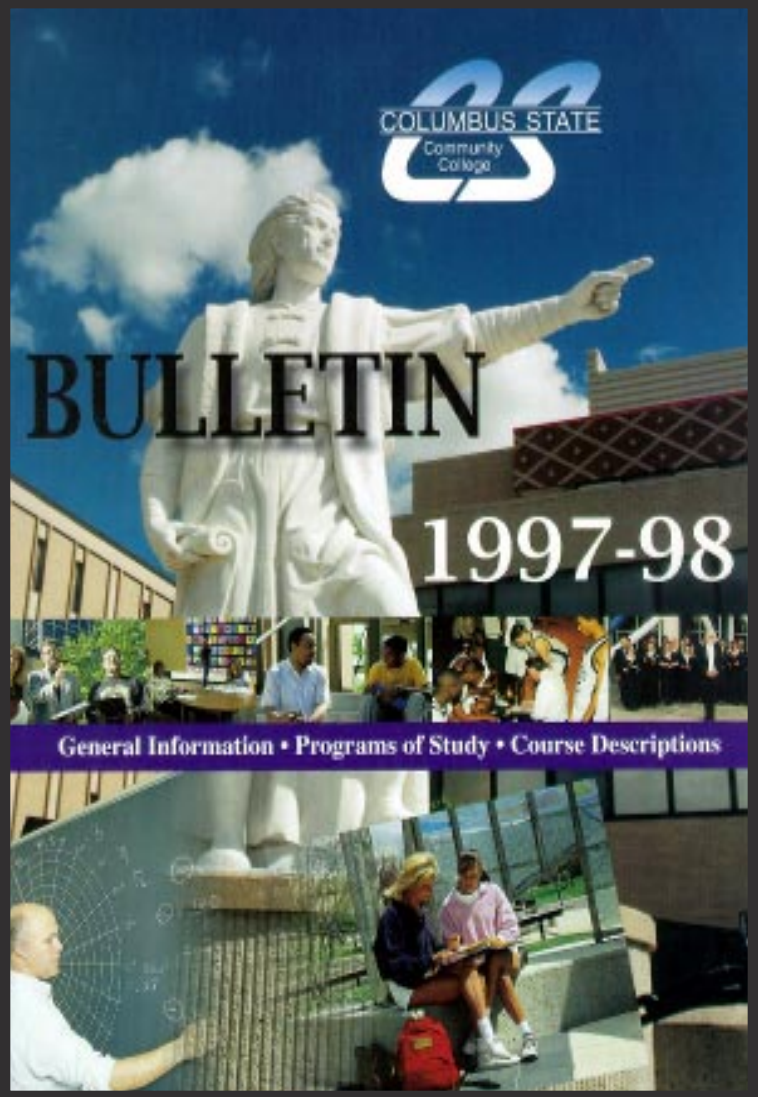

Columbus State Community College

1997-98 Bulletin

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Table of Contents

The Columbus State Community College *Bulletin* contains current information regarding the school calendar, admission, degree requirements, fees, regulations, and course offerings. Columbus State Community College reserves the right to make changes in any material contained herein, as deemed necessary.

For specific information on any changes, please contact Columbus State at 227-2453 or 1-800-621-6407 if calling long distance.

Nondiscrimination Policy

It is the established policy of Columbus State Community College not to discriminate against any individual or group of individuals for reasons of race, color, religion, ancestry, national origin, sex, disability or veteran status. The College is fully committed to providing equal opportunities in all employment-related activities, educational programs and other activities of the College. The College promotes equal opportunities through a positive and continuing Affirmative Action Program. Columbus State Community College will fully comply with all federal, state and local laws and regulations to guarantee equal opportunities.

Reasonable Accommodations

It is the Columbus State Community College policy to provide reasonable accommodations to students with disabilities. If you would like to request such accommodations because of a physical, mental or learning disability, please contact the Department of Disability Services, Franklin Hall, Room 228.

Accreditation

Columbus State Community College is accredited by the North Central Association of Colleges and Schools. (North Central Association of Colleges & Schools, 30 N. LaSalle Street-Suite 2400, Chicago, Illinois 60602-2504, (312) 263-0456 or (800) 621-7440).

Columbus State Community College Mission

The mission of Columbus State Community College, a public two-year state community college, is to provide quality educational programs to enhance the educational and employment opportunities of its students. As an urban institution, chartered under state statute, Columbus State Community College serves a student population reflecting the demographic, socio-economic, and educational diversity of its four-county service area (Franklin, Delaware, Madison, and Union Counties) through pre-baccalaureate and technical associate degree programs, general education studies, supportive programs and services, and community services. The college's programs and services are student centered and focused upon maximizing access to and success in postsecondary education for attainment of students' education and career goals. The college endeavors to provide linkages between education and employment through a continuing process of planned change in response to changing needs of society and technology.

*(The two degree programs specifically designed to enable transfer to a four-year institution for completion of a baccalaureate degree in an additional two years of full-time study are the Associate of Arts and Associate **of** Science degree programs. The College's technical degree programs are designed to prepare students for immediate employment in technical occupations upon graduation.)*

Institutional Goals:

A. To offer technical education programs that provide students with the knowledge and skills necessary for employment, utilizing practitioner faculty, experiential curricula, and state-of-the-art facilities.

B. To provide lower-division undergraduate programs leading to the associate of arts or science degree for transfer to a baccalaureate degree-granting institution, or for the general educational development of its students.

C. To offer, in support of the technical and pre-baccalaureate programs, general education studies that will aid students to become useful citizens. The general education studies will include development of problem-solving, decision-making, communication, and human relations skills.

D. To provide training and recurrent educational programs for persons whose skills need upgrading, for those reentering the workforce, and for those seeking career advancement.

E. To provide supportive services to facilitate student access to and success in educational programs.

F. To make college programs, facilities, and services available to the community for educational, cultural, andrecreational events.

G. To provide the educational programs and services within the financial resources of the college.

H. To provide the educational programs and services to all people, regardless of race, color, religion, ancestry, national origin, sex, age, disability, or veteran status.

I. To maintain accountable, systematic, and efficient management of the services and resources of the college.

J. To foster advancement of the institution through a process of planned change in response to societal, economic, and technological forces.

General Information

General Information

Columbus State in Brief

For more than thirty years, Columbus State Community College has been meeting the diverse educational needs of the community and is proud to be an important contributor to the growth and change of Columbus and central Ohio.

In 1963, the Columbus Board of Education created the Columbus Area Technician School, and the Board designated an area of Central High School to house this new school for two-year, post-secondary technical programs.

Rapid growth in enrollment during the initial two years caused the Board of Education to purchase the Columbus Aquinas Parochial High School property and move the Technician School to a permanent campus. On May 25, 1965, the Ohio Board of Regents gave approval to a proposal from the Columbus Board of Education to create the Columbus Technical Institute District, and the Columbus Technical Institute was granted a charter effective July 1, 1967.

As a state-assisted college, Columbus Technical Institute provided technical programs which prepared students for immediate employment. From the first graduating class in 1965 through today, more than 23,000 students have earned associate degrees in 40 technical fields and transfer programs. The success of the College is reflected in the many accomplishments of 'these graduates and the many other students who have completed courses to improve and enhance their skills.

On July 1, 1987, Columbus Technical Institute was rechartered as Columbus State Community College by action of the Ohio Board of Regents. This significant change was a result of careful study of the educational needs of Columbus and central Ohio. The resulting findings supported the establishment of a comprehensive community college to provide additional educational opportunities to area residents.

As a comprehensive community college, Columbus State has a strong commitment to technical education, offering the Associate of Applied Science and the Associate of Technical Studies degree programs in Business, Health, Public Service, and Engineering Technologies to prepare graduates for immediate employment. The transfer programs, Associate of Arts and Associate of Science, meet the majority of freshman and sophomore course requirements of bachelor's degree programs offered by four-year colleges and universities in central Ohio and throughout the state. Specific transfer agreements with area colleges and universities have also been developed.

In addition to courses offered on the main campus, classes are offered at five off-campus locations throughout central Ohio. The College's Business and Industry Training Division also offers customized training programs for local employers on campus or at the business site.

Columbus State's main campus is centrally located on approximately 75 acres near downtown Columbus. The campus currently has 17 buildings that house classrooms, laboratories, and offices of the College. Also part of the College's main campus is the Educational Resources Center which provides materials and resources for students. In addition to the main campus, the College operates a facility for the Aviation Maintenance Technology at Bolton Field Airport.

Columbus State Community College serves Franklin, Delaware, Madison, and Union Counties. A nine-member Board of Trustees is appointed by the Governor. Columbus State is accredited by the North Central Association of Colleges and Schools, and many of the College's degree programs are accredited by professional associations and agencies.

Buildings

AQUINAS HALL - Converted in 1965 from a parochial high school to a college classroom facility, this historic structure houses the Arts and Sciences Division, Public Safety Department, and a student lounge. This building is also used for general classrooms.

MADISON HALL - This two-story building houses the Offices of Admissions, Financial Aid/Veterans' Services, and Records and Registration on the first floor. Located on the lower level are the Business Offices, the Cashier's Office and Human Resources.

EIBLING HALL - Named after former Columbus School Superintendent Dr. Harold Eibling, this five-story structure houses the Business and Engineering Technologies Division and the Data Center. The building is also used for general classrooms and the Culinary Academy.

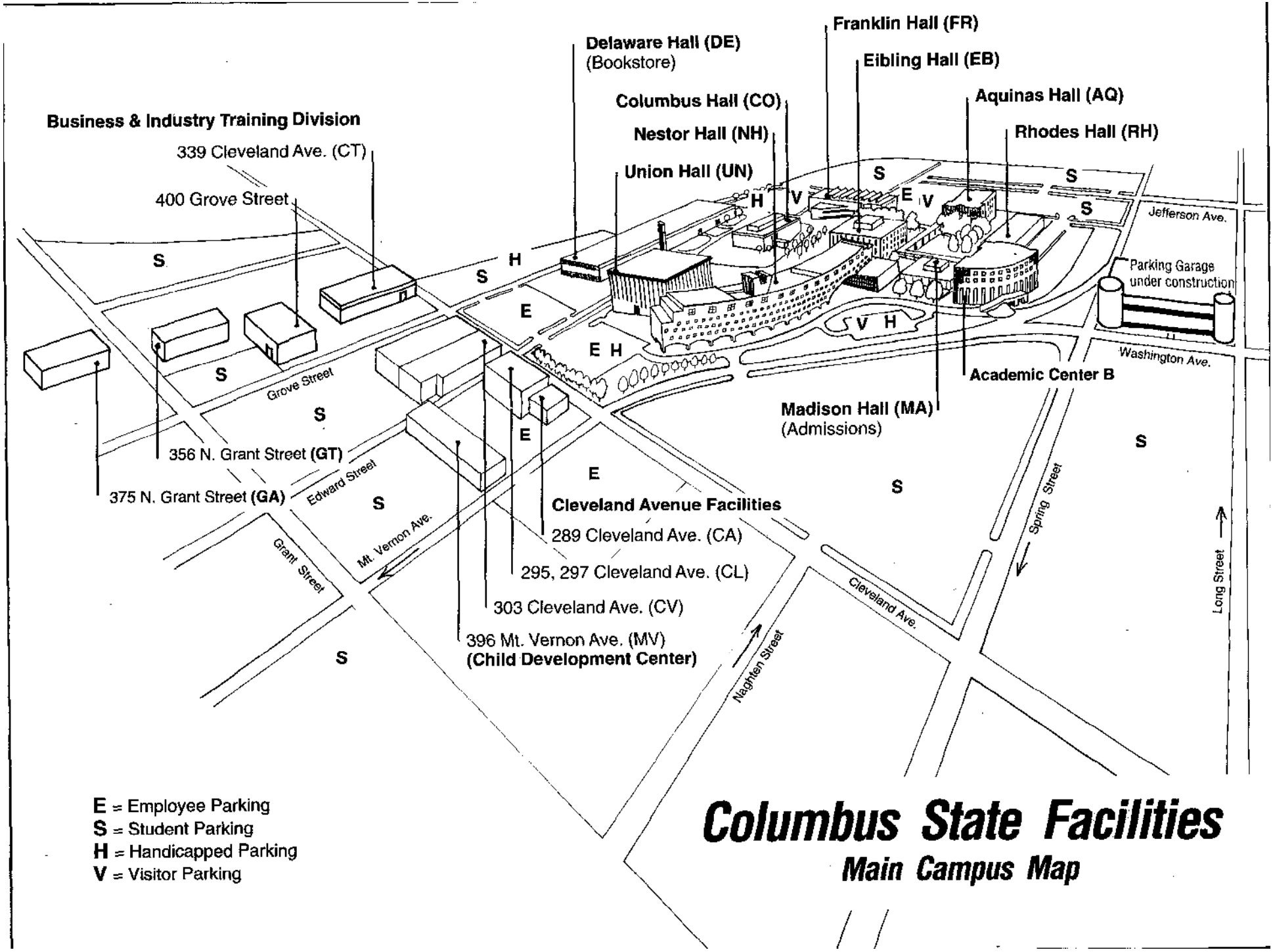
RHODES HALL - This building is named after Governor James A. Rhodes, who was instrumental in chartering Columbus Technical Institute. Rhodes Hall is used for general classroom use and houses several engineering technologies laboratories.

COLUMBUS HALL (ERC/ Library) - This building contains approximately 25,000 catalogued items and comfortable seating for 500 people. Columbus Hall also offers a full range of electronic and print educational media, a microfilm collection and a two-story television studio.

UNION HALL - The six-story building houses the Health/ Human Service/Public Services Division and the Counseling Center. Also located in this building are the Cafeteria and the College Health Office (nurse). This building is also used for general classrooms and labs.

