MESSAGE
FROM THE PRESIDENT

I am pleased that you have chosen John Tyler Community College as a place to define your future. Our institution has served the communities surrounding it for forty years. During that time, thousands of people have benefited from the quality, affordable education offered by a dedicated faculty and staff. The residents of Amelia, Charles City, Chesterfield, Dinwiddie, Prince George, Surry, and Sussex counties, as well as those from the cities of Hopewell, Colonial Heights, and Petersburg, know that John Tyler can be relied upon to provide flexible, innovative, and convenient academic programs for both college transfer and direct preparation for the workplace.

John Tyler Community College offers you countless opportunities to define your future; it is clear your lifetime earnings, success as a citizen, and productivity as a member of our society are predicated on a sound educational foundation. Our task is to enable you to visualize your future and to take the steps necessary to reach it. We are committed to that task.

I can share with you many success stories from our students – stories that demonstrate perseverance, dedication, and desire for individual improvement and success. None of these stories would be possible unless the individual involved offered dedication to, and concentration on, the task at hand. I challenge you to undertake a similar commitment to your personal education. Should you do so, I know that you will be rewarded with positive changes in your life and in your future.

I offer you best wishes for your academic success here at John Tyler Community College.

Sincerely,

Dr. Marshall W. Smith
President, John Tyler Community College
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The information, procedures, regulations, rules and policies listed in this catalog are subject to change by the College, the College Board, the Virginia Community College System or the State Board for Community Colleges. This catalog is for informational purposes only. It is not intended to establish contractual agreements between students and the College.

Nondiscrimination Policy
John Tyler Community College does not discriminate on the basis of race, color, national origin, sex or disability in its programs or activities. Inquiries related to the college’s nondiscrimination policy should be directed to Chris Pfautz, interim dean of student services, who can be reached by mail at 13101 Jefferson Davis Highway, Chester, VA 23831, by e-mail at cpfautz@jtcc.edu or by at phone 804-706-5208/804-594-1566.
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Photographs and videos taken at John Tyler Community College and at College-sponsored events may be used in the College's print, television/video and web-based advertising, promotions and publications.
General Information
John Tyler Community College is a two-year public institution of higher education established as part of a statewide system of community colleges. John Tyler Community College serves primarily the residents of the cities of Colonial Heights, Hopewell and Petersburg and the counties of Amelia, Charles City, Chesterfield, Dinwiddie, Prince George, Surry and Sussex.

John Tyler Community College operates under policies established by the State Board for Community Colleges and the College Board. It is financed primarily by state funds, supplemented by contributions from the 10 localities in its service region and by student tuition.

**HISTORY OF THE COLLEGE**

John Tyler Community College opened the doors of its Chester Campus on October 2, 1967, as a result of the 1964 passage of the legislation establishing two-year technical colleges across the Commonwealth of Virginia.

The Appomattox Basin Industrial Development Corporation, providing the regional leadership for the establishment of John Tyler Community College, submitted an application to the State Board of Technical Education on January 27, 1965, requesting assistance in the establishment of a technical college in the region. In the absence of an official name, this new institution was designated the Chesterfield Region Technical College until December 2, 1965, when the board voted unanimously to name it the John Tyler Technical College. An action of the 1966 Virginia General Assembly expanded the curricula to include—in addition to technical education—adult education, as well as freshman and sophomore courses for transfer to four-year colleges and universities. The name of the College officially became John Tyler Community College on June 29, 1966, to correspond with the expanded curricula.

The Chester Campus is currently comprised of six buildings: an administrative building, a student and community center, three academic buildings and a physical plant facility. The library and learning resources center are located in the largest of the academic buildings.

To meet the increasing needs of the service area, an outreach center was opened in the Midlothian area of Chesterfield County in 1981. This undertaking was expanded in 1984 when the institution opened a facility known as the Watkins Annex. During the summer of 1989, the College moved its Midlothian operation from the Watkins Annex to the Featherstone Professional Center at 1807 Huguenot Road.

The Midlothian Campus opened in May 2000. This campus currently includes three buildings: an administrative building, an academic building and a warehouse/physical plant facility. The library, with over 100 student computer workstations, is located in the Academic Building.

The Featherstone Center also continues to be the site of John Tyler Community College workforce development training. Nursing instruction is housed on the Johnston-Willis Campus at CJW Medical Center. The College also operates a Gateway Outreach Center in Petersburg.

During the 2006–07 academic year, John Tyler Community College served more than 10,000 credit students in more than 60 programs and specializations.

**INSTITUTIONAL PURPOSE**

**College Mission**

John Tyler Community College is one of twenty-three comprehensive community colleges comprising the Virginia Community College System. As an open-access two-year institution, the College is committed to creating a supportive, learning-centered environment and to providing flexible, cost-effective, quality educational and workforce training programs that prepare students for transfer, gainful employment, life-long learning, personal fulfillment and social responsibility as global citizens in a rapidly changing world.

**College Vision**

John Tyler Community College will be a catalyst for growth in the intellectual, cultural, and economic life of the community and a model of integrity, commitment to excellence, and community service.

**College Goals**

John Tyler Community College will:

- Strengthen institutional effectiveness processes that focus on results for improvement of teaching and learning.
- Improve the methods used to identify nonproductive or nonessential programs, and develop and strengthen programs that are timely and responsive to community needs, thus assuring a more cost-effective program mix.
- Strengthen the coordination of credit and non-credit offerings to improve the coherence and effectiveness of learning opportunities provided by the College.
- Strengthen programs and services that “level the playing field” for students who aspire to go to college, but who may be ill prepared for college-level coursework.
- Partner with Pre-K-12 education, regional institutions of higher education, and other educational service providers to create models for seamless transition between the various sectors of education in the Commonwealth.
- Through the use of technology, expand the range of options for delivery of programs and services—particularly those in high demand or costly fields that may necessitate limited enrollments.
- Market the opportunities and strengths of the College to ensure it is viewed as “a vibrant first choice” for the community.
- Develop financial resources that support the strategic initiatives of the College.
- Develop personnel resources that support the strategic initiatives of the College.
- Contribute to achieving the Virginia Community College System (VCCS) and State Council of Higher Education for Virginia (SCHEV) system-wide goals for higher education in the Commonwealth.
- Through the use of technology, expand the range of options for delivery of programs and services—particularly those in high demand or costly fields that may necessitate limited enrollments.
- Partner with Pre-K-12 education, regional institutions of higher education, and other educational service providers to create models for seamless transition between the various sectors of education in the Commonwealth.
- Through the use of technology, expand the range of options for delivery of programs and services—particularly those in high demand or costly fields that may necessitate limited enrollments.
- Partner with Pre-K-12 education, regional institutions of higher education, and other educational service providers to create models for seamless transition between the various sectors of education in the Commonwealth.
- Through the use of technology, expand the range of options for delivery of programs and services—particularly those in high demand or costly fields that may necessitate limited enrollments.
- Partner with Pre-K-12 education, regional institutions of higher education, and other educational service providers to create models for seamless transition between the various sectors of education in the Commonwealth.
- Through the use of technology, expand the range of options for delivery of programs and services—particularly those in high demand or costly fields that may necessitate limited enrollments.
- Partner with Pre-K-12 education, regional institutions of higher education, and other educational service providers to create models for seamless transition between the various sectors of education in the Commonwealth.
2. Occupational and technical programs leading to the Associate of Applied Science and the Associate of Applied Arts degrees;
3. Vocational education leading directly to employment—Certificates and Career Studies Certificates; and
4. Courses in general and continuing education in all fields.

**ACCREDITATIONS**

John Tyler Community College is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, Georgia 30033-4097; 404-679-4501) to award associate degrees, certificates and career studies certificates. The associate degrees also have been approved by the State Council of Higher Education for Virginia.

The University Parallel/College Transfer Program includes college freshman and sophomore courses in arts and sciences and pre-professional education meeting standards acceptable for transfer to baccalaureate degree programs in four-year colleges and universities. Students who complete this program are awarded the Associate of Arts and Sciences degree (AA&S). The AA&S degree includes a core of at least 15 semester hours of general education courses.

**Programs That Lead to a Degree or Certificate**

Complete descriptions of the associate degrees, certificates and career studies certificates offered by John Tyler Community College are found on pages 21 – 66 of this catalog. The following sections summarize the College's various programs:

**University Parallel/College Transfer Program**

The university parallel/college transfer program includes college freshman and sophomore courses in arts and sciences and pre-professional education meeting standards acceptable for transfer to baccalaureate degree programs in four-year colleges and universities. Students who complete this program are awarded the Associate of Arts and Sciences degree (AA&S). The AA&S degree includes a core of at least 15 semester hours of general education courses.

**Occupational and Technical Programs**

The occupational and technical educational programs are designed to meet the increasing demand for technicians, semi-professional workers and skilled workers for employment in industry, business, the professions and government. The curricula are planned primarily to provide workers for the region being served by John Tyler Community College. Some degrees do provide transfer opportunities to selected four-year colleges and universities.

**Associate of Applied Arts Degree**

The Associate of Applied Arts (AAA) degree is awarded to students majoring in one of the occupational-technical curricula whose primary goal usually is to obtain full-time employment immediately upon graduation from the College, although a substantial number of students in certain AAA degree programs transfer to four-year colleges and universities. All of the AAA degrees include a core of at least 15 semester hours of general education courses.

**Certificate**

The certificate (C) is awarded to students who complete an approved, non-degree curriculum of at least 30 credits but less than 65 credits.

**Career Studies Certificate**

The career studies certificate (CSC) is awarded to students who complete an approved, non-degree curriculum of at least nine credits but less than 30.

**General Education Outcomes**

John Tyler Community College is committed to providing its students a broad and integrated educational experience that will enable them to acquire the knowledge, skills, attitudes and values associated with a productive and fulfilling life. Graduates of John Tyler Community College's associate degree programs should have developed capabilities in the following areas:

1. Communication. The capacity to receive, process, internalize and respond to communications effectively; read with comprehension; write clearly and correctly; listen and speak effectively.
2. Learning Skills. A recognition of the correspondence among the separate disciplines; a demonstrated ability to integrate knowledge.
3. Critical Thinking. The ability to identify, analyze and comprehend the various components of a problem; to propose solutions and apply them in the solution of a problem.
4. Understanding Culture and Society. An understanding of human behavior and institutions; an appreciation of one's culture; an informed acceptance of human diversity—of different values, beliefs and attitudes; a global awareness of the variety of cultures.
5. Computational and Computer Skills. To use mathematics; to use computers.
7. Interpersonal Skills and Human Relations. A disposition to consider the ethical implications of subjects, to develop and exercise moral discretion.

**Developmental Education**

Developmental courses are offered to prepare individuals for admission to John Tyler Community College curricula. These courses are designed to assist the individual with the development of the basic
skills and knowledge necessary to succeed in academic programs.

**TRANSFERRING TO OTHER INSTITUTIONS**

**Associate of Arts and Sciences Degree Program**

Normally, course work in the AAS degree program at John Tyler Community College will transfer to most four-year colleges and universities. Some four-year schools will accept certain AAS degree programs in transfer, but this policy will vary by institution. Normally, courses in which students have earned grades below a “C” are not accepted at other institutions. The counseling staff is available to help students planning to transfer with gathering information and reviewing alternatives. Each student, however, is responsible for becoming acquainted with the course requirements for an intended major at a transfer institution and for planning a program of study at John Tyler that meets the four-year institution’s transfer requirements.

**Guranteed Articulation Agreements**

Students may reference online the transfer guides of four-year colleges and the Virginia Community College (VCCS) articulation agreements with senior institutions. The latter are available at www.vccs.edu/vccsasse/agreements.htm. Transfer guides for specific institutions can be accessed at www.vccs.edu/Students/Transfer/tabid/106/Default.aspx. Students who have questions about the transferability of certain courses also may find the State Council of Higher Education for Virginia (SCHEV) Transfer Tool to be helpful. This tool provides information on the transferability of more than 60 commonly offered courses from the VCCS. This tool can be accessed online at www.schev.edu/students/xfr.asp.

**INTERNATIONAL EDUCATION PROGRAM**

John Tyler Community College is committed to internationalizing its curriculum through a broad range of opportunities for faculty, staff and students in order to develop a community of global learners. John Tyler Community College believes that all individuals should be given continuing opportunities for development of global competence and an awareness of their roles within the global community. Accordingly, the College provides a variety of instruction and substantive learning to prepare students for possible international employment, for international study and for personal enrichment.

The College has a multifaceted International Education Program aimed at developing global awareness. The basic approaches include international travel presentations at the College; teacher-teacher exchanges; college-partnership exchanges, which focus on combined student, faculty and administrator site visits; study-abroad activities; and international-travel groups comprised of all constituents of the College community.

**DIVISION OF EXTENDED LEARNING AND DISTANCE EDUCATION**

**The Department of Extended Learning**

The Department of Extended Learning exists to serve the credit class needs of individuals, businesses, industries, governmental agencies and professional organizations in John Tyler Community College’s service area. The department offers credit classes that fall outside of the regular curricular programs of the College. For additional information about extended learning courses, call 804-706-5169 or visit the College’s web site (www.jtcc.edu).

**Computer Short Courses** – One-credit short courses for individuals wishing to update their computer skills, learn a new program, or familiarize themselves with recent computer technology.

**Contract Classes** – Classes offered by request, on an “as needed” basis, for service area groups, businesses, industries and governmental agencies. The department can design multiple courses as part of a larger employee development program or a single course that focuses on the development of a specific skill. These credit contract courses can be customized to include specific topics and can be provided at a time and place that is most convenient for the employee.

**Dual Enrollment** – College courses taught at area high schools for eligible students that enable the students to get both high school and college credit at the same time.

**Professional Development** – Classes of common interest to the general community and designed to give individuals an opportunity to develop their abilities and enhance their career potential. Professional development courses can be used for teacher recertification, skill enhancement, professional growth, license preparation, and Emergency Medical Services (EMS) classes.

**Weekend College** – Classes offered each semester on weekends for adult students unable to attend regularly scheduled traditional classes. Weekend College classes meet every other weekend for a total of half the traditional classroom hours.

**The Department of Distance Education**

The Department of Distance Education offers classes that reduce the place and time requirements of traditional courses. Students must be prepared to take significant personal responsibility for course participation and success. Enrollment criteria, registration procedures, prerequisites, technology requirements and other general information may be accessed by visiting the John Tyler web site (www.jtcc.edu) or by contacting the Distance Education office at 804-706-5167 or 804-594-1625.

**Internet** – Most internet courses do not require classroom attendance and course materials are accessible to students online through Blackboard. Instructors interact with students using e-mail and discussion forums. Some courses require students to participate in chats at certain times, and all students are required to take at least two proctored activities (such as exams, labs, etc.) on campus. Internet courses require students to meet certain technology requirements, including having Internet access and basic computer skills.

**Videoconferencing** – Courses transmitted via live video and audio over high-capacity telephone lines. Communication is two-way and interactive, allowing participants to be face-to-face with their instructors.

**Veterinary Technology Degree via Compressed Video** – In July 2001, John Tyler Community College and Blue Ridge Community College entered into a formal agreement that makes an AAS degree in Veterinary Technology available to residents of the greater Richmond area. The agreement enables students to take the veterinary technology classes that Blue Ridge Community College, located in Weyers Cave, Virginia, offers via interactive, two-way audio and video transmitted over the VCCS Compressed Video Network to John Tyler. All other general education requirements for the program can be taken at John Tyler Community College. For more information, contact
Dr. Kenneth Clever at Blue Ridge Community College at 888-750-2722 or 540-453-2287.

WORKFORCE DEVELOPMENT

John Tyler Community College and the VCCS believe that a competent workforce is the main ingredient in ensuring a competitive economic future for the Commonwealth. A skilled workforce is the competitive edge in the high performance, global economy faced by the state and the nation. Workforce development programs and services provided by the College must be at the heart of Virginia’s job strategy for the 21st century. The College is committed to the development and delivery of programs and services that prepare the emerging workforce and retool the existing workforce.

Workforce development at John Tyler Community College is integral to all programs as its credit and noncredit students learn and demonstrate the skills for the present and future workplace. Business and industry representatives serve on advisory councils to John Tyler Community College in many areas of workforce development and program requirements. The College has implemented and continuously expands the array of business and industry training programs, partnerships and services to be flexible and responsive to industry demands.

These specialized and tailored programs and services are supported through the Community College Workforce Alliance (CCWA) and the Division of Extended Learning and Distance Education. The CCWA offers classes at five convenient locations throughout the region. The Division of Extended Learning and Distance Education has two locations (Chester and Midlothian).

Community College Workforce Alliance

A comprehensive workforce development entity, the CCWA was created in 2002 as a partnership between John Tyler Community College and J. Sargeant Reynolds Community College. It merged the workforce development operations of both institutions into one unit, providing the Richmond metropolitan, Tri-Cities and Gateway Virginia region with a single point of contact for workforce services. The CCWA optimizes the training programs, consulting services and instructional talents of both institutions, thus providing its clients with the best workforce development in the area.

The CCWA has a combined workforce development service area that includes four cities (Colonial Heights, Hopewell, Petersburg and Richmond) and 12 counties (Amelia, Charles City, Chesterfield, Dinwiddie, Goochland, Hanover, Henrico, Louisa, Powhatan, Prince George, Surry and Sussex). This represents 2,000 companies and 26,000 students in noncredit workforce development programs in addition to normal college enrollments that are served annually. For more information, please visit the CCWA web site (www.ccwa.vccs.edu).

Economic Development

The College and the CCWA work closely with state, regional and local economic development organizations to advise and assist new or expanding companies and respond to their start-up and long-term training requirements. The College will provide a Rapid Workforce Response Team to meet the demand and urgency of the region’s industry. Both John Tyler Community College and the CCWA will honor and respect a company’s request for nondisclosure and the safeguarding of proprietary information.

Ongoing Business and Industry Seminars

The CCWA schedules open-enrollment seminars for business and industry in many areas such as computer software applications, networking, engineering design software, engineering manufacturing processes, quality improvement, ISO 9000, QS 9000, ISO 14000, finance, communication skills, employee development, management and supervision, and safety and OSHA. The CCWA trains more than 10,000 employees annually in one or two-day seminars and provides privately tailored training contracts.

Tailored Training Programs

The CCWA provides tailored noncredit programs unique to specific industry requirements on campus or at the workplace. Tailored credit programs are available through the Division of Extended Learning and Distance Education. An industry or government agency requesting assistance from the College can select the best combination of programs and services, credit or noncredit, to meet its specific needs.

Job Fairs

In cooperation with a given company and/or the Virginia Employment Commission, the CCWA coordinates and conducts job fairs for new or expanding companies.

Work Keys

John Tyler Community College is a certified Work Keys assessment center and can provide Work Keys job profiling and basic skill-level assessment in eight areas (applied mathematics, applied technology, observation, listening and/or writing, locating information, reading for information and teamwork). Many companies have added Work Keys as a highly effective tool in their hiring and training programs.

Assessment Testing

In addition to Work Keys, the College will test applicants using standardized tests or specialized tests prescribed by the hiring company.

Pre-Employment Training

Working closely with the Virginia Department of Business Assistance, John Tyler Community College develops and conducts pre-employment training programs for new or expanding companies.

Apprenticeship and Student Apprenticeship Training

The College and the CCWA offer both adult and student apprenticeship training programs. The College designed and implemented the model student apprenticeship program for the Commonwealth and effectively implemented it on campus and in area secondary school systems. The CCWA works closely with companies and school systems to design full or student apprenticeship programs to meet company and student needs.

Consulting Support to Industry

The College and the CCWA work with area industries to understand their ongoing training and consulting requirements. The CCWA uses industry trainers, experienced managers, consultants and technicians to provide up-to-date concepts, assistance and training development support and advice to the region’s industry.

Customer Service Academy

The CCWA offers training in customer service skills through a modularized program called the Customer Service Academy. Companies can choose to focus on a single area of concern or schedule employees to participate in the entire curriculum as a way of addressing
this most critical workforce skill area. Modules include communications, managing job stress, exceeding customer expectations, and more.

Information Technology

The CCWA offers an array of Information Technology (IT) career tracks in areas such as Oracle DBA, Cisco CCNA, A+ and more as well as the entire array of Microsoft Office programs.

Tractor Trailer Driving School

The CCWA, through a partnership with U.S. Truck Driving, offers at the Chester Campus a commercial tractor trailer driving school for full-time and part-time students who want to earn their CDL (Commercial Drivers License).

PARTNERSHIP TO ENSURE EDUCATIONAL REFORM (PEER) TECH PREP CONSORTIUM

The John Tyler Community College Partnership to Ensure Educational Reform (PEER) Tech Prep Consortium is one of 23 tech prep consortia in Virginia formed to expand partnerships between and among school divisions, community colleges, business partners and the community at large. PEER coordinates ongoing collaboration, cooperation, and communication between John Tyler Community College and the school divisions of Charles City County, Chesterfield County, Colonial Heights, Dinwiddie County, Hopewell, Petersburg, Prince George County and Surry County.

The ultimate goal is to prepare all young people to be successful, productive citizens through high academic standards, integration of academic/technical studies and career exploration/preparation. PEER serves as a resource to support the educational reform process by:

• Providing leadership to curriculum restructuring initiatives;
• Developing articulated educational paths and dual enrollment programs;
• Facilitating regional alliances between education and business;
• Providing professional development opportunities for teachers, counselors and administrators responsible for implementing reform; and
• Promoting the broad goals and accomplishments of the consortium throughout the service region and by assisting school divisions with the development of their own public relations and marketing initiatives designed to increase awareness of educational reform with their local communities.

The PEER office is located in Godwin Hall, room G133 on the Chester Campus. For information, call 804-706-5162 or 804-706-5163 or refer to the College’s website at www.jtcc.edu/peer.

ADMISSION INFORMATION

Eligibility

Any person who has a high school diploma or the equivalent certificate (GED), or who is at least 18 years of age and able to benefit from instruction at John Tyler Community College, may be admitted to the College. John Tyler Community College reserves the right to evaluate special cases and to refuse admission to applicants when considered advisable in the best interest of the College. Students may be denied admission if there is reason to believe that they present a danger to themselves, other students, faculty or staff. (High school students and home-schooled students interested in admission at the institution should refer to the subsequent sections addressing the enrollment of these populations.)

Institutional Policy on Equal Opportunity

John Tyler Community College and the VCCS 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, handicap, national origin or other non-merit factors. John Tyler Community College does not discriminate on the basis of race, color, religion, national origin, political affiliation, sex, age or handicap in violation of 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.

APPLICATION AND ADMISSION TO THE COLLEGE

New Students

All students planning to take courses at John Tyler Community College must apply for admission. Whenever possible, individuals are encouraged to apply online at www.jtcc.edu. The College does not charge an application fee. Please direct all inquiries concerning applications to the Office of Admissions and Records at either the Chester Campus or the Midlothian Campus.

Returning Students

Returning students who have not been enrolled in credit courses at the College during the past three years must reapply by resubmitting an application for admission prior to registration. Please direct all inquiries concerning applications to the Office of Admissions and Records at either campus. Students who applied but never attended are required to reapply after three semesters.

Admission to a Curriculum (Degree and Certificate Students)

General admission to the College does not constitute admission to degree and certificate programs. A student who wishes to be placed in a degree or certificate program must provide the institution with official copies of transcripts from all colleges and universities previously attended. Individuals seeking placement in the Nursing Program or Funeral Services Program also must submit official copies of high school transcripts or GED scores. A student seeking admission to a curriculum also must satisfy the placement testing requirements. Information on placement tests is described later in this section of the catalog. A student must be in a curriculum to be eligible for financial aid.

Admission to Individual Courses (Non-curricular Students)

Students may enroll in courses when the prerequisites (including placement tests for the courses) have been met. Prerequisites are part of the course information in the Schedule of Classes. Not all courses have prerequisites.

Admission Priorities

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

1. Residents of the political subdivisions supporting the College;
SPECIAL ADMISSION PROCEDURES

Transfer Students

Transfer students must submit an application for admission and have transcripts from all previous institutions attended sent to the Office of Admissions and Records. Usually a transfer student who is eligible to re-enroll at the last college of attendance will be eligible for admission to John Tyler Community College. If a transfer student is academically ineligible to return to the previous college, the student must appeal for admission to John Tyler Community College by submitting a letter to the John Tyler registrar at least four weeks prior to the desired semester of admission.

An official evaluation of transfer courses will be completed by the John Tyler Community College registrar/assistant registrar after the student has been placed in a curriculum. Generally, credit will be given for courses in which a grade of “C” or better was received and which are equivalent to courses in the curriculum at the College. Courses in the areas of natural sciences, mathematics, accounting, administrative support technology, advertising and marketing that were completed more than ten years ago are not awarded transfer credit. Courses in the areas of information technology and computer science that were completed more than five years ago are not awarded transfer credit. Division deans who are responsible for students’ curricula may make exceptions to these restrictions. Generally, transfer credits are awarded only if the credits have been earned at an institution which is accredited by one of the six nationally recognized regional accrediting agencies in the United States. John Tyler Community College also normally awards transfer credits for courses completed at accredited foreign institutions. Students transferring from foreign institutions should contact the Office of Admissions and Records.

Concurrent Enrollment

Enrollment of Students Under the Age of 18 - Extended Learning and Distance Education at 804-706-5170.

Additional information about dual enrollment, contact the Division of Information Technology and Computer Science that were completed more than ten years ago are not awarded transfer credit. Courses in the areas of information technology and computer science that were completed more than five years ago are not awarded transfer credit. Division deans who are responsible for students’ curricula may make exceptions to these restrictions. Generally, transfer credits are awarded only if the credits have been earned at an institution which is accredited by one of the six nationally recognized regional accrediting agencies in the United States. John Tyler Community College also normally awards transfer credits for courses completed at accredited foreign institutions. Students transferring from foreign institutions should contact the Office of Admissions and Records.

Dual Enrollment of High School Students

Dual enrollment courses allow a student to be enrolled in, and get credit for, a college course and a high school course simultaneously. The courses are taught at the college level by instructors who meet the academic requirements to teach a college course and are offered at the high school following the high school schedule. The tuition and book costs are generally paid by the school system.

Dual enrollment courses are offered at many high schools in John Tyler Community College’s service area and provide an excellent opportunity for high school students to get a head start on college. For additional information about dual enrollment, contact the Division of Extended Learning and Distance Education at 804-706-5170.

Enrollment of Students Under the Age of 18 - Concurrent Enrollment

Individuals 18 years of age and younger, who have not completed high school, may seek to enroll at John Tyler Community College. They must satisfy the admission requirements expected of all students, including the completion of placement tests, as well as provide the institution with letters of permission to enroll from their principals or designees. Students under the age of 17 and their parents are required to meet with the Dean of Student Services (or the dean’s designee) prior to submitting applications of admission.

Home-Schooled Students

Home-schooled students may seek to enroll at John Tyler Community College. These students must satisfy the admission requirements expected of all students, including the completion of placement tests, as well as provide the institution with documentation indicating authorization from the responsible jurisdiction permitting the student to engage in home schooling. The parents of home-schooled students also must provide the institution with written permission to enroll their children. Home-schooled students and their parents must meet with the Dean of Student Services (or the dean’s designee) prior to submitting applications of admission.

An individual who has completed home schooling and certifies that he or she has the equivalent of a high school diploma may apply and enroll at the institution in the same manner as a high school graduate or recipient of a GED.

International Students

John Tyler Community College does not admit international students possessing F-1 (student) visas. Other visa-holders will be considered for admission in accordance with institutional policies and procedures and the guidelines of the U.S. Immigration and Naturalization Service (INS).

All visa-holders seeking admission must present copies of their I-94, applications of admission and other required information to the Office of Admissions and Records at least 45 days prior to the beginning of the semester in which they wish to enroll. Persons with B-1 and B-2 (student and business visitor) visas may not enroll at the institution. International students whose native language is other than English must submit the results of the Test of English as a Foreign Language (TOEFL) to the College. Minimum scores of 500 on the written form or 178 on the computer form are required for admission.

Senior Citizens – Citizens 60 years of age or older

Senior citizens are encouraged to take advantage of free tuition provided for by the Senior Citizens Higher Education Act of 1974. Senior citizens, who are Virginia residents and who had a taxable individual income not exceeding $15,000 for Virginia income tax purposes for the year preceding enrollment, may register for credit courses on a tuition-free basis. All senior citizens, regardless of income, may audit credit courses and take some non-credit courses free of charge. Senior citizens waiving tuition will register on the first day of classes. Additional information about special enrollment opportunities for senior citizens may be obtained from the Office of Admissions and Records.

Senior Citizens who wish to confirm space in any noncredit class can register and pay as regular students; however, no refund will be given. Nonpaying senior citizens can enroll on the first day of their selected class and be admitted at no charge only if there is space available. An “Age Verification” form must be completed and be on file in the Office of Student Activities prior to the class starting date.

Admission of Suspended and Dismissed Students

Students who have been academically suspended from John Tyler Community College may re-enroll as “restricted students” after serving a one-semester suspension. Students who have been academically suspended from any other institution of higher education may enroll as “restricted students” after submitting their college transcripts and copies of their letters of suspension. Students who have been academically dismissed from any institution, including John Tyler Community College, are normally not admitted to the institution. Dismissed students may petition the Academic Status Committee requesting exceptions to this policy. All petitions must be submitted in writing.
at least four weeks prior to the first day of classes for the semester in which admission is sought.

Placement Testing

Placement tests are required for all entering students seeking admission to degree and certificate programs, as well as some career studies certificate programs (see the program listings in this catalog for specific placement testing requirements). John Tyler Community College administers the ACT COMPASS placement tests in reading, writing, pre-algebra, algebra and college algebra. Students who fail to demonstrate required competencies or specific prerequisite skills on placement tests will be required to take the appropriate developmental classes prior to enrolling in college-level courses. Students should submit applications of admission prior to scheduling placement tests.

John Tyler Community College placement tests are administered by Testing Services. E-mail testing@jtcc.edu or call the Chester Campus (804-706-5207) or the Midlothian Campus (804-594-1555).

ACADEMIC ADVICING AND CLASS REGISTRATION

Acceptance

The John Tyler Community College advising system is a collaborative and ongoing developmental process between the student and advising personnel to enhance success in the college experience. Students are (1) assisted in developing educational plans consistent with their life goals and objectives; (2) provided accurate information about institutional policies, procedures, resources, and programs; (3) assisted in considering their life goals by relating their interests, skills, abilities, and values to careers, the world of work, and the nature and purpose of higher education; and (4) assisted in evaluating or re-evaluating their progress toward established goals and educational plans. Students who are admitted to degree and certificate programs are assigned faculty advisors. Advising services also are available in the Student Success Centers. Members of counseling services advise non-curricular students.

Registration

Registration, the last step in the enrollment process, involves reserving a space in the class(es) selected and paying tuition.

Information on the dates and location of registration is listed in the schedule of classes. Allowance is made for late registration, but normally a student may not enter a new class after the first week of a semester. Students who have outstanding financial obligations from previous semesters with the John Tyler Community College Business Office, with the bookstore, with the library, or for parking violations are not permitted to register for classes until their accounts have been paid in full.

CHANGE IN REGISTRATION

Adding or Dropping a Course

Schedule changes may be made during the add/drop period of the semester in session. A student may not enter a new class after the add/drop period unless dropping to a lower level in the subject. Any request for entry after that period must be approved by the appropriate division dean and the Dean of Student Services. Changes to registration become effective on the date a revised registration form is printed by the John Tyler Community College Business Office.

Withdrawal from a Course

Withdrawal from a course without academic penalty may be made within the first 60 percent of the course. The student will receive a grade of “W” for withdrawal. After that time, the student will receive a grade of “F.” (In the case of mitigating circumstances documented by the instructor, a grade of “W” may be awarded.) Administrative withdrawals may be initiated by an instructor in the event of excessive absences on the part of the student. In addition, an instructor may recommend withdrawal if it is believed a student is experiencing undue academic difficulty.

Academic Load

The minimum full-time course load is 12 credits per semester; the maximum full-time load is 18 credits and 13 credits in the summer. Students wishing to carry an academic load of more than the maximum load ordinarily must have a minimum average of 3.8 and the approval of the Vice President of Academic and Student Services.

Repeating a Course

Normally, a student is limited to two enrollments in the same credit course. Requests to enroll in the same credit course more than twice must be submitted to the Vice President of Academic and Student Services or his/her designee. A student, who enrolls more than twice without prior approval by the vice president, will be deleted from the class roll. This policy does not apply to repeat enrollments in seminars and topics courses.

ACADEMIC INFORMATION AND POLICIES

Assessment Activities

John Tyler Community College engages in continuous study of its internal and external environment through a number of assessment activities. Students are required to participate in these activities for the purposes of program evaluation and improvement.

Auditing a Course

Students desiring to attend a course without receiving a grade or credit for the course may do so by registering to audit that course. Students desiring to audit a course will register in the usual manner and pay the normal tuition. Permission of the Dean of Student Services or another appropriate academic administrator is required to audit a course. Audited courses carry no credit and do not count as a part of the student’s course load. Students desiring to change status in a course from audit to credit must do so within the add/drop period for the session. Changes from credit to audit must be made by the official last day for students to withdraw from a class without penalty. After this day, the audit grade “X” is invalid for students enrolled for credit.

Credits

Each semester hour of credit given for a course is based on approximately one academic hour (50 minutes) weekly for 16 weeks of formalized, structured instructional time (lectures, out-of-class study, laboratory and shop study, or combinations thereof).

Alternative Forms of Credit and Advanced Standing

Students may seek advancement by (1) transferring credits earned at other accredited colleges or universities; (2) receiving credit for courses and training completed in the military, criminal justice academies, technology certification programs and health services certification programs; (3) taking and achieving acceptable scores on standardized tests and examinations, including the ETS Advanced Placement
Examinations, CLEP, DANTES and the International Baccalaureate; 
(4) submitting documentation for life experiences deemed equivalent 
to college courses; and (5) passing locally designed and administered 
tests (credit-by-examination). To be eligible to apply for advanced 
credit, a student must be admitted to the College and officially placed 
in a curriculum. 

Students who wish to request credit for life experiences must 
register for SDV 198 (Portfolio Development). Students who are 
interested in credit-by-examination should contact the appropriate 
academic division dean. The credit-by-examination fee is $25.00 per 
credit hour. 

Students who believe that their previous educational stud-
ies, training programs or work experiences may be equivalent to the 
content of college courses should contact their faculty advisors, 
Counseling Services or the Student Success Center. 

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. The following grade options are applicable only in the case 
of college credit courses:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
<th>Quality Points per Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Excellent</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>Good</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>Average</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>Poor</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>Failure</td>
<td>0</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete</td>
<td>No credit</td>
</tr>
<tr>
<td>P</td>
<td>No grade point credit/ noncredit courses. This is used in orientation and specialized courses and seminars at the discretion of John Tyler Community College.</td>
<td></td>
</tr>
<tr>
<td>W</td>
<td>Grade assigned when a withdrawal form is received in the Office of Admissions and Records during the first 60 percent of the course. (After this period of time, a &quot;W&quot; may be assigned by an instructor if there are mitigating circumstances; documentation must be placed in the student's academic file.)</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Audit</td>
<td>No credit</td>
</tr>
</tbody>
</table>

The following grade options are applicable only in the case of 
developmental courses:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>Re-enroll. The student made satisfactory progress but did not complete all of the course objectives. The student must re-enroll to meet the course objectives.</td>
</tr>
<tr>
<td>S</td>
<td>No grade point credit. This is used only for satisfactory computation of the Developmental Studies Courses (numbered 01–09).</td>
</tr>
<tr>
<td>U</td>
<td>Unsatisfactory. The student did not make satisfactory progress in the course. The grades of &quot;I&quot; and &quot;W&quot;, as described above, also apply.</td>
</tr>
</tbody>
</table>

Waiver of Course Requirements 
Students may petition their academic advisor and division dean for the waiver of required courses in the curriculum. If required 
courses are waived, other courses must be substituted in the official program to meet the specified credit-hour requirement. No credit is granted for the waived courses. Veterans may be approved to waive the Physical Education courses upon presentation of the DD214 discharge form. 

Attendance 
While individual instructors’ policies may vary somewhat, punctual and regular attendance is expected. Check your course syllabus for your instructor’s attendance policy. 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. Frequent absences may result in administrative withdrawal from a class and the termination or reduction of veterans’ benefits and other programs of financial assistance. 

Grade Reports 
Reports of final grades are available to students online at the end of each semester. The grade point average (GPA) for the semester is determined by dividing the total number of credits attempted for the semester into the total number of quality points earned for the semester. The cumulative grade point average is determined by dividing the total number of credits attempted at the College into the total number of quality points earned at John Tyler Community College. Courses for which “R,” “P,” “S” and “U” grades are awarded (courses numbered 01–09) are not totaled as credits attempted and are not computed in the grade point averages. If there is reason to believe that a grade is incorrect, the instructor should be contacted as soon as possible. 

Student Records and Academic Transcripts 
The Office of Admissions and Records is the repository of all student academic records. Records are retained in accordance with VCCS policy. An academic transcript is the official and permanent record of a student’s academic history. John Tyler Community College permanently retains each student’s academic transcript. 

Students may request the forwarding of official copies of their transcripts to other institutions by contacting the Office of Admissions and Records. Requests for official and unofficial student copies of transcripts will be handled within five days of the receipt of the request at a charge of $3.00 per copy to the student. Unofficial transcripts are not available online to students who have not attended John Tyler within the past three years. Students who have outstanding financial obligations with the John Tyler Community College Business Office, with the bookstore, with the library, or for parking violations will not be issued transcripts until their accounts have been paid in full. 

Credit for Repeated Courses 
In computing GPA, only the most recent grade is used if the course has been repeated. All previous attempts are denoted with the message “Repeated Course” on the student’s transcripts and are removed from the GPA calculation that is reflected in the current cumulative GPA. 

Academic Renewal
Students returning to John Tyler Community College after an absence of a minimum of five years may wish to take advantage of academic renewal in order to improve their cumulative GPAs. To be eligible, a student must be currently enrolled at the College, have a period of at least five years (60 months) between enrollments, and have earned a minimum GPA of 2.5 in the first 12 credits (or more) after returning to John Tyler. If approved, all grades of “D” or “F” earned prior to returning to the College will be removed from the cumulative GPA calculation. For additional information about academic renewal, please contact the Office of Admissions and Records.

Correction of Education Records
Students have the right to have records corrected that they believe are inaccurate, misleading or in violation of their privacy rights. Contact the Office of Admissions and Records for information on the procedures for correction of records.

Directory Information
All student records are protected under the 1974 Family Educational Rights and Privacy Act (FERPA), as amended. FERPA does allow institutions to release, without prior consent from the student, information which is considered “directory” information. The Virginia Community College System has defined student directory information as a student’s name, participation in officially recognized activities and sports, address, telephone number, electronic mail address, degrees, honors, and awards received, date and place of birth, major field of study, dates of attendance, and the most recent educational agency or institution attended. It is the student’s responsibility to notify the Office of Admissions and Records in writing if this information is not to be released. This requirement applies to currently enrolled students only. Once an individual is no longer enrolled at the institution, directory information will be provided upon request. Questions regarding FERPA should be directed to the Director/Assistant Director of Admissions and Records.

ACADEMIC HONORS
Honors List
A student who has completed 24 credit hours at John Tyler Community College and has achieved a cumulative grade point average of 3.5 will be placed on the Honors List.

Dean’s List
A full-time student who achieves a semester grade point average of 3.2 or higher will be placed on the Dean’s List.

Graduation Honors
Students who have earned a minimum of 30 credit hours or 50 percent of the degree/certificate requirement at John Tyler Community College are eligible for graduation honors as follows, given the GPAs provided:

- 3.8 Summa Cum Laude
- 3.5 Magna Cum Laude
- 3.2 Cum Laude

ACADEMIC STANDING
Good Standing
A student is considered to be “in good standing” if he/she maintains a minimum GPA of 2.0 each semester, is eligible to re-

enroll at John Tyler Community College, and is not on academic suspension or dismissal status. A student on academic warning or academic probation, who is eligible to re-enroll, may be considered eligible to receive financial aid assistance or other benefits requiring a “good” academic standing status.

Academic Warning
A student who fails to attain a minimum GPA of 2.0 for any semester will receive an Academic Warning, which will be printed on his/her grade report.

Academic Probation
A student who has attempted at least 12 semester credit hours and who fails to maintain a cumulative GPA of 1.5 will be on “Academic Probation” until such time as the cumulative GPA is 1.5 or better. A student on academic probation will not be eligible for elective office in student organizations and may be required to carry less than a normal course load during the following semester. A student on academic probation is required to consult with a counselor.

Academic Suspension
A student on academic probation who has attempted at least 24 semester credit hours and who fails to attain a grade point average of 1.5 in a subsequent semester will be subject to “Academic Suspension.” A student on probation as a result of having received “U” grades will be subject to suspension if he or she fails to earn a “P” or “R” grade in all developmental courses subsequently attempted. The statement “Academic Suspension” will be placed on the student’s permanent record. Academic suspension is for one semester. After serving this suspension, a student may enroll as a “restricted student.” A suspended student who wishes to seek readmission without serving a one-semester suspension must petition in writing the Academic Status Committee, requesting an exception and noting why such an exception should be made. Normally, such requests are not granted except in highly unusual circumstances and then only if the student is seeking admission in a different academic program.

