomy and Physiology I-II
(4 credits/4 credits) Must be taken in sequence. Prerequisites: ENG 1, ENG 5 and MTH 3 or equivalent if required by individual student's placement; and BIO 101 or equivalent college BIO course. Integrates anatomy and physiology of cells, tissues, organs, and systems of the human body. Integrates concepts of chemistry, physics, and pathology. Lecture 3 hours, lab 3 hours; total 6 hours per week.

BIO 145 Human Anatomy and Physiology for Health Sciences
(5 credits) Prerequisite(s): MTH 03 or high school algebra completed within the past 5 years with a grade of "C" or above; ENG 1 and ENG 5 if required by placement; high school biology completed within the past 5 years with a grade of "C" or above (BIO 01 or above will serve as an equivalency to H.S. biology); high school chemistry completed within the past 5 years with a grade of "C" or above (CHM 01 or above will serve as an equivalency for high school chemistry). Introduces human anatomy and physiology primarily to those planning to pursue an AAS degree in nursing. Covers basic chemical concepts, cellular physiology, as well as the anatomy and physiology of human organ systems. Lecture 4 hours + Lab 3 hours, total 7 hours per week.

per week.

BIO 150 Introductory Microbiology
(4 credits) Prerequisites: BIO 102 or BIO 142 or BIO 145 or permission of instructor. Studies the general characteristics of microorganisms. Emphasizes their relationships to individual and community health. Lecture 3 hours, recitation and lab 3 hours; total 6 hours per week.

BIO 205 General Microbiology
(4 credits) Prerequisites: BIO 102, BIO 145; CHM 112; one year of college biology and one year of college chemistry or divisional approval. Examines morphology, genetics, physiology, ecology, and control of microorganisms. Emphasizes application of microbiological techniques to selected fields. Lecture 3 hours, recitation and lab 3 hours; total 6 hours per week.

BIO 256 General Genetics
(4 credits) Prerequisites: BIO 101-102 or equivalent. Explores the principles of genetics ranging from classical Mendelian inheritance to the most recent advances in the biochemical nature and function of the gene. Includes experimental design and statistical analysis. Lecture 3 hours, recitation and lab 3 hours; total 6 hours per week.

BIO 270 General Ecology
(4 credits) Prerequisites: BIO 101-102 or divisional approval. Studies interrelationships between organisms and their natural and cultural environments, with emphasis on populations, communities, and ecosystems. Lecture 3 hours, recitation and lab 3 hours; total 6 hours per week.

BIO 275 Marine Ecology
(4 credits) Prerequisites: BIO 101-102 or divisional approval. Applies ecosystem concepts to marine habitats. Includes laboratory and field work. Lecture 3 hours, recitation and lab 3 hours; total 6 hours per week.

BIO 299 Supervised Studies
(1-5 credits) Prerequisite: Permission of Instructor. Assigns problems for independent study incorporating previous instruction and supervised by the instructor.

BUILDING

BLD 108 Construction Leadership and Motivation
(2 credits) Includes the role of the construction supervisor; helping employees perform better; training, motivating and leading others; teams and team building; leadership skills in action. This course does not meet general education requirements. Lecture 2 hours per week.

BLD 109 Understanding and Managing Project Costs
(2 credits) Includes construction estimates, who controls project costs, labor cost control, reporting and analyzing actual costs, loss prevention, cost control strategies, and post-project evaluation. Lecture 2 hours per week.

BLD 116 Communication for Construction Supervisors
(2 credits) Includes listening, understanding, communicating and negotiating within all organizational levels of the construction industry; assisting others in communicating clearly; getting the point across with the difficult person. This course is not intended to satisfy general education requirements. Lecture 2 hours per week.

BLD 117 Contract Documents and Construction Law
(2 credits) Covers contractual relationships; contract forms and documents; managing general conditions; good documentation processes; differing site conditions; time impacts; negotiation of resolutions. Lecture 2 hours per week.

BLD 118 Problem Solving and Decision Making
(2 credits) Covers the problem identification process; solving human performance problems; the decision-making process; labor costs and subcontractors; problem prevention; risk, emergencies and crisis. Lecture 2 hours per week.

BLD 119 Accident Prevention and Loss Control
(2 credits) Presents safety communication and motivation; project and traffic control; selection of methods and equipment to prevent losses; delegating responsibility and equipment maintenance; government safety regulations and inspections. Lecture 2 hours per week.

BLD 144 Plumbing Code and Certification Preparation
(3 credits) Teaches the use of the plumbing code standard book (BOCA), references standards, the reading and use of charts and tables, and preparation for the journeyman's certification and the cross-connection control certification test. Lecture 3 hours per week.

BLD 188 Introduction to Construction Supervision
(3 credits) Teaches an appreciation for the demanding job of construction supervision, covering such topics as scheduling, motivation, poor and subordinate relations, and working with other trades. Lecture 3 hours per week.

BLD 195 Topics in Building
(3 credits) Provides an opportunity to explore topical areas of interest to or needed by students. Lecture 3 hours per week.

BLD 199 Supervised Study in Building
(3 credits) Assigns problems for independent study incorporating previous instruction and supervised by the instructor. Lecture 3 hours per week.

BLD 200 Sustainability Construction
(2 credits) Teaches students the specialized construction management best practices that must be utilized when managing a sustainable project. Includes industry standards for green construction as identified by popular building rating systems. Lecture 2 hours per week.

BLD 215 OSHA 30 Construction Safety
(2 credits) Prerequisite: OSHA 10 Certification. Covers all topics included in the OSHA 30-hour course. Lecture 2 hours per week.

BLD 216 Productivity Improvement for the Construction Manager
(2 credits) Prerequisites: BLD 247 and BLD 109. Covers skills for the effective supervisor; personnel management; quantifying lost labor productivity; record keeping, control, changes and defect analysis; improving productivity with new technology. Lecture 2 hours per week.

BLD 217 Managing the Construction Project
(2 credits) Prerequisites: BLD 247 and BLD 109. Introduces project delivery systems; managing and understanding risk; planning the work; working the plan; managing methods and materials; understanding finances; working with project partners; understanding people involved in the process. Lecture 2 hours per week.

BLD 231 Construction Estimating I
(3 credits) Prerequisites: MTH 105 or higher and BLD 109. Focuses on materials take-off and computing quantities from working drawings and specifications. Includes methods for computing quantities of concrete, steel, masonry, roofing, excavation. Deals with pricing building components, materials and processes, as well as transportation and handling costs, mark-up discount procedures, equipment cost and labor rates. Lecture 3 hours per week.

BLD 247 Construction Planning and Scheduling
(3 credits) Introduces principles of planning and scheduling of a construction project. Includes sequence of events and processes on a construction site. Studies scheduling techniques including the critical path method. Lecture 3 hours per week.

BLD 297 Cooperative Education in Construction Management
(3 credits) Prerequisite: Instructor Approval. Supervises in on-the-job training for pay in approved business, industrial and service firms, coordinated by the college's cooperative education office. Is applicable to all occupational- technical curricula at the discretion of the college. Credits/work ratio not to exceed 1:5 hours

BUSINESS ADMINISTRATION AND MANAGEMENT

BUS 100 Introduction to Business
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Presents a broad introduction to the functioning of business enterprise within the U.S. economic framework. Introduces economic systems, essential elements of business organization, finance, marketing, production, and risk and human resource management. Develops business vocabulary. Lecture 3 hours per week.

BUS 106 Security Awareness for Managers
(3 credits) Prerequisite: ENG 3, ENG 5 if required by individual student's placement. Covers concepts and terminology related to information security and risk assessment. Topics cover perspective from a manager and end-user's point of view and will include the identification of security threats, types of hardware/software solutions available and identifying policies and procedures to reduce the severity of security attacks. Includes the completion of a risk assessment and security plan for an organization and/or department. Lecture 3 hours per week.

BUS 111 Principles of Supervision I
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. 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 117 Leadership Development
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Covers interpersonal relations in hierarchical structures. Examines the dynamics of teamwork, motivation, handling change and conflict and how to achieve positive results through others. Lecture 3 hours per week.

BUS 121 Business Mathematics I
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Applies mathematical operations to business processes and problems. Reviews operations, equations, percents, sales and property taxes, insurance, checkbook and cash records, wage and payroll computations, depreciation, overhead, inventory turnover and valuation, financial statements, ratio analysis, commercial discounts, markup, and markdown. Lecture 3 hours per week.

BUS 146 Introduction to Labor Relations
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Examines history of the labor unions; labor contracts; bargaining processes; philosophy of unionism; use of bargaining techniques for non-wage issues; legal, social, and economic context of labor-management relations; responsibilities and duties of unions and management; analysis of public policy; and current state of the labor movement. May apply simulation and cases of arbitration and collective bargaining procedures. Lecture 3 hours per week.

BUS 165 Small Business Management
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. 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 195 Topics in Business
(1-5 credits) Provides an opportunity to explore topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours.

BUS 196 On-Site Training in Business
(1-5 credits) Specializes in career orientation and training program without pay in selected businesses and industry. Program is supervised and coordinated by the college. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

BUS 197 Cooperative Education in Business Management
(3 credits) Prerequisite: Approval of cooperative education coordinator. Supervised on-the-job training in approved business, industrial, and service firms. Coordinated by the college's Cooperative Education Office. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours. BUS 197 for first-year credit.

BUS 200 Principles of Management
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. 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) Prerequisite: ENG 5 if required by individual student's placement. 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) Prerequisite: ENG 5 if required by individual student's placement. Introduces employment, selection, and placement of personnel, forecasting, job analysis, job descriptions, training methods and programs, employee evaluation systems, compensation, benefits, and labor relations. Lecture 3 hours per week.

BUS 209 Continuous Quality Improvement
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Presents the different philosophies in Quality Control. Introduces students to Process Improvement, Team Development, Consensus Building, and Problem-Solving strategies. Identifies methods for Process Improvement in manufacturing and service organizations which includes Statistical Process Control when used in the quality control function of business and industry. Lecture 3 hours per week.

BUS 210 Total Quality Statistical Tools
(3 credits) Provides basic introduction to probability, statistics, and the foundations of quality, followed by in-depth training in the construction, use, and interpretation of control charts. Includes both "variable" and "attribute" control charting techniques as well as an introduction to process capability. Lecture 3 hours per week.

BUS 211 Managing Technology Resources
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Covers basic technology concepts, selection of vendors, evaluation of hardware/software solutions, identification and establishment of technology standards, and basic project management. Emphasizes development of policies and procedures to effectively and efficiently manage information technology. Provides techniques to enable the student to leverage technology to benefit the organization. Includes the completion of a detailed technology plan for an organization and/or department. Lecture 3 hours per week

BUS 212 Disaster Recovery Planning for Managers
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Covers developing a plan for an organization to get computer operations back to their pre-existing state as soon as possible after a disaster. Covers documenting existing technology and the complete steps in the disaster recovery process. Emphasis on policies and procedures to prevent the loss of data and elimination of system downtime. Includes the completion of a disaster recovery plan for an organization and/or department. Lecture 3 hours per week.

BUS 216 Probability and Statistics for Business and Economics
(3 credits) Prerequisites: ITE 115, MTH 163. This course introduces methods of probability assessment and statistical inference. Include 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. Lecture 3 hours per week.

BUS 220 Introduction to Business Statistics
(3 credits) Prerequisite: BUS 121. Introduces statistics as a tool in decision making. Emphasizes ability to collect, present, and analyze data. Employs measures of central tendency and dispersion, statistical inference, index numbers, probability theory, and time series analysis. Lecture 3 hours per week.

BUS 230 International Business Practice Firm
(4 credits) Uses an international business model that prepares students to work as team members in a simulated business firm operating in a virtual economy. Provides tools for students to perform various business functions as their firm transacts business with other students operating business practice firms throughout Europe, Canada, Mexico and the United States. Involves students in decision-making, critical thinking and team activities. Prerequisite: Advanced status and computer literacy. Lecture 4 hours per week.

BUS 235 Business Letter Writing
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Applies composition principles to business correspondence, employment documents, and reports (including presentation of data in various chart formats). Focuses on preparing effective communications with customers, suppliers, employees, the public, and other business contacts. Lecture 3 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.

Course Descriptions

BUS 241 Business Law I
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. 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 270 Interpersonal Dynamics in the Business Organization
(3 credits) Prerequisite: ENG 5. Focuses on intra-and interpersonal effectiveness in the business organization. Includes topics such as planning and running effective meetings, networking and politicking, coaching and mentoring, making effective and ethical decisions, developing interpersonal skills that are essential to effective managers, and to improve skills in verbal, non-verbal, and written communication. Lecture 3 hours per week.

BUS 290 Coordinated Internship in Business
(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.

BUS 295 Topics in Business Management and Administration
(1-5 credits) Provides an opportunity to explore topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours.

BUS 297 Cooperative Education in Business Management
(3 credits) Prerequisite: Approval of Cooperative Education coordinator. Supervised on-the-job training for pay in approved business, industrial, and service firms. Coordinated by the college's Cooperative Education Office. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours. BUS 297 for second-year credit.

BUS 298 Seminar and Project in Free Enterprise
(3 credits) Through collaborative efforts as members of a Students in Free Enterprise (SIFE) team, students will develop, design, conduct, evaluate, and present the results of creative projects that benefit local businesses, public organizations, and members of the community. Students will learn the free enterprise system in a real working situation and will gain practical experience in the study of policy, management controls, effective presentation tools, and decision-making in competitive work environments. The course concentrates on five areas: entrepreneurship, market economics, success skills, financial literacy and business ethics. Lecture 3 hours per week.

CHEMISTRY

CHM 1 Chemistry I
(3 credits) Prerequisites: ENG 5 and MTH 3 if required by individual student's placement. Presents basic inorganic and organic principles to students with little or no chemistry background. Lecture 3 hours per week.

CHM 101-102 General Chemistry I-II
(4 credits/4 credits) Must be taken in sequence. Prerequisite CHM 101: ENG 5 if required by individual student's placement; Algebra I or MTH 3. Prerequisite CHM 102: CHM 101. Emphasizes experimental and theoretical aspects of inorganic, organic, and biological chemistry. Discusses general chemistry concepts as they apply to issues within our society and environment. Designed for the non-science major. Lecture 3 hours + lab 3 hours, total 6 hours per week.

CHM 110 Survey of Chemistry
(3 credits) Prerequisite: MTH 3. Introduces the basic concepts of general, organic, and biochemistry with emphasis on their applications to other disciplines.

No previous chemistry background required. Lecture 3 hours per week.

CHM 111-112 College Chemistry I-II
(4 credits/4 credits) Must be taken in sequence. Prerequisite CHM 111: ENG 5 if required by individual student's placement. Corequisite: MTH 163 or permission of the instructor. Prerequisite 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 + lab 3 hours, total 6 hours per week.

CHM 241-242 Organic Chemistry I-II
(3 credits/3credits) Must be taken in sequence. Prerequisite: CHM 102 or CHM 112 or equivalent. Corequisite: CHM245-246. Introduces fundamental chemistry of carbon compounds, including structures, physical properties, syntheses, and typical reactions. Emphasizes reaction mechanisms. Lecture 3 hours per week.

CHM 245-246 Organic Chemistry Laboratory I-II
(2 credits/2 credits) Must be taken in sequence. Corequisites: CHM 241-242. Includes qualitative organic analysis. Shall be taken concurrently with CHM 241 and CHM 242. Lab 4 hours per week.

CHILDHOOD DEVELOPMENT

CHD 118 Language Arts for Young Children
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Presents techniques and methods for encouraging the development of language and perceptional skills in children. Stresses improvement of vocabulary, speech, and methods to stimulate discussion. Surveys children's literature, examines elements of quality story telling and story reading, and stresses the use of audio-visual materials. Lecture 2 hours + lab 2 hours, total 4 hours per week.

CHD 119 Introduction to Reading Methods
(3 credits) Prerequisite: ENG 111 and CHD 118. Focuses on promoting language and literacy skills as the foundation for emergent reading. Emphasizes phonetic awareness and alphabetic principles, print awareness and concepts, comprehension and early reading and writing. Addresses strategies for intervention and support for exceptional children and English Language Learners. NOTE: This course replaces CHD 117. Lecture 2 hours + lab 2 hours, total 4 hours per week.

CHD 120 Introduction to Early Childhood Education
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Introduces early childhood development through activities and experiences in nursery, pre-kindergarten, kindergarten, and primary programs. Investigates classroom organization and procedures, use of classroom time and materials, approaches to education for young children, professionalism, and curricular procedures. Lecture 3 hours per week.

CHD 145 Teaching Art, Music and Movement to Children
(3 credits) Prerequisites: ENG 3 and ENG 5. Provides experiences in developing the content, methods, and materials for directing children in art, music, and movement activities. Lecture 2 hours + lab 2 hours, total 4 hours per week.

CHD 146 Math, Science, and Social Studies for Children
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student placement. Provides experiences in developing the content, methods, and materials for directing children in math, science, and social studies activities. Lecture 2 hours + lab 2 hours, total 4 hours per week.

CHD 165 Observation and Participation in Early Childhood/Primary Settings
(3 credits) Prerequisites: CHD 120 and one additional CHD course. Must have completed or be currently enrolled in CHD 205. Additional requirements include a TB test and a criminal check. Observes and participates in early childhood settings, such as child-care centers, preschools, Montessori schools, or public schools in kindergarten through third grade. Students spend one hour each week in a seminar session in addition to 60 hours in the field. May be taken again for credit. Lecture l hour + lab 6 hours, total 7 hours per week.

CHD 166 Infant and Toddler Programs
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student placement. Examines the fundamentals of infant and toddler development, including planning and implementing programs in group care. Emphasizes meeting physical, social, emotional, and cognitive needs: scheduling, preparing age-appropriate activities, health and safety policies, record keeping, and reporting to parents. Lecture 3 hours per week.

CHD 205 Guiding the Behavior of Children
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Explores positive ways to build self-esteem in children and help them develop self-control. Presents practical ideas for encouraging pro-social behavior in children and emphasizes basic skills and techniques in classroom management. Lecture 3 hours per week.

CHD 210 Introduction to Exceptional Children
(3 credits) Prerequisite: CHD 120 or CHD 121 or permission of instructor. Reviews the history of education for exceptional children. Studies the characteristics associated with exceptional children. Explores positive techniques for managing behavior and adapting materials for classroom use. Lecture 3 hours per week.

CHD 215 Models of Early Childhood Programs
(3 credits) Prerequisite: ENG 3 and ENG 5 if required by individual student's placement. Studies and discusses the various models and theories of early childhood education programs including current trends and issues. Presents state licensing and staff requirements. Lecture 3 hours per week.

CHD 216 Early Childhood Programs, School, and Social Change
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Explores methods of developing positive, effective relations between staff and parents to enhance the developmental goals of home and school. Reviews current trends and issues in education, describes symptoms of homes in need of support investigates non-traditional family and cultural patterns, and lists community resources. Lecture 3 hours per week.

CHD 220 Introduction to School-Age Child Care
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Examines the purposes of school-age child care in today's society, the role of adults within school-age child care, and the state of the profession of school-age child care. Lecture 3 hours per week.

CHD 225 Curriculum Development for School-Age Child Care
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Explores the creative activities, techniques, interactions, and program development that promote positive social and emotional growth in school-age children. Emphasizes positive development through everyday programming and experiences. Lecture 3 hours per week.

CHD 230 Behavior Management for School-Age Child Care
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Discusses the

development of social skills that school-age children need for self-management, including self-discipline, self-esteem, and coping with stress and anger. Explores ways to effectively guide and discipline school-age children, focusing on how adults can facilitate positive pro-social and self-management skills. Lecture 3 hours per week.

CHD 235 Health and Recreation for School-Age Child Care

(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Examines the physical growth of school-age children and the role of health and recreation in school-age child development. Explores the use of medication, misuse of drugs, health issues of children, and the availability of community resources. Lecture 3 hours per week.

CHD 265 Advanced Observation and Participation in Early Childhood/Primary Settings

(3 credits) Prerequisite: CHD 165 and written permission of instructor. Observes and participates in early childhood settings such as child care centers, preschools, Montessori schools, or public schools (kindergarten through third grade). Emphasizes planning and implementation of appropriate activities and materials for children. Students will spend one hour each week in a seminar session in addition to 60 hours in the field. Lecture 1 hour + lab 6 hours, total 7 hours per week. May be taken again for credit.

CHD 270 Administration of Childhood Programs

(3 credits) Prerequisites: ENG 3 ENG 5 if required by individual student's placement and must have completed 15 hours in child development. Examines the skills needed for establishing and managing early childhood education 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.

CHD 290 Coordinated Internship in Early Childhood

(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Supervised on-the-job training in selected business, industrial or service firms coordinated by the college. Credit/practice ratio not to exceed 1:5 hours. Lecture 1 hour + lab 4 hours, total 5 hours per week.

CHD 298 Seminar and Project

(1 credit) Corequisite: CHD 265. 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. Lecture 1 hour per week.

COMMUNICATION STUDIES AND THEATRE (REPLACES SPD SPEECH AND DRAMA)

CST 100 Principles of Public Speaking (replaces SPD 100)

(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Applies theory and principles of public address with emphasis on preparation and delivery. Lecture 3 hours per week.

CST 110 Introduction to Communication (replaces SPD 110)

(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Examines the elements affecting speech communication at the individual, small group, and public communication levels with emphasis on practice of communication at each level. Lecture 3 hours per week.

CST 126 Interpersonal Communication (replaces SPD 126)

(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Teaches interpersonal communication skills for both daily living and the world of work. Includes perception, self-concept self-disclosure, listening and feedback, nonverbal communication, attitudes, assertiveness, and other interpersonal skills. Lecture 3 hours per week.

CST 127 Workshop in Interpersonal Skills (replaces SPD 127)

(2 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Emphasizes practical applications of career-oriented oral communication skills at the interpersonal level. Lecture 2 hours per week.

CST 131-132 Acting I-II (replaces SPD 131-132)

(3 credits/3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Develops personal resources and explores performance skills through such activities as theater games, role playing, improvisation, work on basic script units and performance of scenes. Lecture 2 hours + lab 3 hours, total 5 hours per week.

CST 145 - Stagecraft

(3 credits) Prerequisites: ENG 3, ENG 5, MTH 1, MTH 3. Acquaints the student with fundamental methods, materials, and techniques of set construction for the stage. Lecture 2 hours + lab 2 hours, total 4 hours per week.

CST 151-152 Film Appreciation I-II (replaces SPD 151-152)

(3 credits/3 credits) May be taken out of sequence. Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Provides students with a critical understanding of film through the discussion and viewing of motion pictures with emphasis upon the study of film history and the forms and functions of film. Students will develop skills to analyze the shared social, cultural and historical influences of films and their contexts. Lecture 3 hours per week.

CST 200 Advanced Public Speaking (replaces SPD 200)

(3 credits) Prerequisite: CST 100 or SPD 100 or divisional approval. Focuses on preparation and delivery of various advanced forms of public address. Lecture 3 hours per week.

CST 227 Business And Professional Communication (replaces SPD 227)

(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Emphasizes principles and practical application to effective professional oral communication behaviors to include speaking, listening, and relating, and rhetorical sensitivity within professional, business, and organizational contexts. Lecture 3 hours per week.

CST 229 Intercultural Communication (replaces SPD 229)

(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Emphasizes the influence of culture in the communication process including differences in values, message systems, and communication rules. Lecture 3 hours per week.

COMPUTER AIDED DRAFTING AND DESIGN

CAD 132 Electrical and Electronic Drafting I

(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Teaches the design of block and logic, schematic and wiring diagrams, house wiring plans, printed circuit boards and card cages. Lecture 2 hours + lab 3 hours, total 5 hours per week.

CAD 151 Engineering Drawing Fundamentals I

(3 credits) Prerequisite: ENG 5 if required by individual student's placement. 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 (Credits will not be awarded for both CAD 151 and DRF 151.) Lecture 1 hour + lab 5 hours, total 6 hours per week.

CAD 152 Engineering Drawing Fundamentals II

(3 credits) Prerequisite: CAD 151. 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 II of II. (Credits will not be awarded for both CAD 152 and DRF 152.) Lecture 1 hour + lab 4 hours, total 5 hours per week.

CAD 195 Topics in Computer Aided Drafting and Design

(1-5 credits) Provides an opportunity to explore topic areas of an evolving nature or of short-term importance in the discipline.

CAD 201 Computer Aided Drafting and Design I

(4 credits) Teaches computer-aided drafting concepts and equipment designed to develop a general understanding of components of a typical CAD system and its operation. (Credits will not be awarded for both CAD 201 and DRF 201.) Lecture 3 hours + lab 2 hours, total 5 hours per week.