DELAWARE HALL - Located in Delaware Hall are the Automotive Technology lab, the College Bookstore and the Recreation and Fitness Facility, which includes a gymnasium and weight room. The building also houses general classrooms and faculty offices.

FRANKLIN HALL - Franklin Hall houses the Disability Services Department, the College's Administration Offices, the Office of Multi Cultural Affairs and Community Outreach, and the Developmental Education Department. The building is also used for general classrooms and has three lecture halls on the ground floor.


Business & Industry Training Division
339 Cleveland Ave. (CT)
400 Grove Street
Delaware Hall (DE)
(Bookstore)
Franklin Hall (FR)
Eibling Hall (EB)
Columbus Hall (CO)
Nestor Hall (NH)
Union Hall (UN)
Aquinas Hall (AQ)
Rhodes Hall (RH)
Jefferson Ave.
Parking Garage
under construction
Washington Ave.
Academic Center B
Madison Hall (MA)
(Admissions)
Grove Street
356 N. Grant Street (GT)
375 N. Grant Street (GA)
Edward Street
Mt. Vernon Ave.
Grant Street
Cleveland Avenue Facilities
289 Cleveland Ave. (CA)
295, 297 Cleveland Ave. (CL)
303 Cleveland Ave. (CV)
396 Mt. Vernon Ave. (MV)
(Child Development Center)
Naghten Street
Cleveland Ave.
Spring Street
Long Street
E = Employee Parking
S = Student Parking
H = Handicapped Parking
V = Visitor Parking
Columbus State Facilities
Main Campus Map

NESTOR HALL-This five-story academic center houses 48 classrooms, 9 laboratories, faculty offices and a 400-seat auditorium. Named after the late Columbus State President Harold M. Nestor, this building also features 16,000 sq. ft. of student study and lounge areas, the Placement and Career Services Office, and Student Activities Office.

ACADEMIC CENTER B - Opened in January 1997, this academic facility houses classrooms and labs for engineering technologies, the mathematics department, the Office of Academic Affairs and student lounge areas. In 1998, it will be connected by a pedestrian bridge to the new parking garage.

CLEVELAND AVENUE (289, 295, 297, 303) - These facilities house several Business Technology offices, the Business and Industry computer lab, the Basic Skills Department and general classrooms.

CLEVELAND AVENUE (339) - This facility houses The Business and Industry Training Division, as well as classrooms and other office space.

MT. VERNON AVENUE (396) - This building houses the new Child Development Center. The Center offers its services to the infant and pre-school children of students, staff, area residents, and other downtown working parents.

N. GRANT AVENUE (375) - Remodeled in 1996, this facility houses new laboratories, offices and classrooms for the Emergency Medical Services Technology, as well as a patient care laboratory for the Nursing Technology.

N. GRANT AVENUE (192) - Another newly remodeled building, this facility houses the Engineering Division's Solar Car operation.

TELEPHONE INFORMATION CENTER - This building houses the telephone information operators and the Center for New Directions.

AVIATION MAINTENANCE FACILITY - This facility is located at Bolton Field Airport in southwest Columbus and houses classrooms and laboratories for the College's Aviation Maintenance Technology. It is used for general classes during evening hours.

Campus Tours

Arrangements for campus tours may be made by calling 227-2453 (l-800-621-6407 if calling long distance), or by writing the Admissions Office. Please make arrangements at least two weeks in advance.

Admissions Office

The Admissions Office is open Monday through Thursday from 8 a.m. to 7:30 p.m. and 8 a.m. to 4:30 p.m. on Friday. Saturday hours are from 9 a.m.' to 12 noon. The Admissions Office will not be open on Saturdays during a holiday weekend. If you wish to make an appointment with an Admissions Counselor, please call the Telephone Information Center at 227-2453 or l-800-621-6407 if calling long distance.

Off-Campus Centers

Dublin Center
6 190 Shamrock Court
Dublin, Ohio 43016
Hours: M - F, 8 a.m. -10 p.m.
Sat: 8 a.m. - 4 p.m.
Phone: 761-2800 Fax: 761-1531

Gahanna Centers
445 Havens Comer Road
Hours: M - F, 3:30 p.m. - 10:30 p.m.
Sat: 8 a.m. - Noon
Phone: 476-4711 Fax: 476-4764
and
200 South Hamilton Road
Gahanna, Ohio 43230
Hours: M - F, 9 a.m. - 3 p.m. and 5 p.m. - 9 p.m.
Sat: 9 a.m. - Noon
Phone: 475-7866

Southeast Center
4449 Professional Parkway
Groveport, Ohio 43 125
Hours: M - F, 8 a.m. - 10 p.m.
Sat: 8 a.m. - 4 p.m.
Phone: 836-9434
Fax: 836-9127

Southwest Center at Bolton Field
5355 Alkire Road
Columbus, Ohio 43228
Hours: M - F, 5 p.m. - 10 p.m.
Sat: 9:00 a.m. - Noon
Phone: 878-1094 Fax: 878-0729

Westerville Center at Westerville North High School
950 County Line Road
Westerville, Ohio 4308 1
Hours: M - R, 5 p.m. - 9 p.m.
Phone: 882-2016 Fax: 882-3178

Senior Citizens "Good as Gold Educational Program"

As a community service, Columbus State offers senior citizens who are 60 years old or older and fully retired, the opportunity to enroll in credit courses, tuition free, on a space-available basis. To register for credit courses applicable to an Associate Degree, senior citizens pay an application fee of $10.00, course lab fees, and the cost of books.

Senior citizens are also admitted to special courses on a tuition-free, space-available basis once the course is financially self-supporting. Lab fees, books and instructional supplies are assessed to senior citizens as required by other students. Courtesy parking permits are provided at no cost to senior citizens. Student rates to concerts and student activities are available to enrolled senior citizens. A "Good as Gold Educational Program" identification card is issued to all enrolled senior citizens upon request.

For information regarding programs and services, please call 227-2453 (or l-800-621-6407 if calling long distance).

Business and Industry Training Division

Business and Industry Training Division

Training Programs for Business, Industry and Government

Many successful businesses are finding that to keep pace in today's competitive environment they must constantly adapt to the changing needs of the market, embrace the newest technologies, and commit to continuing employee development to ensure great service. The Business and Industry Training Division was created in 1979 to harness the tremendous educational resources of Columbus State to meet the workforce development needs of the Central Ohio community.

Our service to **hundreds** of satisfied customers, powered by our commitment to needs assessment, customer satisfaction, and timely delivery of quality customized training, has earned us a ranking in the **top 8% of workforce training programs nationwide.**

Prepared to Meet Your Needs

With the wealth of information and resources offered by Columbus State, the Business and Industry Training Division is well prepared to meet the needs of any organization quickly, conveniently, and inexpensively. Our satisfied customers are some of the most successful enterprises in the Columbus market, including:

Honda of America	Bank One	Lucent Technologies
Ameritech	Columbia Gas	Mettler Toledo
Ashland Chemical	Crane Plastics	Ross Labs.

Performance Consulting

As part of our continuing effort to effectively meet the needs of our community, the Business and Industry Training Division has developed a unique new service: Performance Consulting. Our representatives partner with your staff to assess performance and prescribe development strategies to prepare your business for the future. As part of this process, our representatives:

- Develop collaborative working relationships with key managers and other partners.
- Work with you to clearly understand your organization's vision.
- Identify the performance required of employees to realize the vision.
- Create opportunities to empower your employees to meet performance goals.

Types of Training

Training programs can be conducted on-site in your facilities, at Columbus State's spacious downtown campus, or at any one of our five convenient suburban centers. Programs can be provided in the form of college credit courses selected from the Bulletin, or in the form of non-credit workshops, seminars, and assessments.

Non-credit training programs that have been provided include:

Communication/Interpersonal Skills

Business Writing	Telephone Skills
Cultural Diversity	Customer Service
Effective Speaking	Time Management
Train-the-Trainer	Interactive Selling

Computer Training

Word Processing	Database Applications
Spreadsheet Software	Presentation Software

Quality Improvement

ISO 9000	QS 9000
Total Quality Management	

Benefits of Training with Columbus State

Our staff of Training Representatives can design and deliver the training that will move your organization into the 21st Century. Benefits of our consulting and training services include:

- **Convenience.** Classes at our downtown campus, off-campus centers, or in your own facilities. A mobile computer lab is also available.
- **Flexibility and Cost Effectiveness.** Training developed for your specific needs ensures a high return on investment.
- **Responsiveness.** Our representatives take the time to listen and determine your training needs.
- **Technical Competence.** We have the experience, the background, the education, and the desire to make it happen.

For additional information on how Columbus State can provide your organization with cost-effective training and assessment services, contact the Business and Industry Training Division at (614) 227-5000, or toll-free: (800) 621-6407, ext. 5000.

Admission, Fees & Financial Aid

Admissions

Admission Policy

Columbus State Community College is committed to the principle of providing each student the maximum opportunity to develop and learn. Regular admission to the College is offered to applicants who are high school graduates or possess G.E.D. equivalency. Other applicants over 18 years of age may be admitted as a regular or conditional status student based upon placement test results.

Admission to the College does not assure admission to a particular program of study. Many technologies, including Nursing, and some programs in the areas of Business and Engineering Technologies and Health, Human and Public Services Technologies, have established additional requirements that must be fulfilled prior to acceptance. All prospective applicants are encouraged to contact the Admissions Office for specific information.

For some students additional (prerequisite) coursework in science, mathematics and English may be needed prior to enrollment in certain courses and programs. While all degree programs can be completed in two years of full-time study, it may take longer for some students. This is particularly true if the student is attending on a part-time basis, if the student needs to take developmental courses, or if the student is also working.

Application Procedure

High school graduates and recipients of the G.E.D. certificate:

- Complete the application for admission and pay the $10 non-refundable application fee.
- Submit a final official high school transcript verifying graduation and/or, if applicable, G.E.D. scores.
- Complete placement tests.

Applicants who have attended another college:

- Complete the application and pay the $10 non-refundable application fee.
- Submit a final official high school transcript and G.E.D. scores if applicable.
- Submit an official transcript of prior college work. (The College reserves the right to request that official copies be mailed directly from the former college.)
- Complete placement tests. This requirement is waived if the student has previous college-level coursework in English and mathematics.

Transient students:

- Complete the application and pay the $10 non-refundable application fee.
- Submit an official transcript of prior college work to the Records Office.

High school student post-secondary enrollment options (concurrent enrollment):

High school students interested in enrolling in college classes while still in high school should contact the Columbus State Counseling Center for a Post-Secondary Enrollment Options Program Packet. Prospective students and their parents are encouraged to schedule an interview with a counselor before submitting an application for admission to this program.

After meeting with the high school guidance counselor, students should:

- Complete the student section of the Post-Secondary Enrollment Options Program application.
- Submit the above item to the high school counselor. The counselor will complete the rest of the Post-Secondary Enrollment Options Program application and will send it to the Counseling Center with the high school transcript.

After the Counseling Center receives the applicant's file, the student will be notified of admission status.

International (foreign) students:

- Complete the application for admission and pay the $10 non-refundable application fee.
- Submit Test of English as a Foreign Language (TOEFL) or Michigan Test of English results.
- Submit both official copies and certified translation copies of the secondary school transcripts and, if applicable, official college transcripts.
- Submit the Declaration and Certification of Finances.
- Submit a report from the International Student Advisor of last U.S. college previously attended.
- All required documents must be received at least 60 days prior to the start of the first term of intended enrollment.

Applicants over 18 who possess neither a high school diploma nor certificate of G.E.D. equivalency (conditional admissions):

- Complete the application for admission and pay the $10 non-refundable application fee.
- Complete placement tests. The test results will be used to determine admission status. Students admitted conditionally may be required to complete selected courses during their first term of enrollment.

Readmission

Students who have not taken classes at Columbus State for more than two years, and would like to be readmitted, should contact the Office of Student Records and Registration at least one week before the quarter begins. The student should also request transcripts from any other college they attended during their absence from Columbus State.

General Admission Information

High School Transcript

All students should provide the College with a final official copy of their high school transcript. Verification of high school graduation or certificate of G.E.D. equivalency and scores is an admission requirement of some technologies and programs.

The official transcript is to be mailed from the high school to Columbus State Community College, Student Records and Registration, Madison Hall, Room 101, 550 East Spring Street, P. 0. Box 1609, Columbus, Ohio 43216-1609. All information submitted to the College relative to admission and academic status becomes and remains the property of the College.

College Transcript

An official college transcript is requested of applicants who have attended other colleges and/or universities. An official transcript is required of all who are seeking transfer credit or who have completed prerequisite coursework at another institution. The transcript is to be mailed from the college to Columbus State Community College, Student Records and Registration, Madison Hall, Room 101,550 East Spring Street, P. 0. Box 1609, Columbus, Ohio 43216-1609. All information submitted to the College relative to admission and academic status becomes and remains the property of the College.

Identification Number

The College uses the social security number as the student identification number. This number is not released by the College to anyone. (Please see the Family Education Rights and Privacy Act information on pages 25-26 of the Bulletin for further information on the release of student records).

Students who have not been issued a social security number or would prefer not to have the College use this number as an identifier, may request a student identification number be assigned. This request must be made in writing to the Director of Records and Registration. The student identification number must be obtained in person with a picture identification card (to maintain the confidentiality of the number).

Health Statement

Each student accepted for Veterinary Technology, Dietetic Technician Program, Emergency Medical Services Technology, Health Information Management Technology, Medical Assisting Technology, Medical Laboratory Technology, Multi-Competency Health Technology, Nursing Technology, Radiography Technology, Respiratory Care Technology, Sports and Fitness Management Technology, Surgical Technology and Early Childhood Development Technology must submit a statement of health prior to attending technical classes. A health statement form will be provided after the application for admission has been initially reviewed and admission offered. Students in certain health care technologies will be required to have a physician's examination and might be required to have immunizations and laboratory blood studies. Applicants to other technical programs who are or recently have been under a physician's care, should contact the College Health Office as to whether or not a health form should be submitted. All international students are required to complete a health statement, available from the College Health Office, prior to scheduling their first quarter of classes.