Academic Dismissal
A student who has been placed on academic suspension must achieve a 2.0 GPA for the semester following readmission and must maintain at least a 1.5 GPA in each subsequent semester of attendance. Failure to do so will result in academic dismissal. The statement “Academic Dismissal” will be placed on the student’s permanent record. A student who has been suspended and who has attained the requirement for continued enrollment will be placed on academic probation until the cumulative GPA is raised to a minimum of 1.5. Academic dismissal normally is permanent unless, with good cause, a student reapplies and is accepted under special consideration for readmission by the Academic Status Committee. A student who has been dismissed and who seeks readmission must petition in writing the Academic Status Committee at least four weeks prior to the semester in which readmission is sought.

TUITION AND FEES
Tuition Rates and Fees
Tuition rates are established by the State Board for Community Colleges and are subject to change. Current tuition rates can be obtained at www.jtcc.edu.

The e-Rate is applicable to designated distance-learning courses
delivered entirely over the Internet. Tuition rates include a $3.50 per credit hour technology fee. Virginia residents are exempt from the $3.00 per credit hour capital fee. The contract rate is for students who do not qualify for in-state tuition rates and are enrolled in classes provided in a contract between their employers and John Tyler Community College where the employer agrees to pay the students’ tuition directly to the College. In addition to tuition, students pay a comprehensive fee of $25.00 per semester. Student fees are approved by the John Tyler Community College Board and are subject to change.

All tuition and fees are due by 5:00 p.m. on the Friday of the week a student registers and may be paid by cash, money order, personal check, MasterCard or Visa. If a student’s check is returned to the College for any reason, the student will be charged a $15.00 returned check fee in addition to the amount of the returned check. The student has ten days from the date of notice in which to redeem the check and pay both the amount of the check and the returned check fee. This obligation must be paid in cash or a cash instrument. Failure to fulfill this financial obligation within the specified time may result in the student being withdrawn from John Tyler Community College and being subject to legal action.

Eligibility and Application Procedure for In-State Tuition

Generally, to be eligible for in-state tuition rates, the student must have been legally domiciled in Virginia for a period of at least one full year prior to the planned semester of enrollment. Domicile is a technical legal term that means more than simple “residency” in Virginia. An individual seeking eligibility for in-state tuition must demonstrate the intention of remaining in Virginia indefinitely. Demonstration of intent is usually accomplished through objective evidence such as a driver’s license, automobile registration, voter registration, payment of Virginia income taxes and ownership of real property.

Residency

A student under the age of 24 generally assumes the domiciliary status of the parent(s) unless one of the following criteria is met:

- Is age 24 before the first day of classes;
- Is a veteran of the U.S. armed forces;
- Holds a bachelor’s degree or higher;
- Is married;
- Is orphaned;
- Is a ward of the court;
- Has legal dependents other than a spouse; or
- Can present clear and convincing evidence that he or she is self-sufficient.

The Office of Admissions and Records is responsible for making an initial determination of eligibility for in-state tuition rates based on information provided by the student on the application form. Eligibility is determined by using State Council of Higher Education guidelines pertaining to Section 23.7-4 of the Code of Virginia. Applicants who are denied in-state tuition have the right of appeal according to the following procedures:

- Intermediate Level Review: Appeals must be submitted in writing to the Office of the Dean of Student Services at least two weeks prior to the date of the requested entitlement (the first day of classes of the semester in question). The Dean of Student Services will review such appeals and issue decisions within five days or prior to the first day of classes. Appeals received less than two weeks prior to the date of requested entitlement will not be considered until after the subsequent add/drop period. Students may elect to register and pay out-of-state tuition charges pending the resolution of their appeals.

- Final Administrative Review: Appeals of the intermediate level review must be submitted in writing to the Office of the President of the College. Such appeals must be submitted no later than five business days after the receipt of intermediate level decisions. The Appeals Committee (President, Vice President of Finance and Administration, and Vice President of Academic and Student Services) will review such appeals and forward its decisions to students within ten business days of the receipt in accordance with Part VII, Section 8 VAC 40-120-270, Chapter 120, Guidelines for Determining Domicile and Eligibility for In-State Tuition Rates.

Changing Tuition Eligibility Status from Out-of-State to In-State

If a student enters John Tyler Community College as an out-of-state student and believes that he or she has subsequently become eligible for in-state rates, an application for Virginia In-State Tuition Rates in the Office of Admissions and Records should be completed. If the student is correct, the student will become eligible for in-state tuition rates for the next semester in which he or she enrolls.

Books and Materials

Students are expected to obtain their own books and supplies.

Refund Policy

A full refund of tuition is authorized for credit hours of course(s) dropped during the first 15 percent of the session. (Specific dates are printed in the schedule of classes.) If a student registers for a course which is cancelled by the College and does not elect to enter an alternate course, the student is eligible for a refund. Students can print their receipts online if needed.

FINANCIAL ASSISTANCE

John Tyler Community College attempts to ensure that qualified students are not denied an education because of a lack of money. Any student who would like to apply for financial assistance may secure a financial aid application and the latest brochure of current programs from the Office of Financial Aid, which is located in Goyne Hall at the Chester Campus and in the Administration Building at the Midlothian Campus. The Free Application for Federal Student Aid (FAFSA) can also be obtained and submitted online at www.fafsa.ed.gov. Students are urged to submit their financial aid applications well in advance of their anticipated registration dates. The dates for applying for financial aid for the fall semester are May 15 (Priority) and July 15 (Guaranteed). The dates for applying for financial aid for the spring semester are September 15 (Priority) and November 15 (Guaranteed). The priority date for the summer semester is March 15. Students can apply after these dates but must be prepared to pay out-of-pocket for their tuition and fees and be reimbursed if they are eligible for aid approximately a month-and-a-half after the semester has begun.
Eligibility for Financial Aid

To qualify for financial aid and to maintain their eligibility, students must:

1. Complete the Free Application for Federal Student Aid (FAFSA) by the July 15 or November 15 dates (see the previous paragraph);
2. Be accepted for admission to John Tyler Community College as a degree- or certificate-seeking student;
3. Be enrolled in good standing and maintain satisfactory progress;
4. Be citizens, eligible non-citizens or permanent residents of the United States or its trust territories;
5. Not be in default on a Federal Stafford Loan, PLUS, SLS or a Perkins Loan;
6. Not owe an overpayment on financial aid received at any institution of higher learning; and
7. Have a high school diploma, a GED or the ability to benefit.

Students receiving financial aid are responsible for notifying the Office of Admissions and Records regarding any change in name, address, telephone number or marital status.

STUDENT FINANCIAL AID PROGRAMS AVAILABLE

Federal Pell Grant

The Federal Pell Grant is an award for undergraduates only with no prior bachelor's or professional degree. Eligibility is primarily based on the Expected Family Contribution (EFC), but is also affected by enrollment status. The EFC must be 4110 or less. The maximum award for the 2007-2008 academic year is $4,310, with a minimum of $400. A minimum of 12 credit hours each semester is required to receive full eligibility, with pro-rated awards going to students with less than 12 hours.

FSEOG (Federal Supplemental Educational Opportunity Grant)

FSEOG is for undergraduate Federal Pell Grant recipients with exceptional financial need (i.e., students with the lowest EFCs). Students may receive up to $2,000 a year depending on eligibility and funding level. Priority is given to out-of-state students whose tuition charges are significantly higher.

ACG (Academic Competitiveness Grant)

The Academic Competitiveness Grant is a NEW federal program that began with the 2006/2007 aid year. In order to be eligible, a student must be Pell eligible, a U.S. citizen, have completed a rigorous high school program of study after January 1 of this year if a first-year student or have completed a rigorous high school program of study after January 1 of the prior year if a second year student, and register for a full-time course load (12 or more credits) in a degree-seeking program. If a first-year undergraduate student, the student must not have been previously enrolled in a program of undergraduate education. A first-year student may receive up to $750 per academic year. A second-year student may receive up to $1,300 per academic year. Second-year students must also have attained at least a 3.0 cumulative grade point average in their first year of undergraduate education.

FWS (Federal Work-Study)

Federal Work-Study is a program which provides part-time employment opportunities to eligible students to help meet the costs of post-secondary education. Based on the results of the Free Application for Federal Student Aid (FAFSA), eligible students are awarded an allotment which may be earned through part-time employment in FWS-approved positions either on or off campus. The program is designed to provide students with an opportunity for employment arranged around class schedules.

CSAP (College Scholarship Assistance Program)

CSAP is a state-funded grant which provides assistance to undergraduate Virginia residents to a maximum of $1,000 an academic year. A minimum of 6 credit hours is required each semester in order to receive CSAP.

COMA (Commonwealth Grant)

COMA is a state-funded grant that provides assistance to undergraduate Virginia residents to a maximum of tuition and fees per academic year. A minimum of 6 credit hours is required each semester in order to receive COMA.

VGAP (Virginia Guaranteed Assistance Program)

VGAP awards range from $500 up to tuition, fees and books available to undergraduate Virginia residents who graduated from high school with at least a 2.5 grade point average. Students must be enrolled FULL-TIME with at least a 2.0 cumulative grade point average in order to maintain eligibility for this grant.

PTAP (Part-time Tuition Assistance Program)

PTAP is a state-funded grant, which provides assistance to undergraduate Virginia residents to a maximum of tuition and fees per academic year. A minimum of 1 credit hour and a maximum of 6 credit hours are required each semester in order to receive PTAP.

HETAP (Higher Education Teacher Assistance Program)

HETAP is a federally funded grant which provides assistance to undergraduate Virginia residents enrolled full-time in an eligible K-12 teacher preparation program to a maximum of $1,000 an academic year.

Federal Stafford and PLUS Loan Program

The Federal Stafford and PLUS Loan Program enables students and/or parents to borrow directly from banks, credit unions, savings and loan associations, or other participating lenders who are willing to make educational loans. The loan is guaranteed by the federal government. Application is through the Office of Financial Aid.

Virginia War Orphans/Dependents of Firefighters and Police Officers Education Benefits

Sections SB-529 and SB-626 of the Code of Virginia provide for free tuition to attend state-supported institutions of higher education for children of persons killed in the line of duty to the Commonwealth of Virginia or deceased, disabled, imprisoned, or missing in action as a result of any armed conflict after December 6, 1941, involving the U.S. armed forces. Individuals entitled to
this benefit may utilize it to pursue any vocational, technical, undergraduate or graduate program of instruction. Generally, programs listed in the academic catalogs of state-supported institutions are acceptable provided they have a clearly defined educational objective. Applications and additional information may be obtained from the Office of Financial Aid. Applications should be submitted at least four months before the expected date of matriculation.

Satisfactory Academic Progress

To receive any federal or state aid, a student must maintain satisfactory academic progress. The Office of Financial Aid will evaluate a student’s progress at the time of application and at the end of each semester. Changes of curricula do not necessarily constitute extended time limits for eligibility. Per federal regulation, all enrollments at John Tyler Community College and all applicable transfer credits will be considered, whether or not aid was awarded or received. The College’s criteria for satisfactory academic progress are:

- Students must earn at least 67% of the credit hours they attempt. All courses attempted at John Tyler Community College will be counted.
- Student must earn the minimum cumulative grade point average, as shown below, once they have attempted a specified number of credit hours.

<table>
<thead>
<tr>
<th>Credit Hours Attempted</th>
<th>Minimum Required GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>13-23 credit hours</td>
<td>1.80</td>
</tr>
<tr>
<td>24-29 credit hours</td>
<td>1.75</td>
</tr>
<tr>
<td>30 or more credit hours</td>
<td>2.00</td>
</tr>
</tbody>
</table>

- Please note that only courses with grades of “A,” “B,” “C,” “D” and “F” are included in the GPA evaluation.
- Students who have attempted a number of credits that total 150% or more of their program requirements have not made satisfactory academic progress. All enrollment periods and acceptable transfer credits are counted, even semesters when aid was not received. Developmental courses are not included in this calculation.

Students may appeal the loss of their aid, in writing, to the Office of Financial Aid within fifteen working days from the date the denial was mailed. Only appeals which document mitigating circumstances will be considered.

Veterans Affairs and Benefits

The Office of Veteran Affairs assists eligible veterans and dependents of veterans with their applications and reporting requirements necessary for establishing and maintaining Veterans Administration (VA) educational entitlements. Most curricula and programs of education offered at John Tyler Community College are approved by the Virginia Department of Education for VA entitlements. Veterans and their dependents are reminded that only those courses which apply to their approved programs of education may be certified for VA educational entitlements. Eligible veteran students are encouraged to consider using the VA Work-Study and the VA Tutorial Assistance programs while attending school as they are valuable resources. The Office of Veterans Affairs is located in Moyar Hall, room M107, at the Chester Campus.

SCHOLARSHIPS

The John Tyler Community College Foundation relies on the generosity of the community to continue its work in securing the future of the College, its students, its faculty and its staff. Since most of the College’s graduates live and work in the area, gifts to the Foundation are an investment in the future of the community. Through donations, grants and endowments, the Foundation is able to provide scholarships for students, to fund academic programs and capital projects, to renovate and modernize classrooms and labs, and to encourage the professional development of John Tyler Community College’s faculty and staff. Contributions ensure the College continues its pledge of providing academic excellence while expanding the services it offers to fulfill escalating workforce requirements.

The Foundation offers scholarships to help students pay for John Tyler Community College tuition, books, and fees. All students meeting the following minimum criteria are encouraged to apply for scholarships:

- Possess a 2.5 minimum cumulative grade point average (GPA);
- Be enrolled or planning to enroll in a curriculum program at John Tyler Community College if applying for a need-based scholarship;
- Have in-state tuition status; and
- Have a completed, current Financial Aid Form on file at John Tyler Community College.

A complete list of all scholarships, application forms, and eligibility criteria are available at www.jtcc.edu/scholarships. The application deadline for the John Tyler Community College International Studies Scholarship for summer study abroad is April 1. The application deadline for all other scholarships is May 1.

GRADUATION PROCEDURES

Graduation Requirements

To be awarded an associate degree, certificate, or career studies certificate, a student must:

1. Fulfill all course and credit hour requirements specified in the John Tyler Community College Catalog at the time of his or her official application for graduation. Course waivers and exceptions to the current catalog requirements may be made with the approval of the student’s academic advisor and division dean.
2. Earn a minimum of 25 percent of the total semester credits required for the degree, certificate, or career studies certificate at John Tyler Community College.
3. Have a grade point average of at least 2.0 in all courses that are applicable toward graduation in the curriculum.
4. Demonstrate computer literacy either by passing ITE 100 or ITE 115, the CLEP Test for ITE 100, or an equivalent IT course approved by the student’s faculty advisor. (This requirement does not apply to certificate and career studies certificate candidates.)
5. Resolve any financial obligations to the College and return all library books and other materials.
6. Participate in the institution’s assessments of its academic programs prior to graduation. Only candidates for degrees are required to participate. A letter will be mailed to students outlining specific information about the process. Applications for graduation will not be finalized until assessment activities are completed.
Applying for Graduation
To be considered for graduation, a student must:
1. Obtain an Application for Graduation from the student’s academic advisor or the counseling center.
2. Be officially in the curriculum (career plan) for which he or she is seeking graduation. A student may only be in one curriculum (career plan at a time).
3. Request his or her advisor to attach an advising transcript to the application for graduation.
4. Complete all designated sections of the application for graduation.
5. Submit the completed application for graduation to the Office of Admissions and Records by the appropriate deadline:
   • For Summer Semester candidates: February 15
   • For Fall Semester candidates: June 15
   • For Spring Semester candidates: September 15
   *Note: Applications for graduation for spring semester candidates will be accepted until February 1, but no official graduation audits advising candidates of outstanding course requirements will be forwarded to students who submit graduation applications after September 15.
6. Ensure that all course waiver and substitution forms are submitted by his or her advisor to the Office of Admissions and Records by the appropriate deadline:
   • For Summer Semester candidates: June 15
   • For Fall Semester candidates: November 1
   • For Spring Semester candidates: March 1
   *Note: Course waiver and substitution forms submitted after this date will be processed for summer semester. Students will not be processed for spring semester graduation and will not be permitted to participate in Commencement until the following year. Students must reapply for graduation.

Participating in Commencement
• John Tyler Community College’s annual Commencement Ceremony is held each May. Students who graduate in the preceding summer, fall, and spring semesters may participate.
• Students who wish to participate in the annual Commencement Ceremony must indicate on their graduation applications that they intend to participate in the ceremony. There are no exceptions to this requirement.
• Participants must purchase caps and gowns from the College Bookstore. (Information about the Commencement Ceremony and the purchase of caps, gowns, and announcements is mailed to all participants in the spring semester.)

Diplomas
• Diplomas are mailed to all graduates approximately two – three months after the date of their graduation. Candidates should make certain that their mailing addresses are accurate at the institution.
• All graduation honors reflect all course work attempted at John Tyler Community College. This includes courses that may not be used in satisfying specific graduation requirements.

STUDENT SERVICES
The Division of Student Services is comprised of the departments and offices of Admissions and Records, Counseling Services, Student Activities, and Student Success Centers. Other services provided by personnel in this division include tutoring, placement testing, career assessment and development, and Veterans Affairs. Division personnel are committed to providing students with the academic, administrative and personal support services necessary for the successful pursuit of their educational and career goals. The Office of the Dean of Student Services is located in room M107e in Moyar Hall on the Chester Campus and in room B213 in the Administration Building on the Midlothian Campus. For additional information on the services provided by the division, please refer to the appropriate sections of this catalog and the John Tyler Community College web site, www.jtcc.edu.

Counseling Services
Professional counselors and student services specialists are available at both campuses to assist students with personal concerns, career and life planning, educational decisions, resolving conflicts and other concerns. Interviews with counselors are confidential. If students require assistance beyond the scope of the services of counselors, referrals to other qualified professionals or agencies will be offered.
Counseling Services is committed to help students and prospective students learn how to develop career and life plans and to deal effectively with career and life transitions. Since there is no single correct way for everyone to deal with such decisions, a variety of developmental services and programs are offered, including assistance with personal development, academic development and career development. Counseling Services also offers a variety of information sessions as part of student orientation. These programs are designed to help students learn how to make better career and life planning decisions, refine study skills necessary for college success, assist with college transfer and build leadership skills.

Career Development Services
Students seeking assistance with career development should contact Counseling Services at the Chester and Midlothian campuses. With the assistance of counselors, students can take a number of assessment instruments, access career and college search systems, explore current job listings and refine their job-seeking skills. Counseling personnel also present special programs in interviewing and resume’ writing, as well as coordinate the on-campus recruitment initiatives of area businesses and industries.

Student Success Centers
Students can receive free tutoring services in many of the courses offered by the institution in the Student Success Centers located in room M208 on the Chester Campus and room A208 on the Midlothian Campus. General academic advising services also are available for program-placed students. In addition, Student Success Center personnel offer students assistance with test-taking skills, managing test anxiety, study skills, transferring to senior institutions, and stress management. Computer workstations are available where students may use tutorial software or work on writing assignments. Rooms are available for study groups.

Student Activities
The Office of Student Activities provides a variety of educational, cultural, and social experiences for students, faculty, staff and members of the community. Student activities and organizations are
open to all interested students. Student clubs currently include the Art Club, Chess Club, Chemistry Club, Creative Writing Club, Disciples of Christ, Elements of Life, Funeral Services Association, Human Services Club, Philosophy Club, Future Teachers Club, Martial Arts Club, Student Nurses Association, Multicultural Student Association, and Theatre Club. Students may seek leadership opportunities through participation in the John Tyler Community College Student Ambassadors and Student Council. The College also has two chapters of Phi Theta Kappa, the international honor society for two-year colleges. The Office of Student Activities also coordinates student ID cards, voter registration, community service project, student travel programs, student newsletter, student emergency fund, and club and intramural athletics. Students who are interested in participating in any aspect of the student activities program, or who wish additional information on events and organizations, should visit the Student Activities offices in Moyar Hall, room M132a at the Chester Campus or room A208e at the Midlothian campus or should e-mail studentactivities@jtcc.edu.

Students with Disabilities

John Tyler Community College is committed to the goal of providing each qualified student equal opportunity to pursue a college education. To that end, the Division of Student Services has designated a professional counselor as a Disabilities Support Services Specialist at each campus. Timely requests for special services enable the College to better serve students. Students with documented disabilities who require assistance should contact the Counseling Centers at either the Midlothian Campus or the Chester Campus at least 30 days prior to the start of classes. Professional counselors will assist students with their special needs, including accommodations on placement testing, instructional accommodation plans, consultation services with faculty and staff, assistance with registration, personal and career counseling, study skills, note taking, mobility assistance and other services depending on individual needs and the availability of resources.

Student Rights, Responsibilities and Conduct

The submission of an application for admission to John Tyler Community College represents a voluntary decision to participate in the programs and courses offered by the institution according to the policies, rules and regulations of the College and the State Board for Community Colleges. The College’s approval of the application represents the extension of a privilege to join the John Tyler Community College community and to remain a part of it so long as the student meets required academic and behavioral standards. Each student is guaranteed the privilege of exercising his or her rights without fear of prejudice. Conduct by any student that adversely affects John Tyler Community College’s pursuit of its educational objectives or represents a threat to its students, faculty or staff will result in disciplinary action.

Additional information about student rights and responsibilities, as well as the Student Code of Conduct, can be found in the current Student Handbook available online at www.jtcc.edu. The Dean of Student Services and the Assistant Coordinator of Student Affairs are responsible for the administration of all student disciplinary procedures.

LEARNING RESOURCES AND TECHNOLOGY CENTERS

The Learning Resources and Technology Centers (LRTC) are composed of the libraries on both campuses and the Collaborative Learning Center (CLC) on the Chester Campus. The Midlothian Campus library facility combines the functions of the Chester library and CLC. The Chester Campus library and CLC are in Moyar Hall on the second floor. The Midlothian Campus library occupies the first floor of the Academic Building.

Campus Libraries

John Tyler Community College advocates the frequent and intensive use of the libraries by all John Tyler students. The libraries are the academic center of the College’s community, providing a place to study, to carry out course-related research and to learn how to learn. Identifying, locating and interpreting information are essential skills in this new century. The John Tyler Community College libraries are committed to teaching students the means and methods by which these skills are acquired.

New students are introduced to the libraries during an orientation session, which is an integral part of SDV100 (College Success Skills). More in-depth library instruction follows for students as they enroll in other courses for which there are research, writing and library-use requirements or recommendations.

Student library cards are readily obtainable at the campus libraries. Hours of operation, circulation policies, fees and fine structure are covered in literature available in the libraries and on the library’s web site.

The combined book collection of the two campus libraries totals more than 50,000 volumes. The online catalog includes the holdings of both campuses. The libraries share fully in the online resources made available by the Virtual Library of Virginia (VIVA) and the Virginia Community College System (VCCS). These online indexes and databases, combined with the libraries’ traditional periodical subscriptions, give the student access to the full text of over 7,000 magazines, journals and newspapers. The VIVA and VCCS databases are also accessible by students, faculty and staff off campus. Inter-library loan services further extend the student’s ability to obtain needed books and articles not owned by the College.

Computing Services

The Midlothian Campus library and the Collaborative Learning Center (CLC) adjacent to the Chester Campus library provide a variety of computer services and electronic resources for students and faculty. Computerized tutorials and software packages supporting specific disciplines are offered here. Staff can give basic assistance with word processing, spreadsheet, database and presentation software tasks. The Chester CLC houses approximately 45 computers; the Midlothian library has about 100.
PROGRAMS OF STUDY

Associate of Applied Arts Degree (AAA)
Visual Arts
  Photography and Film Specialization*
  Studio Specialization
  Visual Communication Specialization

Associate of Arts and Sciences Degree (AA&S)
  Business Administration Specialization
  Social Science Specialization*
  Teacher Education Specialization
  Theatre Arts Specialization
  Theatre Education Specialization

Associate of Applied Science Degree (AAS)
Accounting
Architectural Engineering Technology
Business Management
  Administrative Management Specialization
Early Childhood Development
  Teacher Assistant Specialization
Funeral Services
Human Services
  Criminology Specialization
  Disabilities Specialization
  Gerontology Specialization
  Social Work Specialization
Information Technology
  Computer Programming Specialization
  Database Management Specialization
  Microcomputer Applications Specialization
  Network Support Specialization
  Web Programming Specialization
Mechanical Engineering Technology
  Mechatronics Technician Specialization
Nursing
VCCS Commonwealth Nursing
Police Science
Technical Studies

Certificates (C)
Bereavement Counseling
Building Construction
Child Care
Fine Arts
Homeland Security
Precision Machining Technology
Welding

Career Studies Certificates (CSC)
Accounting
Administration of Justice
Adult Home Administration
Air Conditioning
Allied Health Preparation, Pre-Funeral Services
Allied Health Preparation, Pre-Nursing
Basic Precision Machining
Child Care Management
Civil Engineering Computer-Aided Drafting
Computer-Aided Drafting
Computer Numerical Control
Database Management
Early Childhood
Electricity*
Emergency Medical Services – Basic
Emergency Medical Services – Intermediate
Mechanical Maintenance
Microcomputer Applications
Networking
Office Administration
Programming
Real Estate
Small Business Management
Substance Abuse Assistant
Supervision
Surveying
Web Design
Web Programming
Welding

*approval anticipated fall 2007
This section provides complete listings for degree and certificate programs offered by John Tyler Community College at the time of publication. For an updated list of programs, please visit the College web site at www.jtcc.edu.
Accounting
ASSOCIATE OF APPLIED SCIENCE (AAS)

PURPOSE
This program is designed both for students seeking first-time employment in the accounting field and for those already working in accounting, to provide opportunities to develop and improve skills necessary for advancement. Included in the program are activities that enhance analytical, technical, communication, leadership and human-relations skills. Graduates will be able to: (1) use all the steps of the accounting cycle for various business entities, including sole proprietorships, partnerships and corporations; (2) analyze and interpret financial statements; (3) use accounting computer software to maintain accounting records and to prepare financial statements; (4) prepare the Federal Tax Form 1040 and supporting schedules to include Schedule C for sole proprietorships and Schedule SE for self-employment tax and to research basic tax questions; and (5) apply theory in the practice of job-order and standard cost-accounting systems.

ADMISSION REQUIREMENTS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M1 17) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

<table>
<thead>
<tr>
<th>1st Semester</th>
<th>Credits</th>
<th>Standard Course Options</th>
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</thead>
<tbody>
<tr>
<td>ACC 211 Principles of Accounting I</td>
<td>3</td>
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</tr>
<tr>
<td>BUS 100 Introduction to Business</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ENG 111 College Composition I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MTH 120 Introduction to Mathematics</td>
<td>3</td>
<td>MTH 151, MTH 163</td>
</tr>
<tr>
<td>PSY 126 Psychology for Business and Industry</td>
<td>3</td>
<td>PSY 200/203, PSY 201, PSY 202</td>
</tr>
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<td>SDV 100 College Success Skills</td>
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<th>2nd Semester</th>
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<tr>
<td>ACC 212 Principles of Accounting II</td>
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<tr>
<td>BUS 125 Applied Business Mathematics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BUS 200 Principles of Management</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ECO 120 Survey of Economics</td>
<td>3</td>
<td>ECO 201, ECO 202</td>
</tr>
<tr>
<td>Health or Physical Education Elective</td>
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<td></td>
</tr>
<tr>
<td>Philosophy or Religion Elective</td>
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<tr>
<th>3rd Semester</th>
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<tbody>
<tr>
<td>ACC 221 Intermediate Accounting I</td>
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<tr>
<td>ACC 231 Cost Accounting I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BUS 220 Introduction to Business Statistics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BUS 241 Business Law I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ITE 100 Introduction to Information Systems</td>
<td>3</td>
<td>ITE 115</td>
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<th>4th Semester</th>
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<tbody>
<tr>
<td>ACC 215 Computerized Accounting</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>ACC 222 Intermediate Accounting II</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ACC 261 Principles of Federal Taxation I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>AST 205 Business Communications</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SPD 100 Principles of Public Speaking</td>
<td>3</td>
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<tr>
<td><strong>Total Credits</strong></td>
<td><strong>16</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Total Credits For Program** | **65** |

NOTES AND ADDITIONAL CURRICULUM OPTIONS
1. The philosophy or religion elective requirement can be satisfied by courses with a PHI or REL prefix.
2. Part-time students should consult their faculty advisors regarding appropriate course sequences.
Architectural Engineering Technology
ASSOCIATE OF APPLIED SCIENCE (AAS)

PURPOSE
Building design and land development require a large number of professionals with a wide range of skills. This program prepares students for many of these careers, including architectural drafter, engineering drafter, computer-aided drafter, civil or surveying drafter, architectural engineering technologist, design assistant, specifications assistant and field inspector/contract administrator. Graduates will be able to: (1) using computer-aided drafting, produce a representative set of accurate working drawings for a house and a small commercial building; (2) apply principles of mechanical and electrical systems to the design of a building; (3) apply principles of mechanics to the design of building elements; (4) perform tests on materials such as concrete, metals and wood; (5) perform basic surveying operations; (6) write technical computer programs; (7) evaluate a building design using building codes and zoning regulations; and (8) use communication skills effectively in the work environment.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

1st Semester Credits Standard Course Options
ARC 121 Architectural Drafting I 3
ARC 221 Architectural CAD Applications Software I 3
ARC 258 Building Codes, Contract Documents and Professional Office Practices 3
ENG 111 College Composition I 3
MTH 115 Technical Mathematics I 3 MTH 163, MTH 173
SDV 100 College Success Skills 1
Total Credits 16

2nd Semester Credits Standard Course Options
ARC 122 Architectural Drafting II 3
ARC 243 Environmental Systems 4
EGR 216 Computer Methods in Engineering and Technology 3
MTH 116 Technical Mathematics II 3 MTH 164, MTH 174
SPD 100 Principles of Public Speaking 3
Total Credits 16

3rd Semester Credits Standard Course Options
ARC 231 Advanced Architectural Drafting I 4
ARC 246 Materials and Methods of Construction 4
CIV 171 Surveying I 3 DRF 195 (GIS)
EGR 140 Engineering Mechanics: Statics 3
Physical Sciences Elective 4
Total Credits 18

4th Semester Credits Standard Course Options
ARC 232 Advanced Architectural Drafting II 4
Health/Physical Education Elective 2
Humanities Elective 3
Social Science Electives 6
Total Credits 15

Total Credits For Program 65

NOTES AND ADDITIONAL CURRICULUM OPTIONS
1. Transfer to four-year colleges and universities - Students should consult their academic advisors and their intended transfer institutions for specific direction in course selection. Required courses for any major at four-year institutions may vary.

2. The humanities elective requirement can be satisfied by courses in literature and drama and by those with the following prefixes: ART, FRE, GER, HUM, MUS, PHI, REL, or SPA.

3. The physical science elective requirement can be satisfied by courses with the following prefixes: CHM or PHY.

4. The social science elective requirement can be satisfied by courses with the following prefixes: ECO, GEO, HIS, PLS, PSY, or SOC.

5. Part-time students should consult their faculty advisors regarding appropriate course sequences.
Arts and Sciences

ASSOCIATE OF ARTS AND SCIENCES (AA&S)

PURPOSE
This program is intended to provide the student with a general course of study that parallels the freshman and sophomore years at most colleges and universities. The courses in this program are specifically selected for ease of transfer to most four-year colleges. Students holding the AA&S degree will have junior standing and will be considered to have met all lower-division general education requirements at most four-year colleges and universities.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Arts and Sciences: 804-706-5086 (Chester Campus, Moyar Hall, M129) or 804-594-1509 (Midlothian Campus, Academic Building, A308).

PROGRAM CURRICULUM

<table>
<thead>
<tr>
<th>1st Semester</th>
<th>Credits</th>
<th>Standard Course Options</th>
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<tbody>
<tr>
<td>BIO 101 General Biology I</td>
<td>4</td>
<td>BIO 110, CHM 111, PHY 101, PHY 201</td>
</tr>
<tr>
<td>ENG 111 College Composition I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>HIS 121 United States History I</td>
<td>3</td>
<td>HIS 101, HIS 111</td>
</tr>
<tr>
<td>MTH 163 Precalculus I</td>
<td>3</td>
<td>MTH 151, MTH 173</td>
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<td>SDV 100 College Success Skills</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>General Elective</td>
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<tr>
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<tr>
<th>2nd Semester</th>
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<td>BIO 102 General Biology II</td>
<td>4</td>
<td>BIO 120, CHM 112, GOL 105, NAS 130, PHY 202</td>
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<tr>
<td>ENG 112 College Composition II</td>
<td>3</td>
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<td>HIS 122 United States History II</td>
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<td>HIS 102, HIS 112</td>
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<td>General Elective</td>
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<tr>
<td>Social Science Elective</td>
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<td><strong>Total Credits</strong></td>
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<tr>
<th>3rd Semester</th>
<th>Credits</th>
<th>Standard Course Options</th>
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<tbody>
<tr>
<td>ITE 115 Introduction to Computer Applications and Concepts</td>
<td>3</td>
<td>ENG 241, ENG 242, ENG 243, ENG 244, ENG 247, ENG 248, ENG 251, ENG 252, MTH 152, MTH 164, MTH 174, MTH 240</td>
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<tr>
<td>General Elective</td>
<td>3</td>
<td></td>
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<tr>
<td>Humanities Elective</td>
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<td></td>
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<tr>
<td>Literature or Mathematics Elective</td>
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<tr>
<td>Social Science Elective</td>
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<tr>
<td>General Elective</td>
<td>3</td>
<td>ENG 241, ENG 242, ENG 243, ENG 244, ENG 247, ENG 248, ENG 251, ENG 252</td>
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<tr>
<td>General Elective</td>
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<tr>
<td>Health/Physical Education Elective</td>
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<tr>
<td>Humanities Elective</td>
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<tr>
<td>Literature Elective</td>
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<td><strong>Total Course Options</strong></td>
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</table>

**Total Credits For Program** | **62** |
NOTES AND ADDITIONAL CURRICULUM OPTIONS
1. Students may elect to take only 3 credits in mathematics and 6 credits in literature or 6 credits in mathematics and 3 credits in literature. Students should consult with their advisors as to which, if either, of these options is appropriate given their transfer plans.

2. The social sciences elective requirement can be satisfied by courses with the following prefixes: ECO, GEO, HIS, PLS, PSY, or SOC.

3. The humanities elective requirement can be satisfied by courses in literature and drama and by those with the following prefixes: ART, FRE, GER, HUM, MUS, PHI, REL, or SPA.

4. Any 200-level ENG may be substituted for the suggested sophomore literature requirements to satisfy graduation from JTCC. Students should check with the transfer institutions for the best courses to meet transfer requirements.

5. There are other possible course options in mathematics and natural sciences. Students should consult their faculty advisors for additional courses that may fulfill the requirement.

6. The computer literacy requirement also can be satisfied by other information technology courses and CLEP examinations. Students should consult their faculty advisors.

7. Part-time students should consult their faculty advisors regarding appropriate course sequences.

8. Students should consult their faculty advisor or transfer college for advice regarding selection of the transfer elective.
Arts and Sciences,
Business Administration Specialization

ASSOCIATE OF ARTS AND SCIENCES (AA&S)

PURPOSE
Graduates with the AA&S degree with a specialization in business administration can transfer to a four-year college or university to complete a baccalaureate degree in accounting, business management, marketing, finance or related fields.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on specific program objectives, please contact the Division of Arts and Sciences: 804-706-5086 (Chester Campus, Moyar Hall, M129) or 804-594-1509 (Midlothian Campus, Academic Building, A308).

PROGRAM CURRICULUM

1st Semester

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>BIO 101</td>
<td>General Biology I</td>
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<td>CHM 111, PHY 101, PHY 201</td>
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<td>ENG 111</td>
<td>College Composition I</td>
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<tr>
<td>HIS 121</td>
<td>United States History I</td>
<td>3</td>
<td>HIS elective, PLS elective</td>
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<tr>
<td>MTH 163</td>
<td>Precalculus I</td>
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2nd Semester

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<td>HIS 122</td>
<td>United States History II</td>
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3rd Semester

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4th Semester

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**Total Credits For Program** 62

NOTES AND ADDITIONAL CURRICULUM OPTIONS

1. Students should consult their academic advisors and their intended transfer institutions for specific direction in course selection. Required courses for any major at four-year institutions may vary. Students should consult their intended transfer institutions prior to enrolling in mathematics, English, speech and computer information systems courses.

2. The humanities elective requirement can be satisfied by courses in literature and drama and by those with the following prefixes: ART, FRE, GER, HUM, MUS, PHI, REL, or SPA.

3. The social science elective requirement can be satisfied by courses with the following prefixes: ECO, GEO, HIS, PLS, PSY, or SOC.
Purpose

This program is intended to provide the student with a general course of study that parallels the freshman and sophomore years at most colleges and universities for degrees in criminal justice, psychology, sociology, and social work. The courses in this program are specifically selected for ease of transfer to most four-year colleges. Students holding the AA&S degree will have junior standing and will be considered to have met all lower division general education requirements at most four-year colleges and universities.

Admission Requirements and Special Conditions

A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Arts and Sciences: 804-706-5086 (Chester Campus, Moyar Hall, M129) or 804-594-1509 (Midlothian Campus, Academic Building, A308).

Program Curriculum

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<td>ITE 115 Introduction to Computer Applications and Concepts</td>
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<td>MTH 151 Math for Liberal Arts I</td>
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<td>MTH 163</td>
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<td>PSY 200/203 Principles of Psychology</td>
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<td>PSY 213 Statistics for Behavioral Sciences</td>
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<td>PSY 211 Research Methods</td>
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<td>Total Credits For Program</td>
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</table>

Notes and Additional Curriculum Options

1. SOC 210 Survey of Cultural and Physical Anthropology is required for social work and is suggested for all others.
2. The humanities elective requirement can be satisfied by courses with the following prefixes: ART, ENG, HUM, MUS, PHI, REL, SPA or SPD (with the exception of SPD 100).
3. Any 200-level ENG may be substituted for the suggested sophomore literature requirements to satisfy graduation from JTCC. Students should check with the transfer institutions for the best courses to meet transfer requirements.
4. There are other possible course options in the natural sciences. Students should consult their faculty advisors for additional courses that may fulfill the requirement.
5. The computer literacy requirement also can be satisfied by courses and CLEP examinations. Students should consult their faculty advisors.
6. Part-time students should consult their faculty advisors regarding appropriate course sequences.
7. Students should consult their faculty advisor or transfer college for advice regarding selection of the transfer electives.
Arts and Sciences, Teacher Education Specialization

ASSOCIATE OF ARTS AND SCIENCES DEGREE (AA&S)

PURPOSE
This program is intended to provide the student with a general course of study that parallels the freshman and sophomore years at most colleges and universities and prepares the student for a baccalaureate degree program in K-6 and middle school teacher education. Students who wish to complete this program will be required to pass the PRAXIS I test. Students holding the AA&S degree will have junior standing and will be considered to have met all lower-division general education requirements at most four-year colleges and universities. Specific elementary and secondary teacher education requirements vary at senior institutions, however, so students should consult with senior institutions for additional guidance regarding pre-teacher preparation.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum. Students who register in this program need to know which four-year college/university they plan to attend so they can select the most appropriate courses in areas where there are choices.

For additional information on this program, please contact the Division of Arts and Sciences: 804-706-5086 (Chester Campus, Moyar Hall, M129) or 804-594-1509 (Midlothian Campus, Academic Building, A308).

PROGRAM CURRICULUM

1st Semester
- ENG 111 College Composition I 3
- HIS 121 United States History I 3
- ITE 115 Introduction to Computer Applications and Concepts 3
- MTH 163 Precalculus I 3 MTH 151
- SDV 101 Orientation to Education 1 SDV 100
- Health/Physical Education elective 2
Total Credits 15

2nd Semester
- ENG 112 College Composition II 3
- MTH 240 Statistics 3 MTH 152, MTH 164
- HIS 122 United States History II 3 HIS 101, HIS 112
- PLS 135 American National Politics 3
- ART 101 History and Appreciation of Art I 3 ART 102, MUS 121, MUS 122
Total Credits 15

3rd Semester
- BIO 101 General Biology I 4
- ECO 201 Principles of Macroeconomics 3 ECO 202
- EDU 200 Introduction to Teaching as a Profession 3
- HIS 101 History of Western Civilization I 3 HIS 102
- SPD 110 Introduction to Speech Communication 3 SPD 100
Total Credits 16

4th Semester
- BIO 102 General Biology II 4
- ENG 241 Survey of American Literature I 3 ENG 242, ENG 243, ENG 244, ENG 251, ENG 252
- GEO 210 People and the Land: Cultural Geography 3
- General Elective 3
- Humanities elective 3
Total Credits 16

Total Credits For Program 62

NOTES AND ADDITIONAL CURRICULUM OPTIONS
1. The humanities elective requirement can be satisfied by courses in literature and drama and by those with the following prefixes: ART, FRE, GER, HUM, MUS, PHI, REL, or SPA.
2. The computer literacy requirement also can be satisfied by other information technology courses and CLEP examinations. Students should consult their faculty advisors.
3. Part-time students should consult their faculty advisors regarding appropriate course sequences.
4. Students should consult their faculty advisor or transfer college for advice regarding selection of electives.
Arts and Sciences, Theatre Arts Specialization

ASSOCIATE OF ARTS AND SCIENCES (AA&S)

PURPOSE
This program is intended to provide the student with a general course of study that parallels the freshman and sophomore years at most colleges and universities and prepares the student for a baccalaureate degree program in theatre arts. The courses in this program are specifically selected for ease of transfer to Longwood University but will also apply to most four-year colleges. Students holding the AA&S degree will have junior standing and will be considered to have met all lower-division general education requirements at most four-year colleges and universities.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Arts and Sciences: 804-706-5086 (Chester Campus, Moyar Hall, M129) or 804-594-1509 (Midlothian Campus, Academic Building, A 308).