CAD 202 Computer Aided Drafting and Design II

(4 credits) Prerequisite: CAD 151 or CAD 201. Teaches production drawings and advanced operations in computer aided drafting. (Credits will not be awarded for both CAD 202 and DRF 202.) Lecture 3 hours + lab 2 hours, total 5 hours per week.

CAD 211 Advanced Technical Drawing

(3 credits) Prerequisite: CAD 151. 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. (Credits will not be awarded for both CAD 211 and DRF 211.) Lecture 2 Credits + lab 3 hours, total 5 hours per week.

CAD 238 Computer Aided Modeling and Rendering I

(3 Credits) Prerequisite: CAD 202 or division approval. 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. Part I of II. (Credits will not be awarded for both CAD 238 and DRF 238.) Lecture 2 hours + lab 2 hours, total 4 hours per week.

CAD 241 Parametric Solid Modeling I

(4 credits) Focuses on teaching students the design of parts by parametric solid modeling. Topics covered will include, but are not limited to, sketch profiles; geometric and dimensional constraints; 3-D features; model generation by extrusion, revolution and sweep; and the creation of 2-D drawing views that include sections, details and auxiliary. Part I of II. (Credits will not be awarded for both CAD 241 and DRF 241.) Lecture 3 hours + lab 2 hours, total 5 hours per week.

CAD 242 Parametric Solid Modeling II

(3 credits) Prerequisite: CAD 241 or division approval. Focuses on teaching students the design of parts by parametric solid modeling. Topics covered will include, but are not limited to, sketch profiles; geometric and dimensional constraints; 3-D features; model generation by extrusion, revolution and sweep; and the creation of 2-D drawing views that include sections, details and auxiliary. Part II of II. (Credits will not be awarded for both CAD 242 and DRF 242.) Lecture 2 hours + lab 2 hours, total 4 hours per week.

CAD 280 Design Capstone Project

(3 credits) Prerequisite: CAD 202, CAD 211, and CAD 241. Focuses on design projects developed

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independently and in consultation with the instructor. Topics covered will include 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. (Credits will not be awarded for both CAD 280 and DRF 280.) Lecture 3 hours.

CAD 295 Topics in Computer Aided Drafting and Design
(1-5 credits) Provides an opportunity to explore topic areas of an evolving nature or of short-term importance in the discipline.

CAD 297 Cooperative Education in Computer Aided Drafting and Design
(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.

COMPUTER SCIENCE

CSC 100 Introduction to Computer Usage
(1 credit) Teaches fundamental skills of computer operation. Examines hardware (processor, keyboard, disk drives, and printers) and operating systems and editors. Lecture 1 hour per week.

CSC 200 Introduction to Computer Science
(3 credits) Prerequisite: ENG 5 if required by individual student's placement; keyboarding and one unit of high school algebra or equivalent. Corequisite: MTH 164 or equivalent or divisional approval. Provides a 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. Includes a hands-on component. Lecture 3 hours per week.

CSC 201 Computer Science I
(4 credits) Must be taken in sequence. Prerequisite: CSC 200 or EGR 120 or equivalent or divisional approval. Corequisite: CSC 100 or MTH 173 or equivalent or divisional approval. Introduces algorithm and problem-solving methods. Emphasizes structured programming concepts, elementary data structures, and the study and use of a high level programming language. Lecture 4 hours per week.

CSC 202 Computer Science II
(4 credits) Prerequisite: CSC 201. Corequisite: MTH 174. 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. Lecture 4 hours per week.

CSC 205 Computer Organization
(3 credits) Prerequisite: CSC 202. Examines the hierarchical structure of computer architecture. Focuses on multi-level machine organization. Uses a simple assembler language to complete programming projects. Includes processors, instruction, execution, addressing techniques, data representation, and digital logic. Lecture 3 hours per week.

DENTAL HYGIENE

DNH 111 Oral Anatomy
(2 credits) Studies the morphology and function of the oral structures with emphasis on the primary and permanent dentition, eruption sequence, occlusion, and intra-arch relationships. A study of the anatomical, histological, embryological and morphological features and development of the head, neck and dentition. Emphasis is on nomenclature, nerve and vascular innervations, muscles of mastication, orofacial embryology and histological features of the oral cavity including the dentition.

Lab section covers nomenclature and anatomy of the dentition plus hands-on experiences. Lecture 2 hours per week.

DNH 115 Histology/Head and Neck Anatomy
(3 credits) Presents a study of the microscopic and macroscopic anatomy and physiology of the head, neck, and oral tissues. Includes embryologic development and histologic components of the head, neck, teeth, and periodontium. Lecture 3 hours per week.

DNH 120 Management of Emergencies
(2 credits) Studies the various medical emergencies and techniques for managing emergencies in the dental setting. Additional practical applications and simulations of emergencies maybe conducted to enhance basic knowledge from the one hour lecture component. Lecture 2 hours per week.

DNH 130 Oral Radiology for the Dental Hygienist
(2 credits) Studies radiation physics, biology, safety, and exposure techniques for intra- and extra-oral radiographic surveys. Laboratory provides practice in exposure, processing methods, mounting, and interpretation of normal findings. Lecture 1 hour + lab 3 hours, total 4 hours per week.

DNH 141 Dental Hygiene I
(5 credits) Introduces clinical knowledge and skills for the performance of dental hygiene services; basic skill components, lab manikins. and client practice. Pre-clinical experience in the on-campus supervised clinic. Clinical and laboratory application of introductory skills essential to rendering oral health services to clients with emphasis on basic dental hygiene instrumentation. Lecture 3 hours + lab 6 clinic hours, total 9 hours per week.

DNH 142 Dental Hygiene II
(5 credits) Prerequisite: DNH 141. Introduces clinical knowledge and skills for the performance of dental hygiene services; basic skill components, lab manikins. and client practice. Lecture 2 hours + lab 9 clinic hours, total 11 hours per week

DNH 143 Dental Hygiene III
(4 credits) Prerequisite: DNH 142. Introduces dental health care for clients with special needs. Includes introduction to computer concepts and applications. Provides supervised clinical practice in the dental hygiene clinic with emphasis on refining client treatment and instrumentation skills, including oral radiographs. Lecture 2 hours + lab 6 clinic hours, total 8 hours per week.

DNH 145 General and Oral Pathology
(2 credits) Prerequisite: DNH 111. Introduces general pathology with consideration of the common diseases affecting the human body. Particular emphasis is given to the study of pathological conditions of the mouth, teeth and their supporting structures. Lecture 2 hours per week.

DNH 146 Periodontics for the Dental Hygienist
(2 credits) Introduces the theoretical and practical study of various concepts and methods used in describing, preventing, and controlling periodontal disease. Presents etiology, microbiology, diagnosis, treatment and prognosis of diseases. Lecture 2 hours per week

DNH 214 Practical Materials for Dental Hygiene
(2 credits) Studies the current technologic advances, expanded functions, and clinical/laboratory materials used in dental hygiene practice. Provides laboratory experience for developing skills in the utilization and applications of these technologies and functions. Lecture 1 hour + lab 2 hours, total 3 hours per week.

DNH 216 Pharmacology
(2 credits) Studies the chemical and therapeutic agents used in dentistry, including their preparation, effectiveness, and specific application. A study of pharmacologic agents used in dentistry and of medications that the patient may be taking, their

clinical effects, adverse effects, and dental implications, and the prevention and management of medical emergencies. Lecture 2 hours per week.

DNH 226 Public Health Dental Hygiene I
(2 credits) Studies and compares concepts of delivery of health care, applying the public health delivery model. Utilizes epidemiologic methods, research and biostatistics as applied to oral health program planning, implementation, and evaluation. Incorporates and applies current health issues and trends. This course provides an introduction to the principles of dental public health, community dental health education, and community program planning. This course will prepare the dental hygienist for the role of dental public health practitioner, educator, consultant, and resource person in community settings. Students will prepare educational learning activities and visual aids designed for diverse community groups. Lecture 2 hours per week.

DNH 227 Public Health Dental Hygiene II
(1 credit) Prerequisite: DNH 226. Applies concepts of public health program planning through student directed community projects with an emphasis on preventative oral health education. Includes development of table clinics, bulletin boards, and volunteer service in the community. This course provides an introduction to the principles of dental public health, community dental health education, and community program planning. Lab 3 hours per week.

DNH 230 Office Practices and Ethics
(1 credit) Studies the principles of dental ethics and economics as they relate to the dental hygienist. The course also includes a study of jurisprudence and office procedures. A study of current trends that influence the practice of dental hygiene including oral health care delivery, manpower, finance mechanisms, health insurance programs, professional associations, state practice acts and legislation. Emphasis is on ethical, regulatory, political and legal issues as they relate to the dental hygiene profession. Lecture 1 hour per week.

DNH 235 Management of Dental Pain and Anxiety in the Dental Office
(2 credits) Prerequisite: DNH 120 and DNH 216. Provides a study of anxiety and pain management techniques used in dental care. Students will understand the necessary theory to appropriately treat, plan and successfully administer topical anesthesia, local anesthesia, and nitrous oxide/oxygen analgesia. Includes the components of pain, pain control mechanisms, topical anesthesia, local anesthesia and nitrous oxide/oxygen analgesia. Lecture 1 hour + lab 2 hours, total 3 hours per week.

DNH 244 Dental Hygiene IV
(5 credits) Prerequisite: DNH 143. Introduces advanced skills and the dental hygienist's role in dental specialties. Includes supervised clinical practice in the dental hygiene clinic and/or off-campus clinical rotations at various community facilities. Emphasizes treatment of clients demonstrating periodontal involvement, stressing application and correlation of knowledge and skills from previous semesters. Lecture 1 hour + lab 12 clinic hours, total 13 hours per week.

DNH 245 Dental Hygiene V
(5 credits) Prerequisite: DNH 244. Exposes student to current advances in dentistry. Includes supervised clinical practice in the dental hygiene clinic and/or off-campus clinical rotations at various community facilities. Emphasis is placed on synthesis of knowledge from previous semesters, treatment of clients with moderate to advanced periodontal involvement and improving clinical speed while maintaining quality in preparation for practice. Lecture 1 hour + lab 12 clinic hours, total 13 hours per week.

DRAFTING

DRF 135 Electrical/Electronics Blueprint Reading

(2 credits) Prerequisite: ENG 5 if required by individual student's placement. Presents an interpretation of basic shop drawings, conventional symbols, terminology, and principles used by the mechanical draftsman. Explains common electrical and electronic symbols, wiring diagrams, schematic drawings, and application of wiring diagrams. Lecture 2 hours per week.

DRF 160 Machine Blueprint Reading
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Introduces interpreting of various blueprints and working drawings. Applies basic principles and techniques such as visualization of an object, orthographic projection, technical sketching and drafting terminology. Requires outside preparation. Lecture 3 hours per week.

DRF 161 Blueprint Reading I
(2 credits) 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. Lecture 1 hour + lab 2 hours, total 3 hours per week.

DRF 226 Computer Aided Machining
(4 credits) Teaches use of software to create numerical machine code to drive CNC milling machines or lathes. Introduces software and techniques to create, edit and produce CAD drawings, tool paths, and the numerical code for CAM machine. Includes history, applications, hardware and software requirements, terminology, limitation and future trends. Lecture 3 hours + lab 2 hours, total 5 hours per week.

ECONOMICS

ECO 110 Consumer Economics
(3 credits) Fosters understanding of the American economic system and the individual's role as a consumer. Emphasizes application of economic principles to practical problems encountered. Alerts students to opportunities, dangers, and alternatives of consumers. Lecture 3 hours per week.

ECO 120 Survey of Economics
(3 credits) Prerequisites: ENG 5 and MTH 1 or equivalents. Presents a broad overview of economic theory, history, development, and application. Introduces terms, definitions, policies, and philosophies of market economics. Provides some comparison with other economic systems. Includes some degree of exposure to microeconmic and macroeconomic concepts. Lecture 3 hours per week.

ECO 201 Principles of Macroeconomics
(3 credits) Prerequisites: ENG 5, and MTH 3 or MTH 120 if required by individual student's placement or equivalents. 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) Prerequisite: ENG 5 and MTH 3 or MTH 120, if required by individual student's placement. 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.

EDUCATION

EDU 114 Driver Task Analysis
(3 credits) Prerequisite: Must be eligible for ENG 3 and ENG 5 or ESL 13. Introduces the "driver task" as related to the highway transportation system and factors that influence performance ability. Prepares students so they may be eligible to take certification exams for driving school instructors in both public and private schools. Lecture 2 hours + lab 2 hours, total 4 hours per week.

EDU 200 Introduction to Teaching as a Profession
(3 credits) Prerequisite: Successful completion of 24 credit hours of college level course work. Provides an orientation to the teaching profession in Virginia, including historical perspectives, current issues, and future trends in education on the national and state levels. Emphasizes information about teacher licensure examinations, steps to certification, teacher preparation and induction programs, and attention to critical shortage areas in Virginia. Includes supervised field placement (recommended: 40 clock hours) in a K-12 school. Lecture 2 hours + lab 2 hours, total 4 hours per week.

EDU 214 Instructional Principles of Driver Education
(3 credits) Prerequisite: EDU 114. Analyzes rules and regulations that govern the conduct of Driver Education programs with special emphasis on organization and administration. Includes uses in the classroom, driving range and on the street. Prepares students so they may be eligible to take the state certification exam in driver education. Lecture 2 hours + lab 2 hours, total 4 hours per week.

EDU 235 Health, Safety, and Nutrition Education
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Focuses on the physical needs of children and explores strategies to meet these needs. Emphasizes positive health routines, hygiene, nutrition, feeding and clothing habits, childhood diseases, and safety. Places emphasis on the development of food habits and concerns in food and nutrition. Describes symptoms and reporting procedures for child abuse. Lecture 3 hours per week.

EDU 285 Teaching Online Programs (TOP)
(3 credits) Prerequisite: Proficient working knowledge of the current VCCS online course delivery system. Instructs educators in the method and practice for delivery of online course content. Includes instructional technology and instructional design theory and practice, with skills and strategies that educators will use to engage students and create a collaborative online environment.
Lecture 3 hours per week.

EDU 287 Instructional Design for Online Learning (IDOL)
(3 credits) Prepares educators to design online courses that encourage active learning and student participation. Focuses on instructional design practices including the development of content tied to learning objectives and a peer-based approach to evaluating courses. Lecture 3 hours per week.

ELECTRICAL TECHNOLOGY

ELE 127 Residential Wiring Methods
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. 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 2 hour + lab 3 hours, total 5 hours per week.

ELE 131 National Electrical Code I
(3 credits) May be taken out of sequence. Prerequisite: ENG 5 if required by individual student's placement. Provides study of the purposes and interpretations of the National Electric Code as well as familiarization and implementation of various charts, code rulings and wiring methods including state and local regulations. Lecture 3 hours per week.

ELE 132 National Electrical Code II
(3 credits) May be taken out of sequence. Prerequisite: ENG 5 if required by individual student's placement. Provides study of the purposes and interpretations of the National Electric Code, as well as familiarization and implementation of various charts, code rulings and wiring methods including state and local regulations. Lecture 3 hours per week.

ELE 133 Practical Electricity I
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Corequisite: ELE 150. Teaches the fundamentals of electricity, terminology, symbols, and diagrams. Includes the principles essential to the understanding of general practices, safety, and practical aspects of residential and non-residential wiring and electrical installation including fundamentals of motors and controls. May require preparation of a report as an out-of-class activity. Lecture 2 hours + lab 2 hours, total 4 hours per week.

ELE 138 National Electrical Code Review I
(2 credits) Prerequisite: ENG 5 if required by individual student's placement. Covers purpose and interpretation of the National Electrical Code, as well as various charts, code rulings, and wiring methods. Prepares the student to take the journeyman-level exam. Lecture 2 hours per week.

ELE 150 A.C. and D.C. Circuit Fundamentals
(3 credits) Prerequisites: ENG 5 if required by individual student's placement; MTH 1. Provides an intensive study of the fundamentals of direct and alternating current, resistance, magnetism, inductance, and capacitance, with emphasis on practical applications. Focuses on electrical/machines applications. Lecture 2 hours + lab 2 hours, total 4 hours per week.

ELE 173 Commercial Wiring Methods
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Covers electrical wiring methods and standards used for commercial buildings and provides a comprehensive study of the national electrical code that deals with commercial wiring installations including state and local regulations. Includes building wiring as well as the wiring of electrical equipment and appliances in a commercial environment. Lecture 2 hours + lab 2 hours, total 4 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 3 hours + lab 3 hours, total 6 hours per week

ELE 178 - Wind Turbine Technology
(4 credits) Prerequisite: ETR 114 or division approval. 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 3 hours + lab 3 hours, total 6 hours per week.

ELE 225 Electrical Control Systems
(4 credits) Prerequisite: ENG 5 if required by individual student's placement, ELE 150 or ETR 104 or equivalent. Studies components, equipment, and circuits that are used to control the operation of electrical machines. Explains the physical and operating characteristics of various electromagnetic, static, and programmable control devices. Investigates control schemes used to accomplish specific control objectives. Lecture 3 hours + lab 3 hours, total 6 hours per week.

ELE 238 Control Circuits
(3 credits) Prerequisite: ETR 225 and ETR 114. Deals with the principles and applications of electrical controllers which serve as an introduction to automation devices for differentiation, integration, and proportioning. Includes hardware and circuitry

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for AC and DC control devices, as well as contractors, starters, speed controllers, time delays, limit switches, and pilot devices. Demonstrates applications in the control of industrial equipment motors, servo units, and motor-driven actuators. Lecture 2 hours + lab 3 hours, total 5 hours per week.

ELE 239 Programmable Controllers
(3 credits) Prerequisite: ETR 104. Deals with installation, programming, interfacing, and concepts of troubleshooting programmable controllers. Lecture 2 hours + lab 2 hours, total 4 hours per week.

ELE 240 Advanced Programmable Controllers
(3 credits) Prerequisite: ELE 239. Advances further study of Programmable Logic Controllers that were initiated in ELE 239. Students will learn to use more advanced program instructions, including data manipulation, sequences and program control, and advanced PLC features, including timers, counters. Covers connectivity and use of a variety of real world I/O devices. Lecture 2 hours + lab 3 hours, total 5 hours per week.

ELECTRONICS TECHNOLOGY

ETR 104 Electronic Fundamentals with Computer Applications
(4 credits) Prerequisite: MTH 4 if required by individual student's placement. Teaches calculation methods and advanced applications and processes to electrical and electronic problems. Stresses basic calculations required in circuit analysis. Includes problem solving using calculators or computers. Lecture 3 hours + lab 3 hours, total 6 hours per week.

ETR 113 DC and AC Fundamentals I
(4 credits) Prerequisite: ETR 104, Corequisite: MTH 115 or MTH 163. Studies D.C. and A.C. circuits, basic electrical components, instruments, network theorems, and techniques used to predict, analyze and measure electrical quantities Lecture 3 + lab 3, total 6 hours per week.

ETR 114 DC and AC Fundamentals II
(4 credits) Prerequisite: ETR 113, Corequisite: MTH 116 or MTH 164. Studies D.C. and A.C. circuits, basic electrical components, instruments, network theorems, and techniques used to predict, analyze and measure electrical quantities. Lecture 3 hours + lab 3 hours, total 6 hours per week.

ETR 148 Amplifiers and Integrated Circuits
(4 credits) Prerequisite: ETR 113. Studies devices and amplifiers with emphasis on analysis and design. May include summing and integrating amplifiers, choppers, modulators and other circuits. Lecture 3 hours + lab 3 hours, total 6 hours per week.

ETR 231 Principles of Lasers and Fiber Optics I
(3 credits) Corequisites: ETR 104. 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 2 hours + lab 2 hours, total 4 hours per week.

ETR 250 Solid State Devices
(4 credits) Prerequisite: ETR 148, knowledge of D.C./A.C. theory and active devices and circuits. Teaches theory and application of amplifiers and oscillators. Includes amplifier circuit configurations, amplifier classes, operational amplifiers, power amplifiers, bandwidth distortion, and principles of feedback. Lecture 3 hours + lab 3 hours, total 6 hours per week

ETR 261 Microprocessor Application I
(4 credits) Prerequisite: ETR 279. 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 + lab 3 hours, total 6 hours per week.

ETR 279 Digital Principles, Terminology and Applications
(4 credits) Prerequisite: ETR 113. Studies digital principles, terminology and applications covering number systems, arithmetic, Boolean algebra, Karnaugh maps and advanced logic circuits. Includes the study of registers, encoding and decoding, and multiplexing; A/D, D/A, displays and others. Lecture 3 hours + lab 3 hours, total 6 hours per week.

ETR 286 Principles and Applications of Robotics
(3 credits) Prerequisite: ETR 148. Provides an overview of terminology, principles, practices, and applications of robotics. Studies development, programming; hydraulic, pneumatic, electronic controls; sensors, and system troubleshooting. Lecture 2 Credits + lab 2 hours, total 4 hours per week.

ETR 297 Cooperative Education in Electronics Technology
(3 credits) Prerequisite: Divisional approval required. Supervised on-the-job training in approved business firms or governmental organizations. Variable hours.

EMERGENCY MEDICAL SERVICES

EMS 100 CPR for Healthcare Providers
(1 credit) Provides instruction in Cardiopulmonary Resuscitation that meets current Emergency Cardiac Care (ECC) guidelines for Cardiopulmonary Resuscitation education for Healthcare Providers. Lecture 1 hour per week.

EMS 110 Emergency Vehicle Operator's Course (EVOC)
(1 credit) Prepares the student for certification in the operation of various emergency vehicles. Teaches proper operating procedures in both emergency and non-emergency situations. Lecture 1 hour per week.

EMS 111 Emergency Medical Technician - Basic
(6 credits) Prerequisite: CPR certification at the Health Care Provider level. Corequisite: EMS 120. Prepares student for certification as a Virginia and National Registry EMT-Basic. Includes all aspects of pre-hospital basic life support as defined by the Virginia Office of Emergency Medical Services curriculum for Emergency Medicine Technician Basic. Lecture 4 hours + lab 4 hours, total 8 hours per week.

EMS 115 Emergency Medical Technician - Basic Refresher
(2 credits) Provides 36 clock hours of instruction to meet Virginia Office of EMS requirements for recertification at the EMT-Basic level. Lecture 2 hours per week.

EMS 120 Emergency Medical Technician - Basic Clinical
(1 credit) Corequisites: EMS 111. Observes in a program approved clinical/field setting. Includes topics for both EMS 111 and EMS 113, dependant upon the program in which the student is participating. Lecture 1 hour per week.

EMS 145 EMS Responses to Specialized Incidents
(3 credits) Presents the EMS response and mitigation of specialized incidents such as hazardous materials, Weapons of Mass Destruction, natural disasters, and other specialized multi-casualty incidents. Lecture 3 hours per week.

EMS 151 Introduction to Advanced Life Support
(4 credits) Corequisite: EMS 170. Prepares the student for Virginia Enhanced certification eligibility and begins the sequence for National Registry Intermediate and/or Paramedic certification. Includes the theory and application of the following: foundations, human systems, pharmacology, overview of shock, venous access, airway management, patient assessment, respiratory emergencies, allergic reaction, and assessment based management. Conforms at a minimum to the Virginia Office of Emergency Medical Services curriculum. Lecture 3 hours + lab 2

hours, total 5 hours per week.

EMS 153 Basic ECG Recognition
(2 credits) Focuses on the interpretation of basic electrocardiograms (ECG) and their significance. Includes an overview of anatomy and physiology of the cardiovascular system including structure, function and electrical conduction in the heart. Covers advanced concepts that build on the knowledge and skills of basic dysrhythmias determination and introduction to 12 lead ECG. Lecture 2 hours per week.

EMS 155 Advanced Life Support - Medical Care
(4 credits) Prerequisites: Current EMT-B certification, EMS 151 and EMS 153. Continues the Virginia Office of Emergency Medical Services Intermediate and/or Paramedic curricula. Includes ALS pharmacology, drug and fluid administration with emphasis on patient assessment, differential diagnosis and management of multiple medical complaints. Includes, but are not limited to conditions relating to cardiac, diabetic, neurological, non-traumatic abdominal pain, environmental, behavioral, gynecology, and toxicological disease conditions. Lecture 3 hours. Lab 2 hours, total 5 hours per week.