Placement Tests

The College will assess the reading, writing, and mathematics skills of its students and prescribe enrollment in appropriate developmental education, writing, and mathematics courses to maximize the student's opportunity for academic and personal success. This process will be conducted in accordance with the principles of open access, equity and academic excellence.

The following students must participate in the assessment and placement tests:

- All students registered for a course with established reading, writing, or mathematics prerequisites;
- All students who register for 12 or more credit hours during their initial quarter at the College;
- All part-time students who will register for their 12th accumulative credit hour; and
- All high school students intending to take classes.

Students with previous college-level composition or mathematics transfer credit from an accredited institution are exempt from this requirement. See "College Transcript" above.

For further information about the placement tests, contact the Counseling Center at (614) 227-2668.

Scheduling

Approximately seven weeks prior to the start of classes, both continuing and new students will be informed of the dates and times for scheduling. Advisors and counselors will be available to assist students with course selection.

All student schedule changes will be processed by the Records and Registration Office, 101 Madison Hall, at one of the off-campus centers, by telephone with a representative at (614) 227-2666, by CATS (Computer Automated Touchtone System) at (614) 227-3900, or through the SITE (Student Information Terminal) system. Course additions or section changes seven calendar days after the start of the quarter will be permitted only with the instructor's approval.

Students enrolled for the current quarter must schedule classes for the following quarter no later than the end of the tenth week of the current quarter to avoid a late registration fee. Students who wish to register for 22 or more credit hours in a quarter must have the permission of their academic advisor.

Cross-Registration at Other Institutions

The Higher Education Council of Columbus (HECC) is an association of colleges and universities in Franklin County, established to develop programs which benefit its member institutions and the community at large.

As a service to students, HECC member institutions have approved a system of cross-registration for regularly enrolled, full-time undergraduate students at the following colleges and universities:

Capital University
The Columbus College of Art and Design
Columbus State Community College

DeVry Institute of Technology
Franklin University
Mount Carmel College of Nursing
Ohio Dominican College
The Ohio State University
Otterbein College
Pontifical College Josephinum

Cross-registration is limited to one course per term (Autumn, Winter and/or Spring only), with a maximum of three cross-registered courses during a student's academic experience., The course taken must be an enrichment class to the student's program of study at Columbus State. To participate in cross-registration, a Columbus State Community College student must be in good academic standing, and maintain full-time status during the quarter he or she is requesting permission to participate in cross-registration. The Columbus State student does not pay tuition to the host institution, but may be charged other enrollment-related fees, such as laboratory or parking fees. A grade for the course taken at a host institution will be posted only on the student's Columbus State transcript.

A Columbus State student interested in cross-registering for a course must obtain approval from the Registrar, 101 Madison Hall, his/her advisor, and from the host institution's registrar. It is the student's responsibility to make certain that the host institution's calendar, course schedule, course content, and credit are compatible with his/her goals and Columbus State Community College requirements.

For more information, please contact the Registrar, Records and Registration, 101 Madison Hall.

Selective Service System Registration

Under the provisions of Section 3345.32 of the Ohio Revised Code, a male student born after December 31, 1959, who is at least 18 years of age and who is classified as an Ohio resident for fee purposes by the state-assisted college or university he is attending, is required to be registered with the Selective Service System or be charged a tuition surcharge equal to that charged a non-resident student.

Students are exempt from registration with the Selective Service System on the basis of one of the following criteria:

- Female;
- Under 18 years of age;
- 26 years of age or older;
- Currently on active duty in the Armed Forces of the United States. NOTE: Training in a Reserve or National Guard unit does not constitute active duty;
- A non-immigrant alien lawfully in the United States in accordance with Section 101 (a) (15) of the Immigration and Nationality Act, U.S.C. 1101, as amended; or
- A permanent resident of the Federated States of Micronesia, the Marshall Islands or the Republic of Palau.

Note that Selective Service System registration compliance must take place before disbursement of any federal financial aid funds, or the Ohio Instructional Grant, or before the institutional section of a Guaranteed Student Loan or PLUS application will be certified.

If you are a male who is within 30 days of becoming 18 years of age, contact your local post office to begin the Selective Service System registration process. When you receive your Selective Service number, please contact Telephone Registration at (614) 227-2666.

Change of Name/Address/ Program of Study/ Phone Number

Any change in your name, address, phone number, or program of study must be reported to the Records and Registration Office, Madison Hall, Room 101. Address and phone number changes may be made on the SITE system or by calling Telephone Registration at (614) 227-2666. Name changes require submission of official documentation such as a marriage license, court decree, etc. Each student is responsible for complying with any official communication sent to the last reported address.

Army Reserve Officers Training Corps (ROTC)

Qualified students interested in obtaining an officer's commission in the United States Army, Ohio National Guard, or Army Reserve may enroll in Army ROTC classes through a contracted agreement between Columbus State Community College and the United States Army.

Training consists of a combination of classroom and outdoor instruction. Freshman and sophomore students may enroll in the four-year program consisting of the two-year general military course and the two-year professional officer course. There is no military obligation for students in the first two years of the program.

Students with a minimum of 2.50 cumulative grade point average may apply for Army ROTC scholarships. Applications for scholarships are normally made during the fall semester and must be completed by January 30.

Additional information may be obtained by contacting the Program Chairperson for Military Science, (614) 236-7101 or 236-7114.

Fees

One-Time-Fees

Application Fee (non-refundable) $10
Matriculation Fee (non-refundable) $35
(Payable when the 12th hour of credit is scheduled)

Quarterly Academic Fees

OHIO RESIDENTS

Ohio residents are charged a combined instructional and general fee of $59 per credit hour to a maximum of $708 per quarter for students scheduling 12 through 18 credit hours. Students scheduling more than 18 credit hours will be charged an additional $59 per credit hour.

NON-OHIO, U.S. RESIDENTS

Non-Ohio,' U.S. residents are charged a combined instructional and general fee of $130 per credit hour up to a maximum of $1,560 per quarter for students scheduling 12 through 18 credit hours. Students scheduling more than 18 credit hours will be charged an additional $130 per credit hour.

INTERNATIONAL STUDENTS

International students are charged a fee of $157 per credit hour up to a maximum of $1,884 per quarter for students scheduling 12 through 18 credit hours. Students scheduling more than 18 credit hours will be charged an additional $157 per credit hour.

Instructional and General Fees

The resident credit hour fee of $59 is based on a $5 1 instructional fee and a $8 general fee. The general fee covers expenses for registration, counseling, placement, graduation, health services and other activities and services. Fees for non-Ohio residents and international students reflect a similar prorated instructional and general fee amount.

Lab Fees

Lab fees are charged to cover the cost of consumable materials used by the student. The cost of student liability insurance, required in certain health technologies, will be included in the lab fee.

Matriculation Fee

The one-time non-refundable $35 matriculation fee covers the cost for establishing and maintaining a perpetual student record. The fee will be charged at the time the student has scheduled a total of 12 credit hours. The matriculation fee will appear for payment on the schedule and fee statement for the academic quarter in which the student schedules his/her 12th hour of credit course work.

Fee Payment

At the time of registering for classes, the student will be given a combination class schedule and fee statement. Fee payment deadlines are included on this schedule. Fees will not be accepted after the deadline date. Upon payment of fees, the cashier will issue a PAID fee receipt which is the student's verification of having paid fees and permission to enter scheduled classes.

Late Registration Fee

Currently enrolled students who are planning to continue their studies during the following quarter must schedule by the end of the tenth week of the quarter to avoid the late registration fee. This fee is $10, plus $2 per weekday up to a maximum of $20. Please check the College calendar or with the Records and Registration Office for specific dates each term.

Late Payment of Fees

Students who have not paid their fees before the first day of the quarter are subject to being charged a late payment penalty. Fees, including any late fees, must be paid in full within the first eight calendar days of the quarter.

Student Health Insurance

Columbus State Community College offers low-cost group accident and sickness insurance. All full-time students are eligible for the plan. Coverage is world-wide, 24 hours a day, at home, at school or while traveling. The fee provides coverage for the entire 12-month period. Extended coverage for family and dependents is also available at an additional cost. For more details, request a student insurance program brochure from the Cashier's Office in Madison Hall or the College Health Office, 007 Union Hall.

Non-Traditional Credit Fee

Students with life experience that has provided learning similar to academic course outcomes may request a review of that experience by the appropriate academic chairperson. A $50 fee is charged to review the information and/or portfolio.

Proficiency Examination Fee

Students who believe they possess the knowledge contained in a course may request of the academic department to take a proficiency examination. A nonrefundable $50 fee per course is charged for each proficiency examination- given. Information concerning proficiency examinations may be obtained by contacting the Records and Registration Office, 101 Madison Hall.

Transient Student Fees

Transient students (those who are taking one or more courses to transfer back to another college or university) complete a regular application and pay the one-time $10 application fee. The regular instructional, general, lab and appropriate residency status fees shall be charged for courses taken. A $35 matriculation fee will be charged upon scheduling the 12th credit hour. It is recommended that transient students receive approval from their home institution to take specific Columbus State Community College courses to assure transferability/applicability of the credit at the home institution.

Duplicate Schedule

A fee of one dollar ($1) is charged for a replacement copy of a lost or mutilated class schedule/fee statement.

Release of Records and Transcripts

Columbus State Community College will not release a copy of the student's official records to individuals and organizations outside of the College without the student's written permission, except where required by law. Students may request that a copy of their official Columbus State transcript be sent to organizations and individuals outside of the College by completing the transcript request form available in the Records and Registration Office, 101 Madison Hall. Students wishing to take a copy of their transcript with them will be required to present a picture identification card.

The Family Education Rights and Privacy Act of 1974, as amended, governs the maintenance and release of records. A copy of the regulations is available in the Records and Registration Office, 101 Madison Hall, or by sending a written request, including the student's signature to that office. There is no charge for an official transcript. (See pages 23-24 of the Bulletin for a summary of the Act.)

Refunds

The quarterly instructional, general and lab fees are refundable for student-initiated withdrawals in accordance with the following schedule:

The first through the eighth calendar days of the quarter - 100%

The ninth through the fifteenth calendar days of the quarter - 50%

The sixteenth through the twenty-second calendar days of the quarter - 25%

The twenty-third calendar day through the end of the quarter - 0% (no refund)

Term course fees and laboratory fees are refundable on a prorated basis.

A total refund of quarterly fees is made when a program is cancelled or closed and the student does not elect or is not permitted to enroll in another program.

Resident, Out-of-State, and International Student Status

A resident of Ohio "for all other legal purposes" shall mean any person who maintains a 12-month place or places of residence in Ohio, who is qualified as a resident to vote in Ohio and receive state welfare benefits, and who may be subjected to tax liability; provided such person has not, within the time prescribed by this rule, declared himself or herself to be, or allowed himself or herself to remain, a resident of any other state or nation for any of these or other purposes.

In determining whether an enrolled student is an Ohio resident, the College shall make a determination of fact in accordance with the above standards.

General Residency for Tuition Surcharge Purposes

The following persons will be classified as residents of the State of Ohio for tuition surcharge purposes:

A. Dependent students, at least one of whose parents or legal guardians has been a resident of the State of Ohio for 12 consecutive months or more immediately preceding the enrollment of such student in an institution of higher education;

B. Persons who have resided in Ohio for all other legal purposes for at least 12 consecutive months immediately preceding their enrollment in an institution of higher education and who are not receiving and have not directly

or indirectly received in the preceding 12 consecutive months, financial support from persons or entities who are not residents of Ohio for all other legal purposes.

C. A dependent child of a parent or legal guardian, or the spouse of a person who, as of the first day of a term of enrollment, has accepted full-time employment and established domicile in the State of Ohio for reasons other than gaining the benefit of favorable tuition rates.

Documentation of full-time employment and domicile shall include both of the following documents:

I. A sworn statement from the employer or the employer's representative on the letterhead of the employer or the employer's representative certifying that the parent or spouse of the student is employed full time in Ohio.

II. A copy of the lease under which the parent or spouse is the lessee and occupant of rented residential property in the state; a copy of the closing statement on residential real property located in Ohio of which the parent or spouse is the owner and occupant; or if the parent or spouse is the not the lessee or owner of the residence in which he or she has established domicile, a letter from the owner of the residence certifying that the parent or spouse resides at that residence.

D. Persons who live and are gainfully employed on a full-time or part-time and self-sustaining basis in Ohio and who are pursuing a part-time program of instruction at an institution of higher education.

Specific Exceptions and Circumstances

1. A person on active duty status in the United States military service who is stationed and resides in Ohio and his or her dependents will be considered residents of Ohio for these purposes.

2. A person who enters and currently remains upon active duty status in the United States military service while a resident of Ohio for all other legal purposes and his or her dependents shall be considered residents of Ohio for these purposes as long as Ohio remains the state of such person's domicile.

3. Any alien holding an immigration visa or classified as a political refugee shall be considered a resident of the State of Ohio for state subsidy and tuition surcharge purposes in the same manner as any other student. (See 1 and 2 above.)

4. No persons holding a student or other temporary visa shall be eligible for Ohio residency for these purposes.

5. A dependent person classified as a resident of Ohio for these purposes shall continue to be considered a resident during continuous full-time enrollment and until his or her completion of one academic degree program.

6. In determining residency of a dependent student, removal of the student's parents or legal guardian from Ohio shall not, during a period of 12 months following such removal, constitute relinquishment of Ohio residency status otherwise established under item (C).