PROGRAM CURRICULUM

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<td>CHM 111, PHY 201</td>
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<td>MTH 163 Precalculus I</td>
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<td>HIS 101, HIS 112</td>
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<td>SPD 132 Acting II</td>
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<td>Social Science Elective</td>
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<td>SPA 101 Beginning Spanish I</td>
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<td>SPD 267 Creative Drama</td>
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**Total Credits For Program** | **63** |
NOTES AND ADDITIONAL CURRICULUM OPTIONS
1. Students may elect to take only 3 credits in mathematics and 6 credits in literature or 6 credits in mathematics and 3 credits in literature. Students should consult with their advisors as to which, if either, of these options is appropriate given their transfer plans. The literature or mathematics elective can be satisfied by taking one of the following classes: ENG 241, ENG 242, ENG 243, ENG 244, ENG 251, ENG 252, ENG 274, ENG 277, ENG 279, MTH 152, MTH 164, or MTH 241.

2. The social sciences elective requirement can be satisfied by courses with the following prefixes: ECO, PSY, or SOC.

3. The humanities elective requirement can be satisfied by courses in literature and drama and by those with the following prefixes: ART, FRE, GER, HUM, MUS, PHI, REL, or SPA.

4. Many transfer institutions require completion of a 202-level foreign language for attainment of a Bachelor of Arts degree. JTCC transfer students can: (1) Take SPA 101-102 at JTCC enabling them to take SPA 201-202 at their transfer institution; (2) Test out of SPA 101-102 or choose not to take them and instead take a humanities elective and a general elective at JTCC; (3) Test out of SPA 101-102 at JTCC and take SPA 201-202 at JTCC. Other foreign languages may be substituted.

5. There are other possible course options in mathematics and natural sciences. Students should consult their faculty advisors.

6. The computer literacy requirement also can be satisfied by other information technology courses and CLEP examinations. Students should consult their faculty advisors.

7. Part-time students should consult their faculty advisors regarding appropriate course sequences.

8. SPD 195 Theatre Aesthetics is a class that will be developed in conjunction with the theatre department at Longwood University and is being done so at the request of Longwood. It is the only additional class in the program. All others are already being offered by the College.
Arts and Sciences,
Theatre Education Specialization

ASSOCIATE OF ARTS AND SCIENCES (AA&S)

PURPOSE
This program is intended to provide the student with a general course of study that parallels the freshman and sophomore years at most colleges and universities and prepares the student for a baccalaureate degree program in K-6 and middle school teacher education or in secondary school majors with a specialization in theatre education. Students who complete this program will be required to pass the PRAXIS I test. The courses in this program are specifically selected for ease of transfer to Longwood University but will also apply to most four-year colleges. Students holding the AA&S degree will have junior standing and will be considered to have met all lower-division general education requirements at most four-year colleges and universities.

ADMISSION REQUIREMENTS
AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Arts and Sciences: 804-706-5086 (Chester Campus, Moyar Hall, M129) or 804-594-1509 (Midlothian Campus, Academic Building, A308).

PROGRAM CURRICULUM

1st Semester

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<td>ITE 115 Introduction to Computer Applications and Concepts</td>
<td>3</td>
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<td>MTH 163 Precalculus I</td>
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<td>SDV 101 Orientation to Education</td>
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<td>SPD 131 Acting I</td>
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<td>Health/Physical Education Elective</td>
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2nd Semester

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3rd Semester

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4th Semester

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<td>ENG 241 Survey of American Lit I</td>
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<td>PSY 230 Human Growth &amp; Development</td>
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Total Credits For Program                        | 63      |

NOTES AND ADDITIONAL CURRICULUM OPTIONS

1. The humanities elective requirement can be satisfied by courses in literature and drama and by those with the following prefixes: ART, FRE, GER, HUM, MUS, PHI, REL, or SPA.

2. Many transfer institutions require completion of a 202-level foreign language for attainment of a Bachelor of Arts degree. JTCC transfer students can: (1) Take SPA 101-102 at JTCC enabling them to take SPA 201-202 at their transfer institution; (2) Test out of SPA 101-102 or choose not to take them and instead take a humanities elective and a general elective at JTCC; (3) Test out of SPA 101-102 at JTCC and take SPA 201-202 at JTCC. Other foreign languages may be substituted.

3. The computer literacy requirement also can be satisfied by other information technology courses and CLEP examinations. Students should consult their faculty advisors.

4. Part-time students should consult their faculty advisors regarding appropriate course sequences.

5. SPD 195 Theatre Aesthetics is a class that will be developed in conjunction with the theatre department at Longwood University and is being done so at the request of Longwood. It is the only additional class in the program. All others are already being offered by the College.
Bereavement Counseling

CERTIFICATE (C)

PURPOSE
Bereavement counseling is one of the fastest growing specialties in the human services field. This certificate provides advanced training to those currently working in the human services field and to students who are interested in working in such contexts as hospice care, AIDS treatment, terminal illness, funeral services, hospitals and long-term care facilities. Students earning a certificate in bereavement counseling will be able to employ the professional techniques of bereavement counseling and understand the emotional, psychological, and social issues of death, dying and grief.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

1st Semester

<table>
<thead>
<tr>
<th>Course Options</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENG 111 College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>HMS 100 Introduction to Human Services</td>
<td>3</td>
</tr>
<tr>
<td>HMS 106 Working with Death and Dying</td>
<td>3</td>
</tr>
<tr>
<td>HMS 121 Basic Counseling Skills I</td>
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</tr>
<tr>
<td>PSY 116 Psychology of Death and Dying</td>
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<tr>
<td>SDV 100 College Success Skills</td>
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<td><strong>Total Credits</strong></td>
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2nd Semester

<table>
<thead>
<tr>
<th>Course Options</th>
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<tbody>
<tr>
<td>HMS 225 Functional Family Intervention</td>
<td>3</td>
</tr>
<tr>
<td>HMS 227 The Helper as a Change Agent</td>
<td>3</td>
</tr>
<tr>
<td>MEN 190 Coordinated Practice</td>
<td>3</td>
</tr>
<tr>
<td>MEN 196 On-Site Training</td>
<td>3</td>
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<tr>
<td>PSY 230 Developmental Psychology</td>
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<td>General Elective</td>
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<td><strong>Total Credits</strong></td>
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</table>

**Total Credits For Program** 34

NOTES AND ADDITIONAL CURRICULUM OPTIONS

1. Students must obtain a grade of “C” or better in all human services courses in order to remain in the program.

2. Students must take HMS 100, HMS 106, and HMS 121 prior to enrolling in the coordinated practice courses MEN 190 and MEN 196, which are corequisite courses.

3. Part-time students should consult their faculty advisors regarding appropriate course sequences.
# Building Construction

**CERTIFICATE (C)**

## PURPOSE
Graduates with certificates in building construction will be able to: (1) evaluate a building design using building codes and zoning regulations; (2) perform basic surveying operations; (3) perform tests on materials such as concrete, metals and wood; and (4) produce a representative set of working drawings for a small building using computer-aided drafting software.

## ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

## PROGRAM CURRICULUM

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<thead>
<tr>
<th>1st Semester</th>
<th>Credits</th>
<th>Standard Course Options</th>
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<tbody>
<tr>
<td>AR 121 Architectural Drafting I</td>
<td>3</td>
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<tr>
<td>ARC 221 Architectural CAD Applications Software I</td>
<td>3</td>
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<tr>
<td>CIV 171 Surveying I</td>
<td>3</td>
<td>DRF 195 (GIS)</td>
</tr>
<tr>
<td>MTH 103 Applied Technical Mathematics I</td>
<td>3</td>
<td>MTH 115, MTH 163, MTH 273</td>
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<td>SDV 100 College Success Skills</td>
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<tr>
<td>Technical Elective</td>
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<tr>
<td>AR 122 Architectural Drafting II</td>
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<td>ARC 246 Materials and Methods of Construction</td>
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<tr>
<td>ARC 258 Building Codes, Contract Documents and Professional Office Practices</td>
<td>3</td>
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<tr>
<td>ENG 111 College Composition I</td>
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<tr>
<td>Health/Physical Education Elective</td>
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**Total Credits for Program** 31

## NOTES AND ADDITIONAL CURRICULUM OPTIONS
1. The technical elective requirement can be satisfied by courses with the following prefixes: Air, Arc, Drf, ELE, EGR, ETR, IND, MAC, MEC or WEL.
2. Part-time students should consult their faculty advisors regarding appropriate course sequences.
PURPOSE

All organizations require individuals who possess good managerial skills. This program provides students with opportunities to develop and improve skills necessary for success as a supervisor or manager. Included in the program are activities that enhance analytical, technical, communication, leadership and human relations skills. Graduates will be able to: (1) communicate effectively in business environments, using common terminology; (2) analyze and resolve problems common to entry-level business positions; (3) utilize basic management principles in first-line supervisory situations; (4) analyze a managerial situation to determine fact from opinion; (5) analyze a business situation financially, organizationally and behaviorally; (6) utilize good human relations skills in a managerial role; and (7) apply computer skills to the solution of management-related problems.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS

A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M1 17) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

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<table>
<thead>
<tr>
<th>Course Options</th>
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<tbody>
<tr>
<td>ACC 211 Principles of Accounting I</td>
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<tr>
<td>BUS 100 Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>ENG 111 College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ITE 100 Introduction to Information Systems</td>
<td>3</td>
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<tr>
<td>MTH 120 Introduction to Mathematics</td>
<td>3</td>
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<tr>
<td>SDV 100 College Success Skills</td>
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2nd Semester

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<tr>
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<td>BUS 125 Applied Business Mathematics</td>
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<tr>
<td>BUS 200 Principles of Management</td>
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<tr>
<td>ECO 120 Survey of Economics</td>
<td>3</td>
</tr>
<tr>
<td>Health/Physical Education Elective</td>
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</tr>
<tr>
<td>Philosophy or Religion Elective</td>
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3rd Semester

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<td>BUS 220 Introduction to Business Statistics</td>
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<td>BUS 241 Business Law I</td>
<td>3</td>
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<td>FIN 215 Financial Management</td>
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<td>PSY 126 Psychology for Business and Industry</td>
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<td>SPD 100 Principles of Public Speaking</td>
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<td>Business Elective</td>
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4th Semester

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<tr>
<td>AST 205 Business Communications</td>
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<td>BUS 205 Human Resource Management</td>
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<tr>
<td>BUS 266 Production and Operations Management</td>
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<td>BUS 298 Seminar and Project</td>
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<td>MKT 100 Principles of Marketing</td>
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<tr>
<td>Information Technology Restricted Elective</td>
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</table>

**Total Credits For Program** 69

NOTES AND ADDITIONAL CURRICULUM OPTIONS

1. The business elective requirement may be satisfied by taking a total of three credits in course with any of the following prefixes: ACC, AST, BUS, IST, FIN, MKT or REA.

2. The philosophy or religion elective requirement can be satisfied by courses with a PHI or REL prefix.

3. The ITE restricted elective requirement can be satisfied by ITE 130, ITE 140, or ITE 150.
Business Management, Administrative Management Specialization

ASSOCIATE OF APPLIED SCIENCE (AAS)

PURPOSE
The role of the administrative professional in the modern workplace is challenging and ever changing. The workplace requires that the administrative professional have technological skills and a broad spectrum of soft skills. Lifelong learning and a commitment to continue one's education is necessary for the administrative professional as the job responsibilities increase. Graduates with the administrative management specialization will be able to: (1) use computers with popular business software for word processing, database, spreadsheet and desktop-publishing features; (2) compose, edit and format office documents using correct grammar, punctuation and spelling; (3) plan and maintain records management systems; (4) analyze accounting statements and interact with the financial management of a company; (5) schedule and manage time effectively, including prioritizing tasks, keeping appointment calendars and managing tickler information; (6) apply sound legal and ethical practices in human resources management responsibilities; (7) key accurately at a minimum of 55 words per minute; (8) process incoming mail and outgoing mail; (9) make travel arrangements; (10) coordinate plans for meetings and conferences; (11) use good telephone techniques and receive office visitors courteously; and (12) demonstrate an understanding of the importance of human relations and a positive attitude in working with others and of loyalty and confidentiality in the office environment.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum. Also, satisfactory scores on placement tests in Keyboarding I and II (or equivalent) are required. If students have deficiencies in keyboarding, JTCC offers AST 101 and/or AST 102, Keyboarding I and II. Administrative support technology (AST) and information technology (IT) coursework that is over five years old at the time of graduation will be evaluated on an individual basis by the program head or appropriate designee.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).
Business Management, Administrative Management Specialization

CONTINUED

PROGRAM CURRICULUM

1st Semester

<table>
<thead>
<tr>
<th>Course Options</th>
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<tbody>
<tr>
<td>AST 141 Word Processing</td>
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<td>AST 201 Keyboarding III</td>
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<td>BUS 100 Introduction to Business</td>
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<tr>
<td>ENG 111 College Composition I</td>
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<tr>
<td>MTH 120 Introduction to Mathematics</td>
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<tr>
<td>SDV 100 College Success Skills</td>
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Total Credits: 16

2nd Semester

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<thead>
<tr>
<th>Course Options</th>
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<tbody>
<tr>
<td>ACC 211 Principles of Accounting I</td>
<td>3</td>
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<tr>
<td>BUS 125 Applied Business Mathematics</td>
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<tr>
<td>BUS 200 Principles of Management</td>
<td>3</td>
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<tr>
<td>ITE 100 Introduction to Information Systems</td>
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<tr>
<td>SPD 100 Principles of Public Speaking</td>
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Total Credits: 18

3rd Semester

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<th>Course Options</th>
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<tbody>
<tr>
<td>ACC 212 Principles of Accounting II</td>
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<tr>
<td>AST 243 Office Administration I</td>
<td>3</td>
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<tr>
<td>BUS 241 Business Law I</td>
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<tr>
<td>PSY 126 Psychology for Business and Industry</td>
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Total Credits: 15

4th Semester

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<tr>
<td>AST 205 Business Communications</td>
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<tr>
<td>AST 240 Machine Transcription</td>
<td>3</td>
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<td>AST 244 Office Administration II</td>
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<td>BUS 205 Human Resource Management</td>
<td>3</td>
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<tr>
<td>Health/Physical Education Elective</td>
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<tr>
<td>Philosophy or Religion Elective</td>
<td>3</td>
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</tbody>
</table>

Total Credits: 17

Total Credits for Program: 66

NOTES AND ADDITIONAL CURRICULUM OPTIONS

1. AST 141 and AST 201 require prerequisite skills that do not apply toward this degree. Students with prior coursework may meet these requirements (a) by Tech Prep agreements existing with high school programs, (b) successfully completing keyboarding placement tests, or (c) by taking prerequisite courses AST 101 and AST 102.

2. The philosophy or religion elective requirement can be satisfied by courses with a PHI or REL prefix.

3. Part-time students should consult their faculty advisors regarding appropriate course sequences.
Child Care
CERTIFICATE (C)

PURPOSE
This program provides students with opportunities to develop and improve skills necessary to work with children from birth to age 12 in a variety of child-care settings. Graduates with certificates in child care will be able to: (1) use professional terminology for effective communication; (2) implement instruction for children; (3) analyze and resolve problems; (4) use good human relations skills; (5) analyze specific early childhood scenarios and plan specific action; (6) apply appropriate computer skills; (7) apply appropriate basic child/classroom observational skills; and (8) locate, compile and analyze appropriate resources, activities and materials.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

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PROGRAM CURRICULUM

<table>
<thead>
<tr>
<th>1st Semester</th>
<th>Credits</th>
<th>Standard Course Options</th>
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<tbody>
<tr>
<td>CHD 120 Introduction to Early Childhood Education</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CHD 145 Methods and Materials for teaching Art, Music and Movement to Children</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CHD 190 Coordinated Practice I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ENG 111 College Composition I</td>
<td>3</td>
<td></td>
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<tr>
<td>HLT 106 First Aid and Safety</td>
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<tr>
<td>ITE 295 Computers for Educators</td>
<td>3</td>
<td>ITE 115</td>
</tr>
<tr>
<td>SDV 100 College Success Skills</td>
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<tr>
<th>2nd Semester</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CHD 118 Methods and Materials in the Language Arts for Children</td>
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<tr>
<td>CHD 146 Methods and Materials for Teaching Math, Science and Social Studies to Children</td>
<td>3</td>
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<tr>
<td>CHD 205 Guiding the Behavior of Children</td>
<td>3</td>
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<tr>
<td>CHD 216 Early Childhood Programs, School, and Social Change</td>
<td>3</td>
<td></td>
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<tr>
<td>CHD 270 Administration of Early Childhood Programs</td>
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<tr>
<td>CHD 290 Coordinated Practice II</td>
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</table>

**Total Credits For Program** 36

NOTES AND ADDITIONAL CURRICULUM OPTIONS
1. Coordinated Practice I and II are practicum courses and require placement in approved activities by the program head.
2. Part-time students should consult their faculty advisors regarding appropriate course sequences.
Early Childhood Development

ASSOCIATE OF APPLIED SCIENCE (AAS)

PURPOSE
This program provides students with opportunities to develop and improve skills necessary to work with children from birth to age 12 in a variety of early childhood settings, including public schools, child-care centers, Head Start, home-visitor and preschool programs, and as family childcare providers and nannies. Graduates will be able to: (1) use professional terminology for effective communication; (2) plan and implement instruction; (3) analyze and resolve problems; (4) use good human relations skills; (5) apply basic child/classroom observation skills; (6) locate, compile and analyze appropriate resources, activities and materials; (7) determine and use appropriate actions according to regulations; and (8) apply appropriate computer skills.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

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<table>
<thead>
<tr>
<th>Semester</th>
<th>Credits</th>
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<tbody>
<tr>
<td>1st Semester</td>
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<tr>
<td>CHD 290 Coordinated Practice II</td>
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<tr>
<td>ENG 112 College Composition II</td>
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<tr>
<td>3rd Semester</td>
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<tr>
<td>CHD 165 Observation and Participation in Early Childhood/Primary Settings</td>
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<td>CHD 210 Introduction to Exceptional Children</td>
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<td>ITE 295 Computers for Educators</td>
<td>3</td>
<td>ITE 115, MTH 151, MTH 163</td>
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<td>MTH 120 Introduction to Mathematics</td>
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<td>MUS 121 Music Appreciation I</td>
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<td>PSY 230 Developmental Psychology</td>
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<td>4th Semester</td>
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<tr>
<td>CHD 166 Infant and Toddler Programs</td>
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<td>CHD 265 Advanced Observation and Participation in Early Childhood/Primary Settings</td>
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<td>CHD 298 Seminar Portfolio Development</td>
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<td>EDU 235 Health, Safety and Nutrition Education</td>
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<td>SPD 110</td>
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<tr>
<td><strong>Total Credits For Program</strong></td>
<td><strong>66</strong></td>
<td></td>
</tr>
</tbody>
</table>

NOTES AND ADDITIONAL CURRICULUM OPTIONS
1. Coordinated Practice I and II are practicum courses and require placement in approved activities by the program head.
2. Part-time students should consult their faculty advisors regarding appropriate course sequences.
3. CHD 298 must be taken in conjunction with CHD 265.
Early Childhood Development, 
Teacher Assistant Specialization

ASSOCIATE OF APPLIED SCIENCE (AAS)

PURPOSE
Most schools have a variety of teacher assistant positions available. One of the ways to meet the requirements of the No Child Left Behind legislation is for the teacher assistant to have an associate degree. This specialization will meet that requirement. Graduates will be able to: (1) use professional terminology for effective communication; (2) instruct small groups and individual students in a classroom while supervised by a certified teacher; (3) help students with remedial skills in the classroom; (4) implement planned lessons; (5) use good human relations skills; (6) apply appropriate computer skills; (7) analyze and resolve problems; (8) apply basic child/classroom observation skills; and (9) locate, compile and analyze appropriate resources, activities and materials.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A 320).

PROGRAM CURRICULUM

1st Semester | Credits | Standard Course Options
---|---|---
CHD 120 Introduction to Early Childhood Education | 3 |
CHD 145 Methods and Materials for Teaching Art, Music and Movement to Children | 3 |
CHD 190 Coordinated Practice I | 3 | CHD 290
ENG 111 College Composition I | 3 |
HLT 106 First Aid and Safety | 2 |
SDV 101 Orientation to Education | 1 | SDV 100
**Total Credits** | **15** |

2nd Semester | Credits | Standard Course Options
---|---|---
CHD 146 Methods and Materials for Teaching Math, Science and Social Studies | 3 |
CHD 205 Guiding the Behavior of Children | 3 |
CHD 210 Introduction to Exceptional Children | 3 |
CHD 216 Early Childhood Programs, School, and Social Change | 3 |
ENG 112 College Composition II | 3 |
ITE 295 Computers for Educators | 3 | ITE 115
**Total Credits** | **18** |

3rd Semester | Credits | Standard Course Options
---|---|---
CHD 117 Introduction to Reading Methods | 3 |
CHD 165 Observation and Participation in Early Childhood/Primary Settings | 3 |
EDU 200 Introduction to Teaching as a Profession | 3 |
MTH 151 Mathematics for the Liberal Arts I | 3 | MTH 163
MUS 121 Music Appreciation I | 3 |
PSY 235 Child Psychology | 3 |
**Total Credits** | **18** |

4th Semester | Credits | Standard Course Options
---|---|---
CHD 265 Advanced Observation and Participation in Early Childhood/Primary Settings | 3 |
CHD 298 Seminar and Portfolio Development | 1 |
EDU 235 Health, Safety and Nutrition Education | 3 |
SOC 215 Sociology of the Family | 3 | PSY 200/203, PSY 201, PSY 202
SPD 100 Principles of Public Speaking | 3 | SOC 201, PSY 202
General Electives | 2 |
**Total Credits** | **15** |

**Total Credits For Program** | **66** |

NOTES AND ADDITIONAL CURRICULUM OPTIONS
1. Coordinated Practice I and Introduction to Teaching as a Profession are courses that require placement in approved activities by the program head.
2. Part-time students should consult their faculty advisors regarding appropriate course sequences.
3. CHD 298 must be taken in conjunction with CHD 265.
Purpose
This program provides a coherent set of university parallel courses corresponding to the first year of art foundation study. It is intended for students who plan to transfer into a baccalaureate degree program in the visual arts. The program may be applied toward majors in art education, art history, crafts, fashion design, filmmaking, graphic design, illustration, interior design, museum studies, painting, photography, printmaking, sculpture, and other art-related fields. It also helps students develop the fundamental knowledge and skills necessary for careers in art and design.

Admission Requirements and Special Conditions
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Arts and Sciences: 804-706-5086 (Chester Campus, Moyar Hall, M129) or 804-594-1509 (Midlothian Campus, Academic Building, M308).

Program Curriculum

<table>
<thead>
<tr>
<th>1st Semester</th>
<th>Credits</th>
<th>Standard Course Options</th>
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<tbody>
<tr>
<td>ART 101</td>
<td>3</td>
<td>History &amp; Appreciation of Art I</td>
</tr>
<tr>
<td>ART 111</td>
<td>3</td>
<td>Introduction to the Arts I</td>
</tr>
<tr>
<td>ART 121</td>
<td>3</td>
<td>Drawing I</td>
</tr>
<tr>
<td>ART 131</td>
<td>3</td>
<td>Fundamental of Design I</td>
</tr>
<tr>
<td>ENG 111</td>
<td>3</td>
<td>College Composition</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
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<tr>
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<th>Credits</th>
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<tr>
<td>ART 102</td>
<td>3</td>
<td>History &amp; Appreciation of Art II</td>
</tr>
<tr>
<td>ART 112</td>
<td>3</td>
<td>Introduction to the Arts II</td>
</tr>
<tr>
<td>ART 122</td>
<td>3</td>
<td>Drawing II</td>
</tr>
<tr>
<td>ART 132</td>
<td>3</td>
<td>Fundamentals of Design II</td>
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<tr>
<td>ART 133</td>
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<td>Visual Arts Foundation</td>
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</table>

**Total Credits for Program**: 31

Notes and Additional Curriculum Options
1. Part-time students should consult their faculty advisors regarding appropriate course sequences.
2. Students who plan to transfer to a Bachelor’s of Fine Arts (BFA) program may need to develop a transfer portfolio during their last semester of study.
Funeral Services
ASSOCIATE OF APPLIED SCIENCE (AAS)

PROGRAM AIMS AND OBJECTIVES
The Funeral Services Program is designed to provide the necessary technical skills, academic background, hands-on experience, and professional attitudes that will help the student become a fully-licensed funeral director and embalmer. The Funeral Services Program aims to help graduates recognize their importance as members of the funeral services profession. Students will recognize their importance and responsibilities as health care professionals and as community members and be compliant with federal, state, and local regulations as they pertain to the practice of funeral services. Students also will understand the importance of trust and ethical behavior in their relationships with bereaved families and members of the funeral service profession who they are called upon to serve. A degree from John Tyler Community College fulfills the educational requirements of the Commonwealth of Virginia and most states to receive a funeral service license, funeral director’s license, and embalmer’s license.

GRADUATES OF THE FUNERAL SERVICES PROGRAM WILL BE ABLE TO:
1. Perform technical skills such as embalming with minimum supervision.
2. Implement and direct all aspects of funeral arrangements with minimum supervision.
3. Demonstrate an understanding of how to write a pre-need contract.
4. Set-up and maintain an OSHA approved preparation room.
5. Follow all regulations pertaining to funeral services including Regulations of the Commonwealth of Virginia and the Federal Trade Commission.
6. Understand the impact of modern day funeral service practitioners.
7. Understand all aspects of funeral services including preparation, restorative arts, cremation, at-need arrangements, pre-need arrangements, and providing funeral services.
8. Understand the importance of the history of Funeral Services and the impact on modern society with encouragement to conduct research along with faculty.
9. Understand the high standards of ethical conduct as set forth by the funeral services industry.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
1. Be 18 years of age or older.
2. Hold a high school diploma or GED (Transcripts must have been received by John Tyler Community College).
3. Complete all developmental English and mathematics courses.
4. Complete the prerequisite courses ACC 211, FNS 121 and CHM 110 with a grade of “C” or better.
5. Complete ENG 111, ENG 112, SPD 100, SDV 100, BUS 241, SOC 200, ITE elective and a Health/PE elective unless prior approval is given by Funeral Services Program head.
6. Students must apply separately for admission to the Funeral Services Program. Application deadlines for admission:
   - August 1 for the Fall Semester
   - December 1 for the Spring Semester
   - May 1 for the Summer Semester
7. All applicants must have at least a 2.5 cumulative GPA in order to be eligible for admission.
8. All official transcripts from any other colleges attended must be received by the registrar prior to admission.
9. Students must maintain a minimum cumulative grade point average of 2.0 to remain eligible for continued enrollment in the Funeral Service Program.
10. Students who fail to receive a minimum grade of “C” in any 2 FNS prefix classes will automatically be removed from the Funeral Services Program.
11. Students may apply for readmission to the program.
12. All Funeral Service classes taken previously at John Tyler Community College or any other accredited college of funeral services must have been completed within 5 years of application to the Funeral Services Program.
13. Students must complete the Funeral Services Program within 8 semesters (including summer semesters) of initial admission into the Funeral Service Program.
14. All students must provide documentation of completion of the Hepatitis-B vaccination series (or be in process of completing it) prior to beginning FNS 113, FNS 114, or FNS 214. Students who do not wish to receive the Hepatitis-B vaccination must sign a declination statement.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).
## Funeral Services

### PROGRAM CURRICULUM

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<thead>
<tr>
<th>Semester</th>
<th>Credits</th>
<th>Standard Course Options</th>
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<tbody>
<tr>
<td><strong>1st Semester</strong></td>
<td></td>
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</tr>
<tr>
<td>CHM 110 Survey of Chemistry</td>
<td>3</td>
<td>CHM 101, CHM 111</td>
</tr>
<tr>
<td>ENG 111 College Composition I</td>
<td>3</td>
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<tr>
<td>FNS 121 Anatomy for Funeral Services I</td>
<td>3</td>
<td>BIO 141, BIO 142, NAS 161, NAS 162</td>
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<tr>
<td>PSY 116 Psychology of Death and Dying</td>
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<td></td>
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<tr>
<td>SDV 100 College Success Skills</td>
<td>1</td>
<td></td>
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<tr>
<td>SPD 100 Principles of Public Speaking</td>
<td>3</td>
<td>SPD 105</td>
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<tr>
<td>Health/Physical Education Elective</td>
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<td><strong>Total Credits</strong></td>
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<tr>
<td><strong>2nd Semester</strong></td>
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<tr>
<td>ACC 211 Principles of Accounting I</td>
<td>3</td>
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<tr>
<td>BUS 241 Business Law I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ENG 112 College Composition II</td>
<td>3</td>
<td></td>
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<tr>
<td>FNS 110 Introduction to Funeral Service</td>
<td>3</td>
<td></td>
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<tr>
<td>SOC 200 Principles of Sociology</td>
<td>3</td>
<td></td>
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<tr>
<td>Information Systems Technology Elective</td>
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<td><strong>Total Credits</strong></td>
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<td><strong>3rd Semester</strong></td>
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<tr>
<td>FNS 111 Theory of Embalming I</td>
<td>3</td>
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<tr>
<td>FNS 113 Theory of Embalming Laboratory I</td>
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<td>FNS 125 Microbiology for Funeral Service</td>
<td>3</td>
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<td>FNS 126 Pathology for Funeral Service</td>
<td>3</td>
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<tr>
<td>FNS 213 Restorative Art</td>
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<td>FNS 231 Principles of Funeral Management I</td>
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<td><strong>4th Semester</strong></td>
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<tr>
<td>FNS 112 Theory of Embalming II</td>
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<td>FNS 114 Theory of Embalming Laboratory II</td>
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<tr>
<td>FNS 214 Restorative Art Techniques and Lab</td>
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<tr>
<td>FNS 232 Principles of Funeral Management II</td>
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<tr>
<td>FNS 236 Funeral Service Law</td>
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<td>FNS 245 Funeral Service Ethics, Survey, Review and Project</td>
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<td>FNS 270 Funeral Service Review</td>
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</tr>
<tr>
<td><strong>Total Credits For Program</strong></td>
<td><strong>68</strong></td>
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### NOTES AND ADDITIONAL CURRICULUM OPTIONS

1. The Funeral Service Program at John Tyler Community College is accredited by the American Board of Funeral Service Education (ABFSE), 3432 Ashland Avenue, Ste. U, St. Joseph, MO, 64506, 816-233-3747. Web: www.abfse.org and is approved by the State Board of Funeral Directors and Embalmers. The program also is a member of the National Association of Colleges of Mortuary Science.

2. In order to receive the Funeral Service license in the Commonwealth of Virginia, an individual must: (1) complete an accredited program of mortuary science; (2) pass the National Board Examination; (3) complete an 18-month apprenticeship; and (4) pass the state examination.

3. Part-time students should consult their faculty advisors regarding appropriate course sequences.

4. The annual passage rate of first-time takers on the National Board Examination (NBE) for the most recent three-year period for this institution and all ABFSE accredited funeral service education programs is posted on the ABFSE web site (www.abfse.org). In addition, this information for John Tyler Community College is available in printed form from Admissions and Records, Counseling, and the Division of Professional and Technical Studies.
Homeland Security
CERTIFICATE (C)

PURPOSE
The certificate in homeland security is designed to provide students with the knowledge and skills needed to conduct a homeland security evaluation and to assess, investigate and respond to terrorism incidents. It also provides criminal justice practitioners with an opportunity for academic growth and the development of specialized skills in homeland security.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on specific program objectives, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

1st Semester

<table>
<thead>
<tr>
<th>COURSE OPTIONS</th>
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<tbody>
<tr>
<td>ADJ 160 Police Response to Critical Incidents</td>
<td>3</td>
</tr>
<tr>
<td>ADJ 163 Crime Analysis and Intelligence</td>
<td>3</td>
</tr>
<tr>
<td>ADJ 227 Constitutional Law for Justice Personnel</td>
<td>3</td>
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<tr>
<td>ENG 111 College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>HLT 106 First Aid and Safety</td>
<td>2</td>
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<tr>
<td>SDV 100 College Success Skills</td>
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2nd Semester

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<tr>
<th>COURSE OPTIONS</th>
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<tr>
<td>ADJ 234 Terrorism and Counter Terrorism</td>
<td>3</td>
</tr>
<tr>
<td>ADJ 236 Principles of Criminal Investigation</td>
<td>3</td>
</tr>
<tr>
<td>ADJ 244 Terrorism Response Planning</td>
<td>3</td>
</tr>
<tr>
<td>ADJ 247 Criminal Behavior</td>
<td>3</td>
</tr>
<tr>
<td>ITE 115 Introduction to Computer Applications and Concepts</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
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</table>

**Total Credits For Program** **30**
Human Services
ASSOCIATE OF APPLIED SCIENCE (AAS)

PURPOSE
Human services is a rapidly growing career area with a broad range of applications. Graduates will be able to work in the fields of social services, substance abuse, mental retardation, physical disabilities and gerontology. Students will be able to function effectively in therapeutic, remedial and rehabilitative activities. This degree in human services offers the most transferability for students who are planning to continue their education at a four-year college or university.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English is required. If students have deficiencies in English, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

1st Semester

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<thead>
<tr>
<th>Course Options</th>
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<tbody>
<tr>
<td>ENG 111 College Composition I</td>
<td>3</td>
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<tr>
<td>HMS 100 Introduction to Human Services</td>
<td>3</td>
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<tr>
<td>HMS 236 Gerontology</td>
<td>3</td>
<td>HMS 106, MEN 122, PSY 116, SOC 246</td>
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<tr>
<td>PSY 200/203 Principles of Psychology</td>
<td>4</td>
<td>PSY 201, PSY 202</td>
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<td>SDV 100 College Success Skills</td>
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<td>SOC 200 Principles of Sociology</td>
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<td>SOC 201, SOC 202</td>
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2nd Semester

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<tr>
<td>HMS 121 Basic Counseling Skills I</td>
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<td>MEN 198</td>
</tr>
<tr>
<td>MTH 163 Precalculus I</td>
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<td>BIO 101, MTH 120, MTH 151, MTH 152</td>
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<td>General Elective</td>
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<td>Humanities Elective</td>
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<td>Social Science or Human Services Elective</td>
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3rd Semester

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<tr>
<th>Course Options</th>
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<tbody>
<tr>
<td>HMS 227 The Helper as a Change Agent</td>
<td>3</td>
<td>MEN 198</td>
</tr>
<tr>
<td>HMS 251 Substance Abuse I</td>
<td>3</td>
<td>ADJ 228, HMS 252, HMS 258</td>
</tr>
<tr>
<td>MEN 121 Mental Retardition I</td>
<td>3</td>
<td>MEN 122</td>
</tr>
<tr>
<td>PSY 230 Developmental Psychology</td>
<td>3</td>
<td>PSY 231, PSY 232</td>
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<tr>
<td>Health/Physical Education Elective</td>
<td>2</td>
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<tr>
<td>Information Technology Elective</td>
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4th Semester

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<tr>
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<tbody>
<tr>
<td>MEN 290 Coordinated Practice</td>
<td>3</td>
<td>MEN 190</td>
</tr>
<tr>
<td>MEN 296 On-Site Training</td>
<td>3</td>
<td>MEN 196</td>
</tr>
<tr>
<td>PSY 215 Abnormal Psychology</td>
<td>3</td>
<td></td>
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<td>General Elective</td>
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</table>

Total Credits For Program 67

NOTES AND ADDITIONAL CURRICULUM OPTIONS
1. Students must obtain a grade of “C” or better in all Human Services courses in order to remain in the program.
2. Students must complete all remedial coursework before enrolling in HMS 100.
3. Students must complete HMS 100 prior to enrolling in HMS 121.
4. Students must complete HMS 121 prior to enrolling in HMS 227.
5. HMS 227 must be taken prior to enrolling in MEN 290 and MEN 296. MEN 290 and MEN 296 are corequisites and must be taken in the same semester. In these courses, students (under professional supervision) engage in practical hands-on training. All coordinated-practice placements must be pre-approved by the program head.
6. The humanities elective requirement can be satisfied by courses in literature and drama and by those with the following prefixes: ART, FRE, GER, HUM, MUS, PHI, REL, or SPA.
7. The social science elective requirement can be satisfied by courses with the following prefixes: ECO, GEO, HIS, PLs, PSY, or SOC.
8. Students planning to transfer to four-year programs should choose options and substitutions with the assistance of the program head.
9. Part-time students should consult their faculty advisors regarding appropriate course sequences.
Human Services, Criminology Specialization
ASSOCIATE OF APPLIED SCIENCE (AAS)

PURPOSE
The field of human services is a dynamic, challenging profession. The modern criminal justice/human services system needs people with ability, sensitivity and professional training. This specialized program provides training for career opportunities in criminology, corrections, forensic mental health, facilities management, as well as the fields of probation, parole and juvenile justice. In addition, it offers a broad liberal arts education for those students who wish to transfer to four-year academic institutions.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English is required. If students have deficiencies in English, JTCC offers remedial courses to prepare students for the curriculum. Persons entering the public or private sectors of criminal justice employment will be subjected to intensive physical tests, background investigations, psychological testing, personal interviews, physical examinations and polygraph examinations.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M1 17) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

<table>
<thead>
<tr>
<th>1st Semester</th>
<th>Credits</th>
<th>Standard Course Options</th>
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<tbody>
<tr>
<td>ADJ 100 Survey of Criminal Justice</td>
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<tr>
<td>ENG 111 College Composition I</td>
<td>3</td>
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<tr>
<td>HMS 100 Introduction to Human Services</td>
<td>3</td>
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<tr>
<td>MTH 120 Introduction to Mathematics</td>
<td>3</td>
<td>BIO 101, MTH 151, MTH 152, MTH 163</td>
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<td>SDV 100 College Success Skills</td>
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<tr>
<td>Approved General Psychology Elective</td>
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<td>PSY 200/203, PSY 201, PSY 202</td>
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<td>ADJ 107 Survey of Criminology</td>
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<td>HMS 121 Basic Counseling Skills I</td>
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<td>MEN 198</td>
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<tr>
<td>ADJ 211 Criminal Law, Evidence and Procedures I</td>
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<td>ADJ 236</td>
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<tr>
<td>HMS 251 Substance Abuse I</td>
<td>3</td>
<td>ADJ 228, HMS 252, HMS 258</td>
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<tr>
<td>HMS 227 The Helper as a Change Agent</td>
<td>3</td>
<td>MEN 198</td>
</tr>
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<td>PSY 215 Abnormal Psychology</td>
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<td>SOC 200 Principles of Sociology</td>
<td>3</td>
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<td>Administration of Justice or Human Services Elective</td>
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<tr>
<td>ADJ 212 Criminal Law, Evidence and Procedures II</td>
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<td>ADJ 236</td>
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<td>MEN 290 Coordinated Practice</td>
<td>3</td>
<td>MEN 190</td>
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<td>MEN 296 On-Site Training</td>
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<td>MEN 196</td>
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<td>PSY 230 Developmental Psychology</td>
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<td>PSY 231, PSY 232</td>
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**Total Credits For Program** | **66** |

NOTES AND ADDITIONAL CURRICULUM OPTIONS
1. Students must obtain a grade of “C” or better in all Human Services courses in order to remain in the program.
2. Students must complete all remedial coursework before enrolling in HMS 100 or ADJ 100.
3. Students must complete HMS 100 prior to enrolling in HMS 121.
4. Students must complete HMS 121 prior to enrolling in HMS 227.
5. Students must complete HMS 100, HMS 121, ADJ 100, ADJ 105, ADJ 107 and ADJ 211 prior to enrolling in MEN 290 and MEN 296, the practicum courses. MEN 290 and MEN 296 are corequisites and must be taken together in the same semester. In the coordinate practice, students engage in practical hands-on training in the human services areas of their choice. All coordinate-practice placements must be pre-approved by the program head before students can register for the MEN 290 and MEN 296 courses.
6. The humanities elective requirement can be satisfied by courses in literature and drama and by those with the following prefixes: ART, FRE, GER, HUM, MUS, PHI, REL, or SPA.
7. Students planning to transfer to four-year programs should choose options and substitutions with the assistance of the program head.
8. Part-time students should consult their faculty advisors regarding appropriate course sequences.
Human Services, Disabilities Specialization

ASSOCIATE OF APPLIED SCIENCE (AAS)

PURPOSE
Graduates with the disabilities specialization will be able to: (1) undertake employment in the fields of social services, substance abuse, mental retardation, physical disabilities and gerontology; and (2) function effectively as members of any human services team by rendering direct care in therapeutic, remedial and rehabilitative activities.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

1st Semester

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<tr>
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<td>HMS 100 Introduction to Human Services</td>
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<td>HMS 251 Substance Abuse I</td>
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<td>MEN 121 Mental Retardiation I</td>
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<td>SDV 100 College Success Skills</td>
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<td>Approved General Psychology Elective</td>
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2nd Semester

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<td>SOC 200 Principles of Sociology</td>
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<td>Human Services Elective</td>
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3rd Semester