EMS 157 Advanced Life Support - Trauma Care
(3 credits) Prerequisites: Current EMT-B Certificate and EMS 151. Continues the Virginia Office of Emergency Medical Services Intermediate and/or Paramedic curricula. Utilizes techniques which will allow the student to utilize the assessment findings to formulate a field impression and implement the treatment plan for the trauma patient. Lecture 2 hours + lab 2 hours, total 4 hours per week.

EMS 159 Advanced Live Support Special Populations
(2 credits) Prerequisites: EMT-B Certification and EMS 151 and EMS 153. Corequisite: EMS 155. Continues the Virginia office of Emergency Medical Services Intermediate and/or Paramedic curricula. Focuses on the assessment and management of speciality patients including obstetrical, neonates, pediatric, and geriatrics. Lecture 1 hour. Lab 2 hours. Total 3 hours per week

EMS 163 Prehospital Life Support
(1 credit) Prerequisites: EMS 111 or equivalent. Prepares for certification as a Prehospital Trauma Life Support provider as defined by the American College of Surgeons. Lecture 1 hour per week.

EMS 165 Advanced Cardiac Life Support
(1 credit) Prerequisites: EMS 111 , EMS 153 or equivalent. Prepares for certification as an Advanced Cardiac Life provider. Follows course as defined by the American Heart Association. Lecture 1 hour per week.

EMS 170 Advanced Life Support Internship I
(1 credit) Begins the first in a series of clinical experiences providing supervised direct patient contact in appropriate patient care facilities in and out of hospitals. Includes but not limited to patient care units such as the Emergency Department, Critical Care units, Pediatric, Labor and Delivery, Operating Room, Trauma centers and various advanced life support units. Lab 3 hours per week.

EMS 172 Advanced Life Support Clinical Internship II
(2 credits) Corequisite: EMS 151. Continues with the second in a series of clinical experiences providing supervised direct patient contact in appropriate patient care facilities in and out of hospitals. Includes but not limited to patient care units such as the Emergency Department, Critical Care units, Pediatric, Labor and Delivery, Operating Room and Trauma Centers. Lab 6 hours per week.

EMS 173 Advanced Life Support Field Internship II
(1 credit) Continues with the second in a series of field experiences providing supervised direct patient care in out-of-hospital advanced life support units. Lab 3 hours per week.

EMS 201 EMS Professional Development
(2 credits) Prepares students for Paramedic certification at the National Registry Level by fulfilling community activism, personal wellness, resource management, ethical considerations in leadership and research objectives in the Virginia Office of Emergency Medical Services Paramedic curriculum. Lecture 2 hours per week.

EMS 205 Advanced Pathophysiology
(3 credits) Focuses on the pathological processes of disease with emphasis on the anatomical and physiological alterations of the human body by systems. Includes diagnosis and management appropriate to the advanced health care provider in and out of the hospital environment. Lecture 3 hours per week.

EMS 207 Advanced Patient Assessment
(3 credits) Focuses on the principles of normal and abnormal physical exam. Emphasizes the analysis and interpretation of physiological data to assist in patient assessment and management. Applies principles during the assessment and management of trauma, medical, and specialty patients in laboratory environment.
Lecture 2 + lab 2 hours, total 4 hours per week.

EMS 209 Advanced Pharmacology
(4 credits) Focuses on the principles of pharmacokinetics, pharmacodynamics and drug administration. Includes drug legislation, techniques of medication administration, and principles of math calculations. Emphasizes drugs used to manage respiratory, cardiac, neurological, gastrointestinal, fluid and electrolyte and endocrine disorders and includes classification, mechanism of action, indications, contraindications, precautions, and patient education. Incorporates principles related to substance abuse and hazardous materials. Applies principles during the assessment and management of trauma, medical, and specialty patients in a laboratory environment. Lecture 3 hours + Lab 2 hours, total 5 hours per week.

EMS 211 Operations
(2 credits) Prepares the student in the theory and application of the following: medical incident command, rescue awareness and operations, hazardous materials incidents, and crime scene awareness. (Conforms to the current Virginia Office of Emergency Medical Services curriculum for EMT-Paramedics.) Lecture 1 hour. Lab 2 hours, total 3 hours per week.

EMS 213 ALS Skills Development
(2 credits) Utilizes reinforcement and remediation of additional advanced life support skills, as needed. Lab 4 hours per week.

EMS 215 Registry Review
(1 credit) Reviews material covered in the intermediate/paramedic program. Prepares the student for National Registry testing. Lecture 1 hour per week.

EMS 242 ALS Clinical Internship III
(1 credit) Continues with the third in a series of clinical experiences providing supervised direct patient contact in appropriate patient care in and out of hospitals. Includes but not limited to patient care units such as the Emergency Department, Critical Care units, Pediatric, Labor and Delivery, Operating Room, Trauma Centers and various advanced life support units. Lab 3 hours per week.

EMS 243 ALS Field Internship III
(1 credit) Continues with the third in a series of field experiences providing supervised direct patient care in out-of-hospital advanced life support units. Lab 3 hours per week.

EMS 244 ALS Clinical Internship IV
(1 credit) The fourth in a series of clinical experiences providing direct patient contact in appropriate patient care facilities in-and-out of hospitals. Includes, but not limited to patient care units such as the Emergency Department, Critical Care units, Pediatric, Labor and Delivery, Operating Room and Trauma Centers. Lab 3 hours per week.

EMS 245 ALS Field Internship IV
(1 credit) Continues with the fourth in a series of field experiences providing supervised direct patient care in out-of-hospital advanced life support units. Lab 3 hours per week.

EMS 263 EMS Instructor Training
(3 credits) Develops skills in instructional design, delivery and evaluation. Includes: principles of adult learning and student learning styles; development of instructional objectives; preparation of lesson plans, preparation and use of instructional aids, class participation techniques, practical skill instruction, providing student feedback and evaluating performance. Lecture 3 hours per week.

ENERGY TECHNOLOGY

ENE 120 - Solar Power - Photovoltaic and Thermal
(4 credits) Prerequisite: ETR 104. Studies the production and conversion of electrical energy from modular to grid power systems. Covers the storage of energy, thermal solar capture, and storage for residential and commercial applications. Covers energy conversion and storage equipment based on size and efficiency. Lecture 3 hours + lab 3 hours, total 6 hours per week.

ENGINEERING

EGR 110 Engineering Graphics
(3 credits) Prerequisite: ENG 5 if required by individual student's placement; Corequisite: MTH 163. Presents theories and principles of orthographic projection. Studies multiview, pictorial drawings and sketches, geometric construction, sectioning, lettering, tolerancing, dimensioning and auxiliary projections. Studies the analysis and graphic presentation of space relationships of fundamental geometric elements; points, lines, planes, and solids. Includes instruction in computer aided drafting. Lecture 2 hours + lab 2 hours, total 4 hours per week.

EGR 120 Introduction to Engineering
(2 credits) Prerequisites: ENG 5 if required by student's placement; four units of high school mathematics; Corequisite: MTH 173 or equivalent. 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. Lecture 1 hour + lab 3 hours, total 4 hours per week.

EGR 126 Computer Programming for Engineers
(3 credits) Prerequisite: EGR 120. Introduces computers, their architecture and software. Teaches program development using flowcharts. Solves engineering problems involving programming in "C" or "C++." Lecture 3 hours per week.

EGR 140 Engineering Mechanics-Statics
(3 credits) Prerequisite: EGR 120. Corequisites: MTH 174. 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 and friction and internal forces. Lecture 3 hours per week.

EGR 218 – Introduction to Modeling and Simulation
(3 credits) Prerequisite: EGR 126 or CSC 201. Co-requisite: MTH 174. Introduces basic concepts in modeling, simulation, and visualization. Includes applications in various phases of product creation and development; use of software and hardware interfaces to improve use and understanding of simulations; and current topics and future directions in modeling, simulation, and visualization. Lecture 3 hours per week.

EGR 230 - Discrete Event Simulation
(4 credits) Prerequisite: EGR 218. Introduces fundamentals of modeling and simulating discrete-state, event driven systems. Includes basic simulation concepts and terms, queuing theory models for discrete event systems, structure of discrete event simulations, problem formulation and specification, input data representation, output data analysis, verification and validation, and the design of simulation experiments. Lecture 3 hours + lab 3 hours, total 7 hours per week.

EGR 245 Engineering Mechanics-Dynamics
(3 credits) Prerequisites: EGR 140. Corequisite: MTH 277. 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) Prerequisites: EGR 140. Corequisite: MTH 291. 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 principal stresses, column analysis and energy principles. Lecture 3 hours per week.

EGR 260 Circuit Analysis
(3 credits) Prerequisite: EGR 120. Corequisite: MTH 291. Covers topics in linear circuit analysis, including basic electrical properties, resistive circuits, network equations, operational amplifiers, network reduction techniques, network theorems, two-port parameters and networks, inductors, capacitors, first-order circuits, second-order circuits and phasor analysis. Lecture 3 hours per week.

EGR 261 Signals and Systems
(3 credits) Prerequisite: EGR 260. Covers topics including Laplace transforms and Laplace transform analysis of circuits, time and frequency domain representation of linear systems, methods of linear systems analysis including convolution and Laplace transforms, frequency domain representation of signals including frequency response, filters, Fourier series, and Fourier transforms. Lecture 3 hours per week.

EGR 277 Digital Logic
(3 credits) Prerequisites: EGR 260. Corequisite: EGR 278. Presents an introduction to digital logic, including such topics as number systems, Boolean algebra, minimization techniques, implementation of digital functions, sequential machines, state diagrams, state tables, and programmable logic devices. Lecture 3 hours per week.

EGR 278 Digital Logic Laboratory
(2 credits) Corequisite: EGR 277. Constructs digital logic circuits to verify analysis and design methods. Covers logic gates, combinational and sequential logic circuits, programmable logic devices, measurement techniques, and report writing. Laboratory 4 hours per week.

ENGLISH

ENG 1 Preparing for College Writing I
(4 credits) Helps students discover and develop writing processes needed to bring their proficiency to the level necessary for entrance into their respective curricula. Guides students through the process of starting, composing, revising, and editing. Lecture 4 hours per week.

ENG 3 Preparing for College Writing II
(3 credits) Prerequisite: ENG 1 if required by student's placement. Emphasizes strategies within the writing process to help students with specific writing situations. Develops techniques to improve clarity of writing and raise proficiency to the level necessary for entrance into particular curricula. Lecture 3 hours per week.

Course Descriptions

ENG 4 Preparing for College Reading I
(4 credits) Prepares students to be successful in college-level reading assignments with developmentally appropriate materials. Emphasizes strategies within the reading process to help students increase their understanding of reading materials. Includes word forms and meanings, comprehension techniques, ways to control reading pace. Lecture 4 hours per week.

ENG 5 Preparing for College Reading II
(4 credits) Prerequisite: ENG 4 if required by student's placement. Prepares students to be successful in college-level reading assignments. Emphasizes strategies within the reading process to help students read critically and increase appreciation of reading. Guides the student in making inferences, drawing conclusions, detecting relationships between generalizations and supporting details. Includes interpreting graphic aids and library skills. Lecture 4 hours per week.

ENG 100 Basic Occupational Communication
(3 credits) Prerequisite: "C" average or better in four units of high school English (or equivalent) and satisfactory score on the placement exam or satisfactory completion of ENG 3, ENG 5. Develops the ability to communicate in occupational situations. Involves writing, reading, speaking, and listening. Builds practical skills such as handling customer complaints, writing various types of letters, and preparing for a job interview. (Intended for certificate and diploma students.) Lecture 3 hours per week.

ENG 105 Communication in Business and Industry
(1-6 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Develops ability to communicate effectively in business and industry, emphasizing gathering, organizing, and transmitting information. Primarily for non-curricular, on-site use in business and industry. Variable hours per week.

ENG 107 Critical Reading
(3 credits) Prerequisites: COMPASS reading score of 72-80 and placement in ENG 1. Helps students refine their reading processes. Emphasizes applying and synthesizing ideas. Includes ways to detect organization, make inferences, draw conclusions, evaluate generalizations, recognize differences between facts and opinions, and other advanced strategies for comprehension. May include comprehensive library skills. Lecture 3 hours per week.

ENG 109 Study Skills
(3 credits) Helps students refine their learning processes. Introduces ways to manage time, to listen and take notes in class, to make notes from books, to preview textbooks, to use the library, to prepare outlines and summaries, to prepare for and take examinations, and to improve memory. Lecture 3 hours per week.

ENG 111 College Composition I
(3 credits) Must be taken in sequence. Prerequisites: "C" average or better in four units of high school English (or equivalent) and satisfactory score on the placement exam or satisfactory completion of ENG 3, ENG 5. Introduces students to critical thinking and the fundamentals of academic writing. Through the writing process, students refine topics; develop and support ideas; investigate, evaluate, and incorporate appropriate resources; edit for effective style and usage; and determine appropriate approaches for a variety of contexts, audiences, and purposes. Writing activities will include exposition and argumentation with at least one researched essay. Lecture 3 hours per week.

ENG 112 College Composition II
(3 credits) Prerequisites: ENG 111 or its equivalent, and must be able to use word processing software. Continues to develop college writing with increased emphasis on critical essays, argumentation, and research, developing these competencies through the examination of a range of texts about the human experience. Requires students to locate, evaluate, integrate, and document sources and effectively edit for style and usage. Lecture 3 hours per week.

ENG 115 Technical Writing
(3 credits) Prerequisite: ENG 111. 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 readings. Requires oral presentation of original work. 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. Lecture 3 hours per week.

ENG 121-122 Introduction to Journalism I-II
(3 credits) Prerequisite: ENG 111 or ENG 112 or divisional approval. Must be taken in sequence. Introduces students to all news media, especially news gathering and preparation for print. Lecture 3 hours per week.

ENG 125 Introduction to Literature
(3 credits) Prerequisite: ENG 111. Introduces students to a range of literary genres that may include poetry, fiction, drama, creative nonfiction, and other cultural texts, as it continues to develop college writing. Lecture 3 hours per week.

ENG 134 Grammar for Writing and Speaking
(3 credits) Studies the various parts of speech with application to both writing and speaking. Includes significant assignments to demonstrate skills in a variety of written and oral communication, and emphasizes the skills necessary for correct everyday usage of the English language. Lecture 3 hours per week.

ENG 137 Communication Processes I
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Covers content, form, and procedures for research writings, which may include reports, articles, summaries, essays, and correspondence. Stresses editing, proofreading skills, sentence structure, and paragraph development. Offers instruction and practice in oral communications and writing assignments. Lecture 3 hours per week.

ENG 150 Children's Literature
(3 credits) Prerequisite: ENG 112 or division approval. Surveys the history of children's literature, considers learning theory and developmental factors influencing reading interests, and uses bibliographic tools in selecting books and materials for recreational interests and educational needs of children. Lecture 3 hours per week.

ENG 210 Advanced Composition
(3 credits) Prerequisite: ENG 112 or divisional approval. Helps students refine skills in writing non-fiction prose. Guides development of individual voice and style. Introduces procedures for publication. Lecture 3 hours per week.

ENG 211-212 Creative Writing I-II
(3 credits/3 credits) May be taken out of sequence. Prerequisite: ENG 112 or divisional approval. Introduces the student to the fundamentals of writing imaginatively. Students write in forms to be selected from poetry, fiction, drama, and essays. Lecture 3 hours per week.

ENG 230 Mystery in Literature and Film
(3 credits) Prerequisite: ENG 112 or division approval. Studies the mystery as a genre, including history, types and cultural aspects of stories, novels, plays, film adaptations. Involves critical reading, writing, and viewing. Lecture 3 hours per week.

ENG 237 Introduction to Poetry
(3 credits) Prerequisite: ENG 112 or division approval. Examines selected poetry, emphasizing the history of the genre. Involves critical reading and writing. Lecture 3 hours per week.

ENG 241-242 Survey of American Literature I-II
(3 credits/3 credits) Recommended to be taken in sequence. Prerequisite: ENG 112 or divisional approval. Examines American literary works from colonial times to the present, emphasizing the ideas and characteristics of our national literature. Involves critical reading and writing. Lecture 3 hours per week.

ENG 243-244 Survey of English Literature I-II
(3 credits/3 credits) Recommended to be taken in sequence. Prerequisite: ENG 112 or divisional approval. 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. Lecture 3 hours per week.

ENG 251-252 Survey of World Literature I-II
(3 credits/3 credits) Recommended to be taken in sequence. Prerequisite: ENG 112 or divisional approval. Examines major works of world literature. Involves critical reading and writing. Lecture 3 hours per week.

ENG 253-254 Survey of African-American Literature I-II
(3 credits/3 credits) Prerequisite: ENG 112 or divisional approval. Examines selected works by Black American writers from the colonial period to the present. Involves critical reading and writing. Lecture 3 hours per week.

ENG 256 Literature of Science Fiction
(3 credits) Prerequisite: ENG 112 or division approval. Examines the literary and social aspects of science fiction, emphasizing development of ideas and techniques through the history of the genre. Involves critical reading and writing. Lecture 3 hours per week.

ENG 261-262 Advanced Creative Writing I-II
(3 credits/3 credits) May be taken out of sequence. Prerequisite: ENG 112 or divisional approval. Guides the student in imaginative writing in selected genres on an advanced level. Lecture 3 hours per week.

ENG 273-274 Women in Literature I-II
(3 credits/3 credits) May be taken out of sequence. Prerequisite: ENG 112 or divisional approval. Examines literature by and about women. Provides both historical and thematic surveys of the literature. Involves critical reading and writing. Lecture 3 hours per week.

ENG 279 Film and Literature
(3 credits) Prerequisite: ENG 112 or divisional approval. Examines the translation of literature into film viewing and writing. Lecture 3 hours per week.

ENGLISH AS A SECOND LANGUAGE

ESL 5 English as a Second Language: Reading I
(4 credits) Helps students improve their reading comprehension and vocabulary. Improves students' reading proficiency to a level which would allow the students to function adequately in ESL 6 and other college classes. Lecture 4 hours per week.

ESL 6 English as a Second Language: Reading II
(4 credits) Helps students improve their reading comprehension and vocabulary. Improves students' reading proficiency to a level which would allow students to function adequately in the ESL 17 reading class and other college classes. Lecture 4 hours per week.

ESL 7 Oral Communication I
(3 credits) Helps students practice and improve listening and speaking skills as needed for functioning

successfully in academic, professional and personal settings. Assesses students' oral skills and includes, as needed, practice with pronunciation, rhythm, stress, and intonation. Provides exercises, practices, small and large group activities, and oral presentations to help students overcome problems in oral communication. Lecture 3 hours per week.

ESL 8 Oral Communication II
(3 credits) Provides further instruction and practice in helping students to improve listening and speaking skills. Assesses students' oral skills and includes, as needed, practice with pronunciation, rhythm, stress, and intonation. Emphasizes the development of fluency through exercises, practices, small and large group activities, and formal and informal presentations. Lecture 3 hours per week.

ESL 11 English as a Second Language: Composition I
(3 credits) Provides instruction and practice in the writing process, emphasizing development of fluency in writing and competence in structural and grammatical patterns of written English. Lecture 3 hours per week.

ESL 12 English as a Second Language: Composition II
(3 credits) Provides further instruction and practice in the writing process, and introduces advanced language patterns. Includes practice in developing and improving writing strategies. Lecture 3 hours per week.

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 110 Principles of Banking
(3 credits) Presents nearly every aspect of banking, providing a comprehensive introduction to the diversified services and operations of the banking industry. Focuses on new trends gaining attention in banking circles. Recommended for all banking students. Lecture 3 hours per week.

FIN 215 Financial Management
(3 credits) Prerequisite: ACC 212. 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.

FIRE SCIENCE TECHNOLOGY

FST 100 Principles of Emergency Services
(3 credits) Provides an overview to fire protection; career opportunities in fire protection and related fields; philosophy and history of fire protection/service; fire loss analysis; organization and function to public and private fire protection services; fire departments as part of local government; laws and regulations affecting the fire service; fire service nomenclature; specific fire protection functions; basic fire chemistry and physics; introduction to fire protection systems; introduction to fire strategy and tactics. Lecture 3 hours per week.

FST 105 Fire Suppression Operations
(3 credits) Introduces the fundamentals of fire suppression. Explores fire behavior and basic physical and chemical laws of fire dynamics. Prepares student to understand the need for quick operational decisions made on the fire ground including emergency management. Lecture 3 hours per week.

FST 110 Fire Behavior and Combustion
(3 credits) Explores the theories and fundamentals of how and why fires start, spread, and how they are controlled. Lecture 3 hours per week.

FST 112 Hazardous Materials Chemistry
(3 credits) Provides basic fire chemistry relating to the categories of hazardous materials including problems of recognition, reactivity, and health encountered by firefighters. Lecture 3 hours per week.

FST 115 Fire Prevention
(3 credits) Provides fundamental information regarding the history and philosophy of fire prevention, organization and operation of a fire prevention bureau, use of fire codes, identification and correction of fire hazards, and the relationships of fire prevention with built-in fire protection systems, fire investigation, and fire and life-safety education. Lecture 3 hours per week.

FST 120 Occupational Safety and Health for the Fire Service
(3 credits) Introduces the basic concepts of occupational health and safety as it relates to emergency service organizations. Includes risk evaluation and control procedures for fire stations, training sites, emergency vehicles, and emergency situations involving fire, EMS, hazardous materials, and technical rescue. (Upon completion of this course, students should be able to establish and manage a safety program in an emergency service organization. Lecture 3 hours per week.

FST 135 Fire Instructor I
(3 credits) Emphasizes development of teaching methods and aids, including role-playing, small group discussion and development of individual learning methods and materials. Requires students to develop lesson plans and make presentations on appropriate topics. Based on current requirements of NFPA 1041, Standards for Fire Instructor Professional Qualifications, and prepares student for certification as Fire Instructor I. Lecture 3 hours per week.

FST 140 Fire Officer I
(4 credits) Presents a basic course to help individuals develop the skills needed to supervise and direct personnel, and manage resources at the company level; and is based on the current requirements of the NFPA 1021, Standards for Fire Officer Professional Qualifications. Prepares student for certification as Fire Officer I. Lecture 4 hours per week.

FST 205 Fire Protection Hydraulics and Water Supply
(3 credits) Provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and to solve water supply problems. Lecture 3 hours per week.

FST 210 Legal Aspects of Fire Service
(3 credits) Introduces the Federal, State, and local laws that regulate emergency services, national standards influencing emergency services, standard of care, tort, liability, and a review of relevant court cases. Lecture 3 hours per week.

FST 215 Fire Protection Systems
(3 credits) Provides information relating to the features of design and operation of fire detection and alarm systems, heat and smoke control systems, special protection and sprinkler systems, water supply for fire protection and portable fire extinguishers. Lecture 3 hours per week.

FST 220 Building Construction for Fire Protection
(3 credits) Provides the components of building construction that relate to fire and life safety. Focuses on firefighter safety. Covers the elements of construction and design of structures and how they are key factors when inspecting buildings, preplanning fire operations, and operating at emergencies. Lecture 3 hours per week.

FST 235 Strategy and Tactics
(3 credits) Provides an in-depth analysis of the principles of fire control through utilization of personnel, equipment, and extinguishing agents on the fire ground. Lecture 3 hours per week.

FST 237 Emergency Service Supervision
(3 credits) Teaches the history of modern management theories, including scientific management and behavioral scientist approach. Introduces concepts of group dynamics, leadership, communication, stress and time management, and personnel evaluation techniques. Discusses the legal and ethical considerations of personnel management in the emergency service. Lecture 3 hours per week.

FST 240 Fire Administration I
(3 credits) Introduces the student to the organization and management of a fire department and the relationship of government agencies to the first service. Emphasis on fire service leadership from the perspective of the company officer. Lecture 3 hours per week.

FST 245 Fire Risk and Analysis
(3 credits) Prerequisite: FST 240. Presents a study of current urban fire problems with emphasis on solutions based upon current available technology. Includes master planning, as well as methods of identifying, analyzing and measuring accompanying risk and loss possibilities. Lecture 3 hours per week.

FST 290 Coordinated Internship
(4 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. Lecture 4 hours per week.

FST 297 Cooperative Education
(4 credits) Supervises in on-the-job training for pay in approved business, industrial and service firms, coordinated by the college's cooperative education office. Is applicable to all occupational-technical curricula at the discretion of the college. Credit/work ratio not to exceed 1:5 hours. Lecture 4 hours per week.

FRENCH

FRE 101-102 Beginning French I-II
(4 credits/4 credits) Must be taken in sequence. Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Introduces understanding, speaking, reading, and writing skills and emphasizes basic French sentence structure. Lecture 4 hours per week. May include one additional hour of oral practice per week.