7. Any person once classified as a non-resident, upon the completion of 12 consecutive months of residency in Ohio for all other legal purposes, may request reclassification as a resident of Ohio for these purposes. Should such person present clear and convincing proof that no part of his or her financial support is or in the preceding 12 consecutive months has been provided directly or indirectly by persons or entities who are not residents of Ohio for all other legal purposes, such person shall be reclassified as a resident. (Exceptions: non-immigrants.) Evidentiary determinations under this rule shall be made by the College, which may require, among other things, the submission of information regarding the sources of a student's actual financial support to that end.

8. Any reclassification of a person who was once classified as a non-resident for these purposes shall have prospective application only from the date of such reclassification.

9. A person who is transferred by his employer beyond the territorial limits of the fifty states of the United States and the District of Columbia while a resident of Ohio for all other legal purposes and his or her dependents shall be considered residents of Ohio for these purposes as long as Ohio remains the state of such person's domicile.

10. A person who has been employed as a migrant worker in the State of Ohio and his or her dependents shall be considered a resident for these purposes provided such person has worked in Ohio at least four months during each of the three years preceding the proposed enrollment.

For further information on residency for tuition purposes, please contact the Records and Registration Office, 101 Madison Hall.

Parking

Students driving automobiles are required to register their vehicles and pay a $10.00 per quarter parking fee. Temporary permits are available. Traffic and parking regulations are available in the Public Safety Department, located in Aquinas Hall, Room 026.

Financial Aid

Financial Aid is available in four forms: grants, loans, part-time employment and scholarships. The chart entitled "Financial Aid Programs" (FAP) indicates the major types of financial aid that are available from the usual state and federally subsidized sources. 'Scholarships are much more specialized and are applied for separately from the types of aid appearing on the "FAP" chart. In general, the amount of assistance that a student may receive depends upon the established financial need of the student. This need is determined through the Central Processing Service and is based on the information submitted in the Free Application for Federal Student Aid (FAFSA). Financial aid is to be used for room, board, fees, books, and commuting expenses. For more information please see the High Finance Publication.

For all federal financial aid programs, regular admission status and U.S. citizenship (or permanent residence status) is required. Only those who have declared an intent to pursue a degree and are taking related courses are eligible. Persons with bachelor's degrees are not eligible for grants, but may apply for loans and work study.

Application Procedures

Application materials are available in the Financial Aid Office, Madison Hall, Room 118. Students can apply electronically in the Financial Aid Office. Students may also request information by calling (614) 227-2648. You must apply for financial aid each year, after January 1. Applications are accepted throughout the academic year. Campus-based funding is awarded on a first-come, first-awarded basis.

How Do I Apply?

1. Apply for admission to Columbus State Community College.

2. Complete the Columbus State Financial Aid Application and submit application to the Financial Aid Office.

3. Complete the Free Application for Federal Student Aid (FAFSA) application and mail to the processing agency. (Be sure to list Columbus State as the school you plan to attend by denoting school code 006867 on Section H in the FAFSA.)
   - You will receive a Student Aid Report (SAR) as a result of your FAFSA application in 4-6 weeks. Be sure to review these results. If corrections are necessary, you may bring them to the Financial Aid Office and corrections may be made electronically.

4. Once the Financial Aid Office has received the above materials, we will review your file. Once your file is complete, you will be sent a Financial Aid Award letter that explains what financial aid you are eligible to receive.

For those students who want to apply for a Federal Stafford Loan an additional application is required. The Federal Loan Request Form is mailed with your award letter.

Basic Eligibility Requirements

Eligibility for most federal student aid programs is based on financial need. In addition, the federal student aid programs require the student recipient:

- Not possess a bachelor's degree (for Pell and Supplemental Grant only);
- Be a United States citizen, eligible non-citizen, U.S. National, or permanent resident;
- Have a valid social security number;
- Have a high school diploma, G.E.D., or recognized equivalent. Proof of passing scores MUST be on file with the Office of Records and Registration before your application can be processed. Students without a diploma or G.E.D. may establish eligibility under the Ability-to-Benefit regulations by passing a test approved by the U.S. Department of Education. The Compass placement test is the approved test available at Columbus State through the Counseling Center, Union Hall, 048. To qualify for consideration students must have the following scores:
  Language - 31; Reading - 60; Math -21.
- Have complied with current selective service registration regulations. For more information on selective service requirements, contact a Financial Aid Advisor;
- Be a regularly admitted student, enrolled in an eligible program, working toward a degree or certificate;
- Have Financial Aid Transcripts (FATs) on file from all previously attended colleges, even if you did not receive financial aid at the institution;
- Not be in default, or owe a refund on any type of federal financial aid.

Verification

Verification is the process through which the federal government requires confirmation of the accuracy of the information reported on the Free Application for Federal Student Aid (FAFSA). If you are selected for Verification, you must provide clear and convincing evidence that the information you reported on your FAFSA is true and correct. The Financial Aid Office will contact you regarding specific requirements pertaining to your application if you are selected. Generally, signed IRS Income Tax Returns, Verification Worksheets, and documentation of Untaxed Income received are required.

Satisfactory Academic Progress

Federal regulations require that Columbus State Community College monitor the academic progress of students who apply for and/or receive federal financial aid. These regulations apply to each financial aid applicant, regardless of whether a student has ever

previously applied for or received financial aid. To receive any form of federal financial aid, students must maintain satisfactory academic progress toward a degree or certificate. Additionally, students are allowed 12 full-time equivalent quarters to complete their first degree, eight full-time equivalent quarters for their second, and no federal financial aid may be received for a third degree attempt. (For additional information refer to the High Finance Publication available from The Financial Aid and Veteran's Services Office.) Failure to maintain satisfactory academic progress will result in funds either being terminated or withheld until eligibility is regained.

Transfer Students and Financial Aid Transcripts (FATs)

Students who have attended other colleges, universities, business colleges, or other post-secondary institutions are required to have Financial Aid Transcripts on file from all institutions previously attended, whether or not financial aid was received from that institution. Federal regulations require Columbus State to receive and review those FATs prior to processing your financial aid application. New FATs are required if there has been a break in your attendance period at Columbus State.

Scholarships

A scholarship is financial assistance awarded primarily on the basis of scholastic achievement. Like grants, they generally do not have to be repaid.

The Columbus State Community College Development Foundation, Inc., provides scholarships based upon availability of funding. These scholarships are established by private donors, professional organizations, and the College. Eligibility varies for each scholarship program. Students may apply for these scholarships by completing the Application for Privately Funded Scholarships available in the Financial Aid Office. In general, these scholarships are based on variable criteria including, but not limited to, technology, financial need, credit hours earned, and academic and individual achievement. Scholarship applications are available in the Spring for the upcoming Fall quarter.

Additionally, the Financial Aid Office has scholarship resource texts available which students may review to locate sources for additional consideration outside the College. You should check with the Scholarship Coordinator at 227-2652.

If you have been awarded a scholarship from an outside agency or organization, you will be responsible for notifying the Financial Aid Office of this award. The organizations from which the award was made will need to provide, in writing, verification of what school-related expenses may be covered, and/or any requirements for the scholarship. This information is required prior to the release of any scholarship award.

Refunds and Repayments

If you withdraw from a class and financial aid has been applied toward your tuition and fees, any refund due will be paid to the financial aid program(s) and not to the student. In the case of a Stafford or PLUS Loan, the refund will be made directly to the lending institution.

Students who receive financial aid over and above their tuition and fees (i.e., receive a cash disbursement) and subsequently withdraw from a course(s) during the first three weeks of the quarter, may be required to repay to the College, all or part of the cash disbursement.

Ohio Instructional Grant (OIG) recipients dropping below twelve (12) credit hours during the 100% refund period will be required to repay the entire amount of the grant, unless they qualify for part-time Ohio Instructional Grant.

Veterans Services

Columbus State Community College is approved for the training of Veterans and other eligible persons. Students eligible to receive VA educational benefits must register with the Veterans Services Office in order to receive their benefits.

To apply for VA educational benefits, students must have completed the College Admissions Application and paid the application fee. Students should contact the VA Coordinator at least six weeks before they plan to attend to start applying for the benefits.

Each applicant will be provided with a copy of the Standards of Satisfactory Academic Progress for VA Recipients, current VA guidelines, and pay scales.

To request an application or to receive more information about VA benefits, contact the VA Coordinator at 227-2644.

Information and Services

The Financial Aid and Veterans Services Department is located in Madison Hall, Room 118. Our customer service technicians are available to answer your questions and direct you. Additionally, you may also speak with a financial aid representative by calling our office.

Telephone Numbers

Financial Aid Representative	(614) 227-2648
Toll Free Number	l-800-621-6407
VA Coordinator	(614) 227-2644

Customer Service Hours

Financial Aid Office

Monday - Thursday	8 a.m. - 7:30 p.m.
Friday	9:30 a.m. - 4:30 p.m.
Saturday	9 a.m. - 12 noon

Veterans Services Office

Monday, Wednesday, Thursday	8 a.m. - 4:30 p.m.
Tuesday	11 a.m. - 7:30 p.m.
Friday	9:30 a.m. - 4:30 p.m.

Financial Aid Programs

Program	Approximate Annual Amounts	Minimum Credit Hours Required	Application Forms Required	Other Remarks
Federal PELL Grant	up to $2,700 for a full-time student **	N/A	FAFSA or Renewal Application - CSCC Financial Aid Application	Provides financial assistance based on financial need which is determined by the federal government.
Federal Supplemental Educational Opportunity Grant (FSEOG)	maximum currently available at CSCC is $750 per academic year	6	FAFSA or Renewal Application - CSCC Financial Aid Application	Assist low income families in paying tuition at public and private institutions in Ohio. Must be a resident of Ohio, enrolled full-time at an eligible Ohio postsecondary institution.
Federal Perkins Loan	total not to exceed $3,000 per year and not more than $15,000 for undergraduate study	6	FAFSA and CSCC Financial Aid Application	This is a low interest loan (5%) which must be repaid. The funds are administered through the Financial Aid Office. The funds are awarded on a first-come, first-served basis. Funding is limited.
Federal Work Study Program (FWS)	maximum award based on financial need not to exceed $4,400 per academic year	6	FAFSA and Columbus State Community College Financial Aid Application	Provides part-time employment opportunities on and off campus to assist students in defraying the cost of education. Awards are administered through the Financial Aid Office and are based on available funding, first-come, first-served basis. Funding is limited.
Ohio Instructional Grant (OIG)	up to $1,512	12	FAFSA or Renewal Application and CSCC Financial Aid Application	Assist low income families in paying tuition at public and private institutions in Ohio. Must be a resident of Ohio, enrolled full-time at an eligible Ohio post-secondary institution.
Part-time Student Instructional Grant Program	based on OIG award eligibility	N/A	FAFSA and CSCC Financial Aid Application	To be considered, a student must be enrolled for less than 12 credit hours, demonstrate financial need, be a resident of Ohio, and be enrolled in an eligible program. Special consideration is given to: a) single, heads of household and; b) displaced homemakers.
Federal Stafford Loan Program*	maximum $2,625 - less than 48 hours earned maximum $3,500 - at least 48 hours earned additional unsubsidized loan $4,000 annually	6 6 6	FAFSA and CSCC Financial Aid Application. A Federal Loan Request Form is required to apply for the loan. ** If you are borrowing from a USAF lender, you must submit your Common application	This is a long-term, low-interest loan program administered by lending institutions. The program has both a subsidized and an unsubsidized availability. A subsidized loan has its interest paid by the federal government and unsubsidized loan interest becomes the student's responsibility, immediately. There are options available which do not require any payments on the unsubsidized loan. Students enter repayment six (6) months after they graduate, withdraw, or drop below half-time enrollment.
PLUS*	no maximum loan amount	6	FAFSA and CSCC Financial Aid Application. PLUS Common Application Promissory Note from lender of choice.	Parent Loan for Undergraduate Students. Administered by lending institutions for parents of dependent students. Interest is variable.

*** Interest rates vary every July 1.**

**** These amounts are based on current regulations and are subject to change.**

Student Services & Student Life

Student Services & Student Life

Bookstore

The Columbus State Bookstore provides service to students, faculty, staff and alumni of the College. Available in the bookstore are new and used textbooks and supplies required by the academic departments for use in the classroom and laboratory. Students may also purchase software, calculators, clothing, New York Times Best Sellers, trade books, reference books, school supplies, greeting cards, candy and gift items. The Bookstore also buys back used textbooks, sells class rings, orders special books, sells gift certificates and does copying. Students are encouraged to pick up the free Bookstore Information Handbook to familiarize themselves with the store's policies. The bookstore, located on the ground floor of Delaware Hall, is open Monday - Thursday from 8:00 a.m. - 7:30 p.m., Friday from 8:00 a.m. - 4:30 p.m., and Saturday from 9 a.m. - 12 noon. For more information call (614) 227-2427.

Center for New Directions

Center for New Directions, a not-for-profit organization and a United Way agency, is on campus providing services to women who are planning changes in their work life, and to families in transition due to divorce. Their services may be of interest to Columbus State students or to people you know. Call (614) 227-5333 for information about Center for New Directions, or look for their literature at distribution sites across campus.

Child Development Center

Columbus State Child Development Center is a year-round facility open to the public. It serves families with children from ages six weeks to five years, and adds a school-age summer program for six-nine year-olds each year. The Center accepts both full-time and part-time enrollments. We have developed the reputation as a quality center in the Columbus community. Plan ahead, as there is a waiting list for all ages. For further information, call (614) 227-3600.

Counseling Center

The Counseling Center assists students in defining and accomplishing personal and academic goals. To help each individual, professional counseling services are provided for a wide range of concerns: personal, social, educational, and vocational. Personal conferences are arranged to help students explore and understand their own attitudes, values, and skills.