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<td>HMS 227 The Helper as a Change Agent</td>
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<td>MTH 120 Introduction to Mathematics</td>
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<td>PSY 215 Abnormal Psychology</td>
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4th Semester

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<td>HMS 106 Working with Death and Dying</td>
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<td>HMS 225 Functional Family Intervention</td>
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<td>MEN 290 Coordinated Practice</td>
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**Total Credits for Program**                          | **66**  |

NOTES AND ADDITIONAL CURRICULUM OPTIONS
1. Students must obtain a grade of “C” or better in all Human Services courses in order to remain in the program.
2. Students must complete all remedial coursework before enrolling in HMS 100.
3. Students must complete HMS 100 prior to enrolling in HMS 121.
4. Students must complete HMS 121 prior to enrolling in HMS 227.
5. Students must complete HMS 100, HMS 121, ADJ 100, ADJ 105, ADJ 107 and ADJ 211 prior to enrolling in MEN 290 and MEN 296, the practicum courses. MEN 290 and MEN 296 are corequisites and must be taken together in the same semester. In the coordinate practice, students engage in practical hands-on training in the human services areas of their choice. All coordinate-practice placements must be pre-approved by the program head before students can register for the MEN 290 and MEN 296 courses.
6. The humanities elective requirement can be satisfied by courses in literature and drama and by those with the following prefixes: ART, FRE, GER, HUM, MUS, PHI, REL, or SPA.
7. Students planning to transfer to four-year programs should choose options and substitutions with the assistance of the program head.
8. Part-time students should consult their faculty advisors regarding appropriate course sequences.
Human Services, Gerontology Specialization

ASSOCIATE OF APPLIED SCIENCE (AAS)

PURPOSE
This specialized program develops the knowledge, skills and training specific to working with the aging population. The curriculum provides a strong foundation in understanding the emotional, psychological and social issues inherent in working with the older adult. Graduates with the gerontology specialization will be prepared for employment in adult home care facilities, assisted living agencies and adult daycare centers.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

1st Semester Credits Standard Course Options
ENG 111 College Composition I 3 ADJ 228, HMS 252, HMS 258
HMS 100 Introduction to Human Services 3
HMS 251 Substance Abuse I 3
MEN 121 Mental Retardation I 3
SDV 100 College Success Skills 1
Information Technology Elective 3
Total Credits 16

2nd Semester Credits Standard Course Options
HMS 121 Basic Counseling Skills I 3 BIO 101, HMS 151, HMS 152, MTH 163
MTH 120 Introduction to Mathematics 3
SOC 200 Principles of Sociology 3 SOC 201, SOC 202
Approved General Psychology Elective 3 PSY 200/203, PSY 201, PSY 202
Health/Physical Education Elective 2
Humanities Elective 3
Total Credits 17

3rd Semester Credits Standard Course Options
HMS 106 Working with Death and Dying 3 PSY 116
HMS 227 The Helper as a Change Agent 3 MEN 198
HMS 236 Gerontology 3
PSY 230 Developmental Psychology 3 PSY 231, PSY 232
General Elective 3
Total Credits 15

4th Semester Credits Standard Course Options
MEN 290 Coordinated Practice 3 MEN 190
MEN 296 On-Site Training 3 MEN 196
PSY 215 Abnormal Psychology 3
SOC 246 Death and Society 3 PSY 116
General Elective 3
Human Services Elective 3
Total Credits 18

Total Credits For Program 66

NOTES AND ADDITIONAL CURRICULUM OPTIONS
1. Students must obtain a grade of “C” or better in all Human Services courses in order to remain in the program.
2. Students must complete all remedial coursework before enrolling in HMS 100.
3. Students must complete HMS 100 prior to enrolling in HMS 121.
4. Students must complete HMS 121 prior to enrolling in HMS 227.
5. Students must take HMS 100, HMS 121, HMS 227 and HMS 236 prior to enrolling in the coordinated practice courses, MEN 290 and MEN 296, the practicum courses. MEN 290 and MEN 296 are corequisites and must be taken together in the same semester. In the coordinated practice, students engage in practical hands-on training in the human services areas of their choice. All coordinated-practice placements must be pre-approved by the program head before students can register for the MEN 290 and MEN 296 courses.
6. The humanities elective requirement can be satisfied by courses in literature and drama and by those with the following prefixes: ART, FRE, GER, HUM, MUS, PHI, REL, or SPA.
7. Students planning to transfer to four-year programs should choose options and substitutions with the assistance of the program head.
8. Part-time students should consult their faculty advisors regarding appropriate course sequences.
Human Services, Social Work Specialization

ASSOCIATE OF APPLIED SCIENCE (AAS)

PURPOSE
Graduates with the social work specialization will be able to: (1) undertake employment in the fields of social services, substance abuse, mental retardation, physical disabilities and gerontology; and (2) function effectively as members of any human services team by rendering direct care in therapeutic, remedial and rehabilitative activities. Students take two practicum training courses instead of two behavioral sciences.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

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<th>1st Semester</th>
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<td>HMS 100 Introduction to Human Services</td>
<td>3</td>
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<tr>
<td>HMS 251 Substance Abuse I</td>
<td>3</td>
<td>ADJ 228, HMS 252, HMS 258</td>
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<tr>
<td>PSY 200/203 Principles of Psychology</td>
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<td>PSY 201, PSY 202</td>
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<td>SDV 100 College Success Skills</td>
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<tr>
<td>BIO 102 General Biology II</td>
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<td>HMS 121 Basic Counseling Skills I</td>
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<td>MEN 198</td>
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<td>PSY 215 Abnormal Psychology</td>
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<td>Humanities Elective</td>
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<td>HMS 227 The Helper as a Change Agent</td>
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<td>MEN 190 Coordinated Practice</td>
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<td>MEN 196 On-Site Training</td>
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<td>MTH 120 Introduction to Mathematics</td>
<td>3</td>
<td>MTH 151, MTH 163</td>
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<td>SOC 200 Principles of Sociology</td>
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<td>SOC 201, SOC 202</td>
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<td>MEN 296 On-Site Training</td>
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<td>PSY 230 Developmental Psychology</td>
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<td>SOC 210 Survey of Physical and Cultural Anthropology</td>
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**Total Credits For Program** 66

NOTES AND ADDITIONAL CURRICULUM OPTIONS
1. Students must obtain a grade of "C" or better in all Human Services courses in order to remain in the program.
2. Students must complete all remedial coursework before enrolling in HMS 100.
3. Students must complete HMS 100 prior to enrolling in HMS 121.
4. Students must complete HMS 121 prior to enrolling in HMS 227.
5. Students must complete HMS 100 and HMS 121 prior to enrolling in MEN 190 and MEN 196 or in MEN 290 and MEN 296 (corequisite requirements). MEN 190, MEN 196, MEN 290 and MEN 296 are practicum courses and require placement for two consecutive semesters in approved agencies by the program head.
6. The humanities elective requirement can be satisfied by courses in literature and drama and by those with the following prefixes: ART, FRE, GER, HUM, MUS, PHI, REL, or SPA.
7. Students planning to transfer to four-year programs should choose options and substitutions with the assistance of the program head.
8. Part-time students should consult their faculty advisors regarding appropriate course sequences.
Information Technology, Computer Programming Specialization

ASSOCIATE OF APPLIED SCIENCE (AAS)

PURPOSE
Computer software provides meaning, purpose and functionality to computer hardware devices. At the heart of all computer software are the programming languages that create them. However, programming languages by themselves are only one piece of the computer software puzzle. The other piece is the programmer’s language fluidity and application skill. Graduates with the programming specialization will be able to: (1) analyze functional requirements for corresponding program-language suitability as well as the target environmental execution; (2) describe the application and use of various structured and object-oriented programming languages; (3) write, debug and incrementally test programs as needed, based on size and scope (such as unit, module and system); (4) deploy and maintain developed programs during their projected life cycle; (5) translate functional requirement definitions into their respective technical definitions and write the supporting technical specification documentation; and (6) work as an effective team member and provide programming technical expertise for a project or system team.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum. Keyboarding skills are recommended.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

1st Semester
ITE 100 Introduction to Information Systems 3
ITP 100 Software Design 3
MTH 151 Mathematics for the Liberal Arts I 3
PHI 228 Ethics for Business and the Professions 3
SDV 100 College Success Skills 1
SPD 105 Oral Communication 2
Health/Physical Education Elective 2
Total Credits 17

2nd Semester
ACC 211 Principles of Accounting I 3
BUS 100 Introduction to Business 3
ENG 115 Technical Writing 3
ITE 130 Introduction to Internet Services 3
ITN 101 Introduction to Network Concepts 3
ITP 110 Visual Basic Programming I 3
Total Credits 18

3rd Semester
ACC 212 Principles of Accounting II 3
ITE 221 PC Hardware and OS Architecture 3
ITP 120 Java Programming I 3
ITP 210 Visual Basic Programming II 3
ITP 251 Systems Analysis and Design 3
PSY 126 Psychology for Business and Industry 3
Total Credits 18

4th Semester
BUS 220 Introduction to Business Statistics 3
ECO 120 Survey of Economics 3
ITP 220 Java Programming II 3
ITP 298 Seminar and Project (Programming and Web Programming) 3
Information Technology Elective 3
Total Credits 15

Total Credits For Program 68

NOTES AND ADDITIONAL CURRICULUM OPTIONS
1. Information systems technology/microcomputer applications specialization elective requirement can be satisfied by the following courses: ITD 110 (Web Page Design I), ITE 170 (Multimedia Software), ITN 171 (Unix II), or ITP 140 (Client Side Scripting). Students must obtain the approval of their faculty advisors.

2. All information technology courses must be completed within five years of students’ intended graduation dates.

3. Part-time students should contact their faculty advisors regarding appropriate course sequences.
Information Technology, Database Management Specialization

ASSOCIATE OF APPLIED SCIENCE (AAS)

PROGRAM CURRICULUM

1st Semester

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<td>ITE 130 Introduction to Internet Services</td>
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<td>MTH 151 Mathematics for the Liberal Arts I</td>
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<td>PHI 228 Ethics for Business and the Professions</td>
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<td>SPD 105 Oral Communication</td>
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<td>SDV 100 College Success Skills</td>
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2nd Semester

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<td>BUS 100 Introduction to Business</td>
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<td>ENG 115 Technical Writing</td>
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<td>ITD 132 Structured Query Language</td>
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<td>ITE 150 Desktop Database Software</td>
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3rd Semester

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<td>ITD 130 Database Fundamentals</td>
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<td>ITD 250 Database Architecture and Administration</td>
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<td>ITE 221 PC Hardware and OS Architecture</td>
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<td>ITP 251 Systems Analysis and Design</td>
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4th Semester

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<td>ITD 298 Seminar and Project (Database)</td>
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**Total Credits For Program**                               **68**

NOTES AND ADDITIONAL CURRICULUM OPTIONS

1. The information systems technology/database management specialization elective requirement can be satisfied by the following courses: ITE 170 (Multimedia Software), ITN 171 (UNIX I), ITP 110 (Visual Basic Programming I), or ITP 120 (Java Programming I). Students must obtain the approval of their faculty advisors.
2. All information technology courses must be completed within five years of students’ intended graduation dates.
3. Part-time students should consult their faculty advisors regarding appropriate course sequences.

Purpose

For information systems, data is the source of all knowledge. The sheer volume of data, and the speed at which it needs to move, makes database management the keystone in the evolution of data warehousing and data mining. Graduates with the database management specialization will be able to: (1) analyze user-based information management requirements to suitably select, acquire, install and execute appropriate database management systems to accommodate the size, scope and security of the requirements; (2) design, develop, test and manage relational database management systems; (3) administer and support deployed database management systems; (4) explain and support database back-end requirements for front-end developers; and (5) describe and use currently available tools and methodologies related to back-end database Internet, intranet and extranet database connectivity.

Admission Requirements and Special Conditions

A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum. Keyboarding skills are recommended.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).
Information Technology, Microcomputer Applications Specialization

ASSOCIATE OF APPLIED SCIENCE (AAS)

PURPOSE
In the world of information technology, businesses and organizations of all sizes need solid computer-technology management paradigms to assist in maximizing productivity, in providing near-nonstop availability and in effectively planning transition for fluid information technology evolution. Graduates with the microcomputer applications specialization will be able to: (1) explain and apply software applications that are tailored or conducive to particular production environments; (2) provide hardware- and software-installation expertise; (3) provide support to users by having the expertise to resolve system-related problems quickly and effectively; (4) specify requirement definition analysis and documentation based on the operational environment and scope; and (5) provide information systems lifecycle system analysis and support.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum. Keyboarding skills are recommended.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

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<tr>
<th>1st Semester</th>
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<th>Standard Course Options</th>
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<td>ITE 100 Introduction to Information Systems</td>
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<td>ENG 115 Technical Writing</td>
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<td>ITD 110 Web Page Design I</td>
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<td>ITE 140 Spreadsheet Software</td>
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<td>ITE 150 Desktop Database Software</td>
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<td>ITP 100 Software Design</td>
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<td>ITP 251 Systems Analysis and Design</td>
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**Total Credits For Program** 68

NOTES AND ADDITIONAL CURRICULUM OPTIONS
1. Information systems technology/microcomputer applications specialization elective requirement can be satisfied by the following courses: ITD 210 (Web Page Design II), ITE 170 (Multimedia Software), ITP 110 (Visual Basic Programming I), or ITP 140 (Client Side Scripting). Students must obtain the approval of their faculty advisors.

2. All information technology courses must be completed within five years of students’ intended graduation dates.

3. Part-time students should consult their faculty advisors regarding appropriate course sequences.
Information Technology, Network Support Specialization

ASSOCIATE OF APPLIED SCIENCE (AAS)

PROGRAM CURRICULUM

1st Semester

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<td>ITE 130 Introduction to Internet Services</td>
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<td>PHI 228 Ethics for Business and the Professions</td>
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<td>ITN 171 Unix I</td>
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3rd Semester

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<td>ITE 221 PC Hardware and OS Architecture</td>
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<td>ITN 116 Windows 2003 Network Infrastructure</td>
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<td>ITP 251 Systems Analysis and Design</td>
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4th Semester

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<td>ITN 260 Network Security Basics</td>
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<td>ITN 298 Seminar and Project (Networking)</td>
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**Total Credits For Program** 68

NOTES AND ADDITIONAL CURRICULUM OPTIONS

1. Information systems technology/network support specialization elective requirement can be satisfied by the following courses: ITD 110 (Web Page Design I), ITE 170 (Multimedia Software), ITN 110 (Visual Basic Programming I), or ITN 120 (Java Programming I). Students must obtain the approval of their faculty advisors.

2. All information technology courses must be completed within five years of students’ intended graduation dates.

3. Part-time student should contact their faculty advisors regarding appropriate course sequences.

PURPOSE

Among organizations today that execute information-system configurations, whether simple or complex, network support requirements traverse a diverse environment, involving both network administrative scope and technological demands and expertise. With network technology being the critical backbone for the Information Highway (I-Way), graduates with the network support specialization will be able to: (1) research and define network requirements based on needs and scope; (2) describe homogeneous as well as heterogeneous network topologies and technology capabilities for requisite application; (3) support network design plans in all phases, especially in terms of needed support documentation requirements, troubleshooting skills and lifecycle maintenance; (4) focus problem resolution strengths on network resource assets and technologies such as routers, switches, hubs, cable plant architectures, transmission mediums and baseband vs. broadband connectivity for LANs and WANs; and (5) contribute to secure installation, configuration and operation of network resources.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS

A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum. Keyboarding skills are recommended.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).
Information Technology, Web Programming Specialization

ASSOCIATE OF APPLIED SCIENCE (AAS)

PURPOSE
Web-based technologies are the current state-of-the-art in information-movement science. These technologies derive their strength by moving information in a manner that saves money and time; they can aggregate or subset information in an intelligible fashion and decouple information from central information repositories. Graduates with the Web programming specialization will be able to: (1) describe Web-based technologies and their respective application benefits; (2) research, acquire, install and execute Web technologies within their respective scopes: intranet, extranet and Internet; (3) use Web technologies to develop Web sites using current commercially available Web tools; (4) provide programming expertise with Web-oriented programming languages, such as HTML and XML; and (5) integrate front-end Web-based interfaces to back-end database infrastructures, directly or indirectly, in single-source or multi-source data environments.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum. Keyboarding skills are recommended.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

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<td>ITE 130 Introduction to Internet Services</td>
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<td>MTH 151 Mathematics for the Liberal Arts I</td>
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<td>PHI 228 Ethics for Business and the Professions</td>
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<td>SDV 100 College Success Skills</td>
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<td>SPD 105 Oral Communication</td>
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<td>ENG 115 Technical Writing</td>
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<td>ITP 100 Software Design</td>
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<td>ITP 140 Client Side Scripting</td>
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<td>ECO 120 Survey of Economics</td>
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<td>ITN 298 Seminar and Project (Programming and Web Programming)</td>
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**Total Credits For Program** 68

NOTES AND ADDITIONAL CURRICULUM OPTIONS
1. Information systems technology/microcomputer applications specialization elective requirement can be satisfied by the following courses: ITE 170 (Multimedia Software), ITN 171 (Unix II), ITP 110 (Visual Basic Programming I) or ITP 120 (Java Programming I). Students must obtain the approval of their faculty advisors.

2. All information technology courses must be completed within five years of students’ intended graduation dates.

3. Part-time students should contact their faculty advisors regarding appropriate course sequences.
# Mechanical Engineering Technology

## ASSOCIATE IN APPLIED SCIENCE (AAS)

### PURPOSE

This program prepares students to work as technicians in the field of mechanical-electrical manufacturing. Graduates will be able to specify maintenance processes, solve problems in fabrication, and troubleshoot mechanical processes. This program transfers to Old Dominion University.

### ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS

A high school diploma or equivalent and satisfactory scores on College placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on specific program objectives, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

### PROGRAM CURRICULUM

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<td>ENG 111 College Composition I</td>
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<td>ITE 115 Introduction to Computer Applications and Concepts</td>
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<td>MEC 113 Materials and Processes of Industry</td>
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<td>MTH 103 Applied Technical Mathematics I</td>
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<td>EGR 140 Engineering Mechanics: Statics</td>
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<td>MEC 195 Introduction to Mechanical Engineering Technology I</td>
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### NOTES AND ADDITIONAL CURRICULUM OPTIONS

1. Students planning to transfer to four-year programs should take MTH 115/MTH 116 or MTH 163/MTH 164 in place of MTH 103/MTH 104.

2. The physical science elective requirement can be satisfied by courses with the following prefixes: CHM, and PHY.

3. The social science elective requirement can be satisfied by courses with the following prefixes: ECO, GEO, HIS, PLS, PSY, or SOC.
Mechanical Engineering Technology, Mechatronics Technician Specialization

ASSOCIATE OF APPLIED SCIENCE (AAS)

PURPOSE
This program prepares students to work as technicians in the field of mechanical-electrical manufacturing. Graduates will be able to specify maintenance processes, solve problems in fabrication, and troubleshoot mechanical processes.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on specific program objectives, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

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<td>ITE 115 Introduction to Computer Applications and Concepts</td>
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<td>MEC 113 Materials and Processes of Industry</td>
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<td>MTH 103 Applied Technical Mathematics I</td>
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<td>MTH 115, MTH 163</td>
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<td>SDV 100 College Success Skills</td>
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<td>ELE 239 Programmable Controllers</td>
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<td>INS 210 Principles of Instrumentation</td>
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<td>MEC 195 Introduction to Engineering Technology I</td>
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<td>EGR 216 Computer Methods in Engineering and Technology</td>
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<td>INS 213 Sensors and Actuators</td>
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<td>MEC 211 Machine Design I</td>
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<td>ELE 240 Advanced Programmable Logic Controllers</td>
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<td>MEC 212 Machine Design II</td>
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<td>SPD 100 Principles of Public Speaking I</td>
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NOTES AND ADDITIONAL CURRICULUM OPTIONS
The social science elective requirement can be satisfied by courses with the following prefixes: ECO, GEO, HIS, PLS, PSY, or SOC.
Nursing
ASSOCIATE OF APPLIED SCIENCE (AAS)

PURPOSE
The John Tyler Community College Nursing Program prepares individuals to enter the registered nursing profession and teaches students to deliver quality patient care. At the conclusion of the Nursing Program, the student will: (1) use the nursing process to meet multiple health needs for groups of adults and children in a variety of healthcare settings; (2) integrate nursing skills when providing care for groups of clients with multiple physiological and/or psychosocial needs; (3) communicate therapeutically with individuals, families and groups; (4) synthesize and communicate relevant data in a comprehensive and concise manner, verbally, in writing and through information technology; (5) integrate health teaching into total client care; (6) integrate ethical values and legal principles into the delivery of nursing care; (7) utilize management skills and concepts to plan and coordinate the care for a group of clients in a variety of healthcare settings; (8) assume the role of the associate degree nurse as a member of the healthcare team; and (9) assume accountability and responsibility for his/her own actions as a contributing member of the healthcare team, the nursing profession and society.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

General Requirements: A list of essential functions required for admission and progression in the Nursing Program is available from the College's Counseling Center. General requirements include the following: (A) students must take the NET (the Nurse Entrance Test) as a prerequisite for admission to the Nursing Program. Students can correct academic deficiencies by taking English (reading, comprehension and writing) and mathematics courses at the College; (B) students must have completed BIO 141, ENG 111, PSY 230, MTH 120, SDV 100 for the day program and LPN/Paramedic weekend program with a minimum grade of “C” in each course; (C) a CPR certification is required the first class day of NUR 111; (D) when accepted to NUR 111 or NUR 115, students must submit completed medical and dental examination and immunizations forms by the first day of class; (E) additionally, all students must submit documentation of completion of the Hepatitis-B vaccination series (or be in process of completing it) prior to beginning clinical laboratory in NUR 111. Students who do not wish to receive the Hepatitis-B vaccination must sign a declination statement; (F) all applicants must have at least a 2.5 curricular GPA in order to be eligible for admission. Applicants with credits from other colleges must ensure that all transcripts are forwarded to the registrar for evaluation. Nursing admission applications cannot be processed until a transcript evaluation is completed; (G) students requesting readmission to NUR 111 or NUR 115 must satisfy all current admissions criteria. Students seeking readmission to subsequent nursing courses and transfer students are subject to the program policy for accepting returning and transfer students available in the Nursing Program student handbook; (H) students must apply separately for admission to the Nursing Program. When students are ready to apply, please download the application materials from the information packet found at www.jtcc.edu and follow the directions. Applicants will be ranked by GPA. Students with the highest GPAs will be accepted first. Students who have completed the requirements will be accepted into the Nursing Program until the class is full. Students who are not accepted must reapply during the next application process; (I) students should be free of any mental, physical or chemical dependency condition which could interfere with their ability to practice nursing. Some of our affiliated clinical agencies require that students submit to a urine drug screen and criminal background check. The Virginia Board of Nursing may choose to deny licensure to any applicant who has ever been convicted or plead guilty or nolo contendere to the violation of any federal, state or other statute or ordinance constituting a felony or misdemeanor; or who has a mental, physical or chemical dependence condition that could interfere with his/her current ability to practice nursing. Applicants should confidentially discuss this information with the program coordinator prior to pursuing the nursing curriculum; (J) students must have completed BIO 141 (or equivalent) within 10 years prior to acceptance to the Nursing Program. Students must earn a minimum grade of “C” in all required courses and maintain a minimum cumulative grade point average of 2.0 to remain eligible for continued enrollment in the program. In order to take the next course in a sequence, a grade of “C” or higher must be earned in the previous course. A student may take non-nursing courses listed in the curriculum outline before enrolling in the nursing courses. Credit by Exam requests are decided on an individual basis; and (K) in addition to the costs of college tuition, books and materials, students in the Nursing Program are required to purchase student uniforms, accessories and certain laboratory supplies. Students also are responsible for the cost of standardized tests, health examinations, drug screenings, criminal background checks and transportation to and from the College and the various clinical activities. It is recommended that all students carry accident insurance and personal health insurance due to the inherent risk of exposure to disease. The College does not assume responsibility for accidents/incidents which occur in clinicals; nor does it provide any student health services. The student assumes financial responsibility for accidents/incidents requiring medical attention.

CONTINUED
LPN/Paramedic to RN Transition Program: The LPN/Paramedic Transition Program is designed for licensed practical nurses and certified paramedics who want to advance to registered nurse positions. The LPN/Paramedic to RN student is subject to the same admission requirements and policies as the generic student. Eligibility for the LPN/Paramedic to RN Transition Program requires the following: (A) an active, unrestricted LPN license in Virginia or state or national certification as a paramedic; (B) completion of all prescribed developmental courses (if indicated by placement tests) prior to beginning NUR 115 (upon successful completion of NUR 115, three additional credits will be granted to LPNs/paramedics for prior learning experiences); (C) completion of prerequisites to NUR 115 with a grade of “C” or higher; and (D) documentation of one year of full-time work experience as an LPN/paramedic in the last five years.

Special Accreditation Status: The Nursing Program is approved by the Virginia State Board of Nursing and accredited by the National League for Nursing Accrediting Commission. For additional information on tuition, fees and length of program, students may contact the National League for Nursing Accrediting Commission, 61 Broadway, 33rd Floor, New York, New York 10006; 212-363-5555, ext. 153.

Calculation of Credit Hours: The Nursing Program follows Virginia Community College System and John Tyler Community College guidelines for calculating credit hours. Calculation guidelines are as follows: (A) Lecture: One clock hour equals one credit hour; (B) Clinical Laboratory: Three clock hours equal one credit hour; and (C) Lecture and laboratory hours shown are with course descriptions.

For additional information, please contact the Nursing Department: 804-622-8700 (CJW Nursing Building) or the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM
1st Semester

<table>
<thead>
<tr>
<th>Course Options</th>
<th>Credits</th>
<th>Standard Course Options</th>
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<tbody>
<tr>
<td>BIO 141 Human Anatomy and Physiology I</td>
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<td>NAS 161</td>
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<tr>
<td>ENG 111 College Composition I</td>
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<tr>
<td>MTH 120 Introduction to Mathematics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PSY 230 Developmental Psychology</td>
<td>3</td>
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<td>SDV 100 College Success Skills</td>
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2nd Semester

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<tbody>
<tr>
<td>BIO 142 Human Anatomy and Physiology II</td>
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<tr>
<td>NUR 111 Nursing I or NUR 115 Elementary Nursing Skills: LPN Transition/</td>
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<td>Experiential Learning</td>
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<td>NUR 135 Drug Dosage Calculations</td>
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<td>NUR 226 Health Assessment</td>
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3rd Semester

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<tbody>
<tr>
<td>NUR 221 Second-Level Nursing Principles and Concepts I</td>
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<td>SOC 200 Principles of Sociology</td>
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4th Semester

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<td>NUR 246 Parent/Child Nursing</td>
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<td>NUR 247 Psychiatric Mental Health Nursing</td>
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<td>Health/Physical Education Elective</td>
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<tr>
<td>Humanities Elective</td>
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<tr>
<td>Information Technology Elective</td>
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5th Semester

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<td>NUR 223 Second-Level Nursing Principles and Concepts III</td>
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<td>NUR 254 Dimensions of Professional Nursing</td>
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</table>

**Total Credits For Program** 68

NOTES AND ADDITIONAL CURRICULUM OPTIONS
1. The humanities elective requirement can be satisfied by courses in literature ad drama and by those with the following prefixes: ART, FRE, GER, HUM, MUS, PHI, REL, or SPA.

2. To satisfy the information technology elective requirement, students should plan to take one credit in an ITE computer course offered at the College.

3. A student must have completed BIO 141 and BIO 142 within 10 years prior to acceptance to the Nursing Program.

4. NUR 111 is the required course for students enrolled in the normal RN track. Students enrolled in the LPN-to-RN track should take NUR 115.

5. Upon successful completion of NUR 115, three additional credits will be granted to LPNs and Paramedics for prior learning experiences.

6. Part-time students should consult their faculty advisors regarding appropriate course sequences.
## PROGRAM CURRICULUM

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credits</th>
<th>Standard Course Options</th>
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<tr>
<td><strong>1st Semester</strong></td>
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<tr>
<td>BIO 141 Human Anatomy and Physiology I</td>
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<td>NAS 161</td>
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<td>ENG 111 College Composition I</td>
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<td>NUR 111 Nursing I</td>
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<td>NUR 135 Dosage and Calculation</td>
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<td>NUR 247 Psychiatric Mental Health Nursing</td>
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<td>PSY 230 Developmental Psychology</td>
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<td>SDV 100 College Success Skills</td>
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<td>NUR 112 Nursing II</td>
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<td>NUR 226 Health Assessment</td>
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<td>NUR 202 Medical/Surgical Nursing</td>
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<td>NUR 245 Maternal/Newborn Nursing</td>
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<td>NUR 208 Acute Medical/Surgical Nursing</td>
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<td>SOC 200 Principles of Sociology</td>
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**Total Credits For Program** 69

## NOTES AND ADDITIONAL CURRICULUM OPTIONS

1. Applicants will be ranked by GPA.

2. Priority will be given to applicants who have completed all general education credits and have met all other admission criteria.

3. All courses must be passed with a "C" or better.

4. Students are required to have computers with high speed internet.
### Program Curriculum

#### 1st Semester

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<tr>
<th>Course Options</th>
<th>Credits</th>
<th>Standard Course Options</th>
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<tbody>
<tr>
<td>ADJ 100 Survey of Criminal Justice</td>
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<tr>
<td>ENG 111 College Composition I</td>
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<tr>
<td>ITE 115 Introduction to Computer Applications</td>
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<td>MTH 120 Introduction to Mathematics</td>
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<td>MTH 151, MTH 163</td>
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<td>SOC 200 Principles of Sociology</td>
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<td>SOC 201, SOC 202</td>
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#### 2nd Semester

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<tr>
<th>Course Options</th>
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<tr>
<td>ADJ 105 The Juvenile Justice System</td>
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<tr>
<td>ADJ 107 Survey of Criminology</td>
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<tr>
<td>ADJ 229 Law Enforcement and the Community</td>
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<tr>
<td>Approved General Psychology Elective</td>
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<td>PSY 200/203, PSY 201, PSY 202</td>
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<td>Philosophy or Religion Elective</td>
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#### 3rd Semester

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<tr>
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<tbody>
<tr>
<td>ADJ 111 Law Enforcement Organization and Administration I</td>
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<tr>
<td>ADJ 117 Police Communications and Records</td>
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<tr>
<td>ADJ 211 Criminal Law, Evidence and Procedures I</td>
<td>3</td>
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<tr>
<td>ADJ 228 Narcotics and Dangerous Drugs</td>
<td>3</td>
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<tr>
<td>ADJ 236 Principles of Criminal Investigation</td>
<td>3</td>
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<td>ADJ 247 Criminal Behavior</td>
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#### 4th Semester

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<tr>
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<tr>
<td>ADJ 212 Criminal Law, Evidence and Procedures II</td>
<td>3</td>
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<td>ADJ 227 Constitutional Law for Justice Personnel</td>
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<tr>
<td>SPD 100 Principles of Public Speaking</td>
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<tr>
<td>Administration of Justice Elective</td>
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<td></td>
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<td>Health/Physical Education Elective</td>
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<td><strong>Total Credits</strong></td>
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**Total Credits for Program** 66

### Notes and Additional Curriculum Options

1. The philosophy or religion elective requirement can be satisfied by courses with a PHI or REL prefix.
2. Students planning to transfer to a four-year program should choose options and substitutions with the assistance of the program head.
3. Part-time students should consult their faculty advisors regarding appropriate course sequences.
Precision Machining Technology

CERTIFICATE (C)

PURPOSE
This program provides skills for entry-level work in production or maintenance machining. It is the recommended curriculum for machinist apprentices. The curriculum is based on the standards of the National Institute for Metalworking Skills, Inc. (NIMS).

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credits</th>
<th>Standard Course Options</th>
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<tr>
<td><strong>1st Semester</strong></td>
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<tr>
<td>DRF 160 Machine Blueprint Reading</td>
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<td>MAC 161 Machine Shop Practices I</td>
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<td>MAC 209 Standards, Measurements &amp; Calculations</td>
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<td>MTH 103 Applied Technical Mathematics</td>
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| **2nd Semester** | | |
| MAC 121 Computer Numerical Control I | 2 | |
| MAC 150 Introduction to Computer-Aided Manufacturing | 3 | |
| MAC 162 Machine Shop Practices II | 3 | |
| MAC 164 Machine Shop Practices IV | 3 | |
| Precision Machining Technology Elective | 3 | |
| **Total Credits** | **14** | |

| **3rd Semester** | | |
| ENG 111 College Composition I | 3 | |
| MAC 122 Computer Numerical Control II | 2 | |
| MAC 163 Machine Shop Practices III | 3 | |
| PSY 126 Psychology for Business and Industry | 3 | PSY 201, PSY 202 |
| **Total Credits** | **11** | |

**Total Credits For Program** 38

NOTES AND ADDITIONAL CURRICULUM OPTIONS
1. Part-time students should consult their faculty advisors regarding course sequences.
2. Students should consult their faculty advisors regarding appropriate precision machining technology electives.
Technical Studies
ASSOCIATE OF APPLIED SCIENCE (AAS)

PURPOSE
The technical studies degree is designed to meet the rapidly changing workforce needs of business and industry. Focused on meeting short term educational needs, the degree can be used as a general or individualized studies degree to enhance the education and training of current employees or to ensure basic technical and general work-based skills for new employees. The curriculum allows employers and employees to develop specific plans of study negotiated with, and approved by, appropriate college faculty and administrators.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, John Tyler Community College offers remedial courses to prepare students for the curriculum. Work-based learning is a required component of the program. Students without current or recent related work experience are responsible for securing their own internships, assisted by John Tyler Community College faculty. Students with current or recent work experience are responsible for working with the faculty advisor to secure appropriate documentation.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

<table>
<thead>
<tr>
<th>1st Semester</th>
<th>Credits</th>
<th>Standard Course Options</th>
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<tbody>
<tr>
<td>ENG 111</td>
<td>3</td>
<td>College Composition I</td>
</tr>
<tr>
<td>IND 116</td>
<td>3</td>
<td>Applied Technology</td>
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<tr>
<td>ITE 115</td>
<td>3</td>
<td>Introduction to Computer Applications and Concepts</td>
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<tr>
<td>MTH 103</td>
<td>3</td>
<td>Applied Technical Mathematics I</td>
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<tr>
<td>ENG 115</td>
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<td>PSY 126</td>
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<td>Psychology for Business and Industry</td>
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<tr>
<td>Microcomputer/Programming/Software Elective</td>
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<td>IND 101</td>
<td>3</td>
<td>Quality Assurance Technology I</td>
</tr>
<tr>
<td>IND 197</td>
<td>3</td>
<td>Cooperative Education</td>
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<tr>
<td>SPD 100</td>
<td>3</td>
<td>Principles of Public Speaking</td>
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<tr>
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<td>IND 137</td>
<td>3</td>
<td>Team Concepts and Problem Solving</td>
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<tr>
<td>IND 297</td>
<td>3</td>
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**Total Credits For Program** 65

NOTES AND ADDITIONAL CURRICULUM OPTIONS
1. The information systems technology elective requirement can be satisfied by appropriate computer-related courses with the following prefixes: ARC, DRF, EGR, ITD, ITE, ITN, ITP or MAC. Selection must be approved in advance by the advisor.

2. The technical elective requirement can be satisfied by courses with the following prefixes: AIR, ARC, DRF, EGR, ELE, ETR, IND, INS, MAC, MEC, SAF or WEL. Selection must be approved in advance by the faculty advisor.

3. Part-time students should consult their faculty advisors regarding appropriate course sequences.

CONTINUED
Technical Studies

CONTINUED

4. Suggested technical courses for fields of interest:

**ELECTRONICS AND INSTRUMENTATION**
- DRF 160 Machine Blueprint Reading 3
- ELE 121 Electrical Circuits I 3
- ELE 122 Electrical Circuits II 3
- ELE 131 National Electrical Code I 3
- ELE 239 Programmable Logic Controllers 3
- ETR 203 Electronic Devices I 4
- ETR 280 Introduction to Digital Logic Circuits and Computers 4
**Total** 23

**MECHANICAL MAINTENANCE**
- DRF 160 Machine Blueprint Reading 3
- Machine Technology Electives 11
- Technical Electives 9
**Total** 23

**PRECISION MACHINING TECHNOLOGY**
- DRF 160 Machine Blueprint Reading 3
- MAC 121 Computer Numerical Control I 2
- MAC 122 Computer Numerical Control II 2
- MAC 161 Machine Shop Practices I 3
- MAC 162 Machine Shop Practices II 3
- MAC 163 Machine Shop Practices III 3
- MAC 164 Machine Shop Practices IV 3
- MAC 209 Standards, Measurements and Calculations 3
- Machine Technology Elective 1
**Total** 23

**WELDING**
- DRF 160 Machine Blueprint Reading 3
- MAC 131 Machine Lab I 2
- WEL 117 Oxyfuel Welding and Cutting 4
- WEL 123 Shielded Metal Arc Welding (Basic) or 4
- WEL 124 Shielded Metal Arc Welding (Advanced) or 4
- WEL 126 Pipe Welding I 4
- WEL 130 Inert Gas Welding 4
- WEL 160 Gas Metal Arc Welding 4
- Technical Electives 2
**Total** 23
Visual Arts, Photography and Film Specialization  
(pending Board action in early fall 2007)

ASSOCIATE OF APPLIED ARTS (AAA)

PROGRAM CURRICULUM

1st Semester
- ART 101 History and Appreciation of Art I 3
- ART 111 Introduction to the Arts I 3
- ART 121 Drawing I 3
- ART 131 Fundamentals of Design I 3
- ENG 111 College Composition I 3
- SDV 100 College Success Skills 1
- **Total Credits**: 16

2nd Semester
- ART 102 History and Appreciation of Art II 3
- ART 122 Drawing II 3
- ART 132 Fundamentals of Design II 3
- ART 133 Visual Arts Foundation 4
- PHT 101 Photography I 3
- PHT 105  
- **Total Credits**: 16

3rd Semester
- ENG 112 College Composition II 3
- ITE 115 Introduction to Computer Applications and Concepts 3
- PHT 264 Digital Photography 3
- SPD 100 Introduction to Public Speaking 3
- Health or Physical Education Elective 2
- Photography Elective 3
- **Total Credits**: 17

4th Semester
- ART 287 Portfolio and Resume Preparation 1
- PHT 110 History of Photography 3
- Mathematics/Science Elective 3
- Photography Elective 3
- Photography Elective 3
- Social Science Elective 3
- **Total Credits**: 16

**Total Credits For Program**: 65

NOTES AND ADDITIONAL CURRICULUM OPTIONS

1. The social studies elective requirement can be satisfied by courses with the following prefixes: ECO, GEO, HIS, PLS, PSY, or SOC.
2. The mathematic/science elective requirement can be satisfied by courses with the following prefixes: BIO, CHM, MTH, NAS, or PHY.
3. Part-time students should consult their faculty advisors regarding appropriate course sequences.
# Visual Arts, Studio Specialization

## ASSOCIATE OF APPLIED ARTS (AAA)

### PURPOSE
In addition to developing their creative abilities, students gain experiences with the tools and processes associated with various media and learn about the exhibition and marketing of artwork.

### ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Arts and Sciences: 804-706-5086 (Chester Campus, Moyar Hall, M129) or 804-594-1509 (Midlothian Campus, Academic Building, M308).

## PROGRAM CURRICULUM

### 1st Semester

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<thead>
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</tr>
<tr>
<td>ART 121 Drawing I</td>
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<td>ART 131 Fundamentals of Design I</td>
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</tr>
<tr>
<td>ENG 111 College Composition I</td>
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<tr>
<td>SDV 100 College Success Skills</td>
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### 2nd Semester

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<td>ART 132 Fundamentals of Design II</td>
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<td>ART 133 Visual Arts Foundation</td>
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### 3rd Semester

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<td>ART Elective</td>
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<td>ENG 112 College Composition II</td>
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<tr>
<td>ITE 115 Introduction to Computer Applications and Concepts</td>
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<td>Photography Elective</td>
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### 4th Semester

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<td>ART Elective</td>
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<tr>
<td>SPD 100 Introduction to Public Speaking</td>
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<td>Mathematics/Science Elective</td>
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**Total Credits For Program**  

**67**

### NOTES AND ADDITIONAL CURRICULUM OPTIONS

1. The social science elective requirement can be satisfied by courses with the following prefixes: ECO, GEO, PLS, PSY, or SOC.

2. The mathematics/science elective requirement can be satisfied by courses with the following prefixes: BIO, CHM, NAS or PHY.