FRE 201-202 Intermediate French I-II
(4 credits/4 credits) Must be taken in sequence. Prerequisites: FRE 102 or equivalent. Continues to develop understanding, speaking, reading, and writing skills. French is used in the classroom. Lecture 4 hours per week. May include one additional hour of oral practice per week.

GEOGRAPHICAL INFORMATION SYSTEMS

GIS 200 Geographical Information Systems
(4 credits) Prerequisite: ITE 115 or ITE 119 or departmental approval. Provides hands-on introduction to a dynamic desktop GIS (Geographic Information System). Introduces the components of a desktop GIS and their functionality. Emphasizes manipulation of data for the purpose of analysis, presentation, and decision-making. Lecture 3 hours + lab 2 hours, total 5 hours per week.

GIS 201 Geographical Information Systems II
(4 credits) Prerequisite: GIS 200. Provides a continuation of GIS 200, with emphasis on advanced topics in problem solving, decision-

Course Descriptions

making, modeling, programming, and data management. Covers map projections and data formats, and methods for solving the problems they create. Lecture 3 hours + lab 2 hours, total 5 hours per week.

GIS 205 GIS 3-Dimensional Analysis
(4 credits) Prerequisite: GIS 201. Introduces GIS 3D (three-dimensional) concepts and practices with a concentration on displaying, creating and analyzing spatial GIS data using 3D. Covers 3D shape files, 3D data formats such as Tins, DEMs, grids and controlling the perspective and scale of 3D data through rotating, panning and zooming. Lecture 3 hours + lab 2 hours, total 5 hours per week.

GIS 210 Understanding Geographic Data
(4 credits) Prerequisite: GIS 201. Provides the student an introduction to geographic data and the principles behind their construction. Introduces concepts for measuring locations and characteristics of entities in the real world. Exposes the student to the limitations and common characteristics of geographic data. Lecture 3 hours, lab 2 hours, total 5 hours per week.

GEOGRAPHY

GEO 200 Introduction to Physical Geography
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Studies major elements of the natural environment, including earth-sun relationship, land forms, weather and climate, natural vegetation and soils. Introduces the student to types and uses of maps. Lecture 3 hours per week.

GEO 210 People and the Land: An Introduction to Cultural Geography
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Focuses on the relationship between culture and geography. Presents a survey of modem 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.

GEO 221-222 Regions of the World I-II
(3 credits/3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Presents an overview of physical and cultural characteristics of selected geographical regions of the world. Focuses upon significant problems within each of the regions. Studies the European cultural sphere including Europe, Soviet Union, the Americas and Australia and the emerging nations in Africa, Southwest Asia and the Orient. Introduces the student to types and uses of maps. Lecture 3 hours per week.

GEO 230 Political Geography
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Emphasizes the influence of geography on political systems and nation states. Discusses historic and current events including campaigns, wars, and treaties as functions of land, resources, and energy requirements. Introduces the student to types and uses of maps. Lecture 3 hours per week.

GEOLOGY

GOL 105 Physical Geology
(4 credits) Prerequisites: ENG 5 if required by individual student's placement, MTH 3. Introduces the composition and structure of the earth and modifying agents and processes. Investigates the formation of minerals and rocks, weathering, erosion, earthquakes, and crystal deformation. Lecture 3 hours + lab 3 hours, total 6 hours per week.

GOL 106 Historical Geology
(4 credits) Prerequisite: GOL 105 or divisional approval. 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 + lab 3 hours, total 6 hours per week.

GOL 111 - Oceanography I
(4 credits) Prerequisite: MTH 3 and ENG 5. Examines the dynamics of the oceans and ocean basins. Applies the principles of physical, chemical, biological, and geological oceanography. Part I of II.
Lecture 3 hours + lab 3 hours, total 6 hours per week.

GOL 112 - Oceanography II
(4 credits) Prerequisite: GOL 111 or division approval. Examines the dynamics of the oceans and ocean basins. Applies the principles of physical, chemical, biological, and geological oceanography. Part II of II. Lecture 3 hours + lab 3 hours, total 6 hours per week.

GERMAN

GER 101-102 Beginning German I-II
(4 credits/4 credits) Must be taken in sequence. Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Introduces understanding, speaking, reading, and writing skills and emphasizes basic German sentence structures. Lecture 4 hours per week. May include one additional hour of oral practice per week.

GER 201-202 Intermediate German I-II
(4 credits/4 credits) Must be taken in sequence. Prerequisites: GER 102 or equivalent. Continues to develop understanding, speaking, reading, and writing skills. German is used in the classroom. Lecture 4 hours per week. May include one additional hour of oral practice per week.

HEALTH

HLT 106 First Aid and Safety
(2 credits) Prerequisite: ENG 5 if required by individual student's placement. Focuses on the principles and techniques of safety and first aid. Lecture 2 hours per week.

HLT 110 Concepts of Personal and Community Health
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. 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 116 Introduction to Personal Wellness Concepts
(3 credits) Prerequisite: ENG 5 if required by individual student placement. Introduces students to the dimensions of wellness including the physical, emotional, environmental, spiritual, occupational, and social components. Lecture 3 hours per week.

HLT 130 Nutrition and Diet Therapy
(2 credits) Prerequisite: ENG 5 if required by individual student's placement. Studies nutrients, sources, functions, and requirements with an introduction to diet therapy. Lecture 1 hour + lab 1 hour, total 2 hours per week.

HLT 138 Principles of Nutrition
(2 credits) Prerequisite: ENG 5 if required by individual student's placement. Studies nutrient components of food, including carbohydrates, fats, proteins, vitamins, minerals, and water. Provides a behavioral approach to nutrient guidelines for the development and maintenance of optimum wellness. Lecture 2 hours per week.

HLT 140 - Orientation to Health Related Professions
(2 credits) Prerequisite: ENG 5 if required by individual student's placement. Explores the interrelated roles and functions of various members of the health team. Lecture 2 hours per week.

HLT 143 Medical Terminology I
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Provides an understanding of medical abbreviations and terms. Includes the study of prefixes, suffixes, word stems, and technical terms with emphasis on proper spelling, pronunciation, and usage. Emphasizes more complex skills and techniques in understanding medical terminology. Lecture 3 hours per week.

HLT 156 - Health Care for Athletic Injuries
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Teaches prevention and care of athletic injuries, recognition and management of head and spinal injuries, fractures, strains, sprains, as well as cardiac emergencies. Discusses taping, protective equipment, and medical referral. Lecture 3 hours per week.

HLT 195 Topics in Health
(2 credit) Provides an opportunity to explore topical areas of interest to or need by students. May be sued also for special honors courses. May be repeated for credit. Lecture 2 hours per week.

HLT 199 Supervised Study
(1-5 credits) Assigns problems for independent study incorporating previous instruction and supervised by the instructor. May be repeated for credit

HLT 200 Human Sexuality
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Provides a basic understanding of human sexuality. Includes anatomy, physiology, pregnancy, family planning, venereal diseases, and sexual variations. Lecture 3 hours per week.

HLT 204 Women's Health
(3 credits) Prerequisite: ENG 5 if required by individual student placement. Explores current issues related to women's health and wellness with an emphasis upon prevention of disease and optimum well being. Takes a multi-ethnic approach to exploring the most up-to-date findings, diagnostic tools, and treatments for breast cancer, reproductive tract illness, heart, and other common diseases faced by women from puberty through menopause. Lecture 3 hours per week.

HLT 210 Workplace Stress Management
(2 credit) Provides an understanding of the multi-dimensional impacts of stress and its manifestation in the workplace. Explores specific strategies for eliminating, changing, and managing stressors in the workplace. Lecture 2 hours per week.

HLT 215 Personal Stress and Stress Management
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Provides a basic understanding of stress and its physical, psychological, and social effects. Includes the relationship between stress and change, self-evaluation, sources of stress, and current coping skills for handling stress. Lecture 3 hours per week.

HLT 220 Concepts of Disease
(3 credits) Emphasizes general principles, classifications, causes, and treatments of selected disease processes. Intended primarily for students enrolled in health technology programs. 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 270 - Health and Well-Being of the Older Adult
(3 credits) Prerequisite: ENG 3, ENG 5 if required by individual student's placement. Admission to

the program. Focuses on the health of the older adult; teaches health promotion; preventative health techniques; and accident prevention. Lecture 3 hours per week.

HLT 295 Topics in Health
(1-5 credits) Provides an opportunity to explore topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours.

HISTORY

HIS 101-102 History of Western Civilization I-II
(3 credits/3 credits) May be taken out of sequence. Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Examines the development of western civilization from ancient times to the present. The first semester ends with the seventeenth century; the second semester continues through modem times. Lecture 3 hours per week.

HIS 111-112 History of World Civilization I-II
(3 credits/3 credits) May be taken out of sequence. Prerequisites: ENG 3, ENG 5 if required by individual student's placement. 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) May be taken out of sequence. Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Surveys United States history from its beginning to the present. Lecture 3 hours per week.

HIS 141-142 African-American History I-II
(3 credits/3 credits) May be taken out of sequence. Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Surveys the history of Black Americans from their African origins to the present. Lecture 3 hours per week.

HOTEL-RESTAURANT-INSTITUTIONAL MANAGEMENT

HRI 101-102 Hotel-Restaurant Organization and Management I-II
(3 credits/3credits) Prerequisites: ENG 1, ENG 4 if required by individual student's placement. Introduces the history, opportunities, problems and trends of the hospitality industry. Covers the organization of the various sectors of the hospitality industry including human resources, general business considerations, and management theory. Lecture 3 hours per week.

HRI 105 Introduction to Culinary Arts
(1 credit) Prerequisites: ENG 1, ENG 4 if required by individual student's placement. Covers the historical perspective of the cooking and hospitality industry. Includes career paths and opportunities for culinarians, culinary professionalism, people skills, motivational and organizational skills. Lecture 1 hour per week.

HRI 115 Food Service Managers Sanitation Certification
(1 credit) Prerequisites: ENG 1, ENG 4 if required by individual student's placement. Presents an accelerated survey of principles and applications of sanitary food service, designed to promote the skills of managers in food service establishments licensed by the Commonwealth of Virginia. (Upon successful completion of the course, a certificate of achievement is awarded by the Educational Foundation of the National Restaurant Association and the student's name is entered in the Foundation Registry.) Lecture 1 hour per week.

HRI 119 Applied Nutrition for Food Service
(3 credits) Prerequisites: ENG 1, ENG 4 if required by individual student's placement. Studies food composition, nutrition science, and application of nutrition principles by the food service professional. Provides the student with a basic understanding of human nutrition and application of nutrition in the service of commercially prepared meals. Lecture 3 hours per week

HRI 134 Food and Beverage Service Management
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Provides a conceptual and technical framework for managing the service of meals in a variety of commercial settings. Studies the integration of production and service delivery, guest contact dynamics, reservations management and point-of-sale systems. Lecture 3 hours per week.

HRI 154 Principles of Hospitality Management
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Presents basic understanding of the hospitality industry by tracing the industry's growth and development, reviewing the organization and management of lodging, food, and beverage operations, and focusing on industry opportunities and future trends. Lecture 3 hours per week.

HRI 165 Hotel Housekeeping and Engineering Management
(4 credits) Prerequisites: ENG 1, ENG 4 if required by individual student's placement. Studies housekeeping and engineering departments of a hotel. Emphasizes organization, staffing, scheduling, staff development, cleaning materials and procedures, preventive maintenance, refurbishing, design, safety, and computer applications. Lecture 4 hours per week.

HRI 190 Coordinated Internship in Hotel-Restaurant and Institutional Management
(3 credits) Prerequisites: ENG 1, ENG 4 if required by individual student's placement. Supervised on-the-job training in selected business, industrial or service firms coordinated by the college. Lecture 3 hours per week.

HRI 197 Cooperative Education in Hotel-Restaurant and Institutional Management
(3 credits) Prerequisites: ENG 1, ENG 4 if required by individual student's placement. 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.

HRI 215 Food Purchasing
(3 credits) Prerequisites: ENG 1, ENG 4 if required by individual student's placement. Presents the method and procedures for purchasing food for hotels, restaurants and institutions. Deals with markets, federal and trade grades, governmental regulations, packaging, comparative versions price buying, yields and quality control. Lecture 3 hours per week.

HRI 224 Recipe and Menu Management
(3 credits) Prerequisites: ENG 1, ENG 4 if required by individual student's placement. Presents a comprehensive framework for creating and evaluating recipes and menus for commercial and non-commercial food service operations. Requires students to use microcomputer software to design recipes, recipe files, and menus. Teaches students menu engineering analysis and methods for optimizing menu contribution margin. Lecture 3 hours per week..

HRI 265 Hotel Front Office Operations
(3 credits) Prerequisites: ENG 1, ENG 4 if required by individual student's placement. Analyzes hotel front office positions and the procedures involved in reservation registration, accounting for and checking out guests, and principles and practices of night auditing. Covers the complete guest operation in both traditional and computerized operations. Lecture 3 hours per week.

HRI 290 Coordinated Internship in Hotel, Restaurant, Institutional Management
(3 credits) Prerequisites: ENG 1, ENG 4 if required by individual student's placement. Supervised on-the-job training in selected business, industrial or service firms coordinated by the college. Credit/practice ratio not to exceed 1:5 hours.

HUMAN SERVICES

HMS 100 Introduction to Human Services
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Introduces human service agencies, roles and careers. Presents an 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.

HMS 106 Working with Death and Dying
(3 credits) Prerequisites: ENG 3, ENG 5 if required. Studies the hospice concept if required by individual student's placement). Studies the hospice concept emphasizing the management of providing services associated with terminal illness, while providing human services for the family as well as the patient. Explores the unique role of each member of the hospice care team as to how each assists the patient and family in coping with the effects of the illness. Emphasizes understanding grief and loss. Focuses on the dying person and emphasizes the social and moral aspects of dying. Lecture 3 hours per week.

HMS 121 Basic Counseling Skills
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Develops skills needed to function in a helping relationship. Emphasizes skills in attending, listening, and responding. Clarifies personal skill strengths, deficits, and goals for skill improvement. Lecture 3 hours per week.

HMS 139 Community Resources and Services
(3 credits) Studies federal, state, and local agencies, their functions, limitations and interrelationships. Emphasizes purposes of agencies as related to delivery of human services and procedures for referral, team building, and regional cooperation. Lecture 3 hours per week.

HMS 141 Group Dynamics I
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. 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.

HMS 161 Professional Skill Development for Human Services
(3 credits) Teach professional skills necessary to make the transition from the role of MH consumer/client to that of services provider. Will cover confidentiality, professionalism, boundaries and roles, cultural diversity and personal values. Lecture 3 hours per week.

HMS 162 Communication Skills for Human Services Professionals
(3 credits) Covers basic written and verbal communication skills, including, listening skills, interviewing techniques, and completing written documentation to professional standards. Lecture 3 hours per week.

HMS 170 Creativity and Youth Engagement
(3 credits) Prerequisites: ENG 3, ENG 4 if required by individual student's placement. Provides a comprehensive overview of relevant theories of creativity that enhance youth workers' abilities to foster the principles of youth development. Through creative tools, promotes an understanding of the effect that youth and adult partnerships have on positive change in communities. Lecture 3 hours per week.

HMS 171 Advancing Youth Development
(2 credits) Prerequisite: ENG 3, ENG 4 if required by individual student's placement. Provides an overview of principles of youth development research and the impact on the youth work field. Lecture 2 hours per week.

HMS 226 Helping Across Cultures
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Provides a historical overview of selected cultural and racial groups. Promotes understanding of group differences and the impact on counseling services. Lecture 3

Course Descriptions

hours per week.

HMS 228 Productive Problem-Solving
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Develops problem-solving and program-development skills needed to function in helping relationships. Emphasizes skills training within the classroom and application of the skills in other settings. Lecture 3 hours per week.

HMS 231 Gerontology I
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Examines characteristics of the aging process and problems for the elderly. Considers both theoretical and applied perspectives on the following issues: biological, psychological, sociological, economic and political. Lecture 3 hours per week.

HMS 251 Substance Abuse I
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. 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.

HMS 258 Case Management and Substance Abuse
(3 credits) Prerequisites: HMS 251, ENG 1, ENG 5 if required by individual student's placement. Focuses on the process for interviewing substance abuse clients. Includes intake, assessment, handling denial, and ending the interview. Teaches skills for writing short-term goals and treatment plans with emphasis on accountability. Examines various reporting devices. Lecture 3 hours per week.

HMS 290 Coordinated Internship in Human Services
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Supervised observation at selected social service agencies, human services centers, or rehabilitation programs/institutions. Program is coordinated by the college. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit.

HUMANITIES

HUM 195 Topics in Honors Studies
(3 credits) Prerequisite: ENG 5 if required by individual student's placement and acceptance in Honors Studies Program. Provides an opportunity to explore topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit.

HUM 201 Survey of Western Culture I
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Studies thought, values, and arts of Western culture, integrating major developments in art, architecture, literature, music, and philosophy. Covers the following periods: Ancient and Classical, Early Christian and Byzantine, Medieval, and Early Renaissance. Lecture 3 hours per week.

HUM 202 Survey of Western Culture II
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Studies thought, values, and arts of Western culture, integrating major developments in art, architecture, literature, music, and philosophy. Covers the following periods: Renaissance, Baroque, Enlightenment, Romantic, and Modern. Lecture 3 hours per week.

HUM 220 Introduction to African-American Studies
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Presents an interdisciplinary approach to the study of African-American life, history, and culture. Examines specific events, ideologies, and individuals that have shaped the contours of African-American life. Studies the history, sociology, economics, religion, politics, psychology, creative productions, and culture of African-Americans. Lecture 3 hours per week.

HUM 295 Topics in Honors Studies
(3 credits) Prerequisite: Two semesters of HUM 195 and acceptance in Honors Studies Program. Provides an opportunity to explore topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit.

INDUSTRIAL ENGINEERING

IND 140 Quality Control
(2 credits) Prerequisite: ENG 5 if required by individual student's placement. Studies history, structure, and organization of the quality control unit. May include incoming material control, product and process control, and cost control. Lecture 2 hours per week.

IND 141 Safety and Quality in Aerospace Industry
(3 credits) Prerequisite: ENG 5. Covers identification of hazards, personal protective equipment, safe practices, and protection of personnel, property, and equipment in the aerospace environment. Includes basic principles of quality assurance engineering related to each step in the manufacturing process. Uses computer-based tools for analysis and reporting, safety procedures including OSHA regulations and hazardous materials. Lecture 3 hours per week.

IND 145 Introduction to Metrology
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Studies principles of measurement and calibration control, application of statistics to measurement processes, and standards of measurements in calibration. May include the use of gauges and instruments in modern production and dimensional control concepts. Lecture 2 hours + lab 2 hours, total 4 hours per week.

IND 181 World Class Manufacturing I
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Studies the principles and applications of the globalization of industry. Emphasizes the fundamentals of interpersonal/team process, organization skills, total quality tools for continuous improvement, statistical process control, manufacturing resource planning and just-in-time. Lecture 3 hours per week.

INFORMATION SYSTEMS TECHNOLOGY DATABASE

ITD 55 Certification Preparation
(1 credits) Serves as a review of objectives for a specific Certification. Uses certification test preparation software, when available, in conjunction with a faculty resource person. May be repeated for credit. Lecture 1 hour per week.

ITD 110 Web Page Design I
(3 credits) Prerequisite: ITE 120 or AST 230 or departmental approval. Stresses a working knowledge of web site designs, construction, and management using HTML or XHTML. Includes headings, lists, links, images, image maps, tables, forms, and frames. Lecture 3 hours.

ITD 111 Web Design for Personal Use
(3 credits) Creates web pages for personal use with a GUI web editor. Creates static and dynamic pages utilizing the basics of web design, links, tables, layout, and cascading style sheets, scan and edit graphics. Designed for non-IT professionals who may have a role in the design, content or implementation of web sites. Lecture 3 hours per week.

ITD 112 Designing Web Page Graphics
(3 credits) Prerequisite(s): ITD 110 or departmental permission. Explores the creation of digital graphics for web design. Includes basic design elements such as color and layout which will be explored utilizing a computer graphics program(s). Provides skills for designing both web-based and stand-alone applications for wireless devices. Detailed discussions of the needs for applications including mobile phones and a range of rich hand-held devices such as PDA's. Emphasizes the importance of usability, accessibility, optimization and performance to create fast-loading business enterprise applications and games. Lecture 3 hours per week.

ITD 130 Database Fundamentals
(3 credits) Prerequisite: ITE 100 or ITE 115 or ITE 119 or ITE 120 or departmental permission. 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. Lecture 3 hours per week.

ITD 210 Advanced Web Design II
(4 credits) Prerequisite: ITD 110. Incorporates advanced techniques in web site planning, design, usability, accessibility, advanced site management, and maintenance utilizing web editor software. Lecture 4 hours per week.

ITD 212 Interactive Web Design
(4 credits) Pre- or corequisite: ITD 110 or departmental approval. 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. Lecture 4 hours per week.

ITD 220 E-Commerce Administration
(3 credits) Prerequisite: ENG 5, ITE 160 recommended. Emphasizes techniques to plan and to design a platform-independent commerce website. Focuses on web business strategies and the hardware and software tools necessary for Internet commerce, including comparison and selection of commerce architecture, installation and configuration, security considerations, and planning of a complete business-to-consumer and business-to-business site. Lecture 3 hours per week.

INFORMATION SYSTEMS TECHNOLOGY ESSENTIALS

ITE 100 Introduction to Information Systems
(3 credits) Prerequisite: ENG 5; Corequisites: MTH 3 or MTH 120 or higher level math. This course provides instruction in the fundamentals of computers and computing. Topics include impact of computers on society, ethical issues, and terminology. Discusses available hardware and software as well as their application. Lecture 3 hours per week.

ITE 102 Computers and Information Systems
(2 credits) Introduces terminology, concepts, and methods of using computers in information systems. This course teaches computer literacy, not intended for Information Technology majors. Lecture 2 hours per week.

ITE 115 Introduction to Computer Applications and Concepts
(3 credits) Prerequisites: ENG 5. Covers computer concepts and Internet skills and uses a software suite that includes word processing, spreadsheet, database, and presentation software to demonstrate skills required for computer literacy. Lecture 3 hours per week.

ITE 119 Information Literacy
(3 credits) Prerequisite: ENG 5. Presents the information literacy core competencies focusing on the use of information technology skills. Skills and knowledge will be developed in database searching, computer applications, information security and privacy, and intellectual property issues. Lecture 3 hours per week.

ITE 120 Principles of Information Systems
(3 credits) Prerequisite: ENG 5. Provides an overview of the fundamentals of computer information systems. Focuses on the role of computers in business today including hardware, software, analysis, design and implementation of information systems. Includes an introduction to computer ethics, and business and personal security. Exposes students to techniques used in programming and system development. Utilizes a hands-on component for spreadsheets, databases, and web design applications. Lecture 3 hours per week.

ITE 130 Introduction to Internet Services
(3 credits) Prerequisite: ENG 5. Provides instruction to provide students with a working knowledge of Internet terminology and services including email, World-Wide Web browsing, search engines, FTP, file compression and other services using a variety of software packages. Provides instruction for basic web page construction. Lecture 3 hours per week.

ITE 140 Spreadsheet Software
(3 credits) Prerequisite: ITE 115 or ITE 119 or departmental approval. Covers the use of spreadsheet software to create spreadsheets with formatted cells and cell ranges, control pages, multiple sheets, charts, and macros. Topics include type and edit text in a cell, enter data on multiple worksheets, work with formulas and functions, create charts, pivot tables, and styles, insert headers and footers, and filter data. Lecture 3 hours per week.

ITE 150 Desktop Database Software
(3 credits) Prerequisite: ITE 115 or departmental approval. Incorporates instruction in planning, defining, and using a database; performing queries; producing reports; working with multiple files; and concepts of database programming. Includes database concepts, principles of table design and table relationships, entering data, creating and using forms, using data from different sources, filtering, and creating mailing labels. Covers MOS Access certification objectives. Lecture 3 hours per week.

ITE 160 Introduction to E-Commerce
(3 credits) Prerequisite: ENG 5. Studies the culture and demographics of the Internet, 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 over the Internet, and the execution of marketing strategy in computer-mediated environments. Presents case histories of successful Web applications. Lecture 3 hours per week.

ITE 170 Multimedia Software
(3 credits) Prerequisite: ITE 115 or ITE 119 or departmental approval. Explores technical fundamentals of creating multimedia projects with related hardware and software. Students will learn to manage resources required for multimedia production and evaluation and techniques for selection of graphics and multimedia software. Lecture 3 hours per week.