In addition to individual and group counseling activities, the Center offers seminars on a variety of topics designed to enhance the social, educational, and personal growth of students. Topics include stress management, career/life planning, test anxiety, decision making, college success skills, test-taking and study skills. In recognition of problems associated with substance use/abuse, the Center provides a drug and alcohol prevention program designed to increase awareness, prevent substance abuse problems, or attend to existing problems. Contact the program coordinator at (614) 227-5416. Other activities offered by the Center include the new-student orientation program, placement testing, and academic advising assistance for pre-nursing students, undecided students and students enrolled in the transfer programs.

The Counseling Center is located in Union Hall, Room 048. Services are free and confidential. Hours of operation are Monday through Thursday, 8 a.m. - 7:30 p.m., Fridays 9:30 a.m. - 4:30 p.m., and Saturdays, 9 a.m. - 12 noon (closed holiday weekends). Appointments are recommended. For more information, or to arrange an appointment, please call (614) 227-2668.

Disability Services

Columbus State Community College offers a wide range of services to encourage the enrollment of persons with disabilities. Through the Department of Disability Services, support services are made available to qualified students with disabilities. These services include, but are not limited to, modified testing procedures, materials in alternate media, textbooks on tape, note taker notebooks and counseling. In addition, qualified sign language interpreters are available for students who are deaf or hard of hearing. Adaptive and state-of-the-art equipment is available for student training and use in completing course requirements. Students may also meet with counselors and education specialists to develop an individual plan for support services. The department consults with students, consumers and professionals in the field of rehabilitation and education, as well as state and federal resources in the continued development of program accessibility. For further information or to arrange for support services, please call (614) 227-2570 (VOICE/TTY). The Department of Disability Services is located in Franklin Hall, Room 223.

Educational Resources Center (Library)

The Educational Resources Center in Columbus Hall provides a multi-media environment to facilitate a wide range of learning experiences. All cataloged materials (books, filmstrips, tapes, etc.) are intershelved so that materials on a subject can be located in one place. In addition to the cataloged collection in the main stacks, there are collections of reference materials, magazines, pamphlets, and videos. Access to all ERC materials is provided through CS/LlNK, an automated library system. Access to other resources in Ohio university and college libraries as well as the State Library is provided through OhioLINK. In order to check out materials, a Columbus State I.D. card with the current validation sticker is required. Copiers, typewriters, and personal computers are also available for use. Students can also produce their own media for classroom presentations. A handbook detailing all ERC services is available at the circulation desk.

Food Service

ARAMARK SERVICES provides a full range of dining services, including a fast food court (featuring Taco Bell, Pizza Hut, and Subway) for students, faculty, and staff, located in Union Hall. Breakfast, lunch, and dinner are offered Monday - Thursday, 7 a.m. - 8 p.m., Friday, 7 a.m. - 2:30 p.m., Saturday, 7:30 a.m. - 1 p.m. For additional cafeteria information call (614) 227-2483. For added convenience, vending machines featuring a wide variety of offerings are available throughout the campus. For vending information call (614) 227-5483. Catering services are offered to enhance any meeting, conference, luncheon, or party. Call us at (614) 227-5447 and let us make your event special!

Grievance Procedure

A grievance procedure has been established to help students resolve non-academic and non-disciplinary problems they may encounter on campus. A copy of the Columbus State Community College Student Grievance Procedure is published in the Columbus State Student Handbook or the Columbus State Policy & Procedures Manual.

Health Office

The College Health Office provides health care by professional nurses for illnesses and injuries, and nursing consultation for health problems. Health records for students in the health care technologies are collected and maintained in the Health Office.

The College Health Office promotes healthy lifestyles through seminars, workshops, and individual counseling. For more information, please call (614) 227-2450 or come to Union Hall, Room 007.

Office of Multicultural Affairs and Community Outreach

The Office of Multicultural Affairs and Community Outreach is responsible for the leadership of all programs and activities of the College which act to increase minority student access and retention within established policies and procedures of the College. Several goals of the Office are to:

- Implement orientation and professional development programs related to minority affairs, for administrative, instructional, professional, and support personnel of the College;
- Increase the employment of minority staff, faculty and administrators;
- Promote activities and programs that will result in increased retention and graduation rates of minority students; and
- Market Columbus State Community College as an attractive institution of higher education for minorities to pursue their career goals.

The accomplishment of these goals are pursued in collaboration with appropriate offices and departments of the College.

The Office is involved in outreach in the Columbus community. Working relationships have been developed with middle and high school principals, counselors, teachers, ministers, civic and community leaders and government officials to increase minority student enrollment and retention. Through campus visitations and enrollment in college credit articulation programs, minority students gain exposure to the College.

Quarterly workshops, seminars, and forums are conducted by the Office.

For more information contact the Office of Multicultural Affairs and Community Outreach at (614) 227-2426

Placement and Career Services

The Placement and Career Services Office offers a variety of career enhancement services to support current students and alumni and to develop new services as needed. These services assist individuals in appraising career potential, exploring career options consistent with desires, setting realistic career goals and implementing a career plan to satisfy individual career goals.

The Placement and Career Services Office can help with:

Career Planning Assistance:

- Assist you in developing career decision-making skills which you will use throughout your life.
- Provide you with resources for exploring careers through internships and co-ops.
- Offers computer-based and paper-and-pencil career interest tests. These activities may be self-paced or interpreted for students and alumni by staff in small groups or individual meetings.
- National Career Development Month, held every November, is one of the career information events sponsored by the Placement and Career Services Office.

Employment and Placement Assistance:

- On-campus recruiting visits by Columbus area employers are coordinated and scheduled by the PACS office.
- PACS EVENTS LINE, (614) 227-5107, updated on a monthly basis to announce the schedule of on-campus recruiting visits by employers and other career events.
- Undergraduates may access listings of full-time, part-time, internship/co-op, seasonal and temporary jobs in the Columbus area by visiting the Placement and Career Services Office. Prospective graduates and alumni may access career employment opportunities by registering for resume referral services.
- The Collegiate Job Fair of Greater Columbus is a major community-wide employment event held on campus every February/March. Resume writing, job search techniques, and interviewing preparation assistance are services available to students and alumni in seminars, often facilitated by employer representatives, and individual appointments.

Internet Resources--www.cscc.edu

Internet Career Navigator
Internet Resume Referral and Career Job Postings (Spring Quarter, 1998)

Office Hours

Monday through Thursday:	8:00 a.m. to 6:30 p.m.
Friday:	10:00 a.m. to 4:30 p.m.

Student Conduct

The general policy of the Columbus State Community College favors as few rules and regulations as are necessary to be consistent with its educational purposes. Students are expected to act as responsible adults at all times. This expectation includes the

honest performance of all work, regular class attendance, proper respect for others, prompt payment of debts, observance of law, and respect for property.

Any student violating Columbus State Community College policies or rules may be placed on disciplinary probation or dismissed. Disorderly, dishonest, and/or immoral conduct are grounds for probation or immediate dismissal. In technologies that include internship employment or clinical experiences, good standing with the cooperating employer or clinical affiliate is expected and is essential to continuation in the program. A copy of the Student Conduct Code and procedures is published in the Student Handbook or is available through the Office of the Vice President for Student Services.

Tutoring Services

Learning Skills Center (L.S.C.)
Faculty tutors for some subject areas are located in the L.S.C., Room 206, Franklin Hall. Faculty tutors in the Biological and Physical Sciences, Developmental Math, and Developmental Reading and Writing courses are available on a walk-in basis. Faculty tutors are also available by appointment only for the Communication Skills Department.

For more information on hours and availability, call (614) 227-2478.

Math Tutors
Faculty tutors are available on a walk-in basis for most Math courses beginning with MATH 100 through MATH 290 in Room 313, Academic Center B.

For more information on this tutoring service, please call 227-5313.

Peer Tutoring Program
Peer tutoring is a one-on-one tutoring service available to students in some subject areas. In general, the service is available for most subject areas not supported by faculty tutors. The service is free for students enrolled in Developmental Math and for ESL Conversation Partners. There is a minimal cost for other subject areas.

For more information, please call 227-5 193 between the hours of 8:00 a.m. to 4:30 p.m, Monday through Friday.

Student Activities

Extracurricular activities for students are developed and organized by the Student Activities Offices, located in Nestor and Delaware Halls. A varied schedule of activities and programs are sponsored each quarter throughout the year. These include movies, speakers, ticket sales for local events and amusement parks, activity classes and special programs.

Athletics

The Student Activities Office is also responsible for the development and coordination of varsity athletics at Columbus State. Currently the College offers eleven varsity sports.

Men's Basketball	Men's Soccer	Men's Golf
Women's Basketball	Women's Volleyball	Equestrian
Men's Baseball	Men's Cross Country	Cheerleading
Women's Softball	Women's Cross Country	

All of the above athletic teams hold open tryouts prior to the beginning of the season. Tryouts are held during autumn quarter, with the exception of men's soccer, men's cross country, women's cross country and women's volleyball, which are held during summer quarter.

Students who intend to participate in athletics must be full-time, registered in a minimum of 12 credit hours of coursework (although some part-time students may be eligible) and maintain a 2.0 GPA for the privilege to participate. The College adheres to the guidelines established by, and is a member of, the National Junior College Athletic Association. Athletic scholarships are available for student athletes playing men's and women's basketball. All other sports are non-scholarship.

Columbus State is a member of the Ohio Community College Athletic Conference. This conference status allows our students to compete against other two-year colleges as well as other four-year institutions in athletics.

Any questions or concerns pertaining to the athletic program may be addressed to the Supervisor of Student Activities by calling (614) 227-2445 or by stopping in the Student Activities Athletic Office located in Delaware Hall. GO **COUGARS!!**

Housing

The Columbus State Community College Student Activities Office maintains information on opportunities for student housing. Out-of-town students are encouraged to contact the Student Activities Office at (614) 227-2637 for current housing information. The department has a listing which contains information on apartment vacancies, rooms available in homes, and a roommate locator service.

Intramural Sports

The intramural sports program is an integral part of campus life. Intramurals provide opportunities for individuals to enjoy participation in their favorite sports against fair and equal competition. Both team and individual sports are offered to meet the interests and needs of all students, faculty and staff in their pursuit of leisure-time recreational opportunities. Intramural sports include basketball, billiards, checkers, euchre, chess and volleyball.

Student Organizations

The Student Activities Office is committed to the belief that students have a right to organize and participate in groups whose purposes center around interests and goals of the individuals involved. Current list of clubs and organizations as of May, 1997 include:

Accounting Honorary Society
African American Women's Support Group "Sister Friends"
Alpha Phi Omega
Animal Awareness Club
Aristos Xenia Tourismos
Columbus State Christian Fellowship
Columbus State Dance Club
Columbus State Student Society for Human Resources Mgmt.
Columbus State Landscape Association
Criminal Justice Student Association (Rho Omega Pi)
Disability Advocacy and Support Club

GABLE Cougars (Gay, Bisexual and Lesbian)
International Student Association Phi Theta Kappa
Project Brotherhood
Society of Manufacturing Engineers
Student Nurses Association
Student Organization for Adult Reentry
Student Organization for Legal Assistants

To learn more about our organizations, stop by the Office of Student Activities on the first floor of Nestor Hall, or call (614) 227-5343.

Publications

The Columbus Statement, a bi-weekly student newsletter, is published through the Student Activities Office. It presents a calendar of events for the forthcoming weeks, and serves to disseminate pertinent campus information.

Spring Street is a literary and visual arts magazine published by Columbus State students who enroll in ENGL 215 winter quarter and ENGL 280 spring quarter.

Recreational Facilities

Two areas are provided on the Columbus State campus for recreation and leisure activities in addition to the student lounges located throughout campus. The gymnasium in Delaware Hall can be used for exercise, volleyball, basketball, and other desired sports. The weight room is located in the lower level of Delaware Hall, and offers Nautilus equipment, Lifecycles, stair climbers, aerobics area, and locker room facilities. The Aquinas Hall Lounge can be used for relaxing and studying. Nestor Hall has two lounges-one for studying and one for recreational activities including billiards, video games, and the campus movie series.

Wellness Program

The Student Activities Office also sponsors a wellness program for students of the College. Activities in aerobics and Nautilus weight training are offered every quarter at a variety of times. Certified instructors will assist you. All activities are held in the Delaware Hall Recreational Facility.

NOTES

Grading and Academic Procedures

Grading and Academic Procedures

Grades

At the close of the term and upon the completion of a course the instructor reports a letter grade indicating the quality of a student's work. Points for each quarter hour of credit attempted are assigned according to the following system:

Quality	Grade	Grade Point Value	Credit Awarded
Excellent	A	4	Yes
Good	B	3	Yes
Average	C	2	Yes
Poor	D	1	Yes
Failing	E	0	No
Satisfactory	S	0	Yes
Unsatisfactory	U	0	No

Other Marks

INCOMPLETE (I) - When circumstances beyond the control of a student or a faculty member prevent the completion of course requirements during the quarter, an "I" (Incomplete) may be recorded until the final grade is established. An Incomplete is indicated only when the student has arranged for that grade with the faculty member and specific arrangements have been made for fulfilling the course requirements. Coursework must be completed within six weeks after the beginning of the next quarter if a new grade is not submitted by the faculty member by that time, a grade of "E" is automatically recorded.

TRANSFER CREDIT (K) - To receive credit for a course taken at another college or university, a student must request an official copy of the transcript be mailed to the Records and Registration Office. The official transcript copy becomes and remains the property of the College. Courses with a minimum grade of "C" and which fulfill requirements for a student's declared program of study or are needed to satisfy prerequisite course requirements will be considered for transfer credit. Please see page 3 1 for information on the Ohio Transfer Policy. Transfer credit does not apply to meeting residency credit hour requirements.