3. Part-time students should consult their faculty advisors regarding appropriate course sequences.

4. There are other possible course options for information technology. Students should consult their faculty advisors.
## Visual Arts, Visual Communications Specialization

**Associate of Applied Arts (AAA)**

### PROGRAM CURRICULUM

#### 1st Semester

<table>
<thead>
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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ART 101</td>
<td>History and Appreciation of Art I</td>
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<tr>
<td>ART 111</td>
<td>Introduction to the Arts I</td>
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<tr>
<td>ART 121</td>
<td>Drawing I</td>
<td>3</td>
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<tr>
<td>ART 131</td>
<td>Fundamentals of Design I</td>
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<tr>
<td>ENG 111</td>
<td>College Composition I</td>
<td>3</td>
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<tr>
<td>SDV 100</td>
<td>College Success Skills</td>
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#### 2nd Semester

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<td>ART 122</td>
<td>Drawing II</td>
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<tr>
<td>ART 132</td>
<td>Fundamentals of Design II</td>
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<td>ART 133</td>
<td>Visual Arts Foundation</td>
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<tr>
<td>ITE 115</td>
<td>Introduction to Computer Applications and Concepts</td>
<td>3</td>
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<td>Health or Physical Education Elective</td>
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#### 3rd Semester

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<td>ART 217</td>
<td>Electronic Graphic Design I</td>
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<td>ART 250</td>
<td>History of Design</td>
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<td>ART 291</td>
<td>Computerized Graphic Design I</td>
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<td>ENG 112</td>
<td>College Composition II</td>
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<td>Photography Elective</td>
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<td>PHT 101, PHT 102, PHT 105, PHT 264</td>
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#### 4th Semester

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**Total Credits For Program**: 68

### NOTES AND ADDITIONAL CURRICULUM OPTIONS

1. The social science elective requirement can be satisfied by courses with the following prefixes: ECO, GEO, HIS, PLS, PSY, or SOC.

2. The mathematic/science elective requirement can be satisfied by courses with the following prefixes: BIO, CHM, MTH, NAS, or PHY.

3. There are other possible course options for information technology. Students should consult their faculty advisors.

4. Part-time students should consult their faculty advisors regarding appropriate course sequences.

### ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS

A high school diploma (or equivalent) and satisfactory scores on college tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Arts and Sciences: 804-706-5086 (Chester Campus, Moyar Hall, M129) or 804-594-1509 (Midlothian Campus, Academic Building, M308).
Welding
CERTIFICATE (C)

PURPOSE
The certificate in welding prepares students for work as an apprentice welder.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
This program has a limited enrollment. Students must provide their own personal protection safety equipment. A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

<table>
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<th>Course Options</th>
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<tbody>
<tr>
<td><strong>1st Semester</strong></td>
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<tr>
<td>DRF 160 Machine Blueprint Reading</td>
<td>3</td>
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<tr>
<td>MTH 103 Applied Technical Mathematics I</td>
<td>3</td>
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<td>SDV 100 College Success Skills</td>
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<td>WEL 117 Oxyfuel Welding and Cutting</td>
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<tr>
<td><strong>2nd Semester</strong></td>
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<tr>
<td>MAC 131 Machine Lab I</td>
<td>2</td>
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<tr>
<td>WEL 123 Shielded Metal Arc Welding (Basic)</td>
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<td>WEL 160 Gas Metal Arc Welding</td>
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<tr>
<td>ENG 100 Basic Occupational Communication</td>
<td>3</td>
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<td>WEL 130 Inert Gas Welding</td>
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<td><strong>4th Semester</strong></td>
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<td>WEL 124 Shielded Metal Arc Welding (Advanced)</td>
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<td>WEL 126 Pipe Welding I</td>
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**Total Credits For Program**                       **39**

NOTES AND ADDITIONAL CURRICULUM OPTIONS
1. The social science elective requirement can be satisfied by courses with the following prefixes: ECO, HIS, PLS, PSY, or SOC.
2. Part-time students should consult their faculty advisors regarding appropriate course sequences.
This section provides complete listings for career studies certificate programs offered by John Tyler Community College at the time of publication. For an updated list of programs, please visit the College web site at www.jtcc.edu.
# Accounting

**CAREER STUDIES CERTIFICATE (CSC)**

**PROGRAM CURRICULUM**

<table>
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<th>Semester</th>
<th>Credits</th>
<th>Standard Course Options</th>
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<tbody>
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<tr>
<td>ACC 211 Principles of Accounting I</td>
<td>3</td>
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<td>ACC 261 Principles of Federal Taxation I</td>
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<td>ACC 212 Principles of Accounting II</td>
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<td>Accounting Elective</td>
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<td>ACC 221 Intermediate Accounting I</td>
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<td>ACC 231 Cost Accounting I</td>
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<td><strong>Total Credits for Program</strong></td>
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<td></td>
</tr>
</tbody>
</table>

**PURPOSE**

Provides skills for entry-level work and advancement with accounting departments.

**ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS**

A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in mathematics are required. If students have deficiencies in mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

---

# Administration of Justice

**CAREER STUDIES CERTIFICATE (CSC)**

**PROGRAM CURRICULUM**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credits</th>
<th>Standard Course Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Semester</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADJ 100 Survey of Criminal Justice</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ADJ 105 The Juvenile Justice System</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ADJ 111 Law Enforcement Organization &amp; Adm. I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ADJ 211 Criminal Law, Evidence and Procedures I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>12</strong></td>
<td></td>
</tr>
<tr>
<td>2nd Semester</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADJ 227 Constitutional Law for Justice Personnel</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ADJ 228 Narcotics and Dangerous Drugs</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ADJ 229 Law Enforcement and the Community</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ADJ 236 Principles of Criminal Investigation</td>
<td>3</td>
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<tr>
<td><strong>Total Credits</strong></td>
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</tr>
<tr>
<td><strong>Total Credits for Program</strong></td>
<td><strong>24</strong></td>
<td></td>
</tr>
</tbody>
</table>

**PURPOSE**

Upgrades skills for work and advancement within the administration of justice field.

**ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS**

Students should meet with the program head prior to beginning the certificate. A high school diploma (or equivalent) and satisfactory scores on the college placement test in reading is required. If students have deficiencies in reading, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).
Adult Home Administration

CAREER STUDIES CERTIFICATE (CSC)

PURPOSE
For students who are currently working in or wish to pursue employment in adult home facilities. This program fulfills some of Virginia’s requirements for certification in Adult Home Administration.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English are required. If students have deficiencies in English, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-8121(Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

I° Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HLT 106 First Aid and Safety</td>
<td>2</td>
</tr>
<tr>
<td>HMS 100 Introduction to Human Services</td>
<td>3</td>
</tr>
<tr>
<td>HMS 106 Working with Death and Dying</td>
<td>3</td>
</tr>
<tr>
<td>PSY 116, SOC 246</td>
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</tr>
<tr>
<td><strong>Total Credits</strong></td>
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2° Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMS 121 Basic Counseling Skills I</td>
<td>3</td>
</tr>
<tr>
<td>HMS 225 Functional Family Intervention</td>
<td>3</td>
</tr>
<tr>
<td>HMS 236 Gerontology</td>
<td>3</td>
</tr>
<tr>
<td>MKT 100 Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>12</strong></td>
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3° Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>HMS 227 The Helper as a Change Agent</td>
<td>3</td>
</tr>
<tr>
<td>MEN 190 Coordinated Practice</td>
<td>3</td>
</tr>
<tr>
<td>MEN 196 On-Site Training</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
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</tr>
</tbody>
</table>

**Total Credits for Program**: 29

NOTES AND ADDITIONAL CURRICULUM OPTIONS
Students must obtain a grade of “C” or better in all human services courses in order to remain in the program.

Air Conditioning

CAREER STUDIES CERTIFICATE (CSC)

PURPOSE
To prepare students for entry-level positions in air conditioning and refrigeration repair and servicing.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests in mathematics are required. If students have deficiencies in mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-8121(Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

I° Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIR 121 Air Conditioning and Refrigeration I</td>
<td>3</td>
</tr>
<tr>
<td>ELE 150 A.C. and D.C. Circuit Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>MTH 103 Applied Technical Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>10</strong></td>
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2° Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIR 122 Air Conditioning and Refrigeration II</td>
<td>3</td>
</tr>
<tr>
<td>ELE 135 National Electrical Code - Residential</td>
<td>3</td>
</tr>
<tr>
<td>MTH 104 Applied Technical Mathematics II</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>9</strong></td>
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3° Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AIR 123 Air Conditioning and Refrigeration III</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
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</tr>
</tbody>
</table>

**Total Credits for Program**: 22
Allied Health Preparation, Pre-Funeral Services

CAREER STUDIES CERTIFICATION (CSC)

PURPOSE
Provides basic general education and prerequisite courses for students seeking to enroll in the AAS degree program in funeral services. Completion of the career studies certificate does not guarantee admission into the JTCC Funeral Services Program. Students should refer to the admission requirements for the AAS degree in funeral services listed in the programs of study section.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

<table>
<thead>
<tr>
<th>1st Semester</th>
<th>Credits</th>
<th>Standard Course Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 110 Survey of Chemistry</td>
<td>3</td>
<td>CHM 101, CHM 111</td>
</tr>
<tr>
<td>ENG 111 College Composition I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ITE 115 Introduction to Computer Applications and Concepts</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SDV 100 College Success Skills</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
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<table>
<thead>
<tr>
<th>2nd Semester</th>
<th>Credits</th>
<th>Standard Course Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 211 Principles of Accounting</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>FNS 121 Anatomy for Funeral Service I</td>
<td>3</td>
<td>BIO 141, BIO 142, NAS 161, NAS 162</td>
</tr>
<tr>
<td>PSY 116 Psychology of Death and Dying</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Health/Physical Education Elective</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
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<table>
<thead>
<tr>
<th>3rd Semester</th>
<th>Credits</th>
<th>Standard Course Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>FNS 125 Microbiology for Funeral Service</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SOC 200 Principles of Sociology</td>
<td>3</td>
<td>SOC 201, SOC 202</td>
</tr>
<tr>
<td>SPD 100 Principles of Public Speaking</td>
<td>3</td>
<td>SPD 105</td>
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<tr>
<td><strong>Total Credits</strong></td>
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</tr>
</tbody>
</table>

| **Total Credits For Program** | **29** | |

NOTES AND ADDITIONAL CURRICULUM OPTIONS
Students may seek admission to the funeral services AAS degree program when they have successfully completed all required developmental courses and ACC 211, CHM 110, FNS 121 and SDV 100 with grades of “C” or better.
Allied Health Preparation, Pre-Nursing

CAREER STUDIES CERTIFICATE (CSC)

PURPOSE
Provides the basic general education and prerequisite courses for students seeking to apply to nursing programs at most institutions. Completion of the career studies certificate does not guarantee admission into the JTCC Nursing Program. Students should refer to the Nursing Program admission requirements listed in the programs of study section.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English and mathematics are required. If students have deficiencies in English and/or mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M1 17) or 804-594-1480 (Midlothian Campus, Academic Building, A3 20).

PROGRAM CURRICULUM

<table>
<thead>
<tr>
<th>1st Semester</th>
<th>Credits</th>
<th>Standard Course Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 141 Human Anatomy and Physiology I</td>
<td>4</td>
<td>NAS 161</td>
</tr>
<tr>
<td>ENG 111 College Composition I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MTH 120 Introduction to Mathematics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PSY 230 Developmental Psychology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SDV 100 College Success Skills</td>
<td>1</td>
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<tr>
<td><strong>Total Credits</strong></td>
<td><strong>14</strong></td>
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</table>

<table>
<thead>
<tr>
<th>2nd Semester</th>
<th>Credits</th>
<th>Standard Course Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 142 Human Anatomy and Physiology II</td>
<td>4</td>
<td>NAS 162</td>
</tr>
<tr>
<td>SOC 200 Principles of Sociology</td>
<td>3</td>
<td>SOC 201, SOC 202</td>
</tr>
<tr>
<td>Health/Physical Education Elective</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Humanities Elective</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Information Technology Elective</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>13</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Total Credits For Program** 27

NOTES AND ADDITIONAL CURRICULUM OPTIONS
1. Students must complete BIO 141 prior to taking BIO 142.
2. The humanities elective requirement can be satisfied by courses in literature and drama and by those with the following prefixes: ART, FRE, GER, HUM, MUS, PHI, REL, or SPA.
3. Students planning to apply for admission to the JTCC Nursing Program must complete BIO 141, ENG 111, PSY 230, MTH 120, and SDV 100 with a minimum grade of “C” in each course.
Basic Precision Machining Technology
CAREER STUDIES CERTIFICATE (CSC)

PURPOSE
To prepare students for basic precision machining positions.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent).

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

1st Semester | Credits | Standard Course Options
--- | --- | ---
MAC 161 Machine Shop Practices I | 3 | 
Total Credits | 3 |

2nd Semester | Credits | Standard Course Options
--- | --- | ---
MAC 162 Machine Shop Practices II | 3 | 
Total Credits | 3 |

3rd Semester | Credits | Standard Course Options
--- | --- | ---
MAC 163 Machine Shop Practices III | 3 | 
Total Credits | 3 |

4th Semester | Credits | Standard Course Options
--- | --- | ---
MAC 164 Machine Shop Practices IV | 3 | 
Total Credits | 3 |

Total Credits for Program | 12 |

Child Care Management
CAREER STUDIES CERTIFICATE (CSC)

PURPOSE
To prepare experienced child care providers for positions in child care management.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests in English and mathematics (or equivalent) are required. If students have deficiencies in English and mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

1st Semester | Credits | Standard Course Options
--- | --- | ---
ACC 211 Principles of Accounting I | 3 | 
CHD 215 Models of Early Childhood Educ. Programs | 3 | 
EDU 235 Health, Safety and Nutrition Education | 3 | 
Total Credits | 9 |

2nd Semester | Credits | Standard Course Options
--- | --- | ---
BUS 200 Principles of Management | 3 | 
CHD 270 Admin. of Early Childhood Programs | 3 | 
CHD 290 Coordinated Practice III | 3 | 
Total Credits | 9 |

Total Credits for Program | 18 |
Civil Engineering Computer-Aided Drafting

CAREER STUDIES CERTIFICATE (CSC)

**PURPOSE**
To provide experienced surveying personnel with related computer-aided drafting skills.

**ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS**
A high school diploma (or equivalent).

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

**PROGRAM CURRICULUM**

<table>
<thead>
<tr>
<th>1st Semester</th>
<th>Credits</th>
<th>Standard Course Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRF 260 Computer Applications for Surveyors and Technicians</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td>3</td>
<td></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>2nd Semester</th>
<th>Credits</th>
<th>Standard Course Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRF 261 Computer-Aided Digital Terrain Modeling and Earthworks</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>DRF 262 Computer-Aided Civil Design and Hydrology Systems</td>
<td>3</td>
<td>DRF 195 Geographic Information</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

**Total Credits For Program**
9

Computer-Aided Drafting

CAREER STUDIES CERTIFICATE (CSC)

**PURPOSE**
Introduces students to operations and applications of a typical computer-aided drafting system (CAD).

**ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS**
A high school diploma (or equivalent).

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

**PROGRAM CURRICULUM**

<table>
<thead>
<tr>
<th>1st Semester</th>
<th>Credits</th>
<th>Standard Course Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRF 201 Computer-Aided Drafting and Design</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>DRF 231 Computer-Aided Drafting</td>
<td>3</td>
<td></td>
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<tr>
<td><strong>Total Credits</strong></td>
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<table>
<thead>
<tr>
<th>2nd Semester</th>
<th>Credits</th>
<th>Standard Course Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRF 202 Computer-Aided Drafting and Design II</td>
<td>3</td>
<td>ARC 221, DRF 195 (GIS), DRF 241, DRF 260</td>
</tr>
<tr>
<td>Drafting Elective</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
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</tr>
</tbody>
</table>

**Total Credits For Program**
12
Computer Numerical Control

CAREER STUDIES CERTIFICATE (CSC)

PURPOSE
To provide students with numerical control techniques in metal forming and machine processes.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent).

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

1st Semester

<table>
<thead>
<tr>
<th>Course Options</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MAC 121 Computer Numerical Control I</td>
<td>2</td>
</tr>
<tr>
<td>MAC 150 Introduction to Computer-Aided Manufacturing</td>
<td>3</td>
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Total Credits: 5

2nd Semester

<table>
<thead>
<tr>
<th>Course Options</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MAC 122 Computer Numerical Control II</td>
<td>2</td>
</tr>
<tr>
<td>MAC 209 Standards, Measurements and Calculations</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits: 5

Total Credits for Program: 10

Database Management

CAREER STUDIES CERTIFICATE (CSC)

PURPOSE
Prepares students for entry-level positions in database management.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests in mathematics (or equivalent) are required. If students have deficiencies in mathematics, JTCC offers remedial courses to prepare student for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

1st Semester

<table>
<thead>
<tr>
<th>Course Options</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITE 150 Desktop Database Software</td>
<td>3</td>
</tr>
<tr>
<td>ITD 132 Structured Query Language</td>
<td>3</td>
</tr>
<tr>
<td>ITP 100 Software Design</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits: 9

2nd Semester

<table>
<thead>
<tr>
<th>Course Options</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITD 130 Database Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>ITD 250 Database Architecture and Administration</td>
<td>3</td>
</tr>
<tr>
<td>ITE 221 PC Hardware and OS Architecture</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits: 9

3rd Semester

<table>
<thead>
<tr>
<th>Course Options</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITN 101 Introduction to Network Concepts</td>
<td>3</td>
</tr>
<tr>
<td>ITP 251 System Analysis and Design</td>
<td>3</td>
</tr>
<tr>
<td>ITP 298 Seminar and Project (Database)</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits: 9

Total Credits for Program: 27
Early Childhood
CAREER STUDIES CERTIFICATE (CSC)

PURPOSE
Prepares students for entry-level positions in early childhood development.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests in English and mathematics (or equivalent) are required. If students have deficiencies in English and mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

1st Semester Credits Standard Course Options
CHD 120 Introduction to Early Childhood Education 3
CHD 145 Methods and Materials for Teaching Art, Music and Movement to Children 3
EDU 235 Health, Safety and Nutrition Education 3
Total Credits 9

2nd Semester Credits Standard Course Options
CHD 205 Guiding the Behavior of Children 3
CHD 216 Early Childhood Programs, School, and Social Change 3
Total Credits 6

Total Credits For Program 15

Electricity (pending Board action in early fall 2007)
CAREER STUDIES CERTIFICATE (CSC)

PURPOSE
Introduction to the fundamentals of electrical wiring. Provides the classroom training required by the state to sit for the electrician licensing exam.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in mathematics are required. If students have deficiencies in mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

1st Semester Credits Standard Course Options
ELE 127 Residential Wiring Methods 3
ELE 135 National Electrical Code - Residential 3
Total Credits 6

2nd Semester Credits Standard Course Options
ELE 138 National Electrical Code Review 3
ELE 150 A.C. and D.C. Circuit Fundamentals 4
Total Credits 7

Total Credits For Program 13
Emergency Medical Services - Basic

CAREER STUDIES CERTIFICATE (CSC)

PURPOSE
The purpose of this curriculum is to produce competent entry-level Emergency Medical Technician-Basics (EMT-B) who can service the community with basic life support care via the Emergency Medical Services (EMS) infrastructure. Upon completion of the program, students will be eligible for National Registry testing and certification in the Commonwealth of Virginia. Employment opportunities for EMT-Basics are available with ambulance; fire and rescue services; hospitals; local, state and federal government agencies; and humanitarian relief organizations.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
To be eligible for placement in the program students are required to:

1. Submit a college admission application.
2. Take the COMPASS or ASSET placement test (or submit SAT or ACT scores).
3. Have transcripts of previous high school and college courses sent to the college.
4. Submit required health certificate.
5. Have current CPR certification at the Health Care Provider level.

* A reading score of 81 on the COMPASS or comparable score on the ASSET, SAT, or ACT is required.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

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<tr>
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<tr>
<td>EMS 111</td>
<td>6</td>
<td>EMS 112 – EMS 113</td>
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<tr>
<td>EMS 120</td>
<td>1</td>
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<tr>
<td>EMS 132</td>
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<tr>
<td>EMS 145</td>
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<tr>
<td><strong>Total Credits For Program</strong></td>
<td><strong>12</strong></td>
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</table>
Emergency Medical Services - Intermediate

CAREER STUDIES CERTIFICATE (CSC)

PURPOSE
The purpose of this curriculum is to produce competent entry-level Emergency Medical Technician-Intermediates (EMT-I/99) who can service the community with advanced life support care via the Emergency Medical Services (EMS) infrastructure. Upon completion of the program, students will be eligible for National Registry testing and certification in the Commonwealth of Virginia. Employment opportunities for EMT-Intermediates are available with ambulance; fire and rescue services; hospitals; local, state and federal government agencies; and humanitarian relief organizations.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
To be eligible for placement in the program students are required to:

1. Submit a college admission application.
2. Take the COMPASS or ASSET placement test (or submit SAT or ACT scores).
3. Have transcripts of previous high school and college courses sent to the college.
4. Submit required health certificate.
5. Have current CPR certification at the Health Care Provider level.

* A reading score of 81 on the COMPASS or comparable score on the ASSET, SAT, or ACT is required

For additional information on this program, please contact the Division of Professional and Technical Studies:
804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

1st Semester

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<td>EMS 111</td>
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2nd Semester

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<td>EMS 153</td>
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<tr>
<td>EMS 157</td>
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<td>EMS 170</td>
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3rd Semester

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<tr>
<td>EMS 155</td>
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<td>EMS 159</td>
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<td>EMS 172</td>
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<td>EMS 173</td>
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**Total Credits For Program** **25**
Mechanical Maintenance

CAREER STUDIES CERTIFICATE (CSC)

**PURPOSE**

Provides mechanical maintenance basics and prepares students for company-specific training.

**ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS**

A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in mathematics are required. If students have deficiencies in mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

**PROGRAM CURRICULUM**

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<th>1st Semester</th>
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<tr>
<td>MTH 103 Applied Technical Mathematics I</td>
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<td>Mechanical Engineering Technology Elective(s)</td>
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<tr>
<td>DRF 160 Machine Blueprint Reading</td>
<td>3</td>
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<tr>
<td>Technical Elective(s)</td>
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Total Credits For Program | 21-25 |

**NOTES AND ADDITIONAL CURRICULUM OPTIONS**

1. The mechanical engineering technology elective requirement can be satisfied by MEC courses. Selection must be approved by the faculty advisor.

2. The technical elective requirement can be satisfied by courses with the following prefixes: AIR, ARC, DRF, EGR, ELE, ETR, IND, INS, MAC, MEC, SAF or WEL. Selections should comprise a variety of choices. Selection must be approved by the faculty advisor.

Microcomputer Applications

CAREER STUDIES CERTIFICATE (CSC)

**PURPOSE**

Prepares students for entry-level positions in microcomputer applications.

**ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS**

A high school diploma (or equivalent) and satisfactory scores on college placement tests in mathematics (or equivalent) are required. If students have deficiencies in mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

**PROGRAM CURRICULUM**

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<tr>
<th>1st Semester</th>
<th>Credits</th>
<th>Standard Course Options</th>
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<tbody>
<tr>
<td>ITE 130 Introduction to Internet Services</td>
<td>3</td>
<td></td>
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<tr>
<td>ITE 140 Spreadsheet Software I</td>
<td>3</td>
<td></td>
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<tr>
<td>ITE 150 Desktop Database Software</td>
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<th>Standard Course Options</th>
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<tbody>
<tr>
<td>ITD 110 Web Page Design I</td>
<td>3</td>
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<tr>
<td>ITE 221 PC Hardware and OS Architecture</td>
<td>3</td>
<td></td>
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<tr>
<td>ITP 100 Software Design</td>
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<tbody>
<tr>
<td>ITD 130 Database Fundamentals</td>
<td>3</td>
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<tr>
<td>ITE 298 Seminar and Project (Microcomputer Applications)</td>
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<tr>
<td>ITP 251 System Analysis and Design</td>
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Total Credits For Program | 27 |
Networking

CAREER STUDIES CERTIFICATE (CSC)

PURPOSE
Prepare students for entry-level positions in computer networking.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests in mathematics (or equivalent) are required. If students have deficiencies in mathematics, JTCC offers remedial courses to prepare student for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

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<tr>
<td>ITN 171 UNIX I</td>
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<tr>
<td>ITN 101 Introduction to Network Concepts</td>
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<td>ITP 100 Software Design</td>
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<tbody>
<tr>
<td>ITE 221 PC Hardware and OS Architecture</td>
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<tr>
<td>ITN 112 Windows 2000 Network Infrastructure Administration</td>
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<tr>
<td>ITN 208 Protocols and Communications II</td>
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<tr>
<td>ITN 295 Network Servicing</td>
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<td>ITN 298 Seminar and Project (Networking)</td>
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<td>ITP 251 Systems Analysis and Design</td>
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</table>

**Total Credits For Program** 27

Office Administration

CAREER STUDIES CERTIFICATE (CSC)

PURPOSE
This program provides students with the skills for positions as administrative assistants and office managers.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English are required. If students have deficiencies in English, JTCC offers remedial courses to prepare students for the curriculum. Also, satisfactory scores on placement tests in Keyboarding I and II (or equivalent) are required. If students have deficiencies in keyboarding, JTCC offers AST 101 and/or AST 102, Keyboarding I and II.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

<table>
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<tr>
<th>1st Semester</th>
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<tbody>
<tr>
<td>AST 141 Word Processing</td>
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<tr>
<td>AST 201 Keyboarding III</td>
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<tr>
<td>ENG 111 College Composition I</td>
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<tr>
<td>ACC 211 Principles of Accounting I</td>
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<tr>
<td>AST 205 Business Communications</td>
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<tr>
<td>AST 243 Office Administration I</td>
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<tr>
<td>AST 240 Machine Transcription</td>
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<td>AST 244 Office Administration II</td>
<td>3</td>
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<td>BUS 100 Introduction to Business</td>
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**Total Credits For Program** 27
Programming
CAREER STUDIES CERTIFICATE (CSC)

PURPOSE
Prepares students for entry-level positions in computer programming.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests in mathematics (or equivalent) are required. If students have deficiencies in mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

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<tr>
<td>1st Semester</td>
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<tr>
<td>ITE 221 PC Hardware and OS Architecture</td>
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<tr>
<td>ITP 110 Visual Basic Programming I</td>
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<td>ITP 120 Java Programming I</td>
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<td>ITP 210 Visual Basic Programming II</td>
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Real Estate
CAREER STUDIES CERTIFICATE (CSC)

PURPOSE
Provides skills for employment and advancement within the real estate business.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests in mathematics (or equivalent) are required. If students have deficiencies in mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

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<td>REA 100 Principles of Real Estate</td>
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<td>REA 215 Real Estate Brokerage</td>
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<td>REA 217 Real Estate Finance</td>
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<td>REA 216 Real Estate Appraisal</td>
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<td>REA 245 Real Estate Law</td>
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Small Business Management

CAREER STUDIES CERTIFICATE (CSC)

PURPOSE
Provides management skills specific to small businesses.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English are required. If students have deficiencies in English, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

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<tbody>
<tr>
<td><strong>1st Semester</strong></td>
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<tr>
<td>ACC 211 Principles of Accounting I</td>
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<td><strong>2nd Semester</strong></td>
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<tr>
<td>ACC 261 Principles of Federal Taxation I</td>
<td>3</td>
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<td>AST 205 Business Communications</td>
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<td>BUS 165 Small Business Management</td>
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<td>ITE 100 Introduction to Information Systems</td>
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<td>ITE 115</td>
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<td>MKT 100 Principles of Marketing</td>
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**Substance Abuse Assistant**

**CAREER STUDIES CERTIFICATE (CSC)**

**PURPOSE**
Provides a strong educational component and hands-on training to students who are interested in working in substance abuse. It fulfills some of the requirements needed for certification in Virginia as a substance abuse assistant.

**ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS**
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English is required. If students have deficiencies in English, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

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<tbody>
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<td><strong>1st Semester</strong></td>
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<tr>
<td>HMS 121 Basic Counseling Skills I</td>
<td>3</td>
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<tr>
<td>HMS 251 Substance Abuse I</td>
<td>3</td>
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<tr>
<td>HMS 227 The Helper as a Change Agent</td>
<td>3</td>
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<tr>
<td>HMS 252 Substance Abuse II</td>
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<tr>
<td>HMS 258 Case Management and Substance Abuse</td>
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<tr>
<td>MEN 190 Coordinated Practice</td>
<td>3</td>
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<td>MEN 196 On-Site Training</td>
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<tr>
<td>PSY 230 Developmental Psychology</td>
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<td>PSY 231, PSY 232</td>
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<tr>
<td><strong>Total Credits For Program</strong></td>
<td>24</td>
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</table>

**NOTES AND ADDITIONAL CURRICULUM OPTIONS**
1. Students must obtain a grade of “C” or better in all human services courses in order to remain in the program.
2. Students must complete HMS 121 prior to enrolling in HMS 227.
3. MEN 190 and MEN 196 are corequisites and must be taken in the same semester. HMS 121 and HMS 251 must be completed prior to enrolling in MEN 190 and MEN 196. Students must meet with their advisor prior to enrolling in MEN 190 and MEN 196.
4. Students in this program do not need to enroll in HMS 100.
## Supervision

**Career Studies Certificate (CSC)**

### Purpose
Upgrades skills needed for supervisory positions within business.

### Admission Requirements and Special Conditions
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in English are required. If students have deficiencies in English, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

### Program Curriculum

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Options</th>
<th>Credits</th>
<th>Standard Course Options</th>
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<tr>
<td>1st</td>
<td>BUS 111 Principles of Supervision I</td>
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<td>ENG 111 College Composition I</td>
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<td>ITE 100 Introduction to Information Systems</td>
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<td>ITE 115</td>
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<td>2nd</td>
<td>AST 205 Business Communications</td>
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<td>BUS 200 Principles of Management</td>
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<td>Business Elective</td>
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<tr>
<td>3rd</td>
<td>BUS 201 Organizational Behavior</td>
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<td>Business Elective</td>
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</table>

**Total Credits for Program**: 24

**Notes and Additional Curriculum Options**
The business elective requirement can be satisfied by any 100 or 200 level course in the following areas: ACC, AST, BUS, ITE, MKT, or REA.

## Surveying

**Career Studies Certificate (CSC)**

### Purpose
Provides skills for employment and advancement in surveying.

### Admission Requirements and Special Conditions
A high school diploma (or equivalent).

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

### Program Curriculum

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Options</th>
<th>Credits</th>
<th>Standard Course Options</th>
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<tbody>
<tr>
<td>1st</td>
<td>CIV 171 Surveying I</td>
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<td></td>
<td>DRF 201 Computer-Aided Drafting and Design I</td>
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<td><strong>Total Credits</strong></td>
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<tr>
<td>2nd</td>
<td>CIV 172 Surveying II</td>
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<tr>
<td></td>
<td>DRF 260 Computer Applications for Surveyors and Technicians</td>
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</table>

**Total Credits for Program**: 12
Web Design
CAREER STUDIES CERTIFICATE (CSC)

PURPOSE
Provides students with integrated skills in the areas of design and programming required for a career in Web design.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests (or equivalent) in mathematics are required. If students have deficiencies in mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Arts and Sciences: 804-706-5086 (Chester Campus, Moyar Hall, M129) or 804-594-1509 (Midlothian Campus, Academic Building, A308).

PROGRAM CURRICULUM

1st Semester
- ART 131 Fundamentals of Design 3
- ART 217 Electronic Graphic Design I 4
- ART 250 History of Design 3
- ITD 110 Web Page Design I 3
- ITE 130 Introduction to Internet Services 3
Total Credits 16

2nd Semester
- ART 218 Electronic Graphic Design II 4
- ART 298 Seminar and Project 3
- ITD 210 Web Page Design II 3
- ITP 140 Client Side Scripting 3
Total Credits 13

Total Credits For Program 29

NOTES AND ADDITIONAL CURRICULUM OPTIONS
ART 298 is a capstone project intended to incorporate internships and other forms of on-the-job experience.

Web Programming
CAREER STUDIES CERTIFICATE (CSC)

PURPOSE
Provides students with skills in the area of Internet programming. Students interested in studying Web design are encouraged also to complete JTCC’s career studies certificate in Web design to enhance employability.

ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent) and satisfactory scores on college placement tests in mathematics (or equivalent) are required. If students have deficiencies in mathematics, JTCC offers remedial courses to prepare students for the curriculum.

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121(Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

PROGRAM CURRICULUM

1st Semester
- ITE 130 Introduction to Internet Services 3
- ITP 100 Software Design 3
- ITP 251 Systems Analysis and Design 3
Total Credits 9

2nd Semester
- ITD 110 Web Page Design I 3
- ITP 120 Java Programming I 3
- ITP 220 Java Programming II 3
Total Credits 9

3rd Semester
- ITE 221 PC Hardware and OS Architecture 3
- ITP 140 Client Side Scripting 3
- ITP 298 Seminar and Project (Programming and Web Programming) 3
Total Credits 9

Total Credits For Program 27
# Welding

## CAREER STUDIES CERTIFICATE (CSC)

### PURPOSE
Provide skills for employment and advancement in welding.

### ADMISSION REQUIREMENTS AND SPECIAL CONDITIONS
A high school diploma (or equivalent).

For additional information on this program, please contact the Division of Professional and Technical Studies: 804-706-5121 (Chester Campus, Moyar Hall, M117) or 804-594-1480 (Midlothian Campus, Academic Building, A320).

## PROGRAM CURRICULUM

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credits</th>
<th>Standard Course Options</th>
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<tr>
<td><strong>1st Semester</strong></td>
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<tr>
<td>WEL 117 Oxyfuel Welding and Cutting</td>
<td>4</td>
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<tr>
<td>WEL 123 Shielded Metal Arc Welding (Basic)</td>
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<td>WEL 130 Inert Gas Welding</td>
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<tr>
<td>WEL 160 Gas Metal Arc Welding</td>
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<tr>
<td>WEL 124 Shielded Metal Arc Welding (Advanced)</td>
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<td>WEL 126 Pipe Welding I</td>
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<td><strong>Total Credits</strong></td>
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**Total Credits For Program** 24
Course Descriptions
COURSE NUMBERS
Course numbers appear before the course titles. Courses numbered 01 – 09 are developmental courses. The credits earned in these courses cannot be applied toward a degree, certificate or diploma. Courses numbered 10 – 99 are first level courses for certificate programs. The credits earned cannot be applied toward an associate degree program. Courses numbered 100 – 299 can be applied to an appropriate associate degree program, and they may also be used in certificate programs.

COURSE CREDITS
Course credits are provided after the course titles. One credit is equivalent to one collegiate semester hour credit.

COURSE HOURS
The number of lecture and laboratory hours is shown at the end of each course description. The total number of lecture and laboratory hours is referred to as “contact” hours since it reflects the time spent each week under the supervision of a faculty member.

PREREQUISITES
Prerequisites are identified in the course description and must normally be met prior to enrollment. If a corequisite is identified, it means the two courses should be taken at the same time.

GENERAL USAGE COURSES
The “General Usage Courses” apply to multiple programs of study and all course prefixes.
General Usage Courses

**90 – 190 – 290**

**Coordinated Practice**

(1 – 5 credits)

Includes supervised practice in selected health agencies and supervised on-the-job training coordinated by the College in selected business, industrial or service firms. Credit/practice ratio maximum 1:5 hours. May be repeated for credit. Variable hours.

**95 – 195 – 295**

**Topics**

(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.

**96 – 196 – 296**

**On-Site Training**

(1 – 5 credits)

Specializes in career orientation and training program (without pay) supervised and coordinated by the College in selected local businesses and industries. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

**97 – 197 – 297**

**Cooperative Education**

(1 – 5 credits)

Supervised on-the-job training for pay coordinated by the Cooperative Education Office in approved business, industrial and service firms. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

**98 – 198 – 298**

**Seminar and Project**

(1 – 5 credits)

Requires completion of a project or research report related to the student's occupational objective and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours.

**99 – 199 – 299**

**Supervised Study**

(1 – 5 credits)

Assigns problems for independent study incorporating previous instruction and supervised by the instructor. May be repeated for credit. Variable hours.

Accounting

**ACC 211**

**Principles of Accounting I**

(3 credits)

Presents accounting principles and their application to various businesses. Covers the accounting cycle, income determination and financial reporting. Studies services, merchandising and includes internal controls. Lecture: 3 hours per week.

**ACC 212**

**Principles of Accounting II**

(3 credits)

Emphasizes partnerships, corporations and the study of financial analysis. Includes and introduces cost/managerial accounting concepts. Prerequisite: ACC 211. Lecture: 3 hours per week.

**ACC 215**

**Computerized Accounting**

(3 credits)

Introduces the computer in solving accounting problems. Focuses on operation of computers. Presents the accounting cycle and financial statement preparation in a computerized system and other applications for financial and managerial accounting. Prerequisite: ACC 212 or equivalent. Lecture: 3 hours per week.

**ACC 221**

**Intermediate Accounting I**

(4 credits)

Covers accounting principles and theory, including a review of the accounting cycle and accounting for current assets, current liabilities and investments. Introduces various accounting approaches and demonstrates the effect of these approaches on the financial statement users. Prerequisite: ACC 212 or equivalent. Lecture: 4 hours per week.

**ACC 222**

**Intermediate Accounting II**

(4 credits)

Continues accounting principles and theory with emphasis on accounting for fixed assets, intangibles, corporate capital structure, long-term liabilities and investments. Prerequisite: ACC 221 or equivalent. Lecture: 4 hours per week.

**ACC 231**

**Cost Accounting I**

(3 credits)

Studies cost accounting methods and reporting as applied to job order, process and standard cost accounting systems. Includes cost control and other topics. Prerequisite: ACC 212 or equivalent. Lecture: 3 hours per week.

**ACC 261**

**Principles of Federal Taxation I**

(3 credits)

Presents the study of federal taxation as it relates to individuals and other tax entities. Includes tax planning, compliance and reporting. Lecture: 3 hours per week.

Administration of Justice

**ADJ 100**

**Survey of Criminal Justice**

(3 credits)

Presents an overview of the United States criminal justice system; introduces the major system components—law enforcement, judiciary and corrections. Lecture: 3 hours per week.
ADJ 105
The Juvenile Justice System
(3 credits)
Presents the evolution, philosophy, structures and processes of the American juvenile delinquency system; surveys the rights of juveniles, dispositional alternatives, rehabilitation methods and current trends. Lecture: 3 hours per week.

ADJ 107
Survey of Criminology
(3 credits)
Surveys the volume and scope of crime; considers a variety of theories developed to explain the causation of crime and criminality. Lecture: 3 hours per week.

ADJ 111 – 112
Law Enforcement Organization and Administration I – II
(3 credits each)
Teaches the principles of organization and administration of law enforcement agencies. Studies the management of line operations, staff and auxiliary services, investigative and juvenile units. Introduces the concept of data processing; examines policies, procedures, rules and regulations pertaining to crime prevention. Surveys concepts of protection of life and property, detection of offenses and apprehension of offenders. Lecture: 3 hours per week.

ADJ 117
Police Communications and Records
(3 credits)
Introduces the principles for the organization and administration of law enforcement communications and records. Examines relationships of custody, central services and agency logistics to the communications and records operation. Lecture: 3 hours per week.

ADJ 160
Police Response to Critical Incidents
(3 credits)
Provides a basic introduction to incident command and emerging trends. Addresses bomb threats; hostage/barricade situations; attacks on institutions such as schools and hospitals; criminal hazmat; terrorist, militia/paramilitary, and extended crime scene evidence collection scenarios; and other long term or large scale events. Lecture: 3 hours per week.

ADJ 211 – 212
Criminal Law, Evidence and Procedures I – II
(3 credits each)
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. Examines 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 227
Constitutional Law for Justice Personnel
(3 credits)
Surveys the basic guarantees of liberty described in the U.S. Constitution and the historical development of these restrictions on government power, primarily through U.S. Supreme Court decisions. Reviews rights of free speech, press, assembly, as well as criminal procedure guarantees (to counsel, jury trial, habeas corpus, etc.) as they apply to the activities of those in the criminal justice system. Lecture: 3 hours per week.

ADJ 228
Narcotics and Dangerous Drugs
(3 credits)
Surveys the historical and current usage of narcotics and dangerous drugs. Teaches the identification and classification of such drugs and emphasizes the symptoms and effects on their users. Examines investigative methods and procedures utilized in law enforcement efforts against illicit drug usage. Lecture: 3 hours per week.

ADJ 229
Law Enforcement and the Community
(3 credits)
Considers current efforts by law enforcement personnel to achieve an effective working relationship with the community. Surveys and analyzes various interactive approaches of law enforcement agencies and the citizenry they serve. Lecture: 3 hours per week.

ADJ 234
Terrorism and Counter – Terrorism
(3 credits)
Surveys the historical and current practices of terrorism that are national, transnational, or domestic in origin. Includes biological, chemical, nuclear, and cyber-terrorism. Teaches the identification and classification of terrorist organizations, violent political groups and issue-oriented militant movements. Examines investigative methods and procedures utilized in counter terrorist efforts domestically and internationally. Lecture: 3 hours per week.

ADJ 236
Principles of Criminal Investigation
(3 credits)
Surveys the fundamentals of criminal investigation procedures and techniques. Examines crime scene search, collecting, handling and preserving of evidence. Lecture: 3 hours per week.

ADJ 244
Terrorism Response Planning
(3 credits)
Builds an understanding of terrorism, and the past, present, and future national and international responses to terrorism and the defense against it. Teaches the knowledge and skills necessary to assist State and local emergency managers in planning for and managing a response to a terrorist incident. Lecture: 3 hours per week.

ADJ 247
Criminal Behavior
(3 credits)
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.

# Administrative Support Technology

AST 101
Keyboarding I
(3 credits)
Teaches the alpha/numeric keyboard with emphasis on correct techniques, speed and accuracy. Teaches formatting of basic personal and business correspondence, reports and tabulation. Lecture: 3 hours per week.

AST 102
Keyboarding II
(3 credits)
Develops keyboarding and document production skills with emphasis on preparation of specialized business documents. Continues skill-building for speed and accuracy. Prerequisite: AST 101. Lecture: 3 hours per week.