ITE 193 Studies In
(3 credits) Prerequisite: ENG 3, ENG 5 if required by individual student's placement. Covers new content not covered in existing courses in the discipline. Allows instructor to explore content and instructional methods to assess the course's viability as a permanent offering. Lecture 3 hours per week.

ITE 197 Cooperative Education in ITE
(3 credits) Prerequisite: Approval of Cooperative Education Coordinator. Supervised on-the-job training in approved business firms or governmental organizations is coordinated by the cooperative education coordinator. Credit/work ratio not to exceed 1:5 ratio. Variable hours. This course is the first year of a co-op experience.

ITE 215 Advanced Computer Applications and Integration
(3 credits) Prerequisite: ITE 115 or ITE 119.

Incorporates advanced computer concepts including the integration of a software suite. Lecture 3 hours per week.

ITE 221 PC Hardware and OS Architecture
(3 credits) Prerequisite: ITE 100 or ITE 120 or departmental approval. Covers instruction about processors, internal functions, peripheral devices, computer organization, memory management, architecture, instruction format, and basic OS architecture. Lecture 3 hours per week.

ITE 297 Cooperative Education in ITE
(3 credits) Prerequisite: Approval of Cooperative Education Coordinator. Supervised on-the-job training in approved business firms or governmental organizations is coordinated by the cooperative education coordinator. Credit/work ratio not to exceed 1:5 ratio. Variable hours. This course is the second year of a co-op experience.

INFORMATION SYSTEMS TECHNOLOGY NETWORKING

ITN 100 Introduction to Telecommunications
(3 credits) Prerequisite: ITE 100 or ITE 120 or departmental approval. Surveys data transmission systems, communication lines, data sets, network, modes of transmission, protocols, and interfacing. Emphasizes network structure and operation. Lecture 3 hours per week.

ITN 101 Introduction To Network Concepts
(3 credits) Prerequisite: ITE 100 or departmental approval. Provides instruction in networking media, physical and logical topologies, common networking standards and popular networking protocols. Emphasizes the TCP/IP protocol suite and related IP addressing schemes, including CIDR. Includes selected topics in network implementation, support and LAN/WAN connectivity. Lecture 3 hours per week.

ITN 106 Microcomputer Operating Systems
(3 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. Maps to A+. Lecture 3 hours per week.

ITN 109 Internet and Network Foundations
(3 credits) Prerequisite: ITE 100 or ITE 115 or ITE 119 or ITE 120. Provides a basic comprehension of Internet and network technologies including IT job roles, connection methods, TCP/IP functionality and DNS. Explores web server technologies with security and project management concepts. Introduces network creation, physical and logical topologies including media properties, server types, IP addressing and network security. Lecture 3 hours.

ITN 110 Windows 2000 Professional
(3 credits) Prerequisite: ITN 101. Provides instruction in installation, configuration, administration, and troubleshooting of Windows 2000 Professional as a desktop operating system in a networked data communications environment. Lecture 3 hours per week.

ITN 120 Wireless—Network Administration
(3 credits) Prerequisite: ITN 100 or departmental approval. Provides instruction in fundamentals of wireless information systems. Course content includes terms, standards, components, and operating requirements in the design and implementation of wireless networks. Lecture 3 hours per week.

ITN 154 Networking Fundamentals - CISCO
(4 credits) Prerequisite: ITE 100 or ITE 120 or departmental approval. Provides introduction to networking using the OSI reference model. Includes data encapsulation, TCP/IP suite, routing, IP addressing, and structured cabling design and implementation. Lecture 4 hours per week.

ITN 155 Introductory Routing - CISCO
(4 credits) Prerequisite: ITN 154. Features an introduction to basic router configuration using CISCO IOS software. Includes system components, interface configuration, IP network design, troubleshooting techniques, configuration and verification of IP addresses, and router protocols. Lecture 3 hours + lab 2 hours, total 5 hours per week.

ITN 156 Basic Switching and Routing - CISCO
(4 credits) Prerequisite: ITN 155. Centers instruction in LAN segmentation using bridges, routers, and switches. Includes fast Ethernet, access lists, routing protocols, spanning tree protocol, virtual LANs, and network management. Lecture 3 hours + lab 2 hours, total 5 hours per week.

ITN 157 WAN Technologies - CISCO
(4 credits) Prerequisite: ITN 156. Concentrates on an introduction to Wide Area Networking (WAN). Includes WAN design, LAPB, Frame Relay, ISDN, HDLC, and PPP. Lecture 3 hours + lab 2 hours, total 5 hours per week.

ITN 171 UNIX I
(3 credits) Prerequisite: ITE 100 or ITE 120 or departmental approval. Provides an introduction to UNIX operating systems. Teaches login procedures, file creation, UNIX file structure, input/output control, and the UNIX shell. Lecture 3 hours per week.

ITN 260 Network Security Basics
(3 credits) Prerequisite: ITN 109 or equivalent course or departmental permission. Provides instruction in the basics of network security in depth. Includes security objectives, security architecture, security models and security layers; risk management, network security policy, and security training. Includes the give security keys, confidentiality integrity, availability, accountability and auditability. Lecture 3 hours per week.

ITN 262 - Network Communication, Security and Authentication
(4 credits) Covers an in-depth exploration of various communication protocols with a concentration on TCP/IP. Explores communication protocols from the point of view of the hacker in order to highlight protocol weaknesses. Includes Internet architecture, routing, addressing, topology, fragmentation and protocol analysis, and the use of various utilities to explore TCP/IP. Lecture 4 hours per week..

ITN 267 Legal Topics in Network Security
(3 credits) Co-requisite: ITN 260 or departmental permission. Conveys an in-depth exploration of the civil and common law issues that apply to network security. Explores statutes, jurisdictional, and constitutional issues related to computer crimes and privacy. Includes rules of evidence, seizure and evidence handling, court presentation and computer privacy in the digital age. Lecture 3 hours per week.

ITN 293 Studies in ITN
(4 credits) Prerequisite: ITN 157 or permission of the department. Covers new content not covered in existing courses in the discipline. Allows instructor to explore content and instructional methods to assess the course's viability as a permanent offering. Lecture 4 hours per week.

INFORMATION SYSTEMS TECHNOLOGY PROGRAMMING

ITP 100 Software Design
(3 credits) Prerequisite: ITE100 or departmental approval; Corequisite: MTH151 or higher level math. 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.

Course Descriptions

ITP 112 Visual Basic .NET I
(4 credits) Prerequisite: ITP 100 or departmental approval. Concentrates instruction in fundamentals of objective-oriented programming using Visual Basic. NET and the .NET framework. Emphasizes program construction, algorithm development, coding, debugging, and documentation of graphical user interface applications. Lecture 4 hours per week.

ITP 120 Java Programming I
(4 credits) Prerequisite: ITP 100 or departmental approval. Entails instruction in fundamentals of object-oriented programming using Java. Emphasizes program construction, algorithm development, coding, debugging, and documentation of console and graphical user interface applications. Lecture 4 hours per week.

ITP 132 C++ Programming I
(4 credits) Prerequisite: ITP 100 or departmental approval. Centers instruction in fundamentals of object-oriented programming and design using C++. Emphasizes program construction, algorithm development, coding, debugging, and documentation of C++ applications. Lecture 4 hours per week.

ITP 140 Client Side Scripting
(4 credits) Prerequisites: ITP 100, ITD 110. Provides instruction in fundamentals of Internet application design, development, and deployment using client side scripting language(s). Lecture 4 hours per week.

ITP 170 Project Management
(3 credits) Prerequisites: ITE 115 or ITE 119 or departmental approval. Introduces the concepts of project management as defined by the Project Management Institute, the accreditation body for project management. Lecture 3 hours per week.

ITP 212 Visual Basic.Net II
(4 credits) Prerequisite: ITP 112. Includes instruction in application of advanced object-oriented techniques to application development. Emphasizes database connectivity, advanced controls, web forms, and web services using Visual Basic.NET. Lecture 3 hours per week.

ITP 220 Java Programming II
(4 credits) Prerequisite: ITP 120. Imparts instruction in application of advanced object-oriented techniques to application development using Java. Emphasizes database connectivity, inner classes, collection classes, networking, and threads. Lecture 3 hours per week.

ITP 232 C++ Programming II
(4 credits) Prerequisite: ITP 132. Presents in-depth instruction of advanced object-oriented techniques for data structures using C++. Lecture 4 hours per week.

ITP 251 Systems Analysis and Design
(3 credits) Prerequisite: 18 credit hours of IT courses. Focuses on application of information technologies (IT) to system life cycle methodology, systems analysis, systems design, and system implementation practices. Includes methodologies related to identification of information requirements, feasibility in the areas of economic, technical and social requirements, and related issues. Software applications may be used to enhance student skills. Lecture 3 hours per week.

ITP 258 Systems Development Project
(3 credits) Prerequisite: 18 credit hours of IT courses. Provides instruction in application of life cycle system development methodologies using a case study which incorporates feasibility study system analysis, system design, program specification, and implementation planning. Course project assignment(s) will have students perform as members of system development teams. Lecture 3 hours per week.

INTERPRETER EDUCATION

INT 105 Interpreting Foundations I
(3 credits) Prerequisite: ASL 201. Develops fundamental skills of interpreting, including cognitive processes and intra-lingual language development in English and ASL. Reviews Process Models of interpreting, and uses one model to analyze interpretations. Develops feedback skills essential to the team interpreting process. Lecture 3 hours per week.

INT 107 Translation Skills
(3 credits) Prerequisite: INT 105. Further develops fundamental skills needed for the task of interpreting. Targets comprehending source language (either ASL or English), transferring content into memory store (breaking from original form), restructuring into target language, maintaining message equivalence, conveying implicit and inferred information, and applying appropriate discourse structure. Reviews Process Model of interpreting and uses it to analyze translations. Further develops feedback skills essential to the team interpreting process. Lecture 3 hours per week.

INT 130 Interpreting an Introduction to the Profession I
(3 credits) Introduces basic principles and practices of interpreting, focusing on the history of the profession, logistics of interpreting situations, regulatory and legislative issues, resources, and the Code of Ethics. Describes the state quality assurance screening and national certification exam systems, including test procedures. Lecture 3 hours per week.

INT 133 ASL-to-English Interpretation I
(3 credits) Prerequisite: INT 107. Begins consecutively interpreting monologues from the source language (ASL) to the target language (English). Watch entire ASL monologues, process them, analyze them, then choose appropriate English to match the message. Eventually interpret the monologue into English. Puts interpreting theory into practice in a lab environment. Conducts research in the field of interpretation. Develops team interpreting techniques. Interacts with consumers of ASL-English interpretation. Lecture 2 hours + lab 2 hours, total 4 hours per week.

INT 134 English-to-ASL Interpretation I
(3 credits) Prerequisite: INT 107, ASL 201. Begins consecutively interpreting monologues from the source language (English) to the target language (ASL). Listen to entire English monologues, process them, analyze them, then choose appropriate ASL to match the message. Puts interpreting theory into practice in a lab environment. Conducts research in the field of interpretation. Develops team interpreting techniques. Interacts with consumers of ASL-English interpretation. Lecture 2 hours + lab 2 hours, total 4 hours per week.

INT 141 Transliterating I
(3 credits) Prerequisite: INT 107. Studies the skills required to transmit spoken English into a manual code for English or an interpreting product with more obvious English influences, and vice versa. Introduces a variety of manual codes and their relationship to American Sign Language and Contact Signing. Lecture 3 hours per week.

INT 193 Studies in Transliteration
(3 credits) Prerequisite: INT 141. Continues principles of consecutive transliterating. Transliterate monologues and interactive dialogues from English to American Sign Language. The purpose of this course is to continue to develop the skills necessary for consecutive transliteration providing skills for State Qualification and National Certification examinations. Lecture 3 hours per week.

INT 233 ASL-to-English Interpretation II
(3 credits) Prerequisites: INT 133 and INT 134. Perform simultaneous interpretations of monologues in the source language (ASL) to the target language (English). Process an incoming ASL monologue while simultaneously producing an appropriate interpretation in English. Conduct research in the field or interpretation. Lecture 2 hours per week+ lab 2 hours, total 4 hours per week.

INT 234 English-to-ASL Interpretation II
(3 credits) Prerequisites: INT 105, INT 107, INT 133, and INT 134. Perform simultaneous interpretations of monologues in the source language (English) into the target language (ASL). Process an incoming English monologue while simultaneously producing an appropriate interpretation in ASL. Conduct research in the field of interpretation. Apply tem interpreting techniques. Interact with consumers of interpretation. Lecture 3 hours per week + lab 2 hours, total 5 hours per week.

INT 236 Interpreting in Special Situations
(3 credits) Prerequisites: ASL 102 and INT 130. Studies roles, responsibilities, and qualifications involved in interpreting in specific settings, such as medical, legal, conference, religious, and performing arts. Addresses specific linguistic and ethical concerns for each. Lecture 3 hours per week.

LEGAL ADMINISTRATION

LGL 110 Introduction to Law and the Legal Assistant
(3 credits) Prerequisite: ENG 5 if required by student's individual placement. Introduces various areas of law in which a legal assistant will be working. Includes study of the 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
(3 credits) Studies law of real property and gives in-depth survey of the more common types of real estate transactions and conveyances such as deeds, contracts, leases, and deeds of trust. Focuses on drafting 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 125 Legal Research
(3 credits) Prerequisite(s): LGL 110 or departmental approval.
Provides an understanding of various components of a law library and emphasizes research skills through the use of digests, encyclopedias, reporter systems, codes, Shepard's Citations, ALR, and other research tools. Lecture 3 hours per week.

LGL 216 Trial Preparation and Discovery Practice
(3 credits) Prerequisite: LGL 110 or departmental approval. Examines the trial process, including the preparation of a trial notebook, pretrial motions, and orders. May include preparation of interrogatories, depositions, and other discovery tools used in assembling evidence in preparation for the trial or an administrative hearing. Lecture 3 hours per week.

LGL 225 Estate Planning and Probate
(3 credits) Prerequisite: LGL 110. Introduces various devices used to plan an estate, including wills, trusts, joint ownership and insurance. It considers various plans in light of family situations and estate objectives. It focuses on practices involving administration of an estate, including taxes and preparation of forms. Lecture 3 hours per week.

LGL 230 Legal Transactions
(3 credits) Prerequisite: LGL 125 or departmental approval. Presents an in-depth study of general contract law, including formation, breach, enforcement, and remedies. May include an overview of UCC sales, commercial paper, and collections. Lecture 3 hours per week.

LGL 290 Coordinated Internship in Legal Assisting
(3 credits) Prerequisite: Department approval. Supervised on-the-job training in approved law firms or governmental organizations is coordinated by the program head. Provides students with practical, hands-on experience with skills learned in classroom setting. Credit/work ratio not to exceed 1:5 ratio. Variable hours.

LGL 297 Cooperative Education in Legal Administration
(1-5 credits) Prerequisite: LGL 110. Supervised on-the-job training for pay in approved business, industrial, and service firms. Program is coordinated by the college's Cooperative Education Office. Applicable to 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.

MACHINE TECHNOLOGY

MAC 121-122 Computer Numerical Control I-II
(3 credits/3 credits) Must be taken in sequence. Prerequisite: MAC 121 or MAC 161. 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 3 hours + lab 2 hours, total 5 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 + lab 3 hours, total 4 hours per week.

MAC 161 Machine Shop Practices
(3 credits) Prerequisites: ENG 5 if required by individual student's placement. Introduces safety procedures, bench work, hand tools, precision measuring instruments, drill presses, cut-off saws, engine lathes, manual surface grinders, and milling machines. Lecture 2 hours + lab 2 hours, total 4 hours per week.

MAC 195 Topics in Machine Technology
(1-5 credits) Provides an opportunity to explore topical areas of interest to or needed by students. Variable hours per week.

MAC 297 Cooperative Education
(3 credits) Prerequisites: Approval of cooperative education coordinator. Supervises in on-the-job training for pay in approved business, industrial and service firms, coordinated by the college's cooperative education office. Is applicable to all occupational-technical curricula at the discretion of the college. Lecture 3 hours per week.

MARINE SCIENCE

MAR 120 Introduction to Ship Systems
(3 credits) Introduces basic aspects of shipboard work, including: shipboard jobs, shipboard safety, ship classes, knot typing, ships nomenclatures, compartmentation, basic applied math skills, basic hand tools, and working in confined spaces. Lecture 3 hours per week.

MAR 211 Naval Architecture I
(3 Credits) Prerequisite: ENG 5 if required by individual student's placement. Presents the statics of ship design. Studies the hull of the ship in regard to its intact and damaged stability, including special treatment of weight calculations and damage control. Includes the design of the hull structure, longitudinal and transverse strength properties of the hull girder foundation, design and ship hull materials. Lecture

3 hours per week.

MAR 212 Naval Architecture II
(3 credits) Prerequisite: MAR 211. Presents the dynamics of ship design. Includes the design of the ship's propulsion plant, computations of resisting forces, effective and shaft horsepower propeller design, ship maneuvering, vibration of ships, and motion of ships among waves. Lecture 3 hours per week.

MAR 215 Applied Naval Architecture
(3 credits) Prerequisite: MAR 212. Focuses on the compilation of data for use and application in design and construction of naval ships. Includes design of versatile and specialized ship projects. Includes actual preliminary design of a small ship by each student. Lecture 2 hours + Lab 2 hours, total 4 hours per week.

MARKETING

MKT 100 Principles of Marketing
(3 credits) Prerequisite: ENG 5 if required by student's individual placement. Presents principles, methods, and problems involved in marketing 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 market research, plus legal, social, ethical, and international considerations in marketing. Lecture 3 hours per week.

MKT 110 Principles of Selling
(3 credits) Prerequisite: ENG 5 if required by student's individual placement. Presents a fundamental, skills-based approach to selling and relationship building. Emphasizes learning effective interpersonal communication skills in all areas of the sales process through skill-building activities. Examines entry-level sales careers in retailing, wholesaling, services and industrial selling. Lecture 3 hours per week.

MKT 170 Customer Service
(2 credits) Introduces students to the concepts of marketing as they relate to customer service. Teaches development of customer service training and implementation of strategies to improve customer relations and service. Includes lecture, role-playing, and case studies. Lecture 3 hours per week.

MKT 197 Cooperative Education in Retail Merchandising
(3 credits) Prerequisite: Approval of cooperative education coordinator. Supervised on-the-job training for pay in approved business, industrial, and service firms. Program is coordinated by the cooperative education coordinator. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours. MKT 197 offered for first year co-op students.

MKT 210 Sales Management
(3 credits) Prerequisite: ENG 5 if required by student's individual placement. Presents an in-depth examination of managing a sales force. Introduces methods of training, compensating, motivating, and evaluating the sales force. Explores forecasting techniques and quotas. Lecture 3 hours per week.

MKT 216 Retail Organizations and Management
(3 credits) Examines the organization of the retail establishment to accomplish its goals in an effective and efficient manner. Includes study of site location, internal layout, store operations, and security. Examines the retailing mix, the buying or procurement process, pricing, and selling. Studies retail advertising, promotion, and publicity as a coordinated effort to increase store traffic. Lecture 3 hours per week.

MKT 220 Principles of Advertising
(3 credits) Prerequisite: ENG 5 if required by student's individual placement. Emphasizes the role of advertising in the marketing of goods and services. Discusses the different uses of advertising, types of media, how advertising is created, agency functions, and legal, social and economic aspects of

the industry. Introduces advertising display, copy and art work preparation, printing and selection of media. Lecture 3 hours per week.

MKT 271 Consumer Behavior
(3 credits) Prerequisite: ENG 5 if required by student's individual placement. Examines the various influences affecting consumer buying behavior before, during, and after product purchase. Describes personal, societal, cultural, environmental, group, and economic determinants on consumer buying. Lecture 3 hours per week

MKT 290 Coordinated Internship in Marketing
(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.

MATHEMATICS

Mathematics students may be required to take a placement test.

MTH 1 Developmental Mathematics
(3 credits) Prerequisite: Proficiency in basic arithmetic skills and an appropriate score on the mathematics placement test. Designed to develop the mathematical proficiency necessary for selected curriculum entrance requirements and/or course prerequisites. This is a pre-algebra course intended to bridge the gap between arithmetic and algebra. Topics include a review of arithmetic, integers, order of operations, simplifying algebraic expressions, and linear equations in one unknown, ratio and proportion, and measurements. Credits not applicable toward graduation. Lecture 3 hours per week.

MTH 3 Algebra I
(5 credits) Prerequisite: A placement recommendation for MTH 3 and one unit of high school mathematics or equivalent (MTH 1). Designed to develop the mathematical proficiency necessary for selected curriculum entrance requirements and/or course prerequisites. Topics include the real number system, integers, order of operations, exponents, linear equations and inequalities in one unknown with applications, polynomials, factoring, rational expressions, linear equations in two unknowns, Cartesian coordinate system, radicals, and quadratic equations. Credits not applicable toward graduation. Includes topics in geometry. Lecture 5 hours per week.

MTH 4 Algebra II
(5 credits) Students are required to have a graphing calculator for this course. The TI-83 Plus or TI-84 Plus is recommended. Prerequisite: A placement recommendation for MTH 4 and one year of high school Algebra I or equivalent (MTH 3). Designed to develop the mathematical proficiency necessary for selected curriculum entrance requirements and/or course prerequisites. Topics include sets, properties of the real numbers, linear equations in one unknown with applications, linear inequalities, polynomials, factoring, algebraic fractions, exponents, roots and radicals, complex numbers, quadratic equations with applications, functions, and systems of linear equations. Credits not applicable toward graduation. Lecture 5 hours per week.

MTH 103 Applied Technical Math I
(3 credits) Prerequisite: A placement recommendation for MTH 103 and one unit of high school mathematics or equivalent. Presents a review of arithmetic, elements of algebra, geometry, and trigonometry. Directs applications to specialty areas. Lecture 3 hours.

MTH 115-116 Technical Mathematics I-II
(3 credits/3 credits) Must be taken in sequence. Students are required to have a graphing calculator for this course. The TI-83 Plus or TI-84 Plus is

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recommended. Prerequisites: ENG 5 if required by individual student's placement; a placement recommendation for MTH 115 and three years of high school Algebra I, Algebra II, and Geometry or equivalent (MTH 3 and MTH 4). Presents algebra through exponential and logarithmic functions, trigonometry, vectors, analytic geometry, and complex numbers. Lecture 3 hours per week.

MTH 120 Introduction to Mathematics
(3 credits) Prerequisite: ENG 5 if required by individual student's placement; a placement recommendation for MTH 120 and one unit of high school mathematics or equivalent (MTH 1). Introduces logic, basic algebra, descriptive statistics, and selected other topics such as numeration systems and probability. Lecture 3 hours per week.

MTH 126 Mathematics for Allied Health
(3 credits) Prerequisite: A placement recommendation for MTH 126 and Algebra I or equivalent (MTH 3). Presents scientific notation, precision and accuracy, decimals and percents, ratio and proportion, variation, simple equations, techniques of graphing, use of charts and tables, logarithms, and the metric system. Lecture 3 hours per week.

MTH 150 Topics in Geometry
(3 credits) Prerequisites: a placement recommendation for MTH 150 and Algebra I, Algebra II and Geometry or equivalent. Presents the fundamentals of plane and solid geometry and introduces non-Euclidean geometries and current topics. Lecture 3 hours per week.

MTH 151 Mathematics for the Liberal Arts I
(3 credits) Students are required to have a graphing calculator for this course. The TI-83 Plus or TI-84 Plus is recommended. Prerequisites: ENG 5 if required by individual student's placement; a placement recommendation for MTH 151 and three years of high school mathematics including Algebra I, Algebra II, and Geometry or equivalent (MTH 3, MTH 4). Presents topics in sets, logic, numeration systems, and selected topics in algebra and geometry. The course will include computer applications. Lecture 3 hours per week.

MTH 152 Mathematics for the Liberal Arts II
(3 credits) Students are required to have a graphing calculator for this course. The TI-83 Plus or TI-84 Plus is recommended. Prerequisites: ENG 5 if required by individual student's placement; a placement recommendation for MTH 152 and three years of high school mathematics including Algebra I, Algebra II, Geometry or equivalent (MTH 3, MTH 4). Presents topics in functions, graphs, systems of equations, combinatorics, probability, and statistics. The course will include computer applications. Lecture 3 hours per week.