EXAMINATION/PROFICIENCY CREDIT (X) - A student may, upon the department chairperson's approval of the student's petition, be permitted to take a proficiency examination for credit. Permission is given only in cases when it is evident that previous experience or study warrants. A $50 non-refundable fee will be charged for each proficiency examination. Nursing students may take proficiency examinations only after they have been accepted into the Nursing Technology. Examination/proficiency credit does not apply to meeting residency credit hour requirements.

AUDIT (R) - A student may audit a course for information instruction only and with the understanding that credit may not be granted or later claimed as a result for the audited course. The course may be taken at a later date for credit. Neither proficiency, non-traditional, transfer or waiver credit will be given for a course that has been audited. Arrangements for audit should be made with the instructor no later than the first scheduled class meeting. A change to or from audit status will not be permitted after classes begin. The student's specific involvement in class shall be determined by the instructor. Any student wishing to audit a course is required to register for the course in the same manner as all other students and pay regular fees. The instructor will record a grade of "R" on the grade sheet.

NON-TRADITIONAL CREDIT (N) - Non-traditional credit may be awarded by the appropriate department chairperson for a student's documented life experiences which provide evidence of knowledge equivalent to that of a required course. If a portfolio is required, a fee of $50 will be charged for portfolio evaluation. Non-traditional credit does not apply to meeting residency hour requirements. Approced non-traditional credit is posted to the transcript after the student has earned 10 credit hours of technical, resident credit.

WITHDRAWAL (W) -Withdrawals during the first 14 calendar days of the quarter are not recorded on the permanent grade transcript. Withdrawals after the 14th calendar day of the quarter through the 63rd calendar day of the quarter (32nd calendar day of first-term and six week term courses) are recorded as "W' on permanent grade transcripts. See "Course Drop/Withdrawal Procedure" in this section of the Bulletin.

NO GRADE REPORTED (*) - The instructor did not report a grade. The instructor must report a grade within six weeks after the beginning of the next quarter, otherwise a final grade of "E" is automatically recorded. A student receiving an "*" should contact his/her instructor.

Grade Report

Grades are reported to the student at the current address on file with the Records and Registration Office at the end of each term. The Business Office will hold the grades of any student who has not cleared all financial obligations to the College.

Calculating Grade Point Average

The basis for determining scholastic standing is the accumulative grade point average (GPA). The College uses a 4.0 scale (A=4.0, B=3.0, C=2.0, D=1.0, E=0.0). The grade point average is calculated by first multiplying credit hours for each course by the grade point value earned for the course. See the example in the following chart (credit hours x grade point value = total grade points earned for a course). Divide the total grade points earned for all courses attempted by the total credit hours for all courses attempted to determine accumulative grade point average.

EXAMPLE

Course	Credit Hours	Course Grade Received	Grade Point Value	Course Grade Points (Credits x Pt. Value)
Beg Comp (ENGL 101)	3	B	3	3x3 = 9
Med Term (MULT 101)	2	B	3	2x3 = 6
Physiology (BIO 169)	5	C	2	5x2 = 10
Hematology (MLT 141)	6	A	4	6x4= 24
Emergencies (MULT 103)	2	B	3	2x3 = 6
Total Credit Hours = 18			Total Grade Points = 55	

$$\text{GPA} = \frac{\text{Total Grade Points}}{\text{Total Credit Hours}} \frac{55}{18} = 3.055$$

Academic Standing

Each active student's record is reviewed at the close of each quarter. If a student's cumulative record (all courses attempted with a grade received) shows a grade-point deficiency, the student is subject to being placed on academic warning, academic probation or academic dismissal. The entire record, including each grade in each credit course attempted, is used to determine academic standing. The extent to which a student's accumulative average is below a grade point average (GPA) of 2.0 (C average) determines whether the student will be dismissed, placed on probation or continued on probation, or placed or continued on academic warning.

Dean's List

To recognize outstanding scholastic achievement, a Dean's List is compiled each quarter. To qualify for the Dean's List, a student must complete a minimum of 6 credit hours and earn a grade point average (GPA) of 3.5 or higher in that quarter. All credits must be in courses included in the calculation of the GPA. No student is eligible for the Dean's List who has a grade of "I".

Academic Honors

An Academic Honors List is compiled at the end of spring quarter to recognize students who are not eligible for the Dean's List, but who have achieved outstanding scholastic success over an academic year. Part-time students who have earned 12 or more hours of credit in any academic year (summer, autumn, winter, and spring quarters) with a GPA of 3.5 or above will be recognized on the Academic Honors List at the end of spring quarter.

Class Attendance

Students are expected to attend all classes. A student who has excessive unexcused absences during the quarter, and has not officially withdrawn, will receive an "E" in that course. Additional attendance policies may be defined by each technology chairperson, department coordinator, or instructor.

Satisfactory Academic Progress

"Satisfactory academic progress" is defined for all academic purposes at Columbus State Community College as progress in credit courses undertaken at the College that result in a grade point deficiency of not greater than 15 total grade points below a "C" (2.0) average for first-year students (47 or fewer credit hours earned) and not greater than 10 grade points below a "C" (2.0) average for second-year students (48 or more credit hours earned). For the purpose of graduation, a candidate for an Associate of Applied Science or Associate of Technical Studies degree must have a minimum 2.000 grade point average (GPA) in all required technical coursework and a minimum 2.000 grade point average (GPA) in all required non-technical coursework. A candidate for an Associate of Arts or Associate of Science degree must have a minimum 2.000 grade point average (GPA) in. all coursework attempted at the College.

Academic Warning

WARNING is printed on the student grade report when the respective cumulative average drops below 2.000.

Academic Probation

The academic progress of a first-year student is considered unsatisfactory and the student is placed on academic probation when the cumulative grade point average reflects a grade point deficiency greater than 15 grade points and less than 26 grade points below a "C" (2.0) average. The academic progress of a second-year student is considered unsatisfactory and the student is placed on academic probation when the cumulative grade point average reflects a grade-point deficiency greater than 10 grade points and less than 19 grade points below a "C" (2.0) average. PROBATION is printed on the student's grade report and transcript and the student may be required to meet with an advisor/counselor for assistance prior to registering for subsequent quarters

Academic Dismissal

A first-year student is academically dismissed from the College when the cumulative grade point average reflects a grade point deficiency greater than 25 grade points below a "C" (2.0) average. A second-year student is academically dismissed from the College when the cumulative grade point average reflects a grade point deficiency greater than 18 grade points below a "C" (2.0) average. DISMISSAL is printed on the student's grade report and transcript.

Petition for Readmission

A student who wishes to return to the College following academic dismissal must petition for readmission. If granted, readmission will be contingent on specific department policies and may require a contract between the student and the department defining expected class and/or grade performance. The registration of any dismissed student who returns to class without following the above procedure may be cancelled. Petitions for Readmission are available in the Counseling Center, Union Hall, Room 048.

Fresh Start Rule

The Fresh Start Rule is intended to help students who were unsuccessful in their previous academic attempts at the College because of immaturity or unreadiness, and who voluntarily left the College and later returned after a substantial period of time and considerable personal change. In general, a student with courses in which grades of "D", "E" or "U" were earned, may be eligible

to have the grades expunged from the student's record if the following conditions are met:

- the student must have been away from the College for at least three consecutive years (12 consecutive quarters)
- the student has successfully earned at least 12 credit hours towards a degree since returning to the College

A student may use the rule one time. An information sheet providing the complete requirements of the Fresh Start Rule and petition are available from the Records and Registration Office, 101 Madison Hall.

Course Drop/ Withdrawal Procedure

Students may withdraw from full-quarter and second-term courses through the 63rd calendar day of the quarter. Students may withdraw from first-term courses through the 32nd calendar day of the quarter. Please see the Records and Registration Office for deadlines for other short terms. To withdraw from a class, it is necessary for the student to notify the College by submitting a completed Schedule Adjustment Form to the Records and Registration Office, 101 Madison Hall; call telephone registration, (614) 227-2666, during business hours; use CATS (Computer Automated Touchtone System) registration at (614) 227-3900; or use the SITE (Student Information Terminal) system. Receipt of the revised schedule, either in person or by mail, is the student's verification of registration transactions. Failure on the part of a student to follow withdrawal procedures will result in an "E" (failing grade) being recorded for the course or courses on the grade report.

Retroactive Academic Withdrawal Policy

A student who received failing grades as the result of documentable extenuating circumstances which prevented the student from following academic withdrawal procedures may be eligible to petition to retroactively withdraw from courses and have those grades changed to "W." Students must provide adequate third-party documentation that explains the extenuating circumstances. More information is available from the Records and Registration Office, 101 Madison Hall.

Repeating Courses

A student may repeat a course. Only the repeated course grade received will be used to compute the overall grade point average. However, both grades shall remain a part of the student's permanent record. Veterans and other financial aid recipients should check with the Financial Aid Office before repeating a course for which credit has been earned.

Program of Study Change

Students may request a Program of Study change in the Records and Registration Office, 101 Madison Hall. Students transferring from one technical program to another shall not be required to carry the technical grade point average of the previous technical courses as a part of the technical grade point average of the new technical program. However, the grade point average of all courses taken shall remain as part of the official transcript record. Only those courses comprising the curriculum of the new technology will be considered when calculating the technical and non-technical grade point averages for determining eligibility to graduate.

Degree Audit Report

The Degree Audit Report System (DARS) is an important advising tool that helps students determine progress toward completion of their program or degree requirements. DARS provides a written report of courses in progress, courses completed and courses remaining for completion of program or degree requirements. It also reflects technical and non-technical grade point averages (for technical programs) and the overall grade point average (all programs). Your advisor can help you interpret this report. Regular use of the DARS report will assist the student in making prudent course selections. Students may request copies of their DARS at the Records and Registration Office (101 Madison Hall) or view and request their report on-line from one of the SITE terminals located on campus.

Second-Year Status

A student shall be considered second-year after having satisfactorily completed a minimum of 48 credit hours of coursework as recognized by the College.

Petition to Graduate

Each student who wish to graduate must obtain a "Petition to Graduate" form and Degree Audit Report from the Records and Registration Office at the beginning of the quarter prior to the one in which the student intends to graduate. The student is to meet with his or her advisor for the evaluation of all course work completed, review of cumulative grade point averages, and review of courses for which he or she is registered the current quarter to determine eligibility for graduation. The petition to graduate must be filed with the Records and Registration Office by the published deadline date for the intended quarter of graduation. The student will then be notified of graduation eligibility pending receipt of final grades.

Graduation Requirements

Graduation requirements for technical and transfer programs are listed in the "Programs of Study" section in this Bulletin.

Graduation Honors

Grade calculations through the quarter of graduation determine the appropriateness of posting HONORS on the graduate's transcript and Summa Cum Laude, Magna Cum Laude, or Cum Laude on the diploma. Graduates' grade point averages and honors designations printed in the graduation program are based on calculations of all grades through the quarter prior to their graduation quarter. Honors categories are as follows:

***Summa Cum Laude (With Greatest Praise) 4.000 GPA
**Magna Cum Laude (With Great Praise) 3.999-3.850 GPA
*Cum Laude (With Praise) 3.849-3.500 GPA

Commencement

A formal graduation ceremony is held at the end of each quarter. Caps and gowns, furnished by the College, are standard attire for the ceremony. Students graduating with honors are distinguished by wearing gold honor cords. Summa Cum Laude graduates are

further distinguished by wearing engraved honor medallions. Class remarks are offered by the graduate attending the ceremony who has maintained a 4.0 accumulative grade point average (GPA) with the largest number of credit hours. The 4.0 graduate with the second largest number of credit hours leads the pledge of allegiance.

Replacement Diplomas

To obtain a replacement diploma, submit a written request attesting that the original diploma has been lost or destroyed. Include your name, social security number, degree earned, quarter and year of graduation, and your current address. Send the request along with a $15 replacement fee to: Office of Records and Registration, 101 Madison Hall, 550 E. Spring Street, Columbus, Ohio 43216. The replacement diploma will be sent to your current address by certified mail. Allow six weeks for delivery.

Student Rights Under the Family Education Rights and Privacy Act of 1974 as Amended

1. Definition of Education Record

Under the Act, "education records" mean, with certain exemptions as listed below, those records, files, documents, and other materials which contain information directly related to a student and are maintained by any unit of the College. The following categories of information are exempted and are not considered to be "education records":

a. Records made by College personnel which are in the sole possession of the maker and are not accessible or revealed to any other person.

b. Records maintained by the College Public Safety Department.

c. Medical and counseling records used solely for treatment. Medical records may be personally reviewed by a physician of the student's choice.

2. Right to Inspect and Review

Each student is granted the right to inspect and review all his or her education records except the following:

a. Financial records of parents.

b. Confidential letters and statement of recommendations for admission, employment or honorary recognition placed in education records after January 1, 1975, for which a student has signed a waiver of his or her right of access recorded by the Act.

3. Waiver of Rights of Access

The Act provides that a student may waive his or her right of access to confidential letters and statements of recommendation. If the student signs a waiver, he or she shall be notified, upon request, of the names of all persons making confidential recommendations. Waivers are valid only so long as they are made for the purposes stated in Paragraph 2b. The College may not require a student to waive his or her right of access accorded by the Act for receipt of College benefits or services.

4. Location of Educational Records

Columbus State Community College does not maintain education records in any one central office. Academic education records are maintained in the Admissions Office, Financial Aid/Veteran Services Office, the College Health Office, and the Records and Registration Office Questions regarding the location of individual student records should be directed to the Records and Registration Office, 101 Madison Hall.