AST 141
Word Processing
(3 credits)
Teaches creating and editing documents, including line and page layouts, columns, fonts, search/replace, cut/paste, spell/thesaurus and advanced editing and formatting features of word processing software. Prerequisite: AST 101 or equivalent. Lecture: 3 hours per week.

AST 201
Keyboarding III
(3 credits)
Develops decision-making skills, speed and accuracy in production keying. Applies word processing skills in creating specialized business documents. Prerequisite: AST 102. Lecture: 3 hours per week.

AST 104
Administrative Support Technology
(3 credits)
Teaches the alpha/numeric keyboard with emphasis on correct techniques, speed and accuracy. Teaches formatting of basic personal and business correspondence, reports and tabulation. Lecture: 3 hours per week.

AST 205
Business Communications
(3 credits)
Teaches techniques of oral and written communications. Emphasizes writing and presenting business-related materials. Prerequisite: ENG 111. Lecture: 3 hours per week.

AST 240
Machine Transcription
(3 credits)
Develops proficiency in the use of transcribing equipment to produce business documents. Emphasizes listening techniques, business English and proper formatting. Includes production rates and mailable copy requirements. Corequisite: AST 102 or equivalent. Prerequisite: ENG 111. Lecture: 3 hours per week.

AST 243
Office Administration I
(3 credits)
Develops an understanding of the administrative support role and the skills necessary to provide organizational and technical support in a contemporary office setting. Emphasizes the development of critical-thinking, problem-solving and job performance skills in a business office environment. Prerequisite: AST 101 and AST 141. Lecture: 3 hours per week.

AST 244
Office Administration II
(3 credits)
Enhances skills necessary to provide organizational and technical support in a contemporary office setting. Emphasizes administrative and supervisory role of the office professional. Includes travel and meeting planning, office budgeting and financial procedures, international issues and career development. Prerequisite: AST 243 or equivalent. Lecture: 3 hours per week.

# Air Conditioning

AIR 121 – 122
Air Conditioning and Refrigeration I – II
(3 credits each)
Studies refrigeration theory; characteristics of refrigerants, temperature and pressure; tools and equipment; soldering; brazing; refrigeration systems; system components; compressors; evaporators; and metering devices. Presents charging and evaluation of systems and leak detection. Explores servicing the basic system. Explains use and care of oils and additives and troubleshooting of small commercial systems. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week. AIR 122 prerequisite: AIR 121 or by permission of the instructor.

AIR 123 – 124
Air Conditioning and Refrigeration III – IV
(3 credits each)
Psychometric properties of air, heat load and gain calculation, heated and chilled water systems, duct, design, air distribution and air comfort requirements. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week. AIR 123 corequisite or prerequisite: AIR 122.

# American Sign Language

ASL 101 – 102
American Sign Language I – II
(3 – 4 credits each)
Introduces the fundamentals of American Sign Language (ASL) used by the Deaf Community, including basic vocabulary, syntax, finger-spelling, 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 – 4 hours. Laboratory: 0 – 2 hours. Total: 3 – 5 hours per week.
Arabic

**ARA 101 – 102**
**Beginning Arabic I – II**
(4 – 5 credits each)
Introduces understanding, speaking, reading, and writing skills and emphasizes basic Arabic sentence structure. Discusses the diversity of cultures in the Arab world. Lecture: 4 – 5 hours per week.

**Architecture**

**ARC 121 – 122**
**Architectural Drafting I – II**
(3 credits each)
Introduces techniques of architectural drafting, including lettering, dimensioning and symbols. Requires production of plans, sections and elevations of a simple building. Studies use of common reference material and the organization of architectural working drawings. Requires development of a limited set of working drawings, including a site plan, related details and pictorial drawings. Lecture: 2 hours. Laboratory: 3 hours. Total: 5 hours per week. ARC 121 corequisite: ARC 221 or the equivalent. ARC 122 prerequisite: ARC 121 or by permission of the instructor.

**ARC 221**
**Architectural CAD Applications Software I**
(3 credits)
Teaches the principles and techniques of architectural drafting practices through the use of architecture specific CAD software. Utilizes the commands and features of the software to generate drawings that emphasize architectural design and structural systems. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week.

**ARC 225**
**Site Planning and Technology**
(3 credits)
Studies the impact of building codes and zoning ordinances on site design; storm drainage, grading design, erosion and flood control; site materials for paving and retaining walls; site utilities. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week.

**ARC 231**
**Advanced Architectural Drafting I**
(4 credits)
Provides fundamental knowledge of the principles and techniques of architectural drafting procedures. Familiarizes student with design process. Provides a better understanding of the relation between architectural design and structural systems. Prerequisite: ARC 122 or approval of the instructor. Lecture: 2 hours. Laboratory: 6 hours. Total: 8 hours per week.

**ARC 232**
**Advanced Architectural Drafting II**
(4 credits)
Requires development of complete set of working drawings and details according to principles and techniques of architectural drawings and procedures used in professional firms. Prerequisite: ARC 231 or approval of the instructor. Lecture: 2 hours. Laboratory: 6 hours. Total: 8 hours per week.

**ARC 243**
**Environmental Systems**
(4 credits)
Studies energy sources and strategies for use in buildings; heat loss and heat gain; heating and cooling equipment and system; water supply, distribution and waste systems and equipment; principles of electricity, electrical systems and equipment. Lecture: 4 hours per week.

**ARC 246**
**Materials and Methods of Construction**
(4 credits)
Introduces the characteristics of building materials and the methods of construction in which these materials are used in the erection of structures. Introduces the physical properties of steel, concrete, timber, glass and related materials as well as methods used in testing materials. All sixteen CSI divisions are discussed. Lecture: 3 hours. Laboratory: 3 hours. Total: 6 hours per week.

**ARC 258**
**Building Codes, Contract Documents and Professional Office Practices**
(3 credits)
Covers professional role of the architectural technician with regard to the construction industry. Includes building codes and their effect on specifications and drawings. Teaches purpose and writing of specifications with their legal and practical applications to working drawings. Analyzes contract documents for client-architect-contractor responsibilities and duties. Lecture: 3 hours per week.

**Art**

**ART 101 – 102**
**History and Appreciation of Art I – II**
(3 credits each)
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 111 – 112**
**Introduction to the Arts I – II**
(3 credits each)
Parallels studio classes and provides a general survey of the arts. Emphasizes perception, using major monuments of painting, sculpture and architecture as examples. Lecture: 3 hours per week.

**ART 121 – 122**
**Drawing I – II**
(3 – 4 credits each)
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. Lecture: 1 – 2 hours. Studio instruction: 4 hours. Total: 5 – 6 hours per week.
ART 125
Introduction to Painting
(3 credits)
Introduces study of color, composition and painting techniques. Places emphasis on experimentation and enjoyment of oil and/or acrylic paints and the fundamentals of tools and materials. Lecture: 2 hours. Studio instruction: 3 hours. Total: 5 hours per week.

ART 131 – 132
Fundamentals of Design I – II
(3 – 4 credits each)
Explores the concepts of two- and three-dimensional design and color. May include field trips as required. Lecture: 1 – 2 hours. Studio instruction: 4 hours. Total: 5 – 6 hours per week.

ART 133
Visual Arts Foundation
(4 credits)
Covers tools and techniques, design concepts and principles, color theory and an introduction to the computer for graphic use. Applies to all fields of Visual Art. Lecture: 2 hours. Laboratory: 4 hours. Total: 6 hours per week.

ART 138
Figure Drawing
(3 – 4 credits)
Develops drawing skills for the beginning and experienced students. Explores a broad range of drawing problems dealing with the human figure in costume using various media and techniques. Prerequisite: ART 120 or divisional approval. Lecture: 2 – 4 hours. Total: 4 – 6 hours per week.

ART 153 – 154
Ceramics I – II
(3 – 4 credits each)
Introduces a broad range of exploration and includes hand-building the potter’s wheel and clays and glazes. Lecture: 0 – 2 hours. Studio instruction 4 – 6 hours. Total: 5 – 8 hours per week.

ART 217 – 218
Electronic Graphic Design I – II
(4 credits each)
Focuses on creative concepts of graphic design problem solving using electronic technology; includes techniques specific to computer-generated publication design and imagery. Electronic Graphic Design II includes use of electronic color models and principles of prepress production. Required for students pursuing careers in graphic design with emphasis on use of the computer. Lecture: 2 hours. Studio instruction 4 – 6 hours. Total: 6 hours per week.

ART 221 – 222
Drawing III – IV
(3 – 4 credits each)
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. Lecture: 1 – 2 hours. Studio instruction: 4 hours. Total: 5 – 6 hours per week.

ART 231 – 232
Sculpture I – II
(3 credits each)
Introduces sculptural concepts and methods of production in traditional and contemporary media. Includes clay, plaster, wood, stone, metal, plastics and terra cotta. May include field trips. Prerequisite: ART 131. Lecture: 3 hours. Studio: 2 hours. Total: 5 hours per week.

ART 241 – 242
Painting I – II
(3 credits each)
Introduces abstract and representational painting in acrylic and/or oil with emphasis on color composition and value. Prerequisites ART 122 or divisional approval. Lecture: 3 hours. Studio: 2 hours. Total: 5 hours per week.

ART 243 – 244
Watercolor I – II
(3 – 4 credits each)
Introduces abstract and representational painting in watercolor with emphasis on design, color, composition, technique and value. Prerequisite: ART 131 or divisional approval. Lecture: 1 – 2 hours. Studio instruction: 2 – 4 hours. Total: 4 – 6 hours per week.

ART 245
Portrait Painting
(3 credits)
Focuses on the human figure as subject matter for painting. Emphasizes analytical study of the head using a variety of mediums. Prerequisites: ART 141 and ART 121. Lecture: 2 hours. Studio instruction: 3 hours. Total: 5 hours per week.

ART 246
Figure Painting
(3 credits)
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. Prerequisites: ART 141 and ART 121. Lecture: 2 hours. Studio instruction: 3 hours. Total: 5 hours per week.

ART 248 – 249
Painting III – IV
(3 – 4 credits each)
Introduces advanced concepts and techniques of representational and abstract painting as applied to the head/figure, still-life, landscape and other subject matter including non-objective painting. Gives additional instruction in color, composition, modeling, space and perspective. Encourages individual approaches to painting. Prerequisite: ART 242 to ART 248. Lecture: 2 – 3 hours. Laboratory: 2 – 3 hours. Total 4 – 6 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. Analyses the work of outstanding designers and illustrators. Lecture: 3 hours per week.
ART 287
Portfolio and Resume Preparation
(1 – 4 credits)
Focuses on portfolio preparation, resume writing and job interviewing for students. Recommended for final semester program students. Requires instructor’s approval. Lecture: 1 – 2 hours. Studio instruction: 0 – 4 hours. Total: 1 – 6 hours per week.

ART 291 – 292
Computerized Graphic Design I – II
(4 credits each)
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.

Biology

BIO 101 – 102
General Biology I – II
(4 credits each)
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 laboratory: 3 hours. Total: 6 hours per week.

BIO 107
Biology of the Environment
(4 credits)
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. Laboratory: 3 hours. Total: 6 hours per week.

BIO 110
General Botany
(4 credits)
Emphasizes plant life cycles, anatomy, morphology, taxonomy and evolution. Considers the principles of genetics, ecology and physiology. Lecture: 3 hours. Recitation and laboratory: 3 hours. Total: 6 hours per week.

BIO 120
General Zoology
(4 credits)
Presents basic biological principles and emphasizes structure, physiology and evolutionary relationships of invertebrates and vertebrates. Lecture: 3 hours. Recitation and laboratory: 3 hours. Total: 6 hours per week.

BIO 141 – 142
Human Anatomy and Physiology I – II
(4 credits each)
Integrates anatomy and physiology of cells, tissues, organs and systems of the human body. Integrates concepts of chemistry, physics and pathology. Lecture: 3 hours. Laboratory: 2 – 3 hours. Total: 5 – 6 hours per week.

BIO 146
Human Heredity
(3 credits)
Surveys basic principles of classical and molecular genetics as applied to humans. Lecture: 3 hours per week.

BIO 150
Introductory Microbiology
(4 credits)
Studies the general characteristics of microorganisms. Emphasizes their relationships to individual and community health. Lecture: 3 hours. Recitation and laboratory: 3 hours. Total: 6 hours per week.

BIO 170
Biotechnology Methods
(1 credits)
Provides students with laboratory skills needed for employment in the biotechnology industry. Focuses on widely used biotechnology procedures in areas of DNA analysis, protein analysis, tissue culture, monoclonal antibodies quality control assays and diagnostic procedures. Laboratory: 3 hours per week.

BIO 173
Biology for Biotechnology
(4 credits)
Introduces the student to biological concepts essential to the understanding of biotechnology. Focuses on the structural organization, function and chemical nature of the cell. Studies cellular processes such as membrane transport, information processing, reproduction and heredity. Emphasizes laboratory methods of biotechnology. Lecture: 3 hours. Laboratory: 3 hours. Total: 6 hours per week.

BIO 205
General Microbiology
(4 credits)
Examines morphology, genetics, physiology, ecology, and control of microorganisms. Emphasizes application of microbiological techniques to selected fields. Prerequisites: one year of college biology and one year of college chemistry or divisional approval. Lecture: 3 hours. Recitation and laboratory: 3 hours. Total: 6 hours per week.

BIO 255
Basic Micro Technique
(2 credits)
Acquaints the student with the preparation of cells and tissues for microscopic examination. Lecture: 1 hour. Recitation and laboratory: 3 hours. Total: 4 hours per week.
Bio 270
General Ecology
(2 – 6 credits)
Studies interrelationships between organisms and their natural and
cultural environments with emphasis on populations, communities
and ecosystems. Prerequisite: BIO 101–102 or divisional approval.
Lecture: 1 – 4 hours. Recitation and laboratory: 3 – 6 hours. Total: 4
– 10 hours per week.

Bio 275
Marine Ecology
(4 credits)
Applies ecosystem concepts to marine habitats. Includes laboratory
and field work. Prerequisite: BIO 101 – 102 or divisional approval.
Lecture: 3 hours. Recitation and laboratory: 3 hours. Total: 6 hours
per week.

Business Management
and Administration

Bus 100
Introduction to Business
(3 credits)
Presents a broad introduction to the functioning of business enterprise
within the U.S. economic framework. Introduces economic systems,
esential elements of business organization, production, human
resource management, marketing, finance and risk management.
Develops business vocabulary. Lecture: 3 hours per week.

Bus 111
Principles of Supervision I
(3 credits)
Teaches the fundamentals of supervision, including the primary
responsibilities of the supervisor. Introduces factors relating to the
work of supervisor and subordinates. Covers aspects of leadership,
job management, work improvement, training and orientation,
performance evaluation and effective employee/supervisor
relationships. Lecture: 3 hours per week.

Bus 116
Entrepreneurship
(3 credits)
Presents the various steps considered necessary when going into
business. Includes areas such as product-service analysis, market
research evaluation, setting up books, ways to finance startup, operations
of the business, development of business plans, buyouts versus starting
from scratch and franchising. Uses problems and cases to demonstrate
implementation of these techniques. Lecture: 3 hours per week.

Bus 125
Applied Business Mathematics
(3 credits)
Applies mathematical operations to business process and problems
such as wages and payroll, sales and property taxes, checkbook records
and bank reconciliation, depreciation, overhead, distribution of
profit and loss in partnerships, distribution of corporate dividends,
commercial discounts, markup, markdown, simple interest, present
values, bank discount notes, multiple payment plans, compound
interest annuities, sinking funds and amortization. Lecture: 3 hours
per week.

Bus 165
Small Business Management
(3 credits)
Identifies management concerns unique to small businesses.
Introduces the requirements necessary to initiate a small business
and identifies the elements comprising a business plan. Presents
information establishing financial and administrative controls,
developing a marketing strategy, managing business operations and
the legal and government relationships specific to small businesses.
Lecture: 3 hours per week.

Bus 200
Principles of Management
(3 credits)
Teaches management and the management functions of planning,
organizing, leading and controlling. Focuses on application of
management principles to realistic situations managers encounter as they
attempt to achieve organizational objectives. Lecture: 3 hours per week.

Bus 201
Organizational Behavior
(3 credits)
Presents a behaviorally oriented course combining the functions
of management with the psychology of leading and managing
people. Focuses on the effective use of human resources through
understanding human motivation and behavior patterns, conflict
management and resolution, group functioning and process, the
psychology of decision-making and the importance of recognizing and
managing change. Lecture: 3 hours per week.

Bus 205
Human Resource Management
(3 credits)
Introduces employment, selection and placement of personnel,
forecasting, job analysis, job descriptions, training methods and
programs, employee evaluation systems, compensation, benefits and
labor relations. Lecture: 3 hours per week.

Bus 220
Introduction to Business Statistics
(3 credits)
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 number and time
series analysis. Prerequisite: MTH 120. Lecture: 3 hours per week.

Bus 241
Business Law I
(3 credits)
Develops a basic understanding of the US business legal environment.
Introduces property and contract law, agency and partnership liability
and government regulatory law. Students will be able to apply these
legal principles to landlord/tenant disputes, consumer rights issues,
employment relationships and other business transactions. Lecture: 3
hours per week.
BUS 266
Production and Operations Management
(3 credits)
Examines the process by which both goods and services-producing businesses, many not-for-profit institutions and governmental agencies transform resources into an end product to meet the demands of customers or clients. Includes a survey of some of the quantitative methods involved in the process. Lecture: 3 hours per week.

Chemistry

CHM 101 – 102
General Chemistry I – II
(4 credits each)
Emphasizes experimental and theoretical aspects of inorganic, organic and biological chemistry. Discusses general chemistry concepts as they apply to issues within society and the environment. Designed for the non-science major. Lecture: 3 hours. Laboratory: 3 hours. Total: 6 hours per week.

CHM 110
Survey of Chemistry
(3 credits each)
Introduces the basic concepts of general, organic and biochemical chemistry 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 each)
Explores the fundamental laws, theories and mathematical concepts of chemistry. Designed primarily for science and engineering majors. Requires a strong background in mathematics. Lecture: 3 hours. Laboratory: 3 hours. Total: 6 hours per week.

CHM 241 – 242
Organic Chemistry I – II
(3 credits each)
Introduces fundamental chemistry of carbon compounds, including structures, physical properties, syntheses and typical reactions. Emphasizes reaction mechanisms. Corequisite: CHM 243 – 244 or CHM 245 – 246. Lecture: 3 hours per week.

CHM 243 – 244
Organic Chemistry Laboratory I – II
(1 credit each)
Shall be taken concurrently with CHM 241 and CHM 242. Laboratory: 3 hours per week.

CHM 245 – 246
Organic Chemistry Laboratory I – II
(2 credits each)
Includes qualitative organic analysis. Shall be taken concurrently with CHM 241 and CHM 242. Laboratory: 6 hours per week.

CHM 260
Introductory Biochemistry
(3 credits)
Explores fundamentals of biological chemistry. Includes study of macromolecules, metabolic pathways and biochemical genetics. Prerequisite CHM 112 or divisional approval. Lecture: 3 hours per week.

Childhood Development

CHD 117
Introduction to Reading Methods
(3 credits)
Introduces current practices of teaching reading in the elementary school. Familiarizes students with materials currently in use; emphasizes observation of various reading techniques and trends in the classroom. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week.

CHD 118
Methods and Materials in the Language Arts for Children
(3 credits)
Presents techniques and methods for encouraging the development of language and perceptual skills in young 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 audiovisual materials. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week.

CHD 120
Introduction to Early Childhood Education
(3 credits)
Introduces early childhood development through activities and experiences in nursery, pre-kindergarten, kindergarten and primary programs. Investigates classroom organization and procedures and use of classroom time and materials, approaches to education for young children, professionalism and curricular procedures. Lecture: 3 hours per week.

CHD 145
Methods and Materials for Teaching Art, Music and Movement to Children
(3 credits)
Provides experiences in developing the content, methods and materials for directing children in art, music and movement activities. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week.

CHD 146
Methods and Materials for Teaching Math, Science and Social Studies to Children
(3 credits)
Provides experiences in developing the content, methods and materials for directing children in math, science and social studies activities. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week.
CHD 165
Observation and Participation in Early Childhood/Primary Settings
(3 credits)
Observes and participates in early childhood settings such as child care centers, preschools, Montessori schools or public school settings (Kindergarten through third grade). Students spend one hour each week in a seminar session in addition to 60 clock hours in the field. May be taken again for credit. Lecture: 1 hour per week. Laboratory: 6 hours. Total: 7 hours per week.

CHD 166
Infant and Toddler Programs
(3 credits)
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)
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)
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 Education Programs
(3 credits)
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)
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 265
Advanced Observation and Participation in Early Childhood/Primary Settings
(3 credits)
Observes and participates in early childhood settings such as child care centers, preschool, Montessori schools or public school settings (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 clock hours in the field. May be taken again for credit. Prerequisite: CHD 165. Lecture: 1 hour per week. Laboratory: 6 hours. Total: 7 hours per week.

CHD 270
Administration of Early Childhood Programs
(3 credits)
Examines the skills needed for establishing and managing early childhood programs. Emphasizes professionalism and interpersonal skills, program planning, staff selection and development, creating policies, budgeting and developing forms for recordkeeping. Lecture: 3 hours per week.

Civil Engineering

CIV 171
Surveying I
(3 credits)
Introduces surveying equipment, procedures and computations including adjustment of instruments, distance measurement, leveling, angle measurement, traversing, traverse adjustments, area computations and introduction to topography. Prerequisite: Engineering Technical Mathematics or divisional approval. Lecture: 2 hours. Laboratory: 3 hours. Total: 5 hours per week.

CIV 172
Surveying II
(3 credits)
Introduces surveys for transportation systems including the preparation and analysis of topographic maps, horizontal and vertical curves, earthwork and other topics related to transportation construction. Prerequisite: CIV 171 or by permission of instructor. Lecture: 2 hours. Laboratory: 3 hours. Total: 5 hours per week.

Drafting

DRF 151 – 152
Engineering Drawing Fundamentals I – II
(3 credits each)
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. Lecture: 1 hour. Laboratory: 4 – 6 hours. Total: 5 – 7 hours per week. DRF 152 prerequisite: DRF 151 or by permission of instructor.

DRF 160
Machine Blueprint Reading
(3 credits)
Introduces interpreting of various blueprints and working drawings. Applies basic principles and techniques such as visualization of
an object, orthogonal projection, technical sketching and drafting terminology. Requires outside preparation. Lecture: 3 hours per week.

**DRF 201**  
**Computer-Aided Drafting and Design I**  
(3 credits)  
Teaches computer-aided drafting concepts and equipment designed to develop a general understanding of components of a typical CAD system and its operation. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week.

**DRF 202**  
**Computer-Aided Drafting and Design II**  
(3 credits)  
Teaches working drawings and advanced operations in computer-aided drafting. Prerequisite: DRF 201 or by permission of instructor. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week.

**DRF 231**  
**Computer-Aided Drafting I**  
(3 credits)  
Teaches computer-aided drafting concepts and equipment designed to develop a general understanding of components and operate a typical CAD system. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week.

**DRF 241 – 242**  
**Parametric Solid Modeling I – II**  
(3 credits each)  
Focuses on teaching students the design of parts by parametric solid modeling. Topics covered will include, but 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. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week. DRF 242 prerequisite: DRF 241 or by permission of instructor.

**DRF 260**  
**Computer Applications for Surveyors and Technicians**  
(3 credits)  
Studies and evaluates numerous COGO software and their associated drafting packages. Includes calculations and drafting of traverse adjustment, subdivision and curves. Prerequisite: AutoCAD experience or approval of the instructor. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week.

**DRF 261**  
**Computer-Aided Digital Terrain Modeling and Earthworks**  
(3 credits)  
Introduces computer-aided design for civil/surveying using digital terrain modeling and extracting earthwork volumes. Prerequisite: DRF 260 or approval of the instructor. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week.

**DRF 262**  
**Computer-Aided Civil Design and Hydrology**  
(3 credits)  
Introduces computer-aided design for civil/surveying as applied to highway design, site layout, advanced design, highway design, hydrology tools, watershed analysis and pipe sizing. Prerequisite: DRF 261 or approval of the instructor. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week.

**Economics**

**ECO 120**  
**Survey of Economics**  
(3 credits)  
Presents a broad overview of economic theory, history, development and application. Introduces terms, definitions, policies and philosophies of market economies. Provides some comparison with other economic systems. Includes some degree of exposure to microeconomic and macroeconomic concepts. Lecture: 3 hours per week.

**ECO 201**  
**Principles of Economics I: Macroeconomics**  
(3 credits)  
Introduces macroeconomics, including the Keynesian, classical, monetarist principles and theories, the study of national economic growth, inflation, recession, unemployment, financial markets, money and banking and the role of government spending and taxation, along with international trade and investments. Lecture: 3 hours per week.

**ECO 202**  
**Principles of Economic II: Microeconomics**  
(3 credits)  
Introduces the basic concepts of microeconomics. Explores the free market concepts with coverage of economic models and graphs, scarcity and choices, supply and demand, elasticities, marginal benefits and costs, profits and production and distribution. Lecture: 3 hours per week.

**Education**

**EDU 114**  
**Driver Task Analysis**  
(3 credits)  
Introduces the “driver task” as related to the highway transportation system and factors that influences 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. Laboratory: 2 hours. Total: 4 hours per week.

**EDU 200**  
**Introduction to Teaching as a Profession**  
(3 credits)  
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. Prerequisite: Successful completion of 24 credits of transfer courses. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week.
Course Descriptions

EDU 214  
Instructional Principles of Driver Education  
(3 credits)  
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. Prerequisite: EDU 114. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week.

EDU 235  
Health, Safety and Nutrition Education  
(3 credits)  
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.

Electrical Technology

ELE 121 – 122  
Electrical Circuits I – II  
(3 credits each)  
Studies passive and active components with applications. Includes DC and AC analysis of networks and circuits as applied to fundamental electrical and electronic circuits and systems. Prerequisite or corequisite for ELE 121: MTH 103 or equivalent. ELE 122 prerequisite: ELE 121. Lecture: 2 hours. Laboratory: 3 hours. Total: 5 hours per week.

ELE 127  
Residential Wiring Methods  
(2 – 3 credits)  
Studies wiring methods and standards used for residential dwellings. Provides practical experience in design, layout, construction, and testing of residential wiring systems by use of scaled mock-ups. Lecture: 1 – 2 hours. Laboratory: 2 – 3 hours. Total: 4 – 5 hours per week.

ELE 135  
National Electrical Code – Residential  
(3 – 4 credits)  
Studies purposes and interpretations of the national electrical code that deals with single and multi-family dwellings, including state and local regulations. Lecture: 2 – 3 hours. Laboratory: 2 – 4 hours. Total: 4 – 5 hours per week.

ELE 150  
A.C. and D.C. Circuit Fundamentals  
(3 – 4 credits)  
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 – 3 hours. Laboratory: 2 hours. Total: 4 – 5 hours per week.

ELE 239  
Programmable Controllers  
(3 credits)  
Deals with installation, programming, interfacing and concepts of troubleshooting programmable controllers. Prerequisite: ELE 122 or by permission of instructor. Lecture: 2 hours. Laboratory: 3 hours. Total: 5 hours per week.

ELE 240  
Advanced Programmable Logic Controllers  
(3 – 4 credits)  
Advances further study of Programmable Logic Controllers that was 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. Prerequisite: ELE 239. Lecture: 2 – 3 hours. Laboratory: 0 – 3 hours. Total: 3 – 6 hours per week.

Electronics Technology

ETR 143 – 144  
Devices and Applications I – II  
(4 credits each)  
Teaches theory of active devices and circuits such as diodes, power supplies, transistors (BJTs), amplifiers and their parameters, FETs and operational amplifiers. May include UJTs, oscillators, RF amplifiers, thermal devices and others. Corequisite: ELE 122 or by permission of instructor. Lecture: 3 hours. Laboratory: 3 hours. Total: 6 hours per week.

ETR 164  
Upgrading and Maintaining PC Hardware  
(3 credits)  
Teaches upgrading of the system CPU, memory, drives, multimedia components, modem and video card in a microcomputer. Covers hardware as well as software related maintenance issues. Lecture: 2 hours. Laboratory: 2 – 3 hours. Total: 4 – 5 hours per week.

ETR 203 – 204  
Electronic Devices I – II  
(4 credits each)  
Studies active devices and circuits such as diodes, power supplies, transistors, amplifiers and others. Corequisite: ELE 122 or by permission of instructor. Lecture: 3 hours. Laboratory: 3 hours. Total: 6 hours per week.

ETR 225  
Data Communications  
(4 credits)  
Studies computer communication devices including configurations and protocols. May include modems, telecommunication systems such as local and area networks, microwave and satellite and delivery systems, fiber optic systems and packet systems. Prerequisite: ETR 203. Lecture: 3 hours. Laboratory: 3 hours. Total: 6 hours per week.
ETR 233 – 234
Electronics Applications III – IV
(2 credits each)
Provides laboratory and shop experiences related to advanced electronics systems and devices including microcomputers. Lecture: 1 hour. Laboratory: 3 hours. Total: 4 hours per week.

ETR 280
Introduction to Digital Logic Circuits and Computers
(4 credits)
Studies digital logic, Boolean algebra and arithmetical circuits, using standard integrated circuits and the functional block approach. Introduces concepts of computers, the internal operation and control language. Prerequisite: ETR 113 or ELE 121. Lecture: 3 hours. Laboratory: 3 hours. Total: 6 hours per week.

ETR 287
Principles and Applications of Robotics
(4 credits)
Studies the terminology, principles, practices and applications of robotics. Studies development, programming, hydraulic, pneumatic and electronic controls; sensors and system troubleshooting. Lecture: 3 hours. Laboratory: 3 hours. Total: 6 hours per week.

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. Equivalent to HLT 105. 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.

EMT 111
Emergency Medical Technology I
(3 credits)
Provides instruction in basic life support, physical assessment. Introduces role and responsibilities of the emergency medical technician/ambulance. Includes emergency operations, anatomy and physiology, bleeding, shock, MASTTrousers, cardiopulmonary resuscitation, soft tissue injuries, fractures and dislocations, abdominal and chest injuries. Required for certification as a Virginia EMT/B. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week.

EMS 120
Emergency Medical Technician - Basic Clinical
(1 credit)
Observes in a program approved clinical/field setting. Includes topics for both EMS 111 and EMS 113, dependent upon the program in which the student is participating and is a corequisite to both EMS 111 and EMS 113. Lecture: 1 hour per week.

EMS 132
Vehicle Rescue
(1 – 2 credits)
Educates Fire and EMS personnel in basic vehicle rescue. Teaches safe and proficient techniques for using air, manual and hydraulic tools. Lecture: 1 – 2 hours 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)
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. Corequisite: EMS 170. Lecture: 3 hours. Laboratory: 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 dysrhythmia determination and introduction to 12 lead ECG. Lecture: 2 hours per week.

EMS 155
ALS – Medical Care
(4 credits)
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. Prerequisites: Current EMT-B certification, EMS 151 and EMS 153. Lecture: 3 hours. Laboratory: 2 hours. Total: 5 hours per week.
Course Descriptions

EMS 157
ALS – Trauma Care
(3 credits)
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. Prerequisites: Current EMT-B certification and EMS 151. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week.

EMS 159
ALS – Special Populations
(2 credits)
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. Prerequisites: EMS 151 and EMS 153. Prerequisite or corequisite: EMS 155. Lecture: 1 hour. Laboratory: 2 hours. Total: 3 hours per week.

English

ENG 01
Preparing for College Writing I
(1 – 6 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. Variable hours per week.

ENG 03
Preparing for College Writing II
(1 – 6 credits)
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. Variable hours per week.

ENG 05
Reading Improvement II
(1 – 6 credits)
Helps students read critically and increase appreciation of reading. Guides students in making inferences, drawing conclusions, detecting relationships between generalizations and supporting details. Includes interpreting graphic aids and basic library skills. Variable hours per week.

ENG 06
Reading in the Content Areas
(1 – 6 credits)
Presents reading methods and study skills appropriate for specific courses to increase students’ reading and studying efficiency. Must be taken with a content area course. Course content may be planned jointly by faculty in English and related discipline. Variable hours per week.

ENG 108
Critical Reading and Study Skills
(3 credits)
Helps students improve their reading and learning processes. Includes advanced comprehension strategies and study skills such as time management, note-taking, studying from textbooks and other reading materials, taking examinations and using the library. Lecture: 3 hours per week.

ENG 111
College Composition I
(3 credits)
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.
ENG 112  
**College Composition II**  
(3 credits)  
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.

ENG 115  
**Technical Writing**  
(3 credits)  
Develops ability in technical writing through extensive practice in composing technical reports and other documents. Guides students in achieving voice, tone, style and content in formatting, editing and graphics. Introduces students to technical discourse through selected reading. Lecture: 3 hours per week.

ENG 211 – 212  
**Creative Writing I – II**  
(3 credits each)  
Introduces the student to the fundamentals of writing imaginatively. Students write in forms to be selected from poetry, fiction, drama and essays. Prerequisite: ENG 112 or divisional approval. Lecture: 3 hours per week.

ENG 217 – 218  
**Creative Writing – Poetry I – II**  
(3 credits each)  
Introduces the fundamentals and techniques of writing poetry. Lecture: 3 hours per week.

ENG 241 – 242  
**Survey of American Literature I – II**  
(3 credits each)  
Examines American literary works from Colonial times to the present, emphasizing the ideas and characteristics of our national literature. Involves critical reading and writing. Prerequisite: ENG 112 or divisional approval. Lecture: 3 hours per week.

ENG 243 – 244  
**Survey of English Literature I – II**  
(3 credits each)  
Studies major English works from the Anglo-Saxon period to the present, emphasizing ideas and characteristics of the British literary tradition. Involves critical reading and writing. Prerequisite: ENG 112 or divisional approval. Lecture: 3 hours per week.

ENG 246  
**Major American Writers**  
(3 credits)  
Examines major writers of American literary history. Involves critical reading and writing. Prerequisite: ENG 112 or divisional approval. Lecture: 3 hours per week.

ENG 247  
**Survey of Popular Culture**  
(3 credits)  
Analyzes familiar aspects of American culture, as seen through popular literature, with additional emphasis on television, film and popular art. Prerequisite: ENG 112 or divisional approval. Lecture: 3 hours per week.

ENG 248  
**Contemporary African-American Women Writers**  
(3 credits)  
Surveys the literary contributions made by contemporary African-American women. Examines the intellectual, social, cultural, psychological and economic trends of the African-American experience. Prerequisite: ENG 112. Lecture: 3 hours per week.

ENG 251 – 252  
**Survey of World Literature I – II**  
(3 credits each)  
Examines major works of world literature. Involves critical reading and writing. Prerequisite: ENG 112 or divisional approval. Lecture: 3 hours per week.

ENG 253 – 254  
**Survey of African – American Literature I – II**  
(3 credits each)  
Examines selected works by Black American writers from the colonial period to the present. Involves critical reading and writing. Prerequisite: ENG 112 or divisional approval. Lecture: 3 hours per week.

ENG 256  
**Literature of Science Fiction**  
(3 credits)  
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. Prerequisite: ENG 112 or divisional approval. Lecture: 3 hours per week.

ENG 257  
**Mythology**  
(3 credits)  
Studies selected mythologies of the world, emphasizing their common origins and subsequent influence on human thought and expression. Involves critical reading and writing. Prerequisite: ENG 112 or divisional approval. Lecture: 3 hours per week.

ENG 268  
**The Modern Drama**  
(3 credits)  
Studies the modern drama. Emphasizes the understanding and enjoyment of dramatic literature. Requires critical reading and writing. Prerequisite: ENG 112 or divisional approval. Lecture: 3 hours per week.

ENG 271 – 272  
**The Works of Shakespeare I – II**  
(3 credits each)  
Examines selected works of Shakespeare. Involves critical reading and writing. Prerequisite: ENG 112 or divisional approval. Lecture: 3 hours per week.
ENG 273 – 274
Women in Literature I – II
(3 credits each)
Examines literature by and about women. Involves critical reading and writing. Prerequisite: ENG 112 or divisional approval. Lecture: 3 hours per week.

ENG 276
Southern Literature
(3 credits)
Examines the themes and techniques of selected writers dealing with the American South as a distinctive cultural entity. Involves critical reading and writing. Prerequisite: ENG 112 or divisional approval. Lecture: 3 hours per week.

ENG 279
Film and Literature
(3 credits)
Examines the translation of literature into film viewing and writing. Prerequisite: ENG 112 or divisional approval. Lecture: 3 hours per week.

Environmental Science

ENV 40
Basic Certification Preparation: Wastewater
(1 credit)
Reviews materials which normally are associated with the wastewater treatment plant operator’s Class IV or Class III level certification examinations. Utilizes lecture, audiovisual and workshop sessions to review required materials and to prepare the trainee to complete the wastewater operator examinations. Prerequisite: divisional approval. Laboratory: 2 hours per week.

ENV 136
Survey of Environmental Concerns
(3 credits)
Studies the relationship of man to his physical environment, ecological principles and public health. Topics of current importance include air pollution, potable water, waste disposal, communicable disease, poisoning and toxicity and radiation with particular emphasis on community action programs.

ENV 146
Advanced Certification Preparation: Wastewater
(1 credit)
Reviews the materials associated with the wastewater treatment plant operator’s Class II or Class I level certification examinations. Consists of lecture, audiovisual and workshop sessions to review the required material and to prepare the trainee to complete the wastewater operator’s examination. Prerequisite: divisional approval. Laboratory: 2 hours per week.

ENV 220
Environmental Problems
(3 credits)
Studies the relationship of man to his environment; ecological principles, population dynamics, topics of current importance including air, water and noise pollution; poisoning and toxicity, radiation, conservation and management of natural resources. Lecture: 3 hours per week.
Financial Services

FIN 215
Financial Management
(3 credits)
Introduces basic financial management topics including statement analysis, working capital, capital budgeting, and long-term financing. Focuses on Net Present Value and Internal Rate of Return techniques, lease vs. buy analysis, and Cost of Capital computations. Uses problems and cases to enhance skills in financial planning and decision making. Lecture: 3 hours per week.

French

FRE 101 – 102
Beginning French I – II
(4 credits)
Introduces understanding, speaking, reading and writing skills and emphasizes basic French sentence structure. Lecture: 4 – 5 hours per week. May include one additional hour of oral practice per week.

FRE 201 – 202
Intermediate French I – II
(3 – 4 credits each)
Continues to develop understanding, speaking, reading and writing skills. French is used in the classroom. Prerequisite: FRE 102 or equivalent. Lecture: 3 – 4 hours per week. May include one additional hour of oral practice per week.

Funeral Services

FNS 110
Introduction to Funeral Service
(3 credits)
 Presents a comprehensive study of the history of funeral service commencing with the practices of the Egyptians, early Christians, Romans and Hebrews. Traces funeral practice from its early pagan origins to the modern practices of today. Lecture: 2 hours per week.

FNS 111
Theory of Embalming I
(3 credits)
Introduces the purpose and historical background of embalming. Teaches the ethics and sanitary consideration in the handling of human remains, signs and tests of deaths and post-mortem changes in the body. Teaches also the basic procedures of embalming. Presents instruments, equipment and the types of preservatives and disinfectant chemicals used in embalming. Prerequisite: sophomore standing. Lecture: 3 hours. Total: 3 hours per week.

FNS 112
Theory of Embalming II
(3 credits)
Presents pre-embalming diagnosis, positioning the body and posing the features, linear and anatomical guides for selected blood vessels and factors that influence fluid distribution and blood drainage. Teaches through practice and demonstration of various embalming techniques. Prerequisite: FNS 111. Lecture: 3 hours. Total: 3 hours per week.

FNS 113
Theory of Embalming Laboratory I
(1 credit)
Teaches the basic procedures of embalming. Presents instruments, equipment and the types of preservatives and disinfectant chemicals used in embalming. Corequisite: FNS 111. Laboratory: 3 hours per week.

FNS 114
Theory of Embalming Laboratory II
(1 credit)
Teaches through practice and demonstration of various embalming techniques. May include clinical experiences in area funeral homes. Prerequisites: FNS 111, FNS 113. Corequisite: FNS 112. Laboratory: 3 hours per week.

FNS 121
Anatomy for Funeral Service I
(3 credits)
Introduces anatomy and physiology and basic terminology. Presents information about cells, tissues and organs systems. Discusses all systems with emphasis placed on muscular, skeletal and circulatory. Lecture: 3 hours per week.

FNS 125
Microbiology for Funeral Service
(3 credits)
Focuses on microscopic forms of life from a morphological, cultural and staining viewpoint. Studies in detail causative agents of disease and their importance to a scientific approach to sanitation. Stresses the need for scientific knowledge concerning disease and its cause. Lecture: 3 hours per week.

FNS 126
Pathology for Funeral Service
(3 credits)
Introduces the general processes of disease, stressing their importance to the scientific embalmer and funeral director as health guardians. Studies diseases of specific organs and organ systems with emphasis on the significant structural changes involved and the embalming problems they present. Lecture: 3 hours per week.