MTH 157 Elementary Statistics
(3 credits) Students are required to have a graphing calculator for this course. The TI-83 Plus or TI-84 Plus is recommended. Prerequisites: ENG 5 if required by individual student's placement; a placement recommendation for MTH 157 and 3 years of high school mathematics including Algebra I, Algebra II, and Geometry or equivalent (MTH 3, MTH 4). Presents elementary statistical methods and concepts including descriptive statistics, estimation, hypothesis testing, linear regression, and categorical data analysis. Lecture 3 hours per week.

MTH 158 College Algebra
(3 credits) Students are required to have a graphing calculator for this course. The TI-83-Plus or TI-84 Plus is recommended. Prerequisite: Math 04 or satisfactory score on proficiency exam or placement test or equivalent. Covers the structure of the complex number system, polynomials, rational expressions, graphing, systems of equations and inequalities, functions, quadratic and rational equations and inequalities. Lecture 3 hours per week.

MTH 163 Precalculus I
(3 credits) Students are required to have a graphing calculator for this course. The TI-83-Plus or TI-84 Plus is recommended. Prerequisites: ENG 5 if required by individual student's placement; a placement recommendation for MTH 163 and three years of high school mathematics including Algebra I, Algebra II, and Geometry or equivalent (MTH 3, MTH 4). Presents topics in college algebra, matrices and determinants, and algebraic, exponential, and logarithmic functions. Lecture 3 hours per week.

MTH 164 Precalculus II
(3 credits) Students are required to have a graphing calculator for this course. The TI-83 Plus or TI-84 Plus is recommended. Prerequisite: MTH 163 or equivalent. Presents topics in trigonometry, analytic geometry, and sequences and series. Lecture 3 hours per week.

MTH 166 Precalculus with Trigonometry
(4 credits) Students are required to have a graphing calculator for this course. The TI-83 Plus or TI-84 Plus is recommended. Prerequisites: ENG 5 if required by individual student's placement; a placement recommendation for MTH 166 and three years of high school mathematics including Algebra I, Algebra II, and Geometry or equivalent (MTH 3, MTH 4). Presents college algebra, analytic geometry, trigonometry, and algebraic exponential, and logarithmic functions. Lecture 4 hours per week.

MTH 173 Calculus with Analytic Geometry I
(4 credits) Students are required to have a graphing calculator for this course. The TI-83 Plus or TI-84 Plus is recommended. Prerequisites: ENG 5 if required by individual student's placement; a placement recommendation for MTH 173 and four years of high school mathematics, including Algebra I, Algebra II, Geometry, and one of the following: Elementary Functions, Math Analysis, Pre-Calculus or equivalent (MTH 3, MTH 4 and MTH 163-164). 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. Lecture 4 hours per week.

MTH 174 Calculus with Analytic Geometry II
(4 credits) Students are required to have a graphing calculator for this course. The TI-83 Plus or TI-84 Plus is recommended. Prerequisite: MTH 173 or equivalent. 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. Lecture 4 hours per week.

MTH 180 Finite Mathematics
(3 credits) Students are required to have a graphing calculator for this course. The TI-83 Plus or TI-84 Plus is recommended. Prerequisites: ENG 5 if required by individual student's placement; a placement recommendation for MTH 180 and three years of high school mathematics including Algebra I, Algebra II, and Geometry or equivalent (MTH 3, MTH 4). Covers systems of linear equations, matrices, linear programming, counting techniques, probability theory, game theory, and the mathematics of finance. Lecture 3 hours per week.

MTH 199 Supervised Study in Mathematics
(1 credit) Corequisite: MTH 173. Assigns problems for independent study incorporating previous instruction and supervised by the instructor. Lab 2 hours per week.

MTH 200 Abstract Algebra
(3 credits) Prerequisite: MTH 174 or division permission. Covers groups, isomorphisms, fields, homomophisms, rings, and integral domains. Fulfills the abstract algebra requirement for Virginia high school mathematics teaching endorsement. Lecture 3 hours per week.

MTH 240 Statistics
(3 credits) Students are required to have a graphing calculator for this course. The TI-83-Plus or TI-84 Plus is recommended. Prerequisites: a placement recommendation for MTH 240 and successful completion of MTH 158 or MTH 163 or MTH 166, or equivalent. Presents an overview of statistics, including descriptive statistics, elementary probability, probability distributions, estimation, hypothesis testing, and correlation and regression. Lecture 3 hours per week.

MTH 243 Probability and Statistics I
(3 credits) Prerequisite: MTH 174 or equivalent. Uses calculus to develop the theory of probability and statistics including discrete and continuous distribution theory, Poisson processes, moment generating functions, central limit theorem, hypothesis testing and estimation. Designed for mathematical, physical, and engineering science programs. Lecture 3 hours per week.

MTH 250 College Geometry
(3 credits) Prerequisite: A placement recommendation for MTH 250 and credit for MTH 174 or equivalent. Presents topics in Euclidean and non-Euclidean geometries chosen to prepare individuals for teaching geometry at the high school level. Studies Euclid's geometry and its limitations, axiomatic systems, techniques of proof, and Hilbert's geometry, including the parallel postulates for Euclidean, hyperbolic, and elliptic geometries. Lecture 3 hours per week.

MTH 270 Applied Calculus
(3 credits) Students are required to have a graphing calculator for this course. The TI-83-Plus or TI-84 Plus is recommended. Prerequisites: MTH 163 and 4 years high school mathematics (Algebra I, Algebra II, Geometry, and Pre-Calculus). Introduces limits, continuity, differentiation and integration of algebraic and transcendental functions, techniques of integration, and partial differentiation. Lecture 3 hours per week.

MTH 277 Vector Calculus
(4 credits) Prerequisite: MTH 174 or equivalent. Presents vector valued functions, partial derivatives, multiple integrals, and topics from the calculus of vectors. Lecture 4 hours per week.

MTH 285 Linear Algebra
(3 credits) Prerequisite: MTH 174 or equivalent. Covers matrices, vector spaces, determinants, solutions of systems of linear equations, basis and dimension, eigenvalues and eigenvectors. Designed for mathematical, physical and engineering science programs. Lecture 3 hours per week.

MTH 287 Mathematical Structures
(3 credits) Prerequisite: MTH 164 or equivalent. Presents topics in mathematical structures of value to students majoring in Computer Science or other disciplines requiring programming skills. Covers logic, set theory, number theory, combinatorics, functions, relations, and graph theory. Lecture 3 hours per week.

MTH 291 Differential Equations
(3 credits) Prerequisite: MTH 174 or equivalent. Introduces first order differential equations, linear differential equations, numerical methods, and applications. Designed for mathematical, physical, and engineering science programs. Lecture 3 hours per week.

MTH 292 Topics in Differential Equations
(3 credits) Prerequisite: MTH 291 or equivalent. Presents power series solutions, Fourier series, Laplace transform, partial differential equations, and boundary value problems. Designed for mathematical, physical, and engineering science programs. Lecture 3 hours per

week.

MTH 299 - Supervised Study in Mathematics
(1 credit) Prerequisite: MTH 173; Corequisite: MTH 174. Assigns problems for independent study incorporating previous instruction and supervised by the instructor. Lecture 2 hours per week.

MECHANICAL ENGINEERING TECHNOLOGY

MEC 100 Introduction to Engineering Technology
(2 credits). Introduces professional fields of engineering technology. Covers the work of the engineering technologist, professional ethics, division of industrial practice, and engineering problem solving with hand calculator and computer applications. Lecture 1 hour + lab 2 hours, total 3 hours per week.

MEC 103 Electronic Circuits and Instrumentation
(4 credits) Prerequisites: ENG 5 if required by individual student's placement; MTH 116. Designed for non-majors. Covers electronic circuits, devices, instrumentation and basic communications, DC and AC theory, introduction to power supplies, amplifiers, and measurement devices. Lecture 3 hours + lab 3 hours, total 6 hours per week.

MEC 113 Materials and Processes of Industry
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Studies engineering materials and accompanying industrial manufacturing processes. Investigates nature of materials structure and properties from a design standpoint. Analyzes the effects of various processes on materials, and the processes themselves. Includes machining, casting, forming, molding, hot/cold working, cipless machining, and welding. Addresses quality assurance and inspection procedures. Lecture 3 hours per week.

MEC 131 Mechanics I-Statics for Engineering Technology
(3 credits) Corequisite: MTH 116. Teaches Newton's laws, resultants and equilibrium of force systems, trusses and frames, determination of centroids, and distributed loads and moments of inertia. Introduces dry friction and force systems in space. Lecture 3 hours per week.

MEC 132 Mechanics II-Strength of Materials for Engineering Technology
(3 credits) Prerequisite: MEC 131. Teaches the concepts of stress and strain. Provides an analysis of stresses and deformations in loaded members, connectors, shafts, beams, columns, and combined stress. Lecture 3 hours per week.

MEC 133 Mechanics III-Dynamics for Engineering Technology
(2 credits) Prerequisite: MEC 131. Focuses on rigid body mechanics, including kinetics, kinematics, and applications to machine elements. Lecture 2 hours per week.

MEC 161 Basic Fluid Mechanics-Hydraulics/Pneumatics
(3 credits) Prerequisite: MTH 116. Introduces theory, operation, and maintenance of hydraulic/pneumatics devices and systems. Emphasizes the properties of fluids, fluid flow, fluid statics, and the application of Bernouli's equation. Lecture 2 hours + lab 2 hours, total 4 hours per week.

MEC 165 Applied Hydraulics, Pneumatics and Hydrostatics
(3 credits) Prerequisites: ENG 5 if required by individual student's placement; MTH 105. Teaches fluid power system design, operation, testing, maintenance and repair. Includes reservoirs, pump connecting valves, cylinders, pressure regulating valves, flow control valves, hydraulic motors, and introduction to basic hydrostatic hydraulic systems. Lecture 2 hours + lab 3 hours, total 5 hours per week.

MEC 195 Topics In Mechanical Engineering

Technology: Introduction to Aerospace
(3 credits) Prerequisite: ENG 5. Provides an opportunity to explore topic areas of an evolving nature or of short-term importance in this discipline. Lecture 2 hours per week.

MEC 210 Machine Design
(3 credits) Prerequisite: DRF 152. Corequisite: MEC 133. Studies the design of machine elements for producing and transmitting power. Includes additional material in statics, strength of materials, dynamics, engineering materials, and industrial processes, including lubrication and friction. Emphasizes graphical kinematics of mechanisms and discusses analytical design of machine components. Requires preparation of weekly lab reports. Lecture 2 hours + lab 2 hours, total 4 hours per week.

MEC 220 Introduction to Polymeric and Composite Materials
(3 credits) Prerequisite: MEC 113. Introduces students to polymeric and composite materials. Covers the basic characteristics, properties and uses of polymers, wood and composites. Presents topics in polymeric and composite materials including strength of materials, constituents, material properties, and fabrication. Lecture 2 hours + lab 3 hours, total 5 hours per week.

MEC 221 Metallurgy and Ceramics
(3 credits) Prerequisite: MEC 220. Provides the student with an in-depth understanding of properties; uses, costs, and product life cycle in manufacturing; equilibrium; corrosion; and sub-classes of metal and ceramic composites. Lecture 2 hours + Lab 2 hours, Total 4 hours per week.

MEC 225 Metallurgy
(3 credits) Prerequisite: MEC 113. Teaches fundamentals of metallurgy, grain size, effect on carbon content, and hardness testing devices. Tests different alloys to determine the effect of heat treatment. Lecture 2 hours + lab 2 hours, total 4 hours per week.

MEC 269 Fluid Power-Pneumatic Systems
(3 credits) Teaches pneumatic components, systems and trouble analysis. Introduces basic design for modification and repair. Covers open loop control, fluidics, robotics and computer controls. Lecture 2 hours + lab 2 hours, total 4 hours per week.

MEC 297 Cooperative Education in Mechanical Technology
(1-5 credits) Prerequisite: ENG 5 if required by individual student's placement. Divisional approval required. Supervised on-the-job training in approved business firms or governmental organizations. Variable hours.

MEDICAL ASSISTING

MDA 208 Medical Office Coding
(2 credits) Introduces the students to ICD-9and CPT-4 classification coding systems used in physician offices, hospitals and ambulatory care settings. Lecture 1 hour + lab 3 hour, total 4 hours per week.

MEDICAL LABORATORY

MDL 100 Introduction to Medical Laboratory Technology
(2 credits) Prerequisite: ENG 5 if required by individual student's placement; Permission of Program Director. Introduces the basic principles, techniques, and vocabulary applicable to all phases of medical laboratory technology. Lecture I hour + lab 3 hours, total 4 hours per week.

MDL 101 Introduction to Medical Laboratory Techniques
(3 credits) Prerequisite: ENG 5 if required by individual student's placement; Permission of Program Director. Introduces the basic techniques including design of the health care system, ethics, terminology, calculations, venipuncture and routine urinalysis. Lecture 2 hours + lab 3 hours, total 5 hours per week.

MDL 105 Phlebotomy
(3 credits) Prerequisite: ENG 5 if required by individual student's placement; Permission of Program Director. Introduces basic medical terminology, anatomy, physiology, components of health care delivery and clinical laboratory structure. Teaches techniques of specimen collection, specimen handling, and patient interactions. Lecture 2 hours + lab 5 hours, total 7 hours per week.

MDL 106 Clinical Phlebotomy
(4 credits) Prerequisites: ENG 5 if required by individual student's placement; MDL 100, MDL 105, and permission of Program Director. Focuses on obtaining blood specimens, processing specimens, managing assignments, assisting with and/or performing specified tests, performing clerical duties and maintaining professional communication. Provides supervised learning in college laboratory and/or cooperating agencies. Lecture 2 hours + lab 6 hours, total 8 hours per week.

MDL 140 Clinical Urinalysis
(2 credits) Prerequisite: Permission of Program Director. Focuses on urinalysis studies including physical and chemical properties, microscopic techniques. Emphasizes the significance of abnormal results. Lecture 1 hour + lab 3 hours, total 4 hours per week.

MDL 261 Clinical Chemistry and Instrumentation I
(4 credits) Prerequisites: CHM 102 or CHM 112, MDL 110, MDL 125, MDL 210, MDL 220 or permission of Program Director. Introduces methods of performing biochemical analysis of clinical specimens. Teaches instrumentation involved in a clinical chemistry laboratory, quality control, and the ability to recognize technical problems. Lecture 3 hours + lab 3 hours, total 6 hours per week.

MDL 266 Clinical Chemistry Techniques
(4 credits) Prerequisites: MDL 110, MDL 125, MDL 210, MDL 216, MDL 225, MDL 251, MDL 252, or permission of Program Director. Includes performing of clinical chemistry methodologies and operation of typical instrumentation in a clinical laboratory or simulated laboratory setting. Lab 12 hours per week.

MDL 276 Clinical Hematology Techniques
(4 credits) Prerequisites: MDL 110, MDL 125, MDL 210, MDL 216, MDL 225, MDL 251, MDL 252, or permission of Program Director. Stresses performing hematological and coagulation methods and operation of typical instrumentation in a clinical laboratory or simulated laboratory setting. Lab 12 hours per week.

MDL 277 Clinical Immunohematology and Immunology Techniques
(4 credits) Prerequisites: MDL 110, MDL 125, MDL 210, MDL 216, MDL 225, MDL 251, MDL 252, MDL 262, or permission of Program Director. Deals with performing techniques, procedures, and interpretations in Blood Banking and Serology in a clinical laboratory or simulated laboratory setting. Lab 12 hours per week.

MDL 278 Clinical Microbiology Techniques II
(4 credits) Prerequisites: MDL 110, MDL 125, MDL 210, MDL 216, MDL 225, MDL 251, MDL 252, MDL 262, or permission of Program Director. Includes performing of techniques, procedures, and identification of microorganisms in a clinical laboratory or simulated laboratory setting. Lab 12 hours per week.

MUSIC

MUS 101-102 Basic Musicianship I-II
(3 credits/3 credits) Provides exercises leading to knowledge and skill in the rudiments of music. Includes rhythmic notation as well as scales, keys, and intervals along with exercises in sight reading and ear

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training. Lecture 3 hours per week.

MUS 111-112 Music Theory I-II
(4 credits/4credits) Prerequisite MUS 111: MUS 101 or instructor approval. Prerequisite MUS 112: MUS 111 or instructor approval. Discusses elements of musical construction of scales, intervals, triads, and chord progressions. Develops ability to sing at sight and write from dictation. Introduces the analysis of the Bach chorale style. Expands facility with harmonic dictation and enables the student to use these techniques at the keyboard. Lecture 3 hours + lab 2 hours, total 5 hours per week.

MUS 121-122 Music Appreciation I-II
(3 credits/3credits) Increases the variety and depth of the student's interest, knowledge, and involvement in music and related cultural activities. Acquaints the student with traditional and 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 136 Applied Music - Voice
(1-2 credits) Teaches singing, proper breath control, diction, and development of tone. Studies the standard vocal repertoire. Prerequisite divisional approval. Private lessons are available for either 1 or 2 hours of credit per semester. The length of the lessons will be 1/2 hour for 1 hour credit and 1 hour for 2 hours credit per semester. All courses in applied music may be repeated for a total of 8 hours for the major and 4 hours for the minor. One or two half-hour lessons per week. Four to eight hours practice required. Lab 4-8 hours per week.

MUS 137 Chorus Ensemble
(2 credits) Divisional approval required. Ensemble consists of performance from the standard repertoires, including study of ensemble techniques and interpretation. May be repeated for credit. Lab 4 hours per week.

MUS 141-142 Class Piano I & II
(2 credits/2 credits) Offers the beginning piano student activities in learning musical notation, in accomplishing sight reading skills, and in mastering techniques of keyboard playing. Presents appropriate literature. Open to all students and may be used to fulfill applied minor instrument requirement for music major. Lecture 1 hour + Lab 2 hours, total 3 hours per week, each.

MUS 145 Applied Music - Keyboard
(1-2 credits) Teaches piano, organ, harpsichord, or synthesizer. Studies the standard repertoire. Prerequisite divisional approval. Private lessons are available for either 1 or 2 hours of credit per semester. The length of the lessons will be 1/2 hour for 1 hour credit and 1 hour for 2 hours credit per semester. All courses in applied music may be repeated for a total of 8 hours for the major and 4 hours for the minor. 1-2 half-hour lessons per week, 4-8 hours practice (laboratory) required. Lab 4-8 hours per week.

MUS 148 Orchestra Ensemble
(1 credit) Ensemble consists of performance from the standard repertoires, including study of ensemble techniques and interpretation. Divisional approval required. May be repeated for credit. Lab 3 hours per week.

MUS 149 Band Ensemble
(1 credit) Ensemble consists of performance from the standard repertoires, including study of ensemble techniques and interpretation. Divisional approval required. May be repeated for credit. Lab 3 hours per week.

MUS 155 Applied Music - Woodwinds
(1-2 credits) Teaches fundamentals of the woodwind instruments. Studies the standard repertoire. Prerequisite divisional permission. Private lessons are available for 1 or 2 hours of credit per semester. The length of the lessons will be 1/2 hour for 1 hour

credit and 1 hour for 2 hours credit per semester. All courses in applied music may be repeated for a total of 8 hours for the major and 4 hours for the minor. 1-2 half-hour lessons per week, 4-8 hours practice (laboratory) required. Lab 4-8 hours per week.

MUS 165 Applied Music - Strings
(1-2 credits) Teaches fundamentals of string instruments, harp, or guitar. Studies the standard repertoire. Prerequisite divisional approval. Private lessons are available for either 1 or 2 hours of credit per semester. The length of the lessons will be 1/2 hour for 1 hour credit and 1 hour for 2 hours credit per semester. All courses in applied music may be repeated for a total of 8 hours for the major and 4 hours for the minor. 1-2 half-hour lessons per week, 4-8 hours practice (laboratory) required. Lab 4-8 hours per week.

MUS 175 Applied Music - Brass
(1-2 credits) Teaches fundamentals of brass instruments. Studies the standard repertoire. Prerequisite divisional approval. Private lessons are available for either 1 or 2 hours of credit per semester. The length of the lessons will be 1/2 hour for 1 hour credit and 1 hour for 2 hours credit per semester. All courses in applied music may be repeated for a total of 8 hours for the major and 4 hours for the minor. 1-2 half-hour lessons per week, 4-8 hours practice (laboratory) required. Laboratory 4-8 hours per week.

MUS 195 Brass Ensemble
(2 credits) Consists of performance from the standard brass repertoires, including study of brass techniques and interpretation. Laboratory 4 hours per week.

NATURAL SCIENCE

NAS 125 Meteorology
(4 credits) Prerequisites: ENG 5 and MTH 3 if required by individual student's placement. 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 + lab 2 hours, total 5 hours per week.

NAS 131-132 Astronomy I-II
(4 credits/4 credits) Studies the major and minor bodies of the solar system, stars and nebulae of the milky way, and extragalactic objects. Examines life and death of stars, origin of the universe, history of astronomy, and instruments and techniques of observation. Lecture 3 hours per week. Recitation and lab 3 hours, total 6 hours per week.

NURSING

NUR 21 Nursing Aide Clinical Experience
(2 credits) Prerequisites: ENG 3 and ENG 5. Provides guided nurse aide experiences for practicing skills in the clinical setting. Applies fundamental principles of basic nurse aide care. Lab 4 hours per week.

NUR 100 Introduction to Nursing and Health
(1 credit) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Corequisites: NUR 104, NUR 105, NUR 117, NUR 135, BIO 141. Introduces concepts of nursing and health. Includes historical and cultural aspects, legal, and ethical responsibilities and an overview of health and the health care delivery system. Lecture 1 hour per week.

NUR 104 Fundamentals of Nursing
(6 credits) Required by individual student's placement. Corequisites: NUR 100, NUR 105, NUR 117, NUR 135, BIO 141. 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 fluid and electrolyte, oxygenation and diagnostic testing. Also includes basic computer instruction related to the delivery of nursing care. Lecture 6 hours per week.

NUR 105 Nursing Skills
(2 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Corequisite(s): NUR 100, NUR 104, NUR 117, NUR 135, BIO 141. 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, catherization, oxygen administration, infection control, suctioning and medication administration. Provides supervised learning experiences in college nursing laboratories and/or cooperating agencies. Lab 6 hours per week.

NUR 115 LPN Transition
(3 credits) Prerequisite: BIO 142. Introduces the role of the registered nurse through concepts and skill development in the discipline of professional nursing. This course serves as a bridge course for licensed practical nurses and is based upon the individualized articulation agreements, mobility exams, or other assessment criteria as they relate to local programs and service areas. Includes math computational skills and basic computer instruction related to the delivery of nursing care. Lecture 3 hours per week.

NUR 117 Communications, Nursing Process, and Care Planning
(1 credit) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Corequisites: NUR 100, NUR 104, NUR 105, NUR 135, BIO 141. Introduces a systematic approach to developing nursing care plans utilizing the nursing process. Care plans are formulated in an effort to meet the biopsychosocial needs of clients across the life span. Lecture 1 hour per week.

NUR 135 Drug Dosage Calculations
(2 credits) Prerequisites: ENG 3, ENG 5 if required by individual student placement; Corequisite(s): NUR 100, NUR 104, NUR 105, NUR 117, BIO 141. 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. Lecture 2 hours per week.

NUR 180 Essentials of Maternal/Newborn Nursing
(3 credits) Prerequisites: BIO 141, NUR 100, NUR 104, NUR 105, NUR 117, NUR 135. Corequisite(s): NUR 200, NUR 202 and BIO 142. 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. Lecture 2 hours + lab 3 hours, total 5 hours per week.

NUR 200 Essentials of Mental Health Nursing
(3 credits) Prerequisites: BIO 141, NUR 100, NUR 104, NUR 105, NUR 117, NUR 135, Corequisites: NUR 180, NUR 202 and BIO 142. Utilizes the nursing process in caring for individuals, families, and/or groups with mental health needs across the life span. 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. Lecture 2 hours + lab 3 hours, total 5 hours per week.

NUR 202 Medical/Surgical Nursing I
(3 credits) Prerequisites: BIO 141, NUR 100, NUR 104, NUR 105, NUR 117, NUR 135, Corequisites: NUR 180, NUR 200 and BIO 142. Focuses on the care of individuals/families requiring complex or surgical 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; cardiac, neurological, renal, burn

disorders and clients experiencing shock. Provides supervised learning experiences in college nursing laboratories and/or cooperating agencies. Lecture 2 hours + lab 3 hours, total 5 hours per week.