5. Procedures for Inspection and Review

a. Requests to review records and/or to obtain copies of such records (a charge of 10 cents per copy shall be paid by the student) must be made separately to each office maintaining records.

b. If any material or document in the education record of a student includes information on more than one student, the right extends to inspect and review only such part of such material or document as relates to such students or to be informed of the specific information contained in such part of such material.

c. Periodically, student records are reviewed and ex punged and only records which are necessary to determine education status and demography are maintained indefinitely. Transcripts, and other pertinent documents of Columbus State Community College students will be microfilmed periodically and the originals destroyed.

6. Right to Challenge Information in Records

Students have the right under the Act to a hearing to challenge the content of their records on the grounds the information contained therein is inaccurate, misleading, inappropriate or in violation of their privacy or other rights. The hearing process includes an opportunity for the correction or deletion of such information and to insert into such records written explanations by the student regarding the content of such records.

NOTE: The right to challenge grades does not apply under the Act unless the grade assigned was inaccurately recorded.

7. Procedures for Hearings to Challenge Records

Students challenging information in their records must submit in writing a request for a hearing to the appropriate office maintaining the records, listing the specific information in question and the reasons for the challenge. Hearings shall be conducted and decided and a decision rendered in writing within a reasonable period of time after the challenge is filed.

Hearings will be conducted and a decision rendered by a College official who does not have a direct interest in the outcome of the hearing. Students shall be afforded a full and fair opportunity to present evidence relevant to the reasons for the challenge as referenced in paragraph 6. It shall be the responsibility of the office maintaining the record in question to insure the hearing is conducted in accordance with the provisions of the Act and within applicable Columbus State Community College procedures. Students may appeal the decision of the hearing officer. Appeals shall be in writing and submitted to the Vice President for Student Services within 10 days of the student's notification of the decision of the hearing officer?. The appeal shall be heard and decided, and a decision rendered in writing within a reasonable period of time.

8. Consent for Release

In accordance with the Act, written consent must be obtained from students for the release of education records or information that makes it possible to identify the student with reasonable certainty. The consent statement shall specify which records are to be released, the reasons for release, and to whom they are released. A copy of the release record shall be made available to the student if he or she so requests. The requirement for written consent does not apply to the following:

a. Requests from faculty and staff of Columbus State Community College who have a legitimate educational interest on a "need to know" basis;

b. Requests in compliance with a lawful subpoena or judicial order. Students shall be notified of all such subpoenas or orders in advance of compliance;

c. Requests in connection with a student's application for, or receipt of, financial aid;

d. Request by State or Federal authorities and agencies specifically exempted from the prior consent requirements by the Act-organizations conducting studies on behalf of the College if such studies do not permit the personal identification of students to any persons other than to representatives of such organizations and if the personal identification is destroyed when no longer; needed;

e. Information submitted to accrediting organizations;

f. In the case of emergencies, the College may release information from education records to appropriate persons in connection with an emergency if the knowledge of such information is necessary to protect the health or safety of a student or other persons;

g. Requests for "directory information." (See item 9)

NOTE: The College will not unilaterally send student records to other educational institutions. Students transferring from the College or making application to other educational institutions must notify the Records and Registration Office in writing to release official transcripts to other institutions. A student may request official transcripts for his or her own use (issued to student) by completing the form available from the Records and Registration Office.

9. Directory Information

Columbus State Community College, in accordance with the Act, has designated the following categories of information about students as public information.

a. Name

b. Address (es) (local and home)

c. Telephone (local and home)

d. Program/Technology

e. Participation in officially recognized activities and sports

f. Weight and height of members of athletic teams

g. Inclusive dates of enrollment

h. Degrees and awards received (to include honor rolls)

i. Most recent previous educational agency or institution attended

NOTE: Students have the right to have this directory information withheld from the public if they so desire. Each student who desires that any or all directory information be withheld shall so indicate by completing a form available from the Records and Registration Office. During the quarter, students may request directory information be withheld or released by using the Change of Information Form (obtained from the Records and Registration Office). However, at least 10 days should be allowed for processing of these requests by the Records and Registration Office through the student information system and back to the academic program/technology offices.

10. Inquiries "Outside" Columbus State Community College

The College receives many inquiries for "directory information" from a variety of sources, including friends, spouses, parents, other relatives, prospective employers, other institutions of higher education, honor societies, licensing agencies, government agencies, and the news media. Each student is advised to carefully consider the consequences of a decision to withhold "directory information." Columbus State Community College, in all good faith, will not release directory information requested to be withheld and any request from non-college persons or organizations will be refused.

11. Record of Access

a. Each office maintaining and releasing student records shall maintain a record, kept with the education records of each student, which will indicate all parties, other than those specified in paragraph 8 above, who have requested or obtained access to the records and specifically the legitimate interest that each such party has in obtaining this information.

b. Columbus State Community College will not release personal information about students except on the condition the party to which the information is being transferred will not permit access by a third party without the consent of the student.

12. Complaints

Any student who has reason to believe the College is not complying with the Act should inform the Vice President for Student Services and the U.S. Department of Education in writing. The Vice President shall promptly review all such allegations.

13. Questions

Direct questions concerning your understanding of the Act to the Vice President for Student Services.

Programs of Study/Course Descriptions

Programs of Study

Technical Programs

Associate of Applied Science
Associate of Technical Studies
Certificate Programs

These technical degree programs, offered in the Health and Human Services, Engineering, and Business and Public Services Divisions, are designed to prepare students for immediate employment upon graduation. Programs of Study can be completed within two years for students enrolled full-time. Agreements have been made with Capital University, DeVry Institute of Technology, Franklin University, Ohio Dominican College, Otterbein College, Shawnee State University, and Wilberforce University which enable technology students to complete bachelor's degrees within two years of full-time study at those institutions. Bachelor degree completion information is available from the academic departments and the Counseling Center.

Within many of the technologies, short-term certificate programs are offered which can be completed in less than two years by qualified students.

General Education

Central to the mission of Columbus State Community College is the provision of general education studies as an integral part of all degree programs. General education refers to the measurable knowledge and skills that serve as the foundation to success within all programs of study and throughout life. General education is not an end in itself, but a means to continuing and enhancing education throughout life by enabling the students to:

- Think critically
- Solve problems
- Communicate effectively
- Recognize the value of human diversity
- Demonstrate interpersonal skills
- Demonstrate life management skills

Computational and computer literacy skills appropriate to the program of study are included in the degree requirements for programs. Student competence in these areas is assessed throughout the curriculum and at the end of the student's academic program.

Transfer Programs

Associate of Arts
Associate of Science
The Ohio Transfer Module

The Associate of Arts and Associate of Science degrees are specifically designed to allow for the transfer and application of all credits earned at Columbus State to the bachelor degree requirements of most colleges and universities. Specific agreements have been made with colleges at The Ohio State University, Capital University, Franklin University, Ohio Dominican College, Otterbein College, Shawnee State University, and Wilberforce University which guarantee admission and the application of all courses taken in the degree program at Columbus State to the bachelor degree requirements at those institutions. Guides for course selection to meet specific requirements at these schools are available in the Columbus State Counseling Center or from the Dean of Arts and Sciences,

In addition, completion of the Associate of Arts and Associate of Science degrees at Columbus State also guarantees completion of the Ohio Transfer Module. This guarantees the application of a minimum of 60 quarter hours to the general education requirements of all state supported institutions in Ohio. Those who complete the degree are to be given preferential consideration for admission to other state colleges.

The Associate of Science Degree is different from the Associate of Arts Degree primarily in the level of mathematics required. The Associate of Science Degree requires completion of Calculus and Analytical Geometry II which is the foundation for further study in advanced physics, chemistry, and engineering. Generally, careers in the biological and health sciences do not require this level of mathematics or physical sciences.

Graduation Requirements:
Associate of Arts and Associate of Science Degrees

1. All students must satisfactorily complete at least 92 credit hours of approved courses, a minimum of 35 hours of which must be completed at Columbus State. Approved courses are designated below. Satisfactory completion requires a final grade of A, B, C, or D. Transfer credit may be awarded for courses in which a "C" or better has been earned at other accredited institutions if the course level equivalencies have been approved by the Dean of Arts and Sciences. (If courses are listed in the "Transfer Module" of an Ohio college, they have been pre-approved for credit toward a Columbus State degree.) Credits by examination/proficiency, non-traditional credit, and transfer credit do not apply toward meeting residency credit hour requirements.
2. All students must attain an overall grade point average of 2.0 or better for all credit courses at the 100 level or above taken at Columbus State. Grade point averages are calculated on the following scale: A=4, B=3, C=2, D=l, E=0. Number equivalencies are not assigned for grades other than these.
3. All students must complete the following General Education Requirements for the Associate of Arts or the Associate of Science degrees:

Freshman Seminar - Two quarter hours required for all new degree seeking students or students new to Columbus State with less than 30 applicable hours of transfer credit from their previous college. Students are to take this course in conjunction with ENGL 101 or ENGL 111. Topics should be chosen according to the student's interest.

Communication Skills- 12 quarter hours minimum

College Composition - (5-6 hours required)
ENGL 101 Beginning Composition (3 hours) **and**
ENGL 102 Essay and Research (3 hours) **or**
Students who place into ENGL 111 may take ENGL 111 instead of ENGL 101 and ENGL 102.
ENGL 111 English Composition (5 hours)

Students who complete ENGL 111 must take a five hour Composition and Literature course.

Composition and Literature (3-5 hours required)
ENGL 220 Introduction to Literature (3 hours)
ENGL 250 Writing About the Amer. Exp. (5 hours)
ENGL 25 1 The American Identity (5 hours)
ENGL 252 Images of Men & Women in Amer. (5 hrs)
ENGL 253 American Regional Writing (5 hours)
Oral Communication (3 hours required)
COMM 105 Speech (3 hours)
COMM 115 Oral Interpretation (3 hours)

Mathematical and Logical Analysis - Associate of Arts Degree requires 10 quarter hours, 5 must be in mathematics The remaining 5 hours may be from mathematics, statistics, logic, or computer programming. The Associate of Science Degree requires completion of MATH 152.

Mathematics
MATH 125 Mathematics in the Modem World (5 hours)
MATH 148 College Algebra (5 hours)
MATH 150 Precalculus (5 hours)
MATH 151 Calculus and Analytical Geometry I (5 hrs)
MATH 152 Calculus and Analytical Geometry II (5 hrs)
MATH 153 Calculus and Analytical Geometry III (5 hrs)
MATH 254 Calculus and Analytical Geometry IV (5 hrs)
MATH 255 Elementary Differential Equations (5 hrs)
MATH 268 Elementary Linear Algebra (5 hours)
MATH 130 Business Algebra (5 hours)
MATH 131 Business Calculus I(5 hours)
MATH 132 Business Calculus II (5 hours)
Statistics
MATH 135 Elementary Statistics (5 hours)
MATH 233 Statistics for Business (5 hours)
Formal Logic
PHIL 150 Introduction to Logic (5 hours)
PHIL 250 Symbolic Logic (5 hours)
Computer Programming
CPT 111 Assembly Language I (5 hours)
CPT 112 Assembly Language II (5 hours)
CPT 201 Cobol I (5 hours)
CPT 202 Cobol II (5 hours)
CPT 205 Cobol III - CICS (5 hours)
CPT 221 Database Programming (3 hours)
CPT 225 Database Systems (5 hours)
CPT 251 Intro. to C++ Programming (5 hours)
CPT 252 Advanced C++ Programming (5 hours)

Biological/Physical Sciences - Associate of Arts -
Select from Option 1 or 2.
Option 1: (15 hours) NSCI 101, NSCI 102, and NSCI 103.
Option 2: 20 hours from the following approved lists. At least one course must be from the Biological Sciences and at least one course must be from the Physical Sciences.

Associate of Science - 25 **hours** - Select from the Options below:
Option 1: NSCI 101, NSCI 102, and NSCI 103, and 10 additional hours of mathematics above the level of MATH 152 Calculus and Analytic Geometry II or 10 additional hours of laboratory science from the following approved list.
Option 2: 25 hours of laboratory science from the following approved lists, including one approved 10 hour sequence. At least one course must be taken from the Biological Sciences and at least one course must be from the Physical Sciences.

Option 3: 15 hours of laboratory science with a minimum of one course from the Biological Sciences and one course from the Physical Sciences **and 10 additional hours** of mathematics above the level of MATH 152 Calculus and Analytic Geometry II **or 10 additional hours** of laboratory science from the following approved lists.