FNS 213
Restorative Art
(3 credits)
Presents surface contour, the influence of the bone structure on facial form and the effect of facial muscles on the wrinkles, grooves and folds of the face. Studies color principles and their applications. Teaches wax and nonwax treatments for restorations. Studies lip-waxing techniques and the modeling of various forms of the mouth and eyes. Focuses on problem cases which require illusory corrections, matching wax color to skin and masking of discolorations. Lecture: 3 hours per week.
FNS 214
Restorative Art Techniques and Lab
(1 credit)
The technical application of restorative art theory with special attention to minor and major restorative techniques, wax treatments, cosmetic applications, and the presentation of remains. Laboratory: 3 hours per week.

FNS 231
Principles of Funeral Management I
(4 credits)
Introduces the basic social, religious, ethical and psychological factors that influence funeral service. Teaches telephone techniques and etiquette and acceptable funeral terminology. Studies the various types of religious, fraternal and military funeral services. Prerequisite: sophomore standing. Lecture: 4 hours per week.

FNS 232
Principles of Funeral Management II
(4 credits)
Teaches merchandising, the principles of buying and selling and the techniques of making funeral arrangements. Studies the construction and proper selection of casket, room arrangement and social security and veterans' benefits. Focuses on modern funeral establishment management techniques and procedures. Prerequisite: FNS 231. Lecture: 4 hours per week.

FNS 236
Funeral Service Law
(3 credits)
Focuses on the duties, rights, responsibilities and liabilities of the funeral director and embalmer. Teaches building and zoning ordinances relating to the funeral establishment, tort liability, cemetery law, wills and the administration of estates. Lecture: 2 hours per week.

FNS 245
Ethics
(3 credits)
Provides a review of the Funeral Service curriculum by administering a series of exams on required content that the student must successfully pass. Allows students to choose and develop an expanded outline of one specific topic in Funeral Services which will be included in the final grade. Includes a required section on ethics in the field of Funeral Services and prepares the student to sit for the national and state licensing examinations. Lecture: 3 hours per week.

FNS 270
Funeral Service Review
(3 credits)
Prepares the student for national and state licensing examination in funeral service. Reviews all materials that will be covered by funeral service licensing examinations. Teaches modern test-taking techniques. Requires the writing of a detailed outline of one funeral service subject which determines the final grade. Prerequisite: sophomore standing. Lecture: 3 hours per week.

Geography

GEO 210
People and the Land: An Introduction to Cultural Geography
(3 credits)
Focuses on the relationship between culture and geography. Presents a survey of modern demographies, 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
(3 credits each)
Presents an overview of the 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, 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.

Geology

GOL 105
Physical Geology
(4 credits)
Introduces the composition and structure of the earth and modifying agents and processes. Investigates the formation of minerals and rocks, weathering, erosion, earthquakes and crustal deformation. Lecture: 3 hours. Laboratory: 3 hours. Total: 6 hours per week.

GOL 110
Earth Science
(4 credits)
For non-science majors: Examines the dynamics of the earth and its relation to the solar system. Applies the principles of geology, oceanography, meteorology and astronomy in a multidisciplinary science environment. Stresses the effects of geologic processes on the environment. Lecture: 3 hours. Laboratory: 3 hours. Total: 6 hours per week.

Health

HLT 100
First Aid and Cardiopulmonary Resuscitation
(2 credits)
Focuses on the principles and techniques of safety, first aid and cardiopulmonary resuscitation. Lecture: 2 – 3 hours per week.

HLT 106
First Aid and Safety
(2 credits)
Focuses on the principles and techniques of safety and first aid. Lecture: 2 hours per week.
HLT 116
Personal Wellness
(2 credits)
Familiarizes students with the components of wellness, including nutrition, weight control, stress management and physical conditioning. Includes a personal wellness plan. Lecture: 3 hours per week.

HLT 143 – 143
Medical Terminology I – II
(3 credits each)
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 204
Women’s Health
(3 credits)
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 205
Sex Roles in Contemporary America
(3 credits)
Explores the changing roles of the sexes that have occurred from 1900 to the present. Includes sexual and social mores, inhibitions towards sexuality, and the influence of society and religion. Discusses psychological and emotional implications regarding sexuality for males and females and how to deal with them. Lecture: 3 hours per week.

HLT 215
Personal Stress and Stress Management
(2 – 3 credits)
Provides a basic understanding of stress and its physical, psychological, and social effects. Includes the relationships between stress and change, self-evaluation, sources of stress, and current coping skills for handling stress. Lecture: 2 – 3 hours per week.

HLT 226
AIDS Awareness
(2 credits)
Provides basic understanding of Acquired Immune Deficiency Syndrome (AIDS), AIDS-Related Complex (ARC) and Human Immunodeficiency Virus (HIV) Infection. Includes information on the etiology of AIDS, historical perspectives, signs and symptoms, HIV antibody testing, safer sex guidelines, AIDS in the workplace (including health care settings), psychosocial issues, death and dying issues, homophobia and HIV transmission and prevention. Lecture: 2 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 250
General Pharmacology
(2 – 3 credits)
Emphasizes general pharmacology for the health related professions covering general principles of drug actions/reactions, major drug classes, specific agent within each class, and routine mathematical calculations needed to determine desired dosages. Lecture 2 – 3 hours per week.

History

HIS 101 – 102
History of Western Civilization I – II
(3 credits each)
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 modern times. Lecture: 3 hours per week.

HIS 111 – 112
History of World Civilization I – II
(3 credits each)
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 each)
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 each)
Surveys the history of black Americans from their African origins to the present. Lecture: 3 hours per week.

HIS 203
History of African Civilization
(3 credits)
Examines major social, economic, political and religious developments from earliest times to the present. Lecture: 3 hours per week.

HIS 225 – 226
Topics in European History I – II
(3 credits each)
Examines selected topics in the history of Europe from ancient times to the present. Lecture: 3 hours per week.

HIS 243 – 244
History of the Ancient World I – II
(3 credits each)
Studies the history of the ancient world from the dawn of civilization in the Near East to the fall of Rome. Lecture: 3 hours per week.
HIS 269
Civil War and Reconstruction
(3 credits)
Studies factors that led to the division between the states. Examines the war, the home fronts and the era of Reconstruction. Lecture: 3 hours per week.

HIS 270
America in the Gilded Age
(3 credits)
Studies in detail American history during the years from 1870 – 1900 – The Gilded Age, emphasizing the relationships between various aspects of American life and identifying themes that helped define the era. Lecture: 3 hours per week.

HIS 276
United States History since World War II
(3 credits)
Investigates United States history from 1945 to the present, studying both domestic developments and American involvement in international affairs. Lecture: 3 hours per week.

HIS 277
The American Experience in Vietnam
(3 credits)
Analyzes American involvement in Vietnam from World War II with emphasis on the presidencies of Johnson, Nixon and Ford. Lecture: 3 hours per week.

HIS 279
Age of the American Revolution
(3 credits)
Examines the factors that led to the separation of the American Britain colonies from Great Britain. Covers the Revolutionary War, the problems faced by the revolutionary government, and postwar events that led to the adoption of the United States Constitution. Lecture: 3 hours per week.

HIS 281 – 282
History of Virginia I – II
(3 credits each)
Examines the cultural, political, and economic history of the Commonwealth from its beginning to the present. Lecture: 3 hours per week.

Human Services

HMS 100
Introduction to Human Services
(3 credits)
Introduces human service agencies, roles and careers. Presents a historical perspective of the field as it relates to human services today. Additional topics include values clarification and needs of target populations. Lecture: 3 hours per week.

HMS 106
Working with Death and Dying
(3 credits)
Emphasizes understanding grief and loss. Focuses on how children, adolescents and adults experience and view death. Focus is also on dying persons and their families using skills and techniques to facilitate the grief process. Lecture: 3 hours per week.

HMS 121
Basic Counseling Skills I
(3 credits)
Develops skills needed to function in a helping relationship. Emphasizes skills in attending, listening and responding. Clarifies personal skill strengths, deficits and goals for skill improvement. Prerequisite: HMS 100. Lecture: 3 hours per week.

HMS 225
Functional Family Intervention
(3 credits)
Provides an understanding of functions and dysfunctions within the family. Emphasizes the development of effective skills through an interpersonal/interactional approach to family intervention. Lecture: 3 hours per week.

HMS 226
Helping Across Cultures
(3 credits)
Provides an historical overview of selected cultural and racial groups. Promotes understanding of group differences and the impact on counseling services. Lecture: 3 hours per week.

HMS 227
The Helper as a Change Agent
(3 credits)
Teaches the following skills for implementing alternative models of change and influence: action research, problem-solving, consultation, workshop development and outreach and advocacy for diverse client populations. Prerequisite: HMS 100. Lecture: 3 hours per week.

HMS 236
Gerontology
(3 credits)
Examines the process of aging; its implications in relation to health, recreation, education, transportation, meaningful work or activity and to community resources. Emphasizes experiencing the aging process, facilitating retirement and application of the helping relationship to work with older adults. Prerequisite: HMS 100. Lecture: 3 hours per week.

HMS 251
Substance Abuse I
(3 credits)
Provides knowledge, skills and insight for working in drug and alcohol abuse programs. Emphasizes personal growth and client growth measures in helping relationships. Stresses various methods of individual and group techniques for helping the substance abuser. Lecture: 3 hours per week.
HMS 252  
**Substance Abuse II**  
(3 credits)  
Expands knowledge and skill in working with the substance abuser. Focuses on assisting substance abusers in individual and group settings and explores client treatment modalities. May provide opportunities for field experience in treatment centers. Prerequisite: HMS 251. Lecture: 3 hours per week.

HMS 258  
**Case Management and Substance Abuse**  
(3 credits)  
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.

**Humanities**

HUM 201  
**Survey of Western Culture I**  
(3 credits)  
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)  
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 210  
**Introduction to Women’s Studies**  
(3 credits)  
Introduces interdisciplinary and cross-cultural theories that explore gender, race, and class issues relating to women’s lives, past and present. Prerequisite: ENG 112. Lecture: 3 hours per week.

HUM 211 – 212  
**Survey of American Culture I – II**  
(3 credits each)  
Examines elements of our national culture as they evolved from the first European exploration through colonization and independence to the present day. Lecture: 3 hours per week.

HUM 231 – 232  
**Survey of Asian Culture I – II**  
(3 credits each)  
Studies thought, values and arts of Asian culture, integrating art, architecture, literature, music and philosophy of various cultures, including two or more of the following: India, China, Japan and Southeast Asia. Lecture: 3 hours per week.

HUM 241 – 242  
**Interdisciplinary Principles of the Humanities I – II**  
(3 credits each)  
Integrates unifying principles of the humanities and related fields of study. Emphasizes the expansion of student’s intellectual perspective and development of concepts enabling the integration of knowledge from diverse fields into a unified whole. Lecture: 3 hours per week.

**Industrial Engineering Technology**

IND 101 – 102  
**Quality Assurance Technology I – II**  
(3 credits each)  
Studies principles and techniques of quality engineering for the management, design engineering economics, production and assurance of quality. Emphasizes fundamentals of total quality assurance for product and process control. May include design review, fundamentals of statistics procurement control, sampling and control chart systems, quality reporting, process capability analysis, tool and gauge control, document control or troubleshooting quality control. Prerequisite: MTH 103 or equivalent. Lecture: 3 hours per week.

IND 116  
**Applied Technology**  
(3 credits)  
Introduces basic information and problem solving techniques in liquids, gases, solids, metrics, mechanics, forces, simple machines, heat, light, sound and nuclear energy as applied in industrial engineering technologies. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week.

IND 125  
**Installation and Preventive Maintenance**  
(3 credits)  
Studies practices in the installation of machinery, including mounting, grouting, leveling, and alignment. Examines methods of preventive maintenance including inspection, scheduled maintenance, controls, record keeping, repair parts stocking, and safety considerations. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week.

IND 137  
**Team Concepts and Problem Solving**  
(3 credits)  
Studies team concepts and problem solving techniques to assist project teams in improving quality and productivity. Provides knowledge of how to work as a team, plan and conduct good meetings, manage logistics and details, gather useful data, communicate the results and implement changes. Lecture: 3 hours per week.
Information Technology Database Processing

ITD 110
Web Page Design
(3 credits)
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. Prerequisite: recommended ITE 115. Lecture: 3 hours per week.

ITD 130
Database Fundamentals
(3 credits)
Introduces the student to Relational Database and Relational Database theory. Includes planning, defining and using a database; table design, linking, and normalization; types of databases, database description and definition. Prerequisite: Recommended ITD 110. Lecture: 3 hours per week.

ITD 132
Structured Query Language
(3 credits)
Incorporates a working introduction to commands, functions and operators used in SQL for extracting data from standard databases. Prerequisite: Recommended ITD 110. Lecture: 3 hours per week.

ITD 210
Web Page Design II
(3 credits)
Incorporates advanced techniques in web site planning, design, usability, accessibility, advanced site management, and maintenance utilizing web editor software(s). Prerequisite: Recommended ITD 110. Lecture: 3 hours per week.

ITD 250
Database Architecture and Administration
(3 credits)
Involves in-depth instruction about the underlying architecture of databases and the handling of database administration. Prerequisite: Recommended ITD 132. Lecture: 3 hours per week.

Information Technology Essentials

ITE 100
Introduction to Information Systems
(3 credits)
Covers the fundamentals of computers and computing and topics which include impact of computers on society, ethical issues, and terminology. Provides discussion about available hardware and software as well as their application. Lecture: 3 hours per week.

ITE 101
Introduction to Microcomputers
(1 credit)
Examines concepts and terminology related to microcomputers and introduces specific uses of microcomputers. Lecture: 1 hour per week.

ITE 115
Introduction to Computer Applications and Concepts
(3 credits)
Covers computer concepts and internet skills and use a software suite which includes word processing, spreadsheet, database, and presentation software to demonstrate skills required for computer literacy. Recommended prerequisite keyboarding skills. Lecture: 3 hours per week.

ITE 127
Microcomputer Software: Beginning Windows
(1 credit)
Imparts first-time users with sufficient information to make practical use of the Windows software package. Presents the basics of the features and applications included in the Windows operating system package. Lecture: 1 hour per week.

ITE 130
Introduction to Internet Services
(3 credits)
Provides students with a working knowledge of Internet terminology and services including e-mail, WWW 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 131
Survey of Internet Services
(1 credit)
Introduces students to basic internet terminology and services including e-mail, WWW browsing, search engines, ftp telnet, and other services. Lecture: 1 hour per week.

ITE 140
Spreadsheet Software
(3 credits)
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. Covers MOS Excel objectives. Lecture: 3 hours per week.

ITE 141
Microcomputer Software: Spreadsheets
(1 credit)
Provides first-time users with sufficient information to make practical use of spreadsheet software using the basic of building spreadsheets. Lecture: 1 hour per week.
ITE 150
Desktop Database Software
(3 credits)
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, creating mailing labels. Covers MOS Access certification objectives. Lecture: 3 hours per week.

ITE 151
Microcomputer Software: Database Management
(1 credit)
Presents first-time users with sufficient information to make practical use of database management software using the basics of building databases. Covers specific business applications. Lecture: 1 hour per week.

ITE 200
Technology for Teachers (TSIP)
(3 – 4 credits)
Provides K – 12 classroom teachers with the knowledge and skills needed to fulfill the Commonwealth of Virginia’s Technology Standards for Instructional Personnel. Students will finish the course with a solid understanding of educational technology, including how to use computers, now to access information on the World Wide Web, and how to integrate computers and educational technology into classroom curriculum. Students will learn how to base technology integration decisions on contemporary learning theories. Lecture: 3 – 4 hours per week.

ITE 221
PC Hardware and OS Architecture
(3 credits)
Covers instruction about processors, internal functions, peripheral devices, computer organization, memory management, architecture, instruction format, and basic OS architecture. Lecture: 3 hours per week.

Information Technology Networking

ITN 101
Introduction to Network Concepts
(3 credits)
Provides instruction in networking media, physical and logical topologies, common networking standards and popular networking protocols. 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 116
WIN 2003 Network Infrastructure, Implementation, Management & Maintenance (NI-IIMM)
(3 – 4 credits)
Provides instruction on how to implement, manage, and maintain a Microsoft Windows Server 2003 network infrastructure. Lecture: 3 – 4 hours per week.

ITN 171
UNIX I
(3 – 4 credits)
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 – 4 hours per week.

Information Technology Programming

ITP 100
Software Design
(3 credits)
Introduces principles and practices of software development. Includes instruction in critical thinking, problem solving skills, and essential programming logic in structured and object-oriented design using contemporary tools. Prerequisite: Recommended pre- or corequisite is high school algebra. Lecture: 3 hours per week.

ITP 110
Visual Basic Programming I
(3 credits)
Involves instruction in fundamentals of event-driven programming using Visual Basic. Emphasizes program construction, algorithm development, coding, debugging, and documentation of graphical user interface applications. Prerequisite: Recommended ITP 100. Lecture: 3 hours per week.

ITP 120
Java Programming I
(3 credits)
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. Prerequisite: Recommended ITP 100 or ITP 102. Lecture: 3 hours per week.

ITP 140
Client Side Scripting
(3 credits)
Provides instruction in fundamentals of internet application design, development, and deployment using client side scripting language(s). Prerequisites: Recommended ITP 100, ITD 110 and a programming language or equivalent experience. Lecture: 3 hours per week.

ITP 210
Visual Basic Programming II
(3 credits)
Encompasses instruction in the application of advanced event-driven techniques to application development. Emphasizes database connectivity and advanced controls using Visual Basic. Prerequisite: ITP 110. Lecture: 3 hours per week.

**ITP 220**  
Java Programming II  
(3 credits)  
Imparts instruction in application of advanced object-oriented techniques to application development using Java. Emphasizes database connectivity, inner classes, collection classes, networking, and threads. Prerequisite: Recommended ITP 120. Lecture: 3 hours per week.

**ITP 251**  
Systems Analysis and Design  
(3 credits)  
Focuses on application of information technologies (IT) to system life cycle methodology, systems analysis, systems design, and system implementation practices. Covers methodologies related to identification of information requirements, feasibility in the areas of economic, technical and social requirements, and related issues are included in course content. Software applications may be used to enhance student skills. Lecture: 3 hours per week.

**Instrumentation**

**INS 210**  
Principles of Instrumentation  
(4 credits each)  
Introduces the basic concepts and terminology of process control systems. Presents types of control systems, applicable component elements, basic control analysis and documentation requirements for measuring instruments and signal conditioning. Prerequisite: ETR 203. Lecture: 3 hours. Laboratory: 3 hours. Total: 6 hours per week.

**INS 216**  
Principles of Calibration and Standardization  
(3 credits)  
Covers techniques and principles of calibrating instruments used in the manufacturing process. Prerequisite: ELE 122 or by permission of instructor. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week.

**Machine Technology**

**MAC 121 – 122**  
Computer Numerical Control I – II  
(2 credits each)  
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: 1 hour. Laboratory: 2 hours. Total: 3 hours per week.

**MAC 131 – 132**  
Machine Lab I – II  
(2 credits each)  
Teaches fundamental machine shop operations, bench work, layout, measuring tools, and safety. Lecture: 1 hour. Laboratory 3 hours. Total 4 hours per week.

**MAC 150**  
Introduction to Computer-Aided Manufacturing  
(2 – 3 credits)  
Introduces computer-aided manufacturing (CAM) with emphasis on programming of numerical control machinery. Teaches program writing procedures using proper language and logic and a CAM programming system to produce numerical control code for machines. Teaches basic computer usage, 2 1/2D and 3D CAD-CAM integration and code-to-machine transfer. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week.

**MAC 161 – 162**  
Machine Shop Practices I – II  
(3 credits each)  
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. Laboratory: 3 hours. Total: 5 hours per week.

**MAC 163 – 164**  
Machine Shop Practices III – IV  
(3 credits each)  
Offers practice in the operation of the drill press, engine lathe, vertical milling machine, horizontal milling machine and the surface grinder. Introduces practical heat treatment of directly hardenable steels commonly used in machine shops. Lecture: 2 hours. Laboratory: 3 hours. Total: 5 hours per week.

**MAC 171 – 172**  
Machine Tool Operations I – II  
(3 credits each)  
Uses basic fractional and decimal measuring tools and hand tools. Covers linear, angular and radial layout and precision measuring. Includes setup and operations of hand saws, drill presses, the engine lathe and the vertical and horizontal milling machines. Requires solutions of related problems and preparation of weekly laboratory reports. Laboratory: 6 hours per week.

**MAC 209**  
Standards, Measurements and Calculations  
(3 credits)  
Presents typical mathematical and mechanical problems requiring the use of reference standards such as the Machinery’s Handbook for solution. Presents use of the Coordinate Measuring Machine for solution. Lecture: 2 – 3 hours per week.

**Marketing**

**MKT 100**  
Principles of Marketing  
(3 credits)  
Presents principles, methods and problems involved in marketing to consumers and organizational buyers. Discusses problems and policies connected with distribution and sale of products, pricing, promotion and buyer motivation. Examines variations of marketing research, legal, social, ethical, e-commerce and international considerations in marketing. Lecture: 3 hours per week.
MKT 282  
**Principles of E-Commerce**  
(3 credits)  
Studies online business strategies and the hardware and software tools necessary for internet commerce. Includes the identification of appropriate target segments, the development of product opportunities, pricing structures, distribution channels and execution of marketing strategies. Lecture: 3 hours per week.

**Mathematics**

MTH 01  
**Developmental Mathematics**  
(1 – 5 credits)  
Designed to bridge the gap between a weak mathematical foundation and the knowledge necessary for the study of mathematics courses in technical, professional and transfer programs. Topics may include arithmetic, algebra, geometry and trigonometry. Credits earned are not applicable toward graduation. Variable hours per week.

MTH 02  
**Arithmetic**  
(1 – 5 credits)  
Covers arithmetical principles and computations, including whole numbers, fractions, decimals, percents, measurement, graph interpretation, geometric forms and applications. Develops the mathematical proficiency necessary for selected curriculum entrance. Credits earned are not applicable toward graduation. Variable hours per week.

MTH 03  
**Algebra I**  
(1 – 5 credits)  
Covers the topics of Algebra I, including real numbers, equations and inequalities, exponents, polynomials, Cartesian coordinate system, rational expressions and applications. Develops the mathematical proficiency necessary for selected curriculum entrance. Credits earned are not applicable toward graduation. Prerequisites: a placement recommendation for MTH 03 and Arithmetic or equivalent. Variable hours per week.

MTH 04  
**Algebra II**  
(1 – 5 credits)  
Expands upon topics of Algebra I, including rational expressions, radicals and exponents, quadratic equations, systems of equations and applications. Develops the mathematical proficiency necessary for selected curriculum entrance. Credits earned are not applicable toward graduation. Prerequisites: a placement recommendation for MTH 04 and Algebra I or equivalent. Variable hours per week.

MTH 103 – 104  
**Applied Technical Mathematics I – II**  
(3 credits each)  
Presents a review of arithmetical elements of algebra, geometry and trigonometry. Directs applications to specialized areas. Prerequisites: a placement recommendation for MTH 103 and one unit of high school mathematics or equivalent. Lecture: 3 hours per week.

MTH 115 – 116  
**Technical Mathematics I – II**  
(3 credits each)  
Presents algebra through exponential and logarithmic functions, trigonometry, vectors, analytic geometry and complex numbers. Prerequisites: A placement recommendation for MTH 115 and Algebra I and Geometry, or Algebra I and Algebra II, or equivalent. Lecture: 3 hours per week.

MTH 120  
**Introduction to Mathematics**  
(3 credits)  
Introduces number systems, logic, basic algebra and descriptive statistics (intended for occupational/technical programs). Prerequisites: a placement recommendation for MTH 120 and one unit of high school mathematics or equivalent. Lecture: 3 hours per week.

MTH 151  
**Mathematics for the Liberal Arts I**  
(3 credits)  
Presents topics in sets, logic, numeration systems, geometric systems and elementary computer concepts. Prerequisites: a placement recommendation for MTH 151 and Algebra I, Algebra II and Geometry, or equivalent. Lecture: 3 hours per week.

MTH 152  
**Mathematics for the Liberal Arts II**  
(3 credits)  
Presents topics in functions, combinatorics, probability, statistics and algebraic systems. Prerequisites: a placement recommendation for MTH 152 and Algebra I, Algebra II and Geometry, or equivalent. Lecture: 3 hours per week.

MTH 163  
**Precalculus I**  
(3 credits)  
Presents college algebra; matrices; and algebraic, exponential and logarithmic functions. Prerequisites: a placement recommendation for MTH 163 and Algebra I, Algebra II and Geometry, or equivalent. (Credit will not be awarded for both MTH 163 and MTH 166.) Lecture: 3 hours per week.

MTH 164  
**Precalculus II**  
(3 credits)  
Presents trigonometry, analytic geometry and sequences in series. Prerequisite: MTH 163 or equivalent. (Credit will not be awarded for both MTH 164 and MTH 168.) Lecture: 3 hours per week.

MTH 170  
**Foundations in Contemporary Mathematics**  
(3 credits)  
Presents topics in the mathematics of social choice, management sciences, statistics and growth. Uses physical demonstrations and modeling techniques to teach the power and utility of mathematics. Algebra I – II and Geometry or equivalent. Lecture: 3 hours per week.
MTH 173
Calculus with Analytic Geometry I
(4 – 5 credits)
Presents analytic geometry and the calculus of algebraic and transcendental functions including the study of limits, derivatives, differentials, and introduction to integration along with their applications. Designed for mathematical, physical and engineering science programs. Prerequisites: a placement recommendation for MTH 173 and four units of high school mathematics including Algebra I, Algebra II, Geometry and Trigonometry or equivalent. (Credit will not be awarded for more than one of MTH 173, MTH 175, or MTH 273.) Lecture: 4 – 5 hours per week.

MTH 174
Calculus with Analytic Geometry II
(4 – 5 credits)
Continues the study of analytic geometry and the calculus of algebraic and transcendental functions including rectangular, polar, and parametric graphing, indefinite and definite integrals, methods of integration, and power series along with applications. Designed for mathematical, physical, and engineering science programs. Prerequisite: MTH 173 or equivalent. (Credit will not be awarded for more than one of MTH 174, MTH 176 or MTH 274.) Lecture: 4 – 5 hours per week.

MTH 177
Introduction Linear Algebra
(2 credits)
 Covers matrices, vector spaces, determinants, solutions of systems of linear equations, and eigen values. Designed for mathematical, physical, and engineering science programs. Corequisite: MTH 175. Lecture: 2 hours per week.

MTH 240
Statistics
(3 credits)
Presents an overview of statistics, including descriptive statistics, elementary probability, probability distributions, estimation, hypothesis testing, and correlation and regression. Prerequisites: a placement recommendation for MTH 240 and MTH 163 or MTH 166 or equivalent. (Credit will not be awarded for both MTH 240 and MTH 241.) Lecture: 3 hours per week.

MTH 241
Statistics I
(3 credits)
Covers descriptive statistics, elementary probability, probability distributions, estimation and hypothesis testing. Prerequisites: a placement recommendation for MTH 241 and MTH 163 or MTH 166 or equivalent. (Credit will not be awarded for both MTH 240 and MTH 241.) Lecture: 3 hours per week.

MTH 270
Applied Calculus
(3 credits)
Introduces limits, continuity, differentiation and integration of algebraic and transcendental functions, techniques of integration, and partial differentiation. Prerequisite: MTH 163 or MTH 166 or equivalent. (Credit will not be awarded for both MTH 270 and MTH 271.) Lecture: 3 hours per week.

MTH 273
Calculus I
(4 credits)
Presents topics in differential calculus of one variable, including the theory of limits, derivatives, differentials, definite and indefinite integrals and applications to algebraic and transcendental functions. Designed for mathematical, physical and engineering science programs. Prerequisites: a placement recommendation for MTH 273 and four units of high school mathematics, including Algebra I, Algebra II, Geometry and Trigonometry, or equivalent. (Credit will not be awarded for more than one of the following courses: MTH 173, MTH 175 or MTH 273.) Lecture: 4 hours per week.

MTH 274
Calculus II
(4 credits)
Covers vectors in three dimensions, definite integrals, methods of integration, indeterminate forms, partial differentiation and multiple integrals. Designed for mathematical, physical and engineering science programs. Prerequisite: MTH 273 or equivalent. (Credit will not be awarded for more than one of the following courses: MTH 174, MTH 176 or MTH 274.) Lecture: 4 hours per week.

MTH 277
Vector Calculus
(4 credits)
Presents vector valued functions, partial derivatives, multiple integrals, and topics from the calculus vectors. Designed for mathematical, physical, and engineering science programs. Prerequisite: MTH 174 or equivalent. Lecture: 4 hours per week.

MTH 279
Ordinary Differential Equations
(4 credits)
Introduces ordinary differential equations. Includes first order differential equations, second and higher order ordinary differential equations with application. Designed for mathematical, physical, and engineering science programs. Prerequisite: MTH 174 or equivalent. Lecture: 4 hours per week.

MTH 285
Linear Algebra
(3 credits)
Covers matrices, vector spaces, determinants, solutions of systems of linear equations, basis and dimension, eigen values, and eigen vectors. Designed for mathematical, physical and engineering science programs. Prerequisite: MTH 174 or equivalent. Lecture: 3 hours per week.

Mechanical Engineering Technology

MEC 101 – 102
Introduction to Engineering Technology I – II
(2 credits each)
Introduces engineering technology. Provides historical background. Covers such topics as professional ethics; problem solving techniques involving forces, structures, materials, fluids, energy, and electricity
and U.S. Customary and S.I. units, and unit conversions. Lecture: 2 hours per week.

**MEC 113**  
**Materials and Processes of Industry**  
(3 credits)  
Studies engineering materials and accompanying industrial manufacturing processes. Investigates nature of materials structure and properties from a design standpoint. Analyzes both the effects of various processes on materials and the processes themselves. Includes machining, casting, forming, molding, hot/cold working, machining and welding. Addresses quality assurance and inspection procedures. Lecture: 3 hours per week.

**MEC 154**  
**Mechanical Maintenance I**  
(3 credits)  
Provides an overview of basic maintenance techniques and processes for industrial mechanics and technicians who are installing and maintaining industrial mechanical and power transmission components. Lecture: 2 – 3 hours. Laboratory: 0 – 2 hours. Total: 3 – 4 hours per week.

**MEC 211 – 212**  
**Machine Design I – II**  
(4 credits each)  
Introduces analytical design of bearings, clutches, coupling, brakes, springs, gearing systems and power shafting. Emphasizes methods of construction, machine parts and specifications of materials, and manufacturing processes. MEC 212 prerequisite: MEC 211. Lecture: 3 hours. Laboratory: 3 hours. Total: 6 hours per week.

**MEC 254**  
**Mechanical Maintenance II**  
(3 credits)  
Covers advanced maintenance techniques and processes for industrial mechanics and technicians who are installing and maintaining industrial mechanical and power transmission components. Lecture: 2 – 3 hours. Laboratory: 0 – 2 hours. Total 3 – 4 hours per week.

**MEC 266**  
**Applications of Fluid Mechanics**  
(3 credits)  
Teaches theory of hydraulic and pneumatic circuits including motors, controls, actuators, valves, plumbing, accumulators, reservoirs, pumps, compressors, and filters. Lecture: 3 hours per week.

**Music**

**MUS 111 – 112**  
**Music Theory I – II**  
(4 credits each)  
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. Laboratory: 2 hours. Total: 5 hours per week.

**MUS 121 – 122**  
**Music Appreciation I – II**  
(3 credits each)  
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 125**  
**American Music**  
(3 credits)  
Presents the development of music in America from early colonists to the present, in light of philosophical, political, geographical and sociological developments. Lecture: 3 hours per week.

**MUS 131 – 132**  
**Class Voice I – II**  
(2 credits each)  
Introduces the many aspects of singing from the physical act through the aesthetic experience. The course is designed for the beginning singer who desires vocal improvement, and for the voice major as an addition to and extension of skills and knowledge necessary for artistic development. Introduces appropriate repertoire. Lecture: 1 hour. Laboratory: 2 hours. Total: 3 hours per week.

**MUS 166**  
**String Ensemble**  
(1 – 2 credits)  
Ensemble consist of performance from the standard repertoires, including study of ensemble techniques and interpretation. Divisional approval required. May be repeated for credit. Laboratory: 3 – 6 hours per week.

**MUS 211 – 212**  
**Advanced Music Theory I – II**  
(4 credits each)  
Increases facility in the analysis and usage of diatonic and chromatic harmonies. Continues harmonic analysis of Bach style. Includes exercises in sight-singing, ear-training and keyboard harmony. Prerequisite: MUS 111 – 112 or equivalent. Lecture: 3 hours. Laboratory: 2 hours. Total: 5 hours per week.
Nursing I

Introduces nursing principles including concepts of health and wellness and the nursing process. Develops nursing skills to meet the biopsychosocial needs of individuals across the lifespan. Includes math computational skills, basic computer instruction related to the delivery of nursing care, communication skills, introduction to nursing, health, the health care system, legal aspects of nursing care, diagnostic testing, assessment, teaching and learning, asepsis, body mechanics and safety, personal care, activity/rest, wound care, nutrition, elimination, oxygenation, fluid and electrolytes, pain control, medication administration, aging populations and pre/post operative care. Provides supervised learning experiences. Lecture: 1 – 7 hours. Laboratory: 2 – 21 hours. Total: 9 – 22 hours per week.

Nursing II

Focuses on the nursing care of adults experiencing changes along the health/illness continuum that are common, well-defined, and have predictable outcomes. Includes math computational skills, basic computer instruction related to the delivery of nursing care; acid-base balance, gastrointestinal, genitourinary, musculoskeletal, immunology, oncology, sensori-neural, infectious diseases, endocrine, respiratory and blood disorders and care of the dying client. Provides supervised learning experiences in college nursing laboratories and/or cooperating agencies. Lecture: 1 – 7 hours. Laboratory: 3 – 21 hours. Total: 9 – 22 hours per week.

LPN Transition

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 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. (This course has been approved by the vice chancellor as an exception to the variable credit policy.) Lecture: 1 – 7 hours. Laboratory: 0 – 18 hours. Total: 2 – 19 hours per week.

Drug Dosage Calculations

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: 1 – 2 hours per week.

Medical/Surgical Nursing I

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: 1 – 3 hours. Laboratory: 2 – 9 hours. Total: 5 – 10 hours per week.

Acute Medical-Surgical Nursing

Focuses on the use of nursing process to provide care to individuals/families with acute medical or surgical problems or to prevent such problems. Includes math computational skills and basic computer instruction related to the delivery of nursing care. Provides supervised learning experiences in cooperating agencies. Lecture: 1 – 5 hours. Laboratory: 2 – 15 hours. Total: 7 – 16 hours per week.

Second Level Nursing Principles and Concepts

Focuses on nursing care of individuals, families, and/or groups with multidimensional needs in a variety of settings. Uses all components of the nursing process with increasing degrees of skill. Includes math computational skills, basic computer instruction related to the delivery of nursing care and nursing care related to infectious, immunological, oncological, hematological, gastrointestinal, vascular, sensory, genitourinary musculoskeletal, regulatory, endocrine, and women's health disorders and pre/intra/post operative care. Provides supervised learning experiences in cooperating agencies.
learning experiences in college nursing laboratories and/or cooperating agencies. Lecture: 1 – 9 hours. Laboratory: 2 – 27 hours. Total: 11 – 28 hours per week.

NUR 223
Second Level Nursing Principles and Concepts III
(9 – 10 credits)
Focuses on nursing care of individuals, families, and/or groups with multidimensional needs related to medical/surgical disorders in a variety of settings. Uses all components of the nursing process with increasing degrees of skill. Includes math computational skills, basic computer instruction related to the delivery of nursing care; nursing care related to organ procurement; emergency care; and, cardiac, respiratory, endocrine vascular, burn, immunological, neurological, hematological disorders. Provides supervised learning experiences in college nursing laboratories and/or cooperating agencies. Lecture: 1 – 9 hours. Laboratory: 3 – 27 hours. Total: 11 – 28 hours per week.

NUR 226
Health Assessment
(2 – 3 credits)
Introduces the systematic approach to obtaining a health history and performing a physical assessment. Lecture: 0 – 2 hours. Laboratory: 2 – 9 hours. Total: 3 – 9 hours per week.

NUR 245
Maternal/Newborn Nursing
(3 – 4 credits)
Develops nursing skills in caring for families in the antepartum, intrapartum, and post-partum periods. Lecture: 1 – 3 hours. Laboratory: 0 – 9 hours. Total: 3 – 9 hours per week.

NUR 246
Parent/Child Nursing
(3 – 4 credits)
Develops nursing skills in caring for both well and ill children in a variety of settings. Emphasizes theories of growth and development and the family as a unit. Lecture: 1 – 3 hours. Laboratory: 0 – 9 hours. Total: 3 – 9 hours per week.

NUR 247
Psychiatric/Mental Health Nursing
(3 – 4 credits)
Develops nursing skills in caring for individuals, families, and/or groups with mental health needs. Explores various treatment models, diagnostic categories, and rehabilitative measures. Lecture: 1 – 3 hours. Laboratory: 0 – 9 hours. Total: 3 – 9 hours per week.

NUR 254
Dimensions of Professional Nursing
(1 – 2 credits)
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 – 2 hours per week.

Philosophy

PHI 101 – PHI 102
Introduction to Philosophy I – II
(3 credits each)
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)
Introduces inductive and deductive reasoning with an emphasis on common errors and fallacies. Lecture: 3 hours per week.

PHI 115
Practical Reasoning
(3 credits)
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 200
The History of Western Philosophy
(3 credits)
Offers a brief historical survey of major philosophers from the pre-Socratics to the present. Lecture: 3 hours per week.

PHI 211 – PHI 212
The History of Western Philosophy I – II
(3 credits each)
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)
Provides a systematic study of representative ethical systems. Lecture: 3 hours per week.

PHI 228
Ethics for Business and the Professions
(3 credits)
Examines fundamental concepts, contemporary issues, and normative principles influencing business and professional practices in the context of major ethical systems. Lecture: 3 hours per week.

PHI 227
Bio-Medical Ethics
(3 credits)
Examines the ethical implications of specific biomedical issues in the context of major ethical systems. Lecture: 3 hours per week.

PHI 225
Philosophy of Religion
(3 credits)
Examines problems raised by arguments for and against the existence of God and discusses such topics as the nature of God, the nature of religious experience, the problem of evil, religious truth and language,
immortality, miracles, spirituality, and the relation between philosophy and theology. Lecture: 3 hours per week.

PHI 276
Women and Western Philosophy
(3 credits)
Studies the concept, role and clue of women in the canon of Western Philosophy from Plato to contemporary philosophy. Discusses controversies in feminist social ethics, including marketing femininity, pornography, censorship, women in the work force and women's fertility. Lecture: 3 hours per week.

Photography

PHT 101 – 102
Photography I – II
(3 credits each)
Teaches principles of photography and fundamental camera techniques. Requires outside shooting and lab work. Lecture: 1 hour. Laboratory: 4 hours. Total: 5 hours per week.

PHT 105
Basic Photography
(3 – 4 credits)
Studies fundamental techniques of the camera and its expressive possibilities. Lecture: 2 – 4 hours. Laboratory: 0 – 3 hours. Total: 3 – 7 hours per week.

PHT 221 – 222
Studio Lighting I – II
(3 credits each)
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. Prerequisite: PHT 102 or equivalent. Lecture: 2 hours. Laboratory: 3 hours. Total: 5 hours per week.

PHT 264
Digital Photography
(3 credits)
Teaches theory and practice of digital photography. Emphasizes use of digital cameras in studio and on location. Teaches advanced techniques of image editing. Provides training in digital image transmission from remote locations. Prerequisites: PHT 101 and ART 283 or PHT 135. Lecture: 2 hours. Laboratory: 3 hours. Total: 5 hours per week.

Physical Education and Recreation

PED 101 – 102
Fundamentals of Physical Activity I – II
(1 – 2 credits each)
Provides a study of fitness and wellness and their relationship to a healthy lifestyle. Defines fitness and wellness, evaluates the student's level of fitness and wellness, and motivates the student to incorporate physical fitness and wellness into daily living. A personal fitness/wellness plan is required for the 2-credit course. Lecture: 1 – 2 hours. Laboratory: 0 – 2 hours. Total: 1 – 3 hours per week.

PED 111 – 112
Weight Training I – II
(1 – 2 credits each)
Focuses on muscular strength and endurance training through individualized workout programs. Teaches appropriate use of weight equipment. Lecture: 1 – 2 hours. Laboratory: 0 – 2 hours. Total: 1 – 3 hours per week.

PED 116
Lifetime Fitness and Wellness
(1 – 2 credits)
Provides a study of fitness and wellness and their relationship to a healthy lifestyle. Defines fitness and wellness, evaluates the student's level of fitness and wellness, and motivates the student to incorporate physical fitness and wellness into daily living. A personal fitness/wellness plan is required for the 2-credit course. Lecture: 1 – 2 hours. Laboratory: 0 – 2 hours. Total: 1 – 4 hours per week.

PED 123 – 124
Tennis I – II
(1 – 2 credits each)
Teaches tennis skills with emphasis on stroke development and strategies for individual and team play. Includes rules, scoring, terminology and etiquette. Lecture: 1 – 2 hours. Laboratory: 0 – 2 hours. Total: 1 – 3 hours per week.

PED 133 – 134
Golf I – II
(1 – 2 credits each)
Teaches basic skills of golf, rules, etiquette, scoring, terminology, equipment selection and use and strategy. Lecture: 1 – 2 hours. Laboratory: 0 – 2 hours. Total: 1 – 3 hours per week.