NUR 212 Second Level Nursing II
(8 credits) Prerequisites: BIO 150 and NUR 180, NUR 200, and NUR 202. Emphasizes complex nursing care of individuals, families, and/or groups in various stages of development who are experiencing alterations related to their biopsychosocial needs. 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; neurological cardiovascular; respiratory; eye, ear, nose and throat disorders. May also include: emergency, renal and digestive disorders. Provides supervised learning experience in college nursing and/or cooperating agencies. Lecture 4 hours + lab 12 hours, total 16 hours per week.

NUR 213 Second Level Nursing III
(8 credits) Prerequisite: NUR 212. Corequisites: NUR 254. Emphasizes complex nursing care of individuals, families, and/or groups in various stages of development who are experiencing alterations related to their biopsychosocial needs. 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; cardiovascular, respiratory, endocrine, neurological and renal disorders. Provides supervised learning experience in college nursing laboratories and/or cooperating agencies. Lecture 4 hours + lab 12 hours, total 16 hours per week.

NUR 254 Dimensions of Professional Nursing
(1 credit) Prerequisite: NUR 212. Corequisites: NUR 213. Explores the role of the professional nurse. Emphasizes nursing organizations, legal and ethical implications, and addresses trends in management and organizational skills. Explores group dynamics, relationships, conflicts, and leadership styles. Lecture 1 hour per week.

NUR 298 Seminar and Project in Health Assessment
(3 credits) Prerequisite: Department Permission. Restricted to current 2nd level nursing students, RN's and LPN's. Teaches the systematic approach to obtaining a health history and performing a physical assessment examination. Course is available only to licensed practical nurses, registered nurses, and senior level registered nursing students. Lecture 3 hours per week.

PHILOSOPHY

PHI 101-102 Introduction to Philosophy I-II
(3 credits/3 credits) May be taken out of sequence. Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Introduces a broad spectrum of philosophical problems and perspectives, with an emphasis on the systematic questioning of basic assumptions about meaning, knowledge, reality, and values. Lecture 3 hours per week.

PHI 111 Logic I
(3 credits) Must be taken in sequence. Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Introduces inductive and deductive reasoning, with an emphasis on common errors and fallacies. Lecture 3 hours per week.

PHI 112 Logic II
(3 credits) Prerequisites: PHI 111. Evaluates deductive arguments utilizing methods of symbolic logic. Lecture 3 hours per week.

PHI 115 Practical Reasoning
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Studies informal logic and language techniques as they relate to reasoning and argument. Provides practice in analyzing arguments and constructing sound arguments. Lecture 3 hours per week.

PHI 211-212 The History of Western Philosophy I-II
(3 credits/3 credits) May be taken out of sequence. Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Provides historical survey of representative philosophers from the pre-Socratics to the present. Introduces the student to development of philosophical thought through selected readings of original works and appropriate critical materials. Lecture 3 hours per week.

PHI 220 Ethics
(3 credits) Prerequisite: ENG 3, ENG 5 if required by individual student's placement. Provides a systematic study of representative ethical systems. Lecture 3 hours per week.

PHOTOGRAPHY

PHT 101-102 Photography I-II
(3 credits) PHT 101/102 must be taken in sequence. Prerequisite for PHT 102: PHT 101 or PHT 164. Teaches principles of photography and fundamental camera techniques. Requires outside shooting and lab work. Introduces principles of photography with outside shooting assignments related to lecture topics. The student needs a camera with an adjustable lens, adjustable shutter speeds, and either a built-in exposure meter or a hand-held meter. Photography students are required to purchase certain basic equipment and materials necessary to achieve professionally-oriented objectives. Most of the equipment is purchased in the first photography class and can be used throughout the two-year program. Each instructor will review expenses during the first class meeting. Lecture 1 hour + lab 4 hours, total 5 hours per week.

PHT 105 Basic Photography
(3 credits) Written permission of instructor required. Prerequisites: ENG 4, ENG 5 if required by individual student's placement. Studies fundamental techniques of the camera and its expressive possibilities. Photography students are required to purchase certain basic equipment and materials necessary to achieve professionally-oriented objectives. Most of the equipment is purchased in the first photography class and can be used throughout the two-year program. Each instructor will review expenses during the first class meeting. Lecture 3 hours per week.

PHT 110 History of Photography
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Surveys important photographers, processes, and historical influences of the nineteenth and early twentieth centuries. Lecture 3 hours per week.

PHT 135 Electronic Darkroom
(3 credits) Teaches students to create and manipulate digital photographs. Covers masking, color correction, and the merging of illustrations with photographs. Examines the ethical and property-rights issues which are raised in the manipulation of images. Lecture 1 hours + studio instruction 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 + Lab 4 hours, total 5 hours per week.

PHT 198 Seminar and Project in Photography
(3 credits) Prerequisite: PHT 101 and permission of instructor. 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. Lecture 1 hour + lab 4 hours, total 5 hours per week.

PHT 201-202 Advanced Photography I-II
(3 credits/3 credits) Must be taken in sequence. Prerequisite: PHT 102 or equivalent. Provides weekly critiques of students' work. Centers on specific

problems found in critiques. Includes working procedures and critical skills in looking at photographs. Photography students are required to purchase certain basic equipment and materials necessary to achieve professionally-oriented objectives. Most of the equipment is purchased in the first photography class and can be used throughout the two-year program. Each instructor will review expenses during the first class meeting. Lecture 2 hours + lab 3 hours, total 5 hours per week.

PHT 206 Large Format Photography
(3 credits) Prerequisite: PHT 102 or equivalent. Discusses 4x5 view camera techniques and controls, and sheet film processing. Demonstrates the image-making advantages of large format photography. Lecture 2 hours + lab 3 hours, total 5 hours per week.

PHT 211-212 Color Photography I-II
(3 credits/3 credits) Must be taken in sequence. Prerequisite: PHT 102 or equivalent. Introduces theory, materials, and processes of modern color images. Includes additive and subtractive theory, color filtration, and negative and positive printing techniques. Photography students are required to purchase certain basic equipment and materials necessary to achieve professionally-oriented objectives. Most of the equipment is purchased in the first photography class and can be used throughout the two-year program. Each instructor will review expenses during the first class meeting. Lecture 2 hours + lab 3 hours, total 5 hours per week.

PHT 221-222 Studio Lighting I-II
(3 credits/3 credits) Prerequisite: PHT 102 or equivalent. Examines advanced lighting and camera techniques under controlled studio conditions. Includes view camera use, electronic flash, advanced lighting techniques, color temperature and filtration, and lighting ratios. Requires outside shooting. Lecture 2 hours + lab 3 hours, total 5 hours per week.

PHT 227 Photographic Careers
(3 credits) Teaches the techniques of small photographic business operations. Includes portfolio preparation and presentation and basic marketing techniques. Covers theory of marketing, costing procedures and problems, legal accounting problems, copyright, and fundamentals of small photographic business operation. Lecture 3 hours per week.

PHT 231 Photojournalism I
(3 credits) Prerequisite: PHT 102 or equivalent. Introduces equipment, techniques, skills, and concepts of photojournalism. Teaches photography for features, spot news, and photo essays. Emphasizes editing, captioning, and layout. May require individual projects. Lecture 2 hours. + lab 3 hours, total 5 hours per week.

PHT 247 Alternative Photographic Processes
(3 credits) Prerequisite: PHT 102 or equivalent. Explores manipulated imagery including traditional and non-traditional processes such as non-silver and electronic imaging. Uses enlarged film negatives in order to investigate a variety of methods. Lecture 1 hour + lab 4 hours, total 5 hours per week.

PHT 264 Digital Photography II
(3 credits) Prerequisite(s): PHT 135 or ART 283 and PHT 270. 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. Lecture 2 hours + Lab 3 hours, total 5 hours per week.

PHT 265 Mass Media into the Twenty-First Century
(3 credits) Studies the visual influence that film, newspapers, magazines, radio, and TV have exerted in the twentieth century and includes predictions for such media in the twenty-first century. Analyzes the relationships that television and computers have had on society, and examines the impact of motion

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pictures, television and the internet for the future. Considers what ethical and moral considerations must be made by a communications artist working in the twenty-first century. Lecture 3 hours per week.

PHT 270 Digital Imaging I
(3 credits) Prerequisite: PHT 135 or ART 283. Introduces students to the tools and techniques used by professionals in the electronic imaging field. Focuses on current trends within the photographic, pre-press and internet industries. Includes image capture, manipulation, and out-put. Exposes students to the hardware and software used by today's creative professionals in a combination of lectures, demonstrations and class projects. Lecture 2 hours + Lab 2 hours, total 4 hours per week.

PHT 296 On-Site Training in Photography
(1-5 credits) Written permission of instructor required. Specializes in career orientation and training program without pay in selected businesses and industry. Program is supervised and coordinated by the college. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

PHT 297 Cooperative Education in Photography
(1-3 credits) Written permission of instructor required. Supervised on-the-job training for pay in approved business, industrial, and service firms. Learning should be related to the student's aspirations and with the approval of the cooperative learning coordinator. The credit/work ratio is not to exceed 1:5 hours.

PHYSICAL EDUCATION AND RECREATION

PED 100 Pilates
(2 credits) Provides a method of mind-body exercise and physical movement designed to stretch, strengthen, balance the body, and improve posture and core stabilization while increasing body awareness. Lecture 1 hour + lab 2 hours, total 3 hours per week.

PED 101 - Fundamentals of Physical Activity I
(2 credits) Presents principles underlying the components of physical fitness. Utilizes conditioning activities involving cardiovascular strength and endurance, respiratory efficiency, muscular strength, and flexibility. May include fitness assessment, nutrition and weight control information, and concepts of wellness. Lecture 1 hour + lab 2 hours, total 3 hours per week.

PED 103-104 Aerobic Fitness I-II
(2 credits/2 credits) May be taken out of sequence. Develops cardiovascular fitness though activities designed to elevate and sustain heart rates appropriate to age and physical condition. Lecture 1 hour + lab 2 hours, total 3 hours per week.

PED 107 Exercise and Nutrition
(2 credits) Provides for the study and application of fitness and wellness and their relationship to a healthy lifestyle. Defines fitness and wellness, evaluates the student's level of fitness and wellness. Students will incorporate physical fitness and wellness into the course and daily living. A personal fitness/wellness plan is required for the 2 credit course. Lecture 1 hous+ lab 2 hours, total 3 hours per week.

PED 109 Yoga
(2 credits) Focuses on the forms of yoga training emphasizing flexibility. Lecture 1 hour + lab 2 hours, total 3 hours per week.

PED 110 Zumba
(2 credits) Focuses on Latin rhythms, dance moves and techniques in Zumba. Utilizes physical activity, cardiovascular endurance, balance, coordination and flexibility as related to dance. Lecture 1 hour + lab 2 hour, total 3 hours per week.

PED 111-112 Weight Training I - II
(2 credits/2 credits) Focuses on muscular strength and endurance training through individualized workout programs. Teaches appropriate use of weight training equipment. Lecture 1 hour + lab 2 hours, total 3 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 2 hours + lab 1 hour, total 3 hours per week.

PED 120 Yoga II
(2 credits) Prerequisite: PED 109. Focuses on the forms of yoga training emphasizing flexibility. Lecture 1 hour + lab 2 hours, total 3 hours per week.

PED 121 Racketball I
(2 credits) Teaches racketball skills and strategies for team and individual play. Includes terminology, scoring, etiquette, equipment selection, and safety. Lecture 1 hour + lab 2 hours, total 3 hours per week.

PED 123 Tennis I
(2 credits) Teaches tennis skills with emphasis on stroke development and strategies for individual and team play. Includes rules, scoring, terminology, and etiquette. Lecture 1 hour + lab 2 hours, total 3 hours per week

PED 129 Self-Defense
(2 credits) Examines history, techniques, and movements associated with self-defense. Introduces the skills and methods of self-defense, emphasizing mental and physical discipline. Lecture 1 hour + lab 2 hours, total 3 hours per week.

PED 133 Golf I
(2 credits) Teaches basic skills of golf, rules, etiquette, scoring, terminology, equipment selection and use, and strategy. Lecture 1 hour + lab 2 hours, total 3 hours per week.

PED 135-136 Bowling I-II
(2 credits/1 credit) Teaches basic bowling skills and techniques, scoring, rules, etiquette, and terminology. Lecture 1 hour + lab 1-2 hours, total 2-3 hours per week.

PED 137 Martial Arts I
(2 credits) Emphasizes forms, styles, and techniques of body control, physical and mental discipline, and physical fitness. Presents a brief history of development of martial arts theory and practice. Lecture 1 hour + lab 2 hours, total 3 hours per week.

PED 141 Swimming I
(2 credits) Introduces skills and methods of swimming strokes. Focuses on safety and physical conditioning. Lecture 1 hour + lab 2 hours, total 3 hours per week.

PED 147 Hiking
(2 credits) Introduces physical and mental benefits of walking or hiking as a form of physical exercise. Skills developed include how to plan for a hike, what to take, and how to select a trail relative to individual abilities. Provides hiking opportunities to explore local regions. Develops awareness of safety, weather, and ecological considerations. Lecture 1 hour + laboratory 2 hours, total 3 hours per week.

PED 150 Soccer
(2 credits) Emphasizes soccer skills and techniques, strategies, rules, equipment, and physical conditioning. Lecture 1 hour + 2 lab hours, total 3 hours per week.

PED 154 Volleyball
(2 credits) Introduces skills, techniques, strategies, rules, and scoring. Lecture 1 hour + lab 2 hour, total 2 hours per week.

PED 155 Wallyball
(2 credits) Focuses on skills, techniques, strategies, rules, and scoring. Lecture 1 hour + lab 2 hours, total 3 hours per week.

PED 206 Sports Appreciation
(2 credits) Focuses on the history, trends, rules, methods, strategy, and terminology of selected sports activities. Provides student awareness as a spectator and/or participant. Lecture 2 hours per week.

PHYSICS

PHY 201-202 General College Physics I-II
(4 credits/4 credits) Must be taken in sequence. Prerequisite: MTH 116 or MTH 164, or equivalent. Teaches fundamental principles of physics. Covers mechanics, thermodynamics, wave phenomena, electricity and magnetism, and selected topics in modem physics. Lecture 3 hours + lab 3 hours, total 6 hours per week.

PHY 241-242 University Physics I-II
(4 credits/4 credits) Must be taken in sequence. Prerequisites: for PHY 241: MTH 173 or division approval. For PHY 242: MTH 174 or division approval, and PHY 241. Teaches principles of classical and modern physics. Includes mechanics, wave phenomena, heat, electricity, magnetism, relativity, and nuclear physics. Lecture 3 hours + lab 3 hours, total 6 hours per week.

POLITICAL SCIENCE

PLS 135 American National Politics
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Teaches political institutions and processes of the national government of the United States; focuses on the Congress, Presidency, and the courts and their inter-relationships. 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) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Teaches structure, powers, and functions of state and local government in the United States. Lecture 3 hours per week.

PLS 241 International Relations I
(3 credits) Prerequisite: ENG 3, ENG 5 if required by individual student's placement. Teaches geographic, demographic, economic, ideological, and other factors conditioning the policies of countries and discusses conflicts and their adjustment. Lecture 3 hours per week.

PRACTICAL NURSING

PNE 155 Body Structure and Function
(3 credits) Prerequisite: ENG 3 or satisfactory reading comprehensive scores. Studies the structure and function of the body. Lecture 3 hours per week.

PSYCHOLOGY

PSY 100 Principles of Applied Psychology
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Introduces the general principles of psychology as they are applied to work, relationships, and growth. Includes perception, learning, development, motivation, emotion, therapy, communication, and attitudes. Lecture 3 hours per week.

PSY 126 Psychology for Business and Industry
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Focuses on the application of psychology to interpersonal relations and the working environment. Includes topics such as group dynamics, motivation, employee-employer relationships, interpersonal communications, and techniques for selection and supervision of personnel. Lecture 3 hours per week.

PSY 200 Principles of Psychology
(3 credits) Prerequisite: ENG 3, ENG 5 if required by individual student's placement. Surveys the basic concepts of psychology. Covers the scientific study of behavior, behavioral research methods and analysis, and theoretical interpretations. Includes topics that cover physiological mechanisms, sensation/perception, motivation, learning, personality, psychopathology, therapy, and social psychology. Lecture 3 hours per

week.

PSY 215 Abnormal Psychology
(3 credits) Prerequisites: PSY 200. 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. Lecture 3 hours per week.

PSY 216 Social Psychology
(3 credits) Prerequisites: PSY 200. 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. Lecture 3 hours per week.

PSY 230 Developmental Psychology
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Replaces PSY 238 Developmental Psychology. Studies the development of the individual from conception to death. Follows a lifespan perspective on the developmental tasks of the person's physical, cognitive, and psychosocial growth. Lecture 3 hours per week.

PSY 231-232 Life Span Human Development I-II
(3 credits/3 credits) Must be taken in sequence. Prerequisites ENG 3, ENG 5 if required by individual student's placement. Investigates human behavior through the life cycle. Describes physical, cognitive, and psychosocial aspects of human development from conception to death. Lecture 3 hours per week.

PSY 235 Child Psychology
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. 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. Lecture 3 hours per week..

PSY 265 Psychology of Men and Women
(3 credits) Prerequisites: PSY 200. Examines the major determinants of sex differences. Emphasizes psychosexual differentiation and gender identity from theoretical, biological, interpersonal, and sociocultural perspectives. Includes topics such as sex roles, socialization, rape, abuse, and androgyny. Lecture 3 hours per week.

PUBLIC SERVICE

PBS 100 Introduction to Public Administration
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Focuses on principles underlying public administration in federal, state, and local government. Examines the role of government, administrative and policy processes, organizational structure, basic problems of management, administrative responsibility, and the future of public administration. Lecture 3 hours per week. (Offered Fall)

PBS 105 Personnel Management in the Public Sector
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Studies modern public service, including personnel in government, personnel management, benefits and wages, staffing, and growth and development. Also examines issues of public personnel management, motivation, productivity, labor management

relations, equal opportunity through affirmative action, and professionalism. Lecture 3 hours per week. (Offered Spring)

PBS 115 Urban and Environmental Problems
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual students placement. Focuses on the development of economic and social determinants and their method of solution. Examines relations problems emanating from citizen demands for social welfare and public services. Gives consideration to community land use, development, zoning and master planning, both in practice and theory. Lecture 3 hours per week. (Offered Fall)

PBS 116 Public Budgeting and Finance
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Reviews history of different approaches to public budgeting and examines the budgeting process in government. Examines the development of public planning at all levels of government with an emphasis on budgetary process. Gives consideration to revenue sources, administration, and structure. Lecture 3 hours per week. (Offered Spring)

PBS 120 Introduction to Community and Social Service
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Examines the basic principles, scope, and functions of community and social service work, including practices and current trends. Examines institutions to determine why they change or fail to change. Introduces students to careers in community and social service work at federal, state, and municipal levels. Lecture 3 hours per week. (Offered Fall)

PBS 135 Labor/Management Relations in the Public Sector
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Studies the changing concepts in public labor/management relations. Examines recent developments in public employee relations and case histories of situations that led to strikes or impasses. Reviews pertinent federal, state, and local laws and court decisions. Examines the art of labor negotiations and handling of public employee grievances. Compares labor relations in the private and public sectors. Lecture 3 hours per week.

PBS 136 Grantsmanship
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Examines development, sources, and purposes of grants in intergovernmental cash flow. Focuses on application procedures, applications management and financial reporting, and development of management systems in accordance with grant pacing factors. Students develop written grant proposals, including objectives, plan of implementation, budget, and evaluation. Lecture 3 hours per week.

PBS 200 Ethics in the Public Sector
(3 credits) Examines ethical issues related to government service. Reviews ethical principles, standards, codes of conduct and their application, and a number of substantive issues of ethical responsibilities relevant to public sector employees. Lecture 3 hours per week. (Offered Fall)

PBS 230 Public Information Technology and E-Governance
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Examines public information technology policy issues, including privacy, access, security, and regulation, management topics including business plans, strategic planning, project management and program evaluation. Relates organizational theory and organizational behavior to the study of public information systems. Lecture 3 hours per week. (Offered Spring)

PBS 240 Constitutional Law
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Surveys state

and federal constitutional provisions pertinent to the relations between state and federal governments. Examines separation of powers, delegation of powers, interstate relations, commerce powers, civil rights, and liberties. Gives consideration to the establishment and interpretation of federal, state, and local regulations which implement public policy. Lecture 3 hours per week. (Offered Fall)

PBS 255 Management of the Modern City
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Teaches basic concepts of city administration. Covers relationships among city, state, and federal jurisdictions, as well as cooperative efforts among city departments. Uses case study methods to emphasize the environment and organization of the city, the city administration, and intergovernmental relationships affecting the city. Lecture 3 hours per week. (Offered Spring)

PBS 265 Interviewing
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Analyzes the principles and techniques of interviewing in various organizational settings. Examines reliability and validity of information gained through information interviewing, employment and selection interviewing, performance appraisal and disciplinary interviewing, as well as counseling interviewing. Lecture 3 hours per week. (Offered Fall)

PBS 266 Group Leadership
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Focuses on the dynamics of individual behavior and group processes in the work place. Examines the role of group members decision making, use of power, creativity and controversy, problem solving, and group goals, Lecture 3 hours per week. (Offered Spring)

PBS 290 Coordinated Internship in Public Administration
(3 credits) Prerequisite: ENG 5 if required by individual student's placement and division approval. Supervised observation and participation at selected sites. The work is coordinated by the college. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit. (Offered Spring)

REAL ESTATE

REA 100 Principles of Real Estate
(4 credits) Examines practical applications of real estate principles. Includes a study of titles, estates, land descriptions, contracts, legal instruments, financing, and management of real estate. Lecture 4 hours per week.

REA 110 Real Estate Sales
(3 credits) Focuses on the fundamentals of sales principles as they apply to real estate. Includes prospect, motives, needs, and abilities to buy real estate. Lecture 3 hours per week.

REA 215 Real Estate Brokerage
(3 credits) Considers administrative principles and practices of real estate brokerage, financial control and marketing of real property. Lecture 3 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 hours per week.

REA 217 Real Estate Finance
(3 credits) Presents principles and practices of financing real estate. Analyzes various types of note contracts and mortgage and deed of trust instruments. Covers underwriting conventional and government insured and guaranteed loans. Lecture 3 hours per week.

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REA 225 Real Property Management
(3 credits) Introduces the field of property management. Focuses on the principles of tenant selection and retention, financial management, and building maintenance. Lecture 3 hours per week.

REA 245 Real Estate Law
(3 credits) Focuses on real estate law, including rights pertaining to property ownership and management, agency, contracts, transfers of real property ownership, fair housing, and tax implications. Lecture 3 hours per week.

REA 246 Real Estate Economics
(3 credits) Examines the nature and classification of land economics, the development of property, construction and subdivision, economic values and real estate evaluation, real estate cycles and business fluctuations, residential market trends, rural property and special purpose property trends. Lecture 3 hours per week.

RECREATION AND PARKS

RPK 100 Introduction to Recreation, Parks and Leisure Studies
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Includes history and philosophy of the Recreation and Parks movement. Discusses the theory of leisure and play. Analyzes leisure service delivery systems and career opportunities. Emphasizes the private, commercial, industrial sectors, Armed Forces, and volunteer, as well as the public area. Lecture 3 hours per week

RPK 135 Program Planning
(3 credits) Prerequisites: ENG 3 and ENG 5 if required by individual student's placement. Teaches principles of program planning in the recreation setting. Analyzes participants' needs and demands, as well as social, physical, and psychological characteristics. Explains how to organize and lead programs. Includes a leadership practicum. Lecture 2 hours + lab 3 hours, total 5 hours per week.

RPK 146 Recreation Facilities Management and Design
(3 credits) Prerequisites: ENG 3 and ENG 5 if required by individual student's placement. Provides experience in planning and landscaping design for a variety of recreation and park areas and facilities. Emphasizes the planning and design process, and practical field application. Lecture 2 hours + lab 3 hours, total 5 hours per week.

RPK 201 Recreation and Parks Management
(3 credits) Prerequisites: ENG 3 and ENG 5 if required by individual student's placement. Examines organization and management of recreation and parks agencies. Discusses management theory, line charts, and personal policies. Explains budget preparation, documentation and presentation. Outlines fiscal policies including pricing theory and marketing strategies. Lecture 3 hours per week.