Approved 10 hour Sequences

Physical Sciences	Biological Sciences
CHEM 111 & 112	BIO 111 & BIO 112
CHEM 171 & 172	BIO 111 & BIO 115
PHYS 117 & 118	BIO 111 & BIO 126
PHYS 177 & 178	BIO 111 & BIO 127
	BIO 111 & ANTH 200
	BIO 161 & BIO 169
	BIO 174 & BIO 175

Approved Individual Courses

Physical Sciences	Biological Sciences
CHEM 173 (5)	ANTH 200 (5)
CHEM 251 (5)	BIO 115 (5)
GEOL 101 (5)	BIO 125 (5)
GEOL 121 (5)	BIO 126 (5)
PHYS 119 (5)	BIO 127 (5)
PHYS 179 (5)	BIO 161 (5)
	BIO 169 (5)
	BIO 170 (5)
	BIO 201 (5)

Social/Behavioral Sciences -
Option I: 15 quarter hours - choose three from:
SSCI 101 Cultural Diversity (5 hours)
SSCI 102 America in Transition (5 hours)
SSCI 103 Social Problems (5 hours)
SSCI 104 World Economic Geography (5 hours)
Option II: 20 quarter hours from at least two areas:
Integrated/Interdisciplinary
SSCI 101 Cultural Diversity (5 hours)
SSCI 102 America in Transition (5 hours)
SSCI 103 Social Problems (5 hours)
SSCI 104 World Economic Geography (5 hours)
Economic/Geography
ECON 100 Introduction to Economics"(S)
ECON 200 Principles of Microeconomics (5)
ECON 240 Principles of Macroeconomics (5)
GEOG 240 World Regional Geography (5)
Political Science
POLS 101 Introduction to American Government (5)
POLS 165 Introduction to Politics (5)
Psychology
PSY 100 Introduction to Psychology (5)
PSY 200 Educational Psychology (5)
PSY 230 Abnormal Psychology (3)
PSY 235 Psychology of Adjustment (3)
PSY 240 Human Growth and Development (4)
PSY 261 Introduction to Child Development (5)
PSY 267 Social Psychology (5)
Sociology/Anthropology
ANTH 201 World Prehistory (5)
ANTH 202 Introduction to Cultural Anthropology (5)
SOC 101 Introduction to Sociology (5)
SOC 230 Intro. to Marriage and Family Relations (5)
SOC 280 Ethnic Studies (3)

Humanities- 15 quarter hours - choose Option I or Option II
Option I:
HUM 111 World Civilization I (5 hours)
HUM 112 World Civilization II (5 hours)
HUM 113 World Civilization III (5 hours)

Option II:
HUM 111 World Civilization I (5 hours)
HUM 151 American Civilization I (5 hours)
HUM 152 American Civilization II (5 hours)

4. Elective Requirements. Associate of Arts students select a minimum of 20 elective hours. Associate of Science students select a minimum of 15 hours. Students may complete their degree requirements from any of the courses listed above or below in the Transfer Module. In addition students may select from the following foreign language sequences.

Foreign Languages

FREN 101 (5)	SPAN 101 (5)	GERM 101 (5)
FREN 102 (5)	SPAN 102 (5)	GERM 102 (5)
FREN 103 (5)	SPAN 103 (5)	GERM 103 (5)
FREN 104 (5)	SPAN 104 (5)	GERM 104 (5)

ITAL 101 (5)	JAPN 101 (5)
ITAL 102 (5)	JAPN 102 (5)
ITAL 103 (5)	JAPN 103 (5)
ITAL 104 (5)	JAPN 104 (5)

Other elective options may be chosen from pre-approved lists available from the Counseling Center or the Dean of Arts and Sciences. Careful selection of Columbus State "elective" courses can allow the Columbus State graduate's coursework to be applicable to requirements for the bachelor's degree.

5. **Capstone Experience** - 3-quarter hours. Within the last 2 quarters prior to graduation, students must complete a "Capstone" course in the discipline of their intended major at a baccalaureate institution, e.g., BIO 290, ENGL 290, etc.

Ohio Transfer Policy

The Ohio Board of Regents has established the **Transfer Module,** which is a specific set of courses from a college or university's general education requirements. The Transfer Module contains 54-60 quarter hours (or 36-40 semester hours) of course credits in English composition, mathematics, fine arts, humanities, social science, behavioral science, natural science, physical science and interdisciplinary courses.

A Transfer Module completed at one public college or university will automatically meet the requirements of the Transfer Module at the receiving institution, after the student has been accepted. Students may be required to meet additional general education requirements, that are not included in the Transfer Module. Since private colleges and universities in Ohio may or may not be participating in the Transfer Module policy, students are encouraged to check with the college of their choice regarding their transfer agreements.

Students who complete Columbus State's degree requirements in Communication Skills, Mathematics, Humanities, Biological and Physical Sciences, and Social and Behavioral Sciences will automatically have completed the Transfer Module.

Transfer Module

English Composition -

College Composition - 5 - 6 hours required
ENGL 101 Beginning Composition (3) **and**
ENGL 102 Essay and Research (3) **or**
ENGL 111 English Composition (5)

Literature-based Composition - select one course (students with credit for ENGL 111 must take a 5 hour course).
ENGL 220 Introduction to Literature (3)
ENGL 250 Writing About the American Experience (5)
ENGL 251 The American Identity (5)
ENGL 252 Images of Men and Women in America (5)
ENGL 253 Regional American Writing (5)

Mathematics and Logical Analysis - select a minimum of one course

Mathematics - 5 hours required
MATH 125 Mathematics in the Modem World (5)
MATH 130 Business Algebra (5)
MATH 131 Business Calculus I (5)
MATH 132 Business Calculus II (5)
MATH 148 College Algebra (5)
MATH 150 Precalculus (5)
MATH 151 Calculus and Analytic Geometry I (5)
MATH 152 Calculus and Analytic Geometry II (5)
MATH 153 Calculus and Analytic Geometry III (5)
MATH 254 Calculus and Analytic Geometry IV (5)
MATH 255 Elementary Differential Equations (5)
MATH 266 Discrete Mathematical Structures (5)
MATH 268 Elementary Linear Algebra (5)

Biological and Physical Sciences - select Option I or Option II

OPTION I:
Integrated/Interdisciplinary
NSCI 101 Natural Science I (5)
NSCI 102 Natural Science II (5)
NSCI 103 Natural Science III (5)

OPTION II: select three courses from at least two areas
Biological Sciences
BIO 111 Introductory Biology I (5)
BIO 112 Introductory Biology II (5)
BIO 115 General Microbiology (5)
BIO 125 General Botany (5)
BIO 126 Introduction to Ecology (5)
BIO 161 Human Anatomy (5)
BIO 169 Human Physiology (5)
BIO 174 Biological Sciences I (5)
BIO 175 Biological Sciences II (5)
BIO 201 Animal Diversity and Systemics (5)
Physical Sciences
CHEM 111 Elementary Chemistry I (5)
CHEM 112 Elementary Chemistry II (5)
CHEM 113 General and Biological Chemistry (5)
CHEM 17 1 General Chemistry I (5)
CHEM 172 General Chemistry II (5)
CHEM 173 General Chemistry III (5)
GEOL 121 Physical Geology (5)
PHYS 117 College Physics - Mechanics and Heat (5)
PHYS 118 College Physics - Elect, Magnetism & Light (5)
PHYS 119 College Physics - Modem Physics (5)
PHYS 177 General Physics I (5)
PHYS 178 General Physics II (5)
PHYS 179 General Physics III (5)

Arts/Humanities - select Option I or Option II

OPTION I: select one of the Civilization sequences
Ingegrated/Interdisciplinary
HUM 111 World Civilization to 1500 (5) and
HUM 112 World Civilization II (5) and
HUM 113 World Civilization III (5) **or**
HUM 111 World Civilization to 1500 (5) and
HUM 151 American Civilization I (5) and
HUM 152 American Civilization II (5)

OPTION II: select three courses from at least two areas

Interdisciplinary

HUM 205	Medicine and the Humanities (5)
HUM 222	Classical Mythology (5)
HUM 245	Music and Art Since 1945 (5)

Western Arts

ART 101	History of Western Art (5)
MUS 101	History of Western Music (5)
THEA 100	Introduction to the Theater (5)

Philosophy

PHIL 101	Introduction to Philosophy (5)
PHIL 130	Ethics (5)
PHIL 270	Philosophy of Religion (5)

World/Non-Western Cultures

HUM 251	History of Latin America (5)
HUM 252	The Islamic World and the Middle East (5)
HUM 253	History of China and Japan (5)
HUM 254	Introduction to African Literature (5)
HUM 270	Comparative Religions (5)

Literature

ENGL 230	Introduction to Dramatic Literature (5)
ENGL 235	Introduction to Poetry (5)
ENGL 240	Introduction to Science Fiction (3)
ENGL 262	Survey of British Literature (5)
ENGL 264	Introduction to Shakespeare (5)
ENGL 265	Modem European Lit. in Translation (5)
ENGL 270	Black American Writers (5)
ENGL 272	Introduction to Folklore (5)
ENGL 276	Women in Literature (5)
ENGL 274	Introduction to Non-Western Literature (5)

Social and Behavioral Sciences - select Option I or Option II

OPTION I: select three courses from the following

Integrated/Interdisciplinary

SSCI 101	Cultural Diversity (5)
SSCI 102	America in Transition (5)
SSCI 103	Social Problems (5)
SSCI 104	World Economic Geography (5)

OPTION II: select three courses from at least two areas

Economics/Geography

ECON 100	Introduction to Economics (5)
ECON 200	Principles of Microeconomics (5)
ECON 240	Principles of Macroeconomics (5)
GEOG 200	World Regional Geography (5)

Political Science

POLS 101	Introduction to American Government (5)
POLS 165	Introduction to Politics (5)

Psychology

PSY 100	Introduction to Psychology (5)
PSY 230	Abnormal Psychology (3)
PSY 235	Psychology of Adjustment (3)
PSY 240	Human Growth and Development (4)
PSY 261	Introduction to Child Development (5)
PSY 267	Social Psychology (5)

Sociology/Anthropology

ANTH 200	Introduction to Physical Anthropology (5)
ANTH 201	World Prehistory (5)
ANTH 202	Introduction to Cultural Anthropology (5)
SOC 101	Introduction to Sociology (5)
SOC 230	Intro. to Marriage and Family Relations (5)
SOC 280	Ethnic Studies (3)
SOC 291	Community Sociology (5)

Conditions for Transfer Admission

Students who meet the Transfer Module requirements are subject to the following conditions:

1. The policy encourages receiving institutions to give preferential consideration for admission to students who complete the Transfer Module and either the Associate of Arts or the Associate of Science degrees. These students will be able to transfer all courses in which they received a passing grade of "D" or better. Students must have an overall grade point average of 2.0 to be given credit for the Transfer Module.
2. The policy also encourages receiving institutions to give preferential consideration for admission to students who complete the Transfer Module with a grade of "C" or better in each course and 90 quarter hours or 60 semester hours. Students must have an overall grade point average of 2.0 to be given credit for the Transfer Module. For individual courses, only those in which a "C" or better has been earned will transfer.
3. The policy encourages receiving institutions to admit on a non-preferential consideration basis, students who complete the Transfer Module with a grade of "C" or better in each course, and less than 90 quarter hours or 60 semester hours. These students will be able to transfer all courses in which they received a grade of "C" or better.

Admission to a given institution does not guarantee that a transfer student will be automatically admitted to any major, minor or field of study offered at that institution. Once admitted, transfer students will be subject to the same catalog requirements as all other students. Transfer students will be accorded the same class standing and other privileges as all other students based on the number of credits earned. All residency requirements must be successfully completed at the receiving institution prior to the granting of a degree.

Responsibility of Students

Early in their college career, students should identify the major and the university they wish to transfer into from Columbus State. They should plan their course of study to meet the requirements of the degree program they wish to pursue at the receiving four-year institution. Students should determine if there are foreign language or special course requirements that can be completed in the freshman or sophomore year. Students are encouraged to consult with an academic advisor to determine their specific transfer requirements.

Appeals Process

An appeals process is required at each institution, which allows students who disagree with application of transfer credits to file an appeal. If a transfer student's appeal is denied by the institution, the student must be advised in writing how to appeal at the state level Articulation and Transfer Appeals Review Committee. This committee will recommend a resolution to each case.

The appeals process begins after the student receives a copy of the Transfer of Credit form, which indicates that some previous coursework may not be applicable to the student's new degree. The student may then appeal by asking the Director of Records and Registration for an explanation of the appeals process. The Director of Records and Registration will provide the student with additional information regarding the appeals process.

FULFILLMENT OF THE ASSOCIATE OF ARTS OR ASSOCIATE OF SCIENCE DEGREE REQUIREMENTS ASSURES FULFILLMENT OF TRANSFER MODULE REQUIREMENTS.

Columbus State Community College Transfer Agreements

Columbus State Community College has established transfer agreements with the following institutions. Please see your academic advisor for specific transfer course information.

Associate of Arts and Associate of Science Degrees to B.A. and B.S. Degrees
Capital University
Central State University
Franklin University
Mount Carmel School of Nursing
Ohio Dominican College
The Ohio State University - All Colleges
Otterbein College
Shawnee State University
University of Toledo
Wilberforce College

2 + 2 Agreements for all Degree Programs
Capital University
Central State University
Devry Institute of Technology
Franklin University
Otterbein College
Wilberforce University
Shawnee State University

Guaranteed Admission to all Graduates of Columbus State (AA, AS, or AAS)
Central State University
Otterbein College
Shawnee State University
Wilberforce University

Technology Specific Agreements for Associate of Applied Science Degrees
Circleville Bible College:
Accounting Technology
Business Management Technology
Early Childhood Development Technology
Nursing Technology
Devry Institute of Technology:
Accounting Technology
Business Management Technology
Computer Programming Technology
Electronic Engineering Technology
Embry-Riddle Aeronautical University:
Aviation Maintenance Technology
Florida International University:
Hospitality Management Hotel and Food Service Mgmt.
Miami University:
Electronic Engineering Technology
Electra-Mechanical Engineering Technology
Mechanical Engineering Technology
Mount St. Joseph College:
All A.A.S. degrees in Health, Human and Public Services
Ohio University:
Hospitality Management to Hotel and Food Service Mgmt.
University of Rio Grande:
Associate of Science Degree to B.S. in Mathematics
The Ohio State University:
Mechanical Engineering to Industrial Tech. Education
Mechanical Engineering to Welding Engineering

Graduation Requirements: Associate of Applied Science Degree

Requirements of All Graduates
1. The satisfactory completion of 90-l 10 credit hours as required by the particular program.
2. The attainment of a "C" (2.00) average in all technical courses and a "C" (2.00) average in all non-technical courses.
3. The completion of no fewer than 35 of the required credit hours, including no fewer than 20 credit hours in technical courses approved by the department chairperson, while in attendance at Columbus State Community College. Credits by examination/proficiency, non-traditional credit, and transfer credit do not apply toward meeting residency credit hour requirements.

General Education Requirements
1. 12 credit hours in English/Communication Skills : ENGL 101, ENGL 102 (students placing into ENGL