PED 154
Volleyball
(1 – 2 credits)
Introduces skills, techniques, strategies, rules, and scoring. Lecture: 1 – 2 hours. Laboratory: 0 – 2 hours. Total: 1 – 3 hours per week.

Physics

PHY 101 – 102
Introduction to Physics I – II
(4 credits)
Surveys general principles of physics. Includes topics such as force and motion, energy, heat, sound, light, electricity and magnetism, and modern physics. Lecture: 3 hours. Laboratory: 3 hours. Total: 6 hours per week.

PHY 121 – 122
Principles of Physics I – II
(4 credits each)
Covers fundamental principles of physics. Includes mechanics, thermodynamics, wave phenomena, electricity and magnetism and
selected topics from modern physics. Prerequisites: 2 units of high school algebra and one unit of high school geometry or equivalent. Lecture: 3 hours. Laboratory: 3 hours. Total: 6 hours per week.

**PHY 130**
Survey of Applied Physics  
(3 credits)
Surveys topics such as heat, electricity and light with emphasis on practical applications. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week.

**PHY 201 – 202**
General College Physics I – II  
(4 credits each)
Teaches fundamental principles of physics. Covers mechanics, thermodynamics, wave phenomena, electricity and magnetism and selected topics in modern physics. Prerequisite: MTH 165 or equivalent. Lecture: 3 hours. Laboratory: 3 hours. Total: 6 hours per week.

**PHY 231 – 232**
General University Physics I – II  
(5 credits each)
Teaches principles of classical physics. Includes mechanics, wave phenomena, heat, electricity, magnetism and optics, with extended coverage on selected topics. Includes recitation as part of the lecture. PHY 231 prerequisite: MTH 173 or MTH 174. PHY 232 prerequisite: PHY 231. Lecture: 4 hours. Laboratory: 2 hours. Total: 6 hours per week.

**Political Science**

**PLS 135**
American National Politics  
(3 credits)
Teaches political institutions and processes of the national government of the United States, focuses on the U.S. Congress, presidency and the courts and on their interrelationships. Gives attention to public opinion, suffrage, elections, political parties, interest groups, civil rights, domestic policy and foreign relations. Lecture: 3 hours per week.

**PLS 211 – 212**
U.S. Government I – II  
(3 credits each)
Teaches structure, operation, and process of national, state, and local governments. Includes in-depth study of the three branches of the government and of public policy. Lecture: 3 hours per week.

**PLS 241**
International Relations I  
(3 credits)
Teaches geographic, demographic, economic, ideological and other factors conditioning the policies of countries and discusses conflicts and their adjustment. Lecture: 3 hours per week.

**Psychology**

**PSY 116**
Psychology of Death and Dying  
(3 credits)
Focuses on psychological aspects of death and dying. Teaches the meaning of death and ways of handling its personal and social implications. Includes psychological, sociological, cultural, and religious views of death. Lecture: 3 hours per week.

**PSY 126**
Psychology for Business and Industry  
(3 credits)
Focuses on the application of psychology to interpersonal relations and the working environment. Includes topics such as group dynamics, motivation, employee-employer relationship and interpersonal communications. May include techniques for selection and supervision of personnel. Lecture: 3 hours per week.

**PSY 200**
Principles of Psychology  
(3 credits)
Surveys the basic concepts of psychology. Covers the scientific study of behavior, behavioral research methods and analysis, and theoretical interpretations. Includes topics that cover physiological mechanisms, sensation/perception, motivation, learning, personality, psychopathology, therapy, and social psychology. Lecture: 3 hours per week.

**PSY 201 – 202**
Introduction to Psychology I – II  
(3 credits each)
Examines human and animal behavior, relating experimental studies to practical problems. Includes topics such as sensation and perception, learning, memory, motivation, emotion, stress, development, intelligence, personality, psychopathology, therapy and social psychology. Lecture: 3 hours per week.

**PSY 203**
Principles of Psychology Laboratory  
(1 credit)
Teaches the basic principles of behavioral research methods and analysis. Presents instruments, equipment, and research techniques used in psychological experimentation and evaluation. Should be taken concurrently with PSY 200. Laboratory: 2 – 3 hours per week.

**PSY 215**
Abnormal Psychology  
(3 credits)
Explores historical views and current perspectives of abnormal behavior. Emphasizes major diagnostic categories and criteria, individual and social factors of maladaptive behavior and types of therapy. Includes methods of clinical assessment and research strategies. Prerequisite: PSY 200, PSY 201 or PSY 202. Lecture: 3 hours per week.
**PSY 225**  
**Theories of Personality**  
(3 credits)  
Studies the major personality theories and their applications. Includes psychodynamic, behavioral, cognitive and humanistic perspectives. Prerequisite: PSY 200, PSY 201 or PSY 202. Lecture: 3 hours per week.

**PSY 230**  
**Developmental Psychology**  
(3 credits)  
Studies the development of the individual from conception to death. Follows a life-span perspective on the developmental tasks of the person's physical, cognitive and psychosocial growth. Lecture: 3 hours per week.

**PSY 235**  
**Child Psychology**  
(3 credits)  
Studies development of the child from conception to adolescence. Investigates physical, intellectual, social and emotional factors involved in the child's growth. Lecture: 3 hours per week.

**PSY 265**  
**Psychology of Men and Women**  
(3 credits)  
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. Prerequisites: PSY 125, PSY 200, PSY 201 or PSY 202. Lecture: 3 hours per week.

**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 and concepts, real estate mathematics, financing, agency, appraisal, fair housing and management of real estate. Lecture: 4 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 of conventional and government insured and guaranteed loans. 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.

**Religion**

**REL 100**  
**Introduction to the Study of Religion**  
(3 Credits)  
Explores various religious perspectives and ways of thinking about religious themes and religious experience. Lecture: 3 hours per week.

**REL 200**  
**Survey of the Old Testament**  
(3 credits)  
Surveys books of the Old Testament, with emphasis on prophetic historical books. Examines the historical and geographical setting and place of the Israelites in the ancient Middle East as background to the writings. Lecture: 3 hours per week.

**REL 210**  
**Survey of the New Testament**  
(3 credits)  
Surveys books of the New Testament, with special attention upon placing the writings within their historical and geographical setting. Lecture: 3 hours per week.

**REL 216**  
**Life & Teachings of Jesus**  
(3 credits)  
Studies the major themes in the teachings of Jesus of Nazareth as recorded in the Gospels, and examines the events of his life in light of modern biblical and historical scholarship. Lecture: 3 hours per week.

**REL 230**  
**Religions of the World**  
(3 credits)  
Introduces religions of the world with attention to origin, history and doctrine. Lecture: 3 hours per week.

**REL 231 – 232**  
**Religions of the World I – II**  
(3 credits each)  
Studies religions of the world with attention to origin, history and doctrine. Lecture: 3 hours per week.
REL 237
Eastern Religions
(3 credits)
Studies major religious traditions of the East, including Hinduism, Buddhism, Confucianism, Taoism and Zen Buddhism. Includes an analysis of Eastern philosophy and approach to life. Lecture: 3 hours per week.

REL 238
Western Religions
(3 credits)
Studies major traditions of the West that may include, but are not limited to, Judaism, Zoroastrianism, Christianity, Near East, Greek and Roman, African, Native American, European Pagan and New Age spirituality. Lecture: 3 hours per week.

REL 240
Religions in America
(3 credits)
Surveys various manifestations of religion in the American experience. Emphasizes concepts, problems and issues of religious pluralism and character of American religious life. Lecture: 3 hours per week.

REL 247
History of Christianity
(3 credits)
Surveys the development of Christianity from its origins to the present. Lecture: 3 hours per week.

SOC 200
Principles to Sociology
(3 credits)
Introduces fundamentals of social life. Presents significant research and theory in areas such as culture, social structure, socialization, deviance, social stratification, and social institutions. Lecture: 3 hours per week.

SOC 201 – 202
Introduction to Sociology I – II
(3 credits each)
Introduces basic concepts and methods of sociology. Presents significant research and theory in areas such as socialization, group dynamics, gender roles, minority group relations, stratification, deviance, culture and community studies. Includes population, social change and social institutions (family, education, religion, political system and economic systems). Lecture: 3 hours per week.

SOC 210
Survey of Physical and Cultural Anthropology
(3 credits)
Examines physical characteristics and lifestyles of human ancestors and present populations. Explores cultures from around the world to study diverse adaptations made by humans. Lecture: 3 hours per week.

SOC 215
Sociology of the Family
(3 credits)
Studies topics such as marriage and family in social and cultural context. Addresses the single scene, dating and marriage styles, child-rearing, husband and wife interaction, single parent families and alternative lifestyles. Lecture: 3 hours per week.

SOC 246
Death and Society
(3 credits)
Analyzes death and its relationship to social behavior and societal institutions. Focuses attention on types of death, bereavement, funerals, estate planning/inheritance and the student’s own responses to these issues. Lecture: 3 hours per week.

SOC 266
Minority Group Relations
(3 credits)
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)
Applies sociological concepts and methods to analysis of current social problems. Includes delinquency and crime, mental illness, drug addition, 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 – 5 credits each)
Introduces understanding, speaking, reading and writing skills and emphasizes basic Spanish sentence structure. May include one additional hour of oral drill and practice per week. Lecture: 4 – 5 hours per week.

SPA 103 – 104
Basic Spoken Spanish I – II
(3 credits each)
Teaches oral communication and introduces cultural mores and customs to students with no prior instruction in the language. Lecture: 3 hours per week.

SPA 150
Spanish for Law Enforcement
(3 credits)
Introduces Spanish to those in the criminal justice field. Emphasizes oral communication and practical first-hand police and justice vocabulary. May include oral drill and practice. Lecture: 3 hours per week.
SPA 163 – 164
Spanish for Health Professionals I – II
(3 credits each)
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
(3 – 4 credits each)
Continues to develop understanding, speaking, reading, and writing skills. Prerequisite: SPA 102 or equivalent. May include oral drill and practice. Lecture: 3 – 4 hours per week. May include one additional hour of oral practice per week.

Speech and Drama

SPD 100
Principles of Public Speaking
(3 credits)
Applies theory and principles of public address with emphasis on preparation and delivery. Lecture: 3 hours per week.

SPD 105
Oral Communication
(2 – 3 credits)
Studies effective communication with emphasis on speaking and listening. Lecture: 2 – 3 hours per week.

SPD 115
Small Group Communication
(3 credits)
Emphasizes the development of presentational ability in a group, decision-making, group maintenance, and leadership and participant skills. Incorporates a preliminary study of group dynamics. Lecture: 3 hours per week.

SPD 130
Introduction to the Theatre
(3 credits)
Survey the principles of drama, the development of theatre production and selected plays to acquaint the student with various types of theatrical presentations. Lecture: 3 hours per week.

SPD 131 – 132
Acting I – II
(3 credits each)
Develops personal resources and explores performance skills through such activities as theatre games, role playing, improvisation, work on basic script units and performance of scenes. Lecture: 2 hours. Laboratory: 3 hours. Total: 5 hours per week.

SPD 136
Theatre Workshop
(1 – 6 credits)
Enables students to work in various activities of play production. The student participates in performance, set design, stage carpentry, sound, costuming, lighting, stage managing, props, promotion or stage crew. May be repeated for credit. Variable hours per week.

SPD 228
Persuasion
(3 credits)
Studies practical message strategies and argumentation in such areas as business, politics, mass media and campaigns. Emphasizes practical application. Lecture: 3 hours per week.

SPD 231 – 232
History of Theatre I – II
(3 credits each)
Analyzes and studies theatre history to include architecture, performers and performance, playwrights, stage, production methods and audience from the Greeks through modern drama. Lecture: 3 hours per week.

SPD 241 – 242
Introduction to Directing I – II
(3 credits each)
Introduces theory and practice of stage direction through the study of directing methods as well as the execution and discussion of directing exercises. Prerequisite: SPD 131 – 132 or divisional approval. Lecture: 2 hours. Laboratory: 2 hours. Total: 4 hours per week.

SPD 267
Creative Drama
(3 credits)
Explores uses of drama through story dramatization, role-playing, and sensory exercises. Lecture: 3 hours per week.

Student Development

SDV 100
College Success Skills
(1 credit)
Assists students in transition to colleges. Provides overviews of college policies, procedures, curricular offerings. Encourages contact 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 101
Orientation to (Discipline)
(1 credit)
Introduces students to the skills which are necessary to achieve their academic goals, to services offered at the college and to the discipline
SDV 107
Career Education
(1 – 3 credits)
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: 1 – 3 hours per week.

SDV 108
College Survival Skills
(1 – 3 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: 1 – 3 hours per week.

Telecommunications Management

TEL 150
Internetworking I
(3 – 4 credits)
Introduces the functions of each layer of the ISO/OSI reference model, data link and network addresses, data encapsulation, different classes of IP addresses and subnetting and the functions of the TCP/IP network-layer protocols. Lecture: 2 – 3 hours. Laboratory: 2 – 3 hours. Total: 4 – 6 hours per week.

TEL 151
Internetworking II
(3 – 4 credits)
Teaches features of the Cisco IOS software, including log in, context-sensitive help, command history and editing, loading software, configuring and verifying IP addresses, preparing the initial configuration of a router, and adding routing protocols to the router configuration. Prerequisite: TEL 150. Lecture: 2 – 3 hours. Laboratory: 2 – 3 hours. Total: 4 – 6 hours per week.

TEL 250
Internetworking III
(3 – 4 credits)
Studies the advantages of LAN segmentation using bridges, routers, and switches, Fast Ethernet configuring access lists, Covers Spanning Tree Protocol and Virtual LANs. Prerequisite: TEL 151. Lecture: 2 – 3 hours. Laboratory: 2 – 3 hours. Total: 4 – 6 hours per week.

TEL 251
Internetworking IV
(3 – 4 credits)
Focuses on the differences between the following WAN services: LAPB, Frame Relay, ISDN/LAP HDLC, PPP, and DDR.

Prerequisite: TEL 250. Lecture: 2-3 hours. Laboratory: 2 – 3 hours. Total: 4 – 6 hours per week.

Welding

WEL 117
Oxyfuel Welding and Cutting
(4 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. Laboratory: 6 hours. Total: 8 hours per week.

WEL 123
Shielded Metal Arc Welding (Basic)
(4 credits)
Teaches operation of AC and DC power sources, welding polarities, heats and electrodes for use in joining various metal alloys by the arc welding process. Deals with running beads, butt and fillet welds in all positions. Emphasizes safety procedures. Lecture: 2 hours. Laboratory: 6 hours. Total: 8 hours per week.

WEL 124
Shielded Metal Arc Welding (Advanced)
(4 credits)
Continues instruction on operation of AC and DC power sources, welding polarities, heats and electrodes for use in joining various metal alloys by the arc welding process. Deals with running beads, butt and fillet welds in all positions. Emphasizes safety procedures. Lecture: 2 hours. Laboratory: 6 hours. Total: 8 hours per week.

WEL 126 – 127
Pipe Welding I – II
(4 credits each)
Teaches arc welding processes including the welding of pressure piping in the horizontal, vertical and horizontal-fixed positions in accordance with codes and standards. Lecture: 2 hours. Laboratory: 6 hours. Total: 8 hours per week.

WEL 130
Inert Gas Welding
(4 credits)
Introduces practical operations in the uses of inert-gas-shield arc welding. Discusses equipment, safety operations, welding practice in the various positions, process applications and manual and semi-automatic welding. Lecture: 2 hours. Laboratory: 6 hours. Total: 8 hours per week.

WEL 160
Gas Metal Arc Welding
(4 credits)
Introduces semi-automatic welding processes with emphasis on practical application. Includes the study of filler wires, fluxes and gases. Lecture: 2 hours. Laboratory: 6 hours. Total: 8 hours per week.
State Board for Community Colleges

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John Tyler Community College

Marshall W. Smith, President
For a continually updated list of John Tyler Community College faculty and staff, please visit the College web site at www.jtcc.edu
Administration

**President**
Smith, Marshall W.
BA, University of Alabama; MEd, West Georgia College; PhD, University of Alabama

**President Emeritus**
Nicholas Sr., Freddie W.
BS, MS, Virginia State University; PhD, University of Virginia

**STAFF**
Hilliar, Mara M.
Executive Assistant to the President
BA, University of Virginia

**President’s Cabinet**
Drinkwater, L. Ray
Dean, Student Services
BA, Virginia Commonwealth University; MEd, University of Virginia; PhD, Virginia Commonwealth University

Griffith, Cynthia W.
Director, Institutional Effectiveness
BA, Radford University; MA, Virginia Commonwealth University; MEd, University of Virginia

Hilliar, Mara M.
Executive Assistant to the President
BA, University of Virginia

Horton, Joanne M.
Director, College Relations & Special Assistant to the President
AAS, State University of New York-Cobleskill; BS, Old Dominion University

Martin, Mirta M.
Executive Director, John Tyler Community College Foundation
BS, Duke University, MBA, University of Richmond; PhD, Virginia Commonwealth University

McGinty, Louis L.
Vice President, Community College Workforce Alliance
BS, United States Naval Academy; MS, United States Naval Postgraduate School

Taylor, William F.
Vice President, Finance & Administration
BS, East Carolina University; MPA, Virginia Commonwealth University

**Student Affairs**

**Dean**
Drinkwater, L. Ray
BA, Virginia Commonwealth University; MEd, University of Virginia; PhD, Virginia Commonwealth University

**STAFF**
Haas, C. Denise
Senior Administrative Assistant

Jenkins, Ellen D.
Administrative Assistant

Kim, Sharon
Assistant Coordinator, Student Affairs
BA, Rice University; MEd, University of Texas

Watkins, Shirlwin E.
Lead Information Center Representative
BBA, James Madison University

Wilkins, Adrienne
Manager, Information Center
BS, University of Maryland; MA, Teachers College, Columbia University

**Counseling and Student Success Services - Chester**
Harrison, Betsy T.
Director, Counseling Services
BA, MEd, EdS, EdD, College of William & Mary

Hightower, Helen C.
Professional Counselor
BS, East Carolina University; MAEd, Western Carolina University

Rose, Deborah B.
Student Services Specialist
AA, Hartford Community College; BS, University of Maryland

Sorrell, Heather R.
Academic Advisor
BS, James Madison University

Sorrell, Patsy A.
Administrative Assistant
BS, Radford University; MEd, George Mason University

Snyder, Kimberly M.
Student Services Specialist
BS, James Madison University; MEd, Virginia Commonwealth University

Tindall, Michelle D.
Professional Counselor
BA, MEd, Virginia State University

**Counseling and Student Success Services - Midlothian**
Pfautz, Charles V.
Director, Counseling Services
BSW, MAED, East Carolina University

Harrison, Bettyanne F.
Professional Counselor
BS, MS, Virginia Commonwealth University

McKelvey, Simone
Academic Advisor
BA, University of Virginia; MS, Longwood University

Royall, Carole D.
Professor Emeritus, Counseling
BA, Westhampton College; MS, Florida State University; PhD, University of Virginia
Sostaric, Mary L.
Administrative Assistant
Stevens-Davis, Michelle
Student Services Specialist
BS, Virginia Commonwealth University
Taylor, Judy L.
Student Services Specialist
BS, Virginia Commonwealth University; MS, Longwood College
Varney, Ruth A.
Professional Counselor
BS, Auburn University; MEd, Virginia Commonwealth University

VETERANS AFFAIRS AND TESTING
Bennett, William A.
Coordinator
BA, Columbia Bible College; BS, Taylor University; MEd, College of William and Mary; Certificate of Advanced Studies, College of William and Mary

ADMISSIONS AND RECORDS
James, Joy R.
Director, Admissions and Records and College Registrar
BS, East Carolina University
Baxter, Leigh B.
Enrollment Specialist
BS, MS, Virginia Commonwealth University
Goldstein, Jennifer A.
Enrollment Specialist
BS, Rochester Institute of Technology; MS, Nazareth College
Harvey, Marilyn M.
Enrollment Specialist
AA&S, John Tyler Community College
Henley, Barbara D.
Enrollment Specialist
Howell, Tracey R.
Assistant Registrar
BA, Temple University
McWaters, Paulette N.
Enrollment Specialist
AA&S, John Tyler Community College
Reed, Juanita
Enrollment Specialist
Silvey, Cynthia D.
Enrollment Specialist
Szwarc, Carolyn S.
Enrollment Specialist
AAS, John Tyler Community College

College Relations
DIRECTOR, COLLEGE RELATIONS AND SPECIAL ASSISTANT TO THE PRESIDENT
Horton, Joanne M.
AAS, State University of New York – Cobleskill; BS, Old Dominion University
STAFF
Carrington, Meredith T.
Graphic Designer
BA, Mary Baldwin College
Kendrick, Lisa M.
Events Specialist
BA, Mary Baldwin College
McIver, Heather C.
Public Relations Specialist
BA, University of Virginia; MA, Virginia Commonwealth University
Walker, Holly W.
Public Relations Specialist
BS, Virginia Commonwealth University
Wallner, Drew T.
Webmaster

Academic and Student Services
VICE PRESIDENT (Vacant)
STAFF
Harrison, Denise S.
Senior Administrative Assistant

Division of Arts and Sciences
DEAN
Alexander, A. Donna
BA, MS, PhD, Virginia Commonwealth University
Brown, Mikell W.
Associate Dean, Arts & Sciences
BFA, MA, PhD, Virginia Commonwealth University

FACULTY
Beyer, Joressia A.
Associate Professor, Biology
BS, MS, James Madison University
Birdsong, Susan P.
Instructor, Spanish
BA, Denison University; MA, University of Delaware
Britt, Gena C.
Associate Professor, Psychology
BA, Randolph-Macon Woman’s College; PhD, Virginia Commonwealth University
Brooks, Martha F.
Associate Professor, English
BFA, MFA, Virginia Commonwealth University; PhD, Duke University
Burnham, Sharon J.
Instructor, History
BS, Pennsylvania State University; MA, University of Richmond
Carlisle, Steven J.
Assistant Professor, Biology
BS, College of William & Mary; PhD, University of Virginia

Carr, Carol E.
Instructor, Biology
BA, MA, Hampton University

Coll, Mattie J.
Assistant Professor, Reading
BA, MA, University of Iowa; MA, University of Virginia

Copeland, Myrna F.
Associate Professor, Psychology
BA, Florida Atlantic University; MA, Ohio State University; PhD, Atlanta University

Eckman, John
Professor Emeritus, English
BA, Central Missouri State; MA, University of Tennessee; EdD, Ball State University

Elias, Carol D.
Instructor, Mathematics
BS, MS, Virginia State University

Evans, Edgar R.
Professor Emeritus, Physical Education
AA, Ferrum College; BA, Lynchburg College; MS, University of Tennessee; SCT, Murray State University

Ferguson, Colin F.
Associate Professor, Art
BFA, Edinboro University of Pennsylvania; MFA, Ohio University

Fryer, Celia A.
Professor, Spanish
BA, Mars Hill College; MA, PhD, University of North Carolina

Gibson, Michael P.
Assistant Professor, Mathematics
BS, MS, Ohio State University

Golden, David R.
Assistant Professor, English
BA, Mesa State College; MA, Colorado State University

Gwaltney, J. Vernon
Associate Professor, Mathematics
BA, Carson Newman College; MAT, University of Florida

Head, David M.
Professor, History
BA, Furman University; MA, PhD, Florida State University

Jensen, Michael V.
Instructor, English
BA, Brigham Young University; MA, University of Alaska

Johnson, Judith I.
Associate Professor, English
BA, Radford College; MSBA, Boston University; MA, Virginia State University

Jordan, Joseph T.
Associate Professor, Mathematics
BS, St. Edwards University; MEd, Virginia Commonwealth University

Kaplan, Roy I.
Assistant Professor, Chemistry
BS, University of Mississippi; MS, Georgia Institute of Technology; PhD, West Virginia University

Keniston, Leonda W.
Instructor, Sociology
BS, MS, Virginia Commonwealth University

Koch, John C.
Professor, Biology
BA, Kalamazoo College; MA, Western Michigan University; PhD, University of Michigan

LaPointe, Jessica B.
Instructor, Biology
BA, Hollins University; MS, Virginia Commonwealth University

Lonon, C. Brian
Associate Professor, Mathematics
BS, North Carolina State University; MA, Louisiana State University

Mergliano, Jaime L.
Assistant Professor, Biology
BA, Saint Mary’s College; PhD, Carnegie Mellon University

Paden, Mary Grace
Assistant Professor, English
BA, College of William and Mary; MA, Georgetown University

Peterson, Peter R.
Assistant Professor, Mathematics
BA, Edison State College; MA, College of New Jersey

Renault, Pascal D.
Professor, Physics
BS, Ensam, France; MA, PhD, Rice University

Ridley, Yvette
Professor Emeritus, Psychology
BA, Virginia Union University; MS, Virginia Commonwealth University

Singer, Katherine D.
Associate Professor, Psychology
BS, Marywood University; MA, PhD, Fordham University

Smetana, Kristine S.
Associate Professor, Chemistry
BA, Wheaton College; PhD, Virginia Commonwealth University

Smith, Basil E.
Assistant Professor, Philosophy
BA, Purchase College; MA, Claremont Graduate School; PhD, Cardiff University, Wales
Smith, Shannon M.  
Assistant Professor, Chemistry  
BS, University of Southern Mississippi;  
MS, MA, University of Virginia

Speidel, Penny L.  
Associate Professor, Reading  
BA, Ohio Wesleyan University; MS,  
Nazareth College

Sullivan, Kerrigan J.  
Assistant Professor, Speech and  
Drama  
BFA, New York University; MFA,  
Brooklyn College

Tiller, Charlene T.  
Assistant Professor, Speech  
BS, MAE, East Carolina University

Tompkins, Patrick M.  
Associate Professor, English  
BA, Villanova University; MA, Iowa  
State University; MFA, Virginia  
Commonwealth University

Via, Sandra D.  
Associate Professor, English  
BA, Georgetown College; MH, MA,  
University of Richmond

Wentworth, Mary Beth  
Associate Professor, English  
BA, Emory and Henry College; MA,  
College of William and Mary

Williams, James C.  
Professor, Sociology  
BA, North Carolina Central  
University; MA, PhD, University of  
Connecticut

Williams, Kenneth E.  
Associate Professor, Mathematics  
BS, MS, Virginia Commonwealth  
University

Wong, Carmen  
Professor, English  
BA, The King’s College; MA,  
University of Chicago; DA, George  
Mason University

Xu, Yijing  
Professor, Mathematics  
MS, Beijing Normal University; PhD,  
University of Illinois

STAFF  
Lyon, Stacey L.  
Administrative Assistant

Mathieu, Jill Y.  
Administrative Assistant  
CSC, John Tyler Community College

Thomason, Marie W.  
Administrative Assistant  
CSC, AAS, John Tyler Community  
College

Division of  
Professional and  
Technical Studies

DEAN  
Moore, Melody L.  
BS, Michigan State University; MA,  
Western Michigan University; PhD,  
Virginia Commonwealth University

FACULTY  
Barry, Yvonne  
Professor, Human Services  
BSW, MSW, McGill University; EdD,  
University of Massachusetts

Bell, Lester D.  
Instructor, Precision Machining  
Technology

Careatti, John A.  
Instructor, Mechanical Engineering  
BSME, Carnegie Mellon University

Carwile, Julie J.  
Assistant Professor, Business  
Management  
BS, MS, Virginia Commonwealth  
University

Clinger, Terri S.  
Assistant Professor, Nursing  
BS, MS, Old Dominion University

Cohen, Mark A.  
Associate Professor, IST  
BS, Villa Julie College; JD, University  
of Baltimore School of Law

Coleman, Sr., Darrell W.  
Assistant Professor, Welding  
CE/CAWI, Certificate in Welding,  
John Tyler Community College

Cosby, James L.  
Associate Professor, Accounting  
BS, Richmond Professional Institute;  
MS, Virginia Commonwealth  
University

Dail, Edward L.  
Associate Professor, Architectural  
Engineering  
BS, Davidson College; B Arch,  
University of Tennessee; MAT, Duke  
University; Registered Architect

Deets, Barbara A.  
Associate Professor, Nursing  
BS, Boston College; MS, University  
of Lowell

Deutsch-Atwell, Sherri L.  
Assistant Professor, Nursing  
AAS, State University of New York  
– Alfred; BSN, State University of  
New York – Stoney Brook; MSN,  
Boston University

Elliott, Jeffrey S.  
Assistant Professor, IST  
BA, Averett College; MS, Virginia  
Commonwealth University
<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Position</th>
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<tbody>
<tr>
<td>Foster, Andrea C.</td>
<td>Assistant Professor, Business Management</td>
</tr>
<tr>
<td></td>
<td>MS, MBA, University of Maryland</td>
</tr>
<tr>
<td>Freeman, Margaret L.</td>
<td>Assistant Professor, Nursing</td>
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<tr>
<td></td>
<td>BSN, Georgia State University; MS, Emory University</td>
</tr>
<tr>
<td>Gray, Jessica H.</td>
<td>Assistant Professor, Nursing</td>
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<td></td>
<td>BSN, MSN, Virginia Commonwealth University</td>
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<td>Hood, Deborah D.</td>
<td>Associate Professor, IST</td>
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<tr>
<td></td>
<td>BA, Clarion State University; MA, Western Kentucky University; MS, Nova Southeastern University</td>
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<tr>
<td>Hornsby, Barbara J.</td>
<td>Assistant Professor, Nursing</td>
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<tr>
<td></td>
<td>BS, Virginia Commonwealth University</td>
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<tr>
<td>Humphrey, Johnnie F.</td>
<td>Associate Professor, Education</td>
</tr>
<tr>
<td></td>
<td>BS, Virginia Commonwealth University; MEd, Virginia State College</td>
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<tr>
<td>Jones, Sandra P.</td>
<td>Professor, Nursing</td>
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<td></td>
<td>BS, Niagara University; MA, Teachers’ College, Columbia University</td>
</tr>
<tr>
<td>Kennon, Theresa K.</td>
<td>Assistant Professor, Nursing</td>
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<td>BS, MS, Old Dominion University</td>
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<tr>
<td>Leahy, Nancy B.</td>
<td>Assistant Professor, Nursing</td>
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<tr>
<td></td>
<td>BS, University of Virginia; MS, Virginia Commonwealth University</td>
</tr>
<tr>
<td>Miller, Brenda L.</td>
<td>Assistant Professor, IST</td>
</tr>
<tr>
<td></td>
<td>BA, University of Massachusetts; MS, Shenandoah University</td>
</tr>
<tr>
<td>Mueller, Linda A.</td>
<td>Associate Professor, Nursing</td>
</tr>
<tr>
<td></td>
<td>BS, University of Rochester; MS, Syracuse University</td>
</tr>
<tr>
<td>Nunnally, Patti L.</td>
<td>Associate Professor, IST</td>
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<td></td>
<td>BS, MS, Virginia Commonwealth University; EdS, College of William and Mary</td>
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<tr>
<td>Pleasants, Rhonda K.</td>
<td>Assistant Professor, Funeral Services</td>
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<tr>
<td></td>
<td>AAS John Tyler Community College; BS, Virginia Commonwealth University; MS, University of Richmond; Licensed in Funeral Service in Commonwealth of Virginia</td>
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<tr>
<td>Proffitt, Tracey B.</td>
<td>Assistant Professor, Nursing</td>
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<td>BS, MS, Virginia Commonwealth University</td>
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<tr>
<td>Rainey, Chanda D.</td>
<td>Assistant Professor, Nursing</td>
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<td>BS, MS, Old Dominion University</td>
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<tr>
<td>Robinson, Kathleen J.</td>
<td>Assistant Professor, Nursing</td>
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<tr>
<td>Sikon, Richard R.</td>
<td>Assistant Professor, Funeral Services</td>
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<tr>
<td></td>
<td>BS, Virginia Commonwealth University; MLA, University of Richmond</td>
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<tr>
<td>Silva-Santisteban, Patricia</td>
<td>Assistant Professor, IST</td>
</tr>
<tr>
<td></td>
<td>BS, National University of Engineering, Peru; MS, State University of New York</td>
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<td>Singleton, Huey A.</td>
<td>Assistant Professor, Police Science</td>
</tr>
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<td>AA, BS, MS, Virginia Commonwealth University</td>
</tr>
<tr>
<td>Smith, Charles S.</td>
<td>Associate Professor, Nursing</td>
</tr>
<tr>
<td></td>
<td>BA, University of North Carolina; MS, Virginia Commonwealth University</td>
</tr>
<tr>
<td>Ulmer, Deborah L.</td>
<td>Coordinator, Nursing Program</td>
</tr>
<tr>
<td></td>
<td>BS, Virginia Wesleyan College; MEd, PhD, Virginia Commonwealth University</td>
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<tr>
<td>Wyatt, William G.</td>
<td>Professor, Drafting</td>
</tr>
<tr>
<td></td>
<td>AAS, John Tyler Community College; BS, MS, Eastern Kentucky University; EdD, Virginia Polytechnic Institute and State University</td>
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<tr>
<td>STAFF</td>
<td>Bosher, Dianne J.</td>
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<td></td>
<td>Administrative Assistant</td>
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<td>Chaffin, Penny E.</td>
<td>Instructional Assistant</td>
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<tr>
<td>Colcleaser, B. Alice</td>
<td>Instructional Assistant</td>
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<td>Crew, Antonio L.</td>
<td>Instructional Assistant</td>
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<td>AAA, John Tyler Community College</td>
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<tr>
<td>Davis, Sherri M.</td>
<td>Engineering Technologist</td>
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<td>AAS, John Tyler Community College</td>
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<tr>
<td>Fears, Linda P.</td>
<td>Administrative Assistant</td>
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<td>AA, Hagerstown Business College</td>
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</tbody>
</table>
Genung, Ellen K.
Administrative Assistant

Harris, Aretha R.
Administrative Assistant

Mallory, Rena M.
Administrative Assistant
AAS, John Tyler Community College

Division of Extended Learning and Distance Education

DEAN
Tutton, Robert J.
BA, Christopher Newport College;
MS, Virginia Commonwealth University; EdS, College of William and Mary; DA, George Mason University

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Bartos, David P.
Technical Trainer
BA, Carlton University; MA, Webster University

Clarke, Angela B.
Instructional Assistant

Iacopinelli, Janice P.
Enrollment Specialist
BS, Longwood College

Kelly, Kristen D.
Instructional Technologist
BS, Appalachian State University; MEd, East Carolina University

Smith, Rebecca W.
Administrative Assistant

Tucker, Diane
Instructional Designer
BS, MS, Emporia State University

Wallin, Joanne M.
Administrative Assistant

Westcott, Peggy A.
Director, Continuing Education
BS, Cornell University; MAT, Smith College

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BA, Gettysburg College; AMLS, University of Michigan

LIBRARIAN – MIDLOTHIAN CAMPUS
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BA, Mary Washington College; MLS, University of Maryland

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Abu-Saleh, Emad M.
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AAS, South Central Technical College

Kush, Christine M.
Library Specialist
BA, Indiana University

Marsh, Judith R.
Technical Services Specialist
BA, Longwood College

McTague, Peter P.
Library Specialist
BA, Holy Cross College

Painter, Jill A.
Instructional Assistant
BS, University of Central Florida

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(Vacant)

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BS, St. Paul’s College

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WorkKeys Coordinator
AA&S, John Tyler Community College; BA, St. Leo College

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Facilities Coordinator
BS, Michigan State University

Booker, Alicia
Assistant Vice President, Workforce Development
BA, DePaul University; MSA, Central Michigan University

Burrell, Linda D.
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Butler, Katherine C.
Open Enrollment Coordinator
BS, MEd, Virginia Commonwealth University
Campbell, Sharon D.  
Fiscal Technician

Cope, Patricia A.  
WorkKeys Program Support

Dillard, Cara  
Assistant Vice President, Workforce Development  
BS, University of Rhode Island;  
MEd, Virginia Commonwealth University

Hines, Deborah P.  
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Jones, Sandra D.  
Enrollment Specialist

Meredith, Natalie A.  
Contract Training Coordinator  
BA, MBA, Averett University

Mitchell, Fran  
Administrative Assistant

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Contract Administrator  
AAS, John Tyler Community College

Rivera, Sandra M.  
Enrollment Specialist

Scifres, Chantal  
Business Manager  
AS, John Tyler Community College;  
BS, Virginia Commonwealth University

Starks, Canyetta  
Enrollment Specialist

Visger, Deborah J.  
Contract Administrator  
BS, Western Michigan University;  
MBA, University of Richmond

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Administrative Assistant  
BS, Virginia Commonwealth University

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BS, National College of Education;  
Senior Professional Human Resource (SPHR; Certified Public Manager (CPM))

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Ganzert, Kimberly M.  
Payroll/Human Resource Specialist

Maitland, Bonnie B.  
Payroll Administrator

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BS, Virginia State University

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Procurement Specialist

Campbell, Sheila K.  
Lead Cashier  
AA, National Business College

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Procurement Specialist

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Accounts Payable Specialist

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BS, Virginia State University

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AAS, Paul D. Camp Community College

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Assistant Business Manager  
BS, Virginia Commonwealth University
Facilities Operations

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LaClair, Leigh A.
BS, Virginia Polytechnic Institute and State University; MPA, Virginia Commonwealth University

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Wilhelm, John A.
Supervisor, Facilities Operations
AAS, Florida Junior College

Cockrell, Dawn A.
Administrative Assistant
AAS, John Tyler Community College

Chrisman, Timothy B
Lead Housekeeping
BA, Bluefield College

Graves, Robert K.
Housekeeping

Griffin, Melvin M.
Grounds Maintenance

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Housekeeping

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Housekeeping Supervisor

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Building Maintenance

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Patteson, Thomas A.
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Grounds Maintenance

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Ragsdale, Joseph M.
Courier

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Williams, John R.
Supervisor, Facilities Operations

Albright III, James E.
Grounds Maintenance

Danzey, Gus F.
Housekeeping Supervisor

Elrod, Terrence L.
Grounds Maintenance

Griguts, Nicholas P.
Building Maintenance
AAS, Penn State University

Harper, Ronnie T.
Housekeeping

Johnson-Miles, Tamara
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Moore, John W.
Housekeeping

White, Ralph J.
Housekeeping

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Grounds Maintenance

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Rubes, F. Larry
AS, W.W. Holding Technical Institute

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Information Technology Specialist
BA, Roanoke College

Carlson, Amanda J.
Information Technology Specialist
BS, Penn State University

Carwile, Vicky L.
Information Technology Security Officer

Conley, Gregg E.
Information Technology Specialist
AAS, John Tyler Community College

Creggar, Glenn R.
Programmer/Analyst
AAS, John Tyler Community College

Greene, Jeffrey S.
Information Technology Specialist
BS, Winthrop University

Ramirez, Jose
Information Technology Specialist
AAS, John Tyler Community College

Smith, Michael M.
Network Administrator
BS, Frostburg State University

Tookes, LaToria H.
Coordinator, PeopleSoft
BS, Georgia Southwestern College; MS, Nova Southeastern University

Williams, Patricia C.
Media Services Specialist
AAS, John Tyler Community College

Financial Aid

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BS, State University of New York at Plattsburgh; MS, College of Saint Rose
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Brown, Sarah A.
Financial Aid Specialist, Student
Loan Program
BS, Virginia State University

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Administrative Assistant

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Financial Aid Specialist
BIS, Virginia State University

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BS, New York Institute of Technology

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Bermuda Hundred Pre-School

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Child Development Centers

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William N. Bland & Son Funeral Home

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Brown’s Funeral Service

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Hill & Wood Funeral Services

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Mr. Jeffrey Hyler
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Ms. Valerie Randal
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Powhatan Meals on Wheels

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Virginia Cardiovascular Specialists

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John Tyler Community College

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Philip Morris, USA

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Maj. Mason Chalkley
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John Tyler Community College

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Mr. Ted Smook  
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460 Machine Company

Mr. Steven Westerman  
460 Machine Company

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Hill-Phoenix

Mr. Michael Barkle  
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VCU Health Center

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John Tyler Community College

Ms. Barbara Deets  
John Tyler Community College

Ms. Sherri Deutsch-Atwell  
John Tyler Community College

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Chesterfield Technical Center

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John Tyler Community College

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John Tyler Community College

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John Tyler Community College

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John Tyler Community College

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John Tyler Community College

Ms. Suzanne Robinson
CJW Medical Center

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John Tyler Community College

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John Tyler Community College
(Ex-Officio)

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John Tyler Community College
(Ex-Officio)

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John Tyler Community College
(Ex-Officio)

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Chesterfield County Public Schools

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Independent Artist

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Virginia Museum of Fine Arts

Ms. Pamela Turner
Virginia Commonwealth University

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Main Art Supply & Framing

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Dr. Deborah Ulmer
John Tyler Community College

Dr. Donna Alexander
John Tyler Community College
(Ex-Officio)

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B&B Printing

Dr. Mikell Brown
John Tyler Community College
(Ex-Officio)

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John Tyler Community College
(Ex-Officio)

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Chesterfield County Public Schools

Ms. Karen Gammon
Independent Artist

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Virginia Commonwealth University

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Main Art Supply & Framing

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For more information about John Tyler Community College or to find out how to apply to the College, go online to www.jtcc.edu or call 804-796-4000.

Chester Campus
13101 Jefferson Davis Highway
Chester, Virginia 23831-5316

Midlothian Campus
800 Charter Colony Parkway
Midlothian, Virginia 23114-4383