RPK 265 Risk Management
(3 credits) Prerequisites: ENG 3 and ENG 5 if required by individual student's placement, Advanced standing. Discusses the law and liability as they relate to the delivery of leisure services. Teaches practitioners legal principles necessary to analyze programs and facilities with respect to safety, emergency preparedness, and accident reporting protocols. Review hiring procedures, ADA compliance, national (CPSC, ASTM, OSHA) and professional standards (NRPA, ACA), certification and training standards (CPRP, CTRS), supervision and the role of maintenance and insurance. Uses case law and national compliance standards to illustrate legal principles. Lecture 3 hours per week.

RPK 290 Coordinated Internship in Recreation

and Parks
(3 credits) Prerequisites: ENG 5 if required by individual student's placement. 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.

RPK 297 Cooperative Education in Recreation and Parks
(3 credits) Prerequisites: ENG 5 if required by individual student's placement. 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.

RELIGION

REL 195 Honors Colloquium New Testament Topics (may be used for special honors courses)
(1 credit) Provides an opportunity to explore topical areas of interest to or needed by students. This course will cover recent topics in New Testament studies including archeology, recently discovered manuscripts, and other new developments in the field. Lecture 2 hours per week.

REL 200 Survey of the Old Testament
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. 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) May be taken before REL 200. Prerequisites: ENG 3, ENG 5 if required by individual student's placement. 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 231-232 Religions of the World I-II
(3 credits/3 credits) May be taken out of sequence. Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Studies religions of the world with attention to origin, history, and doctrine. Lecture 3 hours per week.

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.

SIMULATION AND MODELING

SIM 201 Modeling and Simulation I
(3 credits) Prerequisite: MTH 163. or equivalent. Covers modeling and simulation programming designed to emphasize the proper way to develop and modify reliable software programs. Provides technical programming language skills for the student seeking employment as a technician in modeling and simulation. Programming topics include: nested loops, flow control, conditional statements, and matrices. Lecture 2 hours + lab 2 hours, total 4 hours per week.

SIM 202 Modeling and Simulation II
(3 credits) Prerequisite: SIM 201. Covers modeling and simulation programming designed to prepare students to understand and utilize the concepts and techniques applicable to the modeling and simulation of systems. Students will develop the necessary skills needed to formulate conceptual models of systems and transform these models into simulation software. Lecture 2 hours + lab 2 hours, total 4 hours per week.

SOCIOLOGY

SOC 200 Principles of Sociology
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. 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 211 Principles of Anthropology
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Inquires into the origins, development, and diversification of human biology and human cultures. Includes fossil records, physical origins of human development, human population, genetics, linguistics, cultures' origins and variation, and historical and contemporary analysis of human societies. Lecture 3 hours per week.

SOC 215 Sociology of the Family
(3 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. 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, and alternative lifestyles. Lecture 3 hours per week.

SOC 266 Minority Group Relations
(3 credits) Prerequisite: SOC 200. Investigates minorities such as racial and ethnic groups. Addresses social and economic conditions promoting prejudice, racism, discrimination, and segregation. Lecture 3 hours per week.

SOC 268 Social Problems
(3 credits) Prerequisite: SOC 200. Applies sociological concepts and methods to analysis of current social problems. Includes delinquency and crime, mental illness, drug addiction, alcoholism, sexual behavior, population crisis, race relations, family and community disorganization, poverty, automation, wars, and disarmament. Lecture 3 hours per week.

SPANISH

SPA 101-102 Beginning Spanish I-II
(4 credits/4 credits) Must be taken in sequence. Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Introduces understanding, speaking, reading, and writing skills and emphasizes basic Spanish sentence structure. May include one additional hour of oral practice per week. Lecture 4 hours per week.

SPA 105 Beginning Spanish Ia
(2 credits) Prerequisites: ENG 3, ENG 5 if required by individual student's placement. Introduces understanding, speaking, reading, and writing skills and emphasizes basic Spanish sentence structure. Includes basic vocabulary and grammar. May include an extra hour of oral drill and practice. Examines the relationship between the Spanish language and Hispanic culture. Both courses (SPA 105-106) must be completed to equate to SPA 101. Lecture 2 hours per week.

SPA 106 Beginning Spanish Ib
(2 credits) Prerequisites: SPA 105. Introduces understanding, speaking, reading, and writing skills and emphasizes basic Spanish sentence structure. Includes basic vocabulary and grammar. May include an extra hour of oral drill and practice. Examines the relationship between the Spanish language and Hispanic culture. Both courses (SPA 105-106) must be completed to equate to SPA 101. Lecture 2 hours per week.

SPA 107 Beginning Spanish IIa
(2 credits) Prerequisites: SPA 101 or SPA 105-106. Introduces understanding, speaking, reading, and

writing skills and emphasizes basic Spanish sentence structure. Includes basic vocabulary and grammar. May include an extra hour of oral drill and practice. Examines the relationship between the Spanish language and Hispanic culture. Both courses (SPA 107-108) must be completed to equate to SPA 102. Lecture 2 hours per week.

SPA 108 Beginning Spanish IIb
(2 credits) Prerequisites: SPA 101 or SPA 105-106 and SPA 107. Introduces understanding, speaking, reading, and writing skills and emphasizes basic Spanish sentence structure. Includes basic vocabulary and grammar. May include an extra hour of oral drill and practice. Examines the relationship between the Spanish language and Hispanic culture. Both courses (SPA 107-108) must be completed to equate to SPA 102. Lecture 2 hours per week.

SPA 163-164 Spanish for Health Professionals I-II
(3 credits/3 credits) Prerequisites: ENG 5 if required by individual student's placement. Introduces Spanish to those in the health sciences. Emphasizes oral communication and practical medical vocabulary. May include oral drill and practice. Lecture 3 hours per week.

SPA 201-202 Intermediate Spanish I-II
(4 credits/4 credits) Must be taken in sequence. Prerequisite: SPA 102 or equivalent. Continues to develop understanding, speaking, reading, and writing skills.. May include one additional hour of oral practice per week. Lecture 4 hours per week.

SPEECH AND DRAMA (SEE CST COMMUNICATION STUDIES AND THEATRE)

STUDENT DEVELOPMENT

SDV 100 College Success Skills
(1 credit) 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 106 Preparation for Employment
(2 credits)) Provides experience in resume writing, preparation of applications, letters of application, and successfully preparing for and completing the job interview. Assists students in identifying their marketable skills and aptitudes. Develops strategies for successful employment search. Assists students in understanding effective human relations techniques and communication skills in job search. Lecture 2 hours per week.

SDV 107 Career Education
(1 credit) Surveys career options available to students. Stresses career development and assists in the understanding of self in the world of work. Assists students in applying decision-making to career choice. Lecture 3 hours per week.

SDV 108 College Survival Skills
(2 credits) Provides an orientation to the college. Introduces study skills, career and life planning. Offers an opportunity to engage in activities aimed at self-discovery. Emphasizes development of "coping skills" such as listening, interpersonal relations, competence, and improved self-concept. Recommended for students enrolled in developmental courses. Lecture 2 hours per week.

TRAVEL AND TOURISM

TRV 240 Principles of Event Planning and Management
(3 credits) Prerequisite: ENG 5 if required by individual student's placement. Focuses on the detailed aspects of how to produce, stage, script, and manage special events within the context of achieving organizational goals. Emphasizes the five critical stages in planning and managing successful special events: research needs and make goal assessments; design events to meet organizational purposes; planning the effective event; coordination and on-site management; and post event evaluation. Lecture 3 hours per week.

WELDING

WEL 117 Oxyfuel Welding and Cutting
(3 credits) Introduces history of oxyacetylene welding, principles of welding and cutting, nomenclature of the equipment, development of the puddle, running flat beads, and butt welding in different positions. Explains silver brazing, silver and soft soldering, and safety procedures in the use of tools and equipment. Lecture 2 hours + lab 3 hours, total 6 hours per week.

WEL 123 Shielded Metal Arc Welding (Basic)
(3 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 + lab 4 hours, total 6 hours per week.

WEL 124 Shielded Metal ARC Welding (Advanced)
(3 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 + lab 4 hours, total 6 hours per week.

WEL 130 Inert Gas Welding
(3 credits) Introduces practical operations in the uses of inert-gas-shield arc welding. Discusses equipment, safety operations, welding practice in the various positions, process applications, and manual and semi-automatic welding. Lecture 2 hours + lab 4 hours, total 6 hours per week.

WEL 135 Inert Gas Welding
(2 credits) Prerequisite: WEL 124 or instructor approval. Introduces practical operations in use of inert gas shielded arc welding. Studies equipment operation, setup, safety and practice of GMAW (MIG) and GTAW (TIG). Lecture 1 hour + lab 3 hours, total 4 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 2 hours + lab 3 hours, total 5 hours per week.

WEL 150 Welding Drawing and Interpretation
(3 credits) Prerequisite: WEL 124 or instructor approval. 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 3 hours per week.

WEL 160 Gas Metal Arc Welding
(3 credits) Introduces semi-automatic welding processes with emphasis on practical application. Includes the study of filler wires, fluxes, and gases. Lecture 2 hours + lab 3 hours, total 5 hours per week.

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WORKFORCE DEVELOPMENT

Thomas Nelson Community College Workforce Development is committed to delivering quality, market-responsive education and training services for individuals and organizations of the Virginia Peninsula.

OFFICE OF WORKFORCE TRAINING AND CONTINUING EDUCATION

Hampton: Peninsula Workforce Development Center, Suite 1300, 600 Butler Farm Rd. (757/825-2937 or 825-2935)

Historic Triangle: 4601 Opportunity Way, Williamsburg (757-258-6591)

The Office of Workforce Training and Continuing Education (WTCE) works with community, government, education, business and industry partners, and the academic units of the College to develop and deliver workforce training courses and contract credit programs to individuals and organizations throughout the region, at its Hampton and Williamsburg locations.

CONTRACT CREDIT COURSES

WTCE offers numerous credit courses and programs customized to meet the needs of area business, industry and government organizations. These programs can be conducted at the work site, at the Peninsula Workforce Development Center or on campus. Examples of programs include:

- Drafting
- Early Childhood Development
- Health and Safety
- Industrial Business
- Machine Technology
- Mechanical Technology
- Public Administration
- Quality Control
- Welding

MILITARY PROGRAMS

WTCE offers onsite admission and registration assistance at five military locations on the Peninsula:

- Ft. Eustis
- Langley Air Force Base
- Naval Weapons Station
- Coast Guard Station-Yorktown

CONTINUING EDUCATION AND WORKFORCE TRAINING COURSES

WTCE offers more than 300 accelerated workforce training classes for individuals and groups seeking to enhance occupational skills or increase personal and professional development on a regularly-scheduled basis or by client request. These include: allied health, computer technology and software training, transportation safety, energy efficiency and professional development. Visit www.tncc.edu/workforce for detailed information.

PROFESSIONAL CERTIFICATE PROGRAMS

The following professional certificate programs are available:

- Medical Coding & Billing Specialist
- Medical Office Assistant
- IT Security
- Website Management

See additional professional certificate programs under "Online Learning."

INDUSTRY CERTIFICATION PROGRAMS

In addition, programs are offered to prepare participants for the following:

- A+ Certified Professional
- Building Analyst (energy auditor)
- Certified Nurse Aide
- Dental Radiology
- Microsoft Office Specialist
- Network+ Certified Professional
- Pharmacy Technician
- Security+ Certified Professional

Campus based courses:

- Building and Construction Trades
- Business Administration, Management and Communication
- Computer Aided Design
- Computer Software
- Digital Photography
- Healthcare
- Networking/Computer Certifications
- Professional Development
- Transportation
- Website Design

ONLINE LEARNING

More than 400 workforce courses are available through online learning. Training is delivered on an individual or multiple-student basis via web-based technologies. The Online Learning Center serves small and medium-size businesses by offering cost-effective training to their employees in a flexible and timely manner. Web-based courses allow users to take the courses from home or work. For additional information, call 757/825-2937 or 2935 or visit **www.tncc.edu/workforce.**

Ed2Go: **www.ed2go.com/tncc**
Instructor-facilitated six-week courses are informative, fun, convenient and highly interactive. These instructors create warm and supportive communities of learners. Courses are project-oriented and include lessons, quizzes, hands-on assignments, discussion areas, helpful links and are available from home or work. Programs are available in the following topic areas:

- Law & Legal Careers
- Courses for Teaching Professionals
- Child Care & Parenting
- World Languages
- Grant Writing & Nonprofit Management
- Database Management & Programming
- SAT, GRE & LSAT Exam Prep

Gatlin Education Services (GES): **www.gatlineducation.com/tncc**
Gatlin Education Services offers programs that provide the workforce skills necessary for professional positions in high-demand occupations. GES offers more than 60 online certificate programs in the Allied Health, Computer-Internet, Business, Technical, and Construction industries. The online education enrollment is always open and includes everything students need, including textbooks and trained instructors.

- Non-profit Management Training

- Veterinary Assistant
- Certified Bookkeeper
- Wedding Planner
- Microsoft Certified Desktop Support Technician (MCDST)]
- Video Game Designer

JER
JER Online: **www.coursecatalog.com/dbpages/courses/ asp?SchoolID=724**
JER Online is an innovative provider of Workforce and Continuing Education certificates and courses. JER Online has an excellent reputation for delivering high quality, instructor-led and self-directed online training. Programs include:
- Management and Business
- Film and TV Writing
- Foreign Languages
- Sales and Marketing

PARTNERSHIP PROGRAMS
Two licensing programs are offered in conjunction with sponsoring organizations:
1. *Commercial Drivers License Course*
   (757/825-2937)
   Individuals completing this course are prepared to take the state examination for commercial truck driving. Visit www.tncc.edu/ workforce for more information.
2. *Motorcycle Rider Course*
   (757/825-2758)
   Individuals who successfully pass this course are waived from taking the riding portion of the state licensing examination. For more information, visit the Virginia Department of Motor Vehicles website at www.learn2ride.com. Course schedules can also be found on the WTCE web site at **www.tncc.edu/workforce** for more information.

CENTER FOR BUSINESS DEVELOPMENT AND CORPORATE TRAINING
(757/865-3122)
The Center for Business Development and Corporate Training (BDCT) provides customized workforce development programs for business, industry and government organizations. The center works with customer companies to explore and probe changes and emerging needs of the workplace and to provide training solutions to develop quality workforce-oriented education. The Center provides WorkKeys skills assessments, job profiling services to analyze occupational work tasks and skill levels, and computer-based training to address worker skill "gaps" for performance improvement. The Center has issuing authority for the Commonwealth of Virginia's Governor's Career Readiness Certificates. The Center provides nationally recognized services, such as Achieve Global training and seminars involving Myers-Briggs Type Indicators. To have the BDCT provide assessment of targeted training needs, companies should contact the center for additional information at 757/865-3122 or visit **www.tncc.edu/workforce.**

THE MANUFACTURING EXCELLENCE CENTER
(757/865-3122)
The Manufacturing Excellence Center, including the newly opened Precision Welding Center and Precision Machining Center, offers customized training programs to Peninsula manufacturers. These programs range from opportunities to demonstrate and evaluate new equipment, processes and methodologies prior to implementation on the shop floor to those that deliver. The center has been instrumental in designing certificate credit and non-credit programs in manufacturing. Current certificates include:

- Precision Welding
- Electrical-Mechanical Assembler
- Maintenance Technician
- Advanced Manufacturing Technology
- Heating, Ventilation & Air Conditioning (HVAC)
- Apprentice Training
- CNC & Machining

Credit and non-credit programs through the center are offered for organizations seeking company-wide training on a contract basis. For additional information, call 757/865-3122 or **www.tncc.edu/ workforce.**

THE PENINSULA WORKFORCE DEVELOPMENT CENTER
(757/865-3124)
The Peninsula Workforce Development Center assists business and industry by designing customized programs and training activities to aid them in creating a world-class workforce. Services provided include company startup, pre-employment or market training for new employees, enhancing employee skills in high tech fields, world-class manufacturing and office systems technologies. The facility, which includes classrooms, flexible manufacturing space and computer labs, is available for use by area companies. The PWDC is located at 600 Butler Farm Road in Hampton. For additional information, call 757/865-3124 or **www.tncc. edu/workforce.**

THE DISCOVERY CENTER
757/345-2855
The Discovery Center provides just-in-time workforce education, training and related services for the Greater Williamsburg business community, as well as current employees, entrepreneurs, transitional and dislocated workers needing to advance workplace skills. The center serves as an engine for starting, growing, and attracting technology-related businesses essential to the success of Greater Williamsburg. The Center is located at 5308 Discovery Park Boulevard, Suite 102. For additional information, call 757-345-2806.

THE SMALL BUSINESS DEVELOPMENT CENTER
(757/865-3128)
The Small Business Development Center provides educational resources, public and private sector referrals, and one-on-one counseling services for businesses of 100 or fewer employees. The center offers NxLeveL and other workshops and seminars such as business planning, tax law, business finance, and labor law. For additional information, call 757/865-3128 or visit www.hrsbdc.org. Look under "Programs and Benefits."

CAREER SERVICES
(757/865-5873)
Current students and alumni of Thomas Nelson Community College have access to a full range of career development services. Individuals can explore various sources of career information essential to making effective career decisions. Services include: career counseling, vocational assessment, career planning assistance, career development workshops, interview and employment preparation, resume /cover letter writing assistance and job search assistance. Labor market information is also available on local, state and national employment data, as well as a variety of on-line career planning resources. Additional information is available for individuals seeking help with occupational and educational choices, job hunting techniques, internships, and cooperative education programs.

Job vacancy information is provided through TNCC's on-line e-Recruiting website where students and alumni can view job openings

Workforce Development

and post their resumes for viewing by employers. Students and alumni are also encouraged to utilize the employment assistance resources and services available in the One-Stop Career Resource Center located at 600 Butler Farm Road, Hampton, VA 23666. For more information, call (757)766-4900 or visit www.peninsulaworklink.com.

TNCC Career Services does not operate as a typical employment agency in that it does not guarantee that it will secure a position or place an individual. Most importantly, TNCC Career Services provides a program of services that assists individuals in determining and realizing career goals as part of their overall career development. Website: www.tncc.edu/careerservices.

MIDDLE COLLEGE
(757/865-5882)
Middle College is an educational and career development training program offered to young adults ages 18-24 years who have not completed high school and have a desire to improve the quality of their lives. The Middle College program allows students to simultaneously pursue their GED, enroll at Thomas Nelson Community College, earn college credits, explore career pathways and complete a workforce preparation course to earn a Career Readiness Certificate. This program is offered free of charge to those students who qualify and are ready to make a commitment to the program and their future.

Middle College is located in the Peninsula Workforce Development Center at 600 Butler Farm Road, Hampton VA. For additional information, contact Franz Albertini, Director, Middle College Program at (757) 865-5882 or middlecollege@tncc.edu.

COOPERATIVE EDUCATION
(757/865-5882)
Cooperative Education provides program support activities and career services to students who are seeking practical work experience in their career field while completing course requirements for the associate degree or certificate at the College. With faculty co-op coordinators within the academic divisions of the College, cooperative education coordinates the enrollment of students in an approved co-op course and the supervision of co-op students who are placed with employers under a cooperative education training agreement with the College. As a form of experiential education, co-op students are expected to complete learning goals and objectives specified in the course syllabus provided by the respective faculty co-op coordinator. The coordinator will visit the student's worksite each semester to receive feedback from the employer and the student's on-site supervisor about the student's job performance as part of the information used to evaluate the learning outcomes. The Cooperative Education Office is located in the Peninsula Workforce Development Center, Room 1014. Thomas Nelson Community College students and alumni may access a full range of employment services.

Individuals who are interested in learning more about the cooperative education program or other experiential education opportunities (e.g., internships, mentorships, job shadowing, service learning, or faculty-in-industry externships), contact 757/865-5882 or visit our web site at **www.tncc.edu/careersphp.**

SKILLS CERTIFICATION CENTERS
(757/865-5864)
The Skills Certification Center delivers state-of-the-art, computerized testing services to individuals, employers, schools, and professional organizations. The mission of the TNCC Skills Certification Center is to excel at administering standardized, high-stakes examinations that

lead to the attainment of nationally recognized skills certification and/or professional licensure offered in a uniformly secure, high-quality, service-oriented fashion.

As part of a global network for three separate testing sponsors (ACT, Performance Assessment Network (PAN), and Pearson Vue), it offers computer-delivered certification and licensure tests for both the professions and the skilled trades.

Tests offered include , but are not limited to:
- American Board of Ophthalmology (ABO)
- Automotive Service Excellence (ASE)
- Association of Social Work Boards (ASWB)
- Commission on Dietetic Registration (CDR)
- National Association of Legal Assistants (NALA)
- Information Technology Licensing and Certifications
- Transportation Security Administration (TSA)
- United States Postal Service (USPS)
- Foreign Service Officer Test (FSOT)
- Nuclear Medicine Technology Certification Board (NMTCB)

The Skills Certification Center is located in the Peninsula Workforce Development Center, 600 Butler Farm Road, Hampton. For additional information, call 757/865-5864 or visit www.workforce.edu.

Vice President for Workforce Development -- PWDC, Suite A

Deborah George Wright	Vice President	Room 1105B	825-3527
Tia Freeman	Workforce Marketing/Public Relations Coordinator	Room 1102	825-3570
Sharolyn Graybiel	Administrative Assistant	Room 1105C	825-3548
Charles Daniels	Building Manger	Room 1116	865-5848

Business Development and Corporate Training -- PWDC, Suite A

Tony Farley	Associate Vice President	Room 1104	865-3125
John Calver	Director, Manufacturing Excellence Center	Room 1105D	865-5846
Barbara Rumsey	Coordinator, Programs & Facilities	Room 1105	865-3124
Patricia Allen	Receptionist	Room 1100	865-3122
Ellen Jones	Learning Coach, Proctor	Room 1100	865-3122
Niki Yopp	Grant Support Welding/CNC	Room 1105	865-3123
Curtis Wray	Rapid Response Coordinator	Room 1105	825-4064
Greg Sprock	Machine Technology Instructor	Room 1105	865-3137
Donna Smith	Coordinator, Job Placement & Outreach	Room 1016	865-5881

Discovery Center, Suite 102

Michelle Manfred	Director Corporate Training, ARI	Discovery Center	345-2855
TBA	Administrative Office Specialist	Discovery Center	345-2806

Small Business Development Center -- PWDC, Suite A

Debra Hamilton Farley	Executive Director	Room 1106	865-3126
John Farley	Program Coordinator	Room 1106	865-3128

Workforce Services and Cooperative Education -- PWDC, Room 1019

Franz Albertini	Director, Middle College, Cooperative Education	Room 1019	865-5882
Kathy Arcement	Coordinator, Career Services Assessment	Room 1019	865-5873
Jewel Williams-Jones	Career Transition Specialist, Middle College	Room 1019	865-5878
Christina Harris	Administrative Assistant	Room 1019	865-5880
LeShania Blue	e-Recruiting Specialist, Learning Coach	Room 1019	865-5870
Jim Allison	ACT Center Testing Services Specialist	Room 1015	865-5864
Tammy Williams	Career Information Specialist	Room 1015	865-5852

Workforce Training and Continuing Education -- PWDC

Carmen Burrows	Associate Vice President	Room 1019	825-2939
William Barnett	Director, Professional & Continuing Education	Room 1102	825-2768
Jeff Ward	Program Manager	Room 1105	825-2748
DeShondra Johnson	Coordinator, Sponsored Client Services	Room 1105	825-3520
Yvonne Williams	Customer Service Supervisor	Room 1300	825-3855
Gary Estes	Transportation Coordinator	Room 1119	825-2758
Shanette Silcott	Instructor Support Specialist	Room 1119	825-2803
Debra Gwaltney	Registration Specialist	Room 1119	825-3577
Erika Eley	Instructor Support Specialist	Room 1119	825-3441
Jonalyn Gore	Registration Specialist, Special Programs	Room 1300	825-2935
Sherita Davis	Registration Specialist, Motorcycle	Room 1300	825-2758
Lee McDuffie	CDL Program, US Trucking	Room 1119	825-2758

Off-Campus Credit and Military Programs

Wayne Christian	Director, Contract Credit	Room 1105A	825-2938
Rondalyn Jenkins	Registration Specialist	Room 1105	825-2936
Terri Payne	Military Career Specialist	Ft. Eustis	878-2083 ext. 255
Deborah Boothe	Military Career Specialist	Langley AFB	766-1825

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HAMPTON CAMPUS

99 THOMAS NELSON DRIVE

HAMPTON, VA 23666

(757) 825-2700

HISTORIC TRIANGLE CAMPUS

4601 OPPORTUNITY WAY

WILLIAMSBURG, VA 23188

(757) 253-4300

www.tncc.edu

Thomas Nelson™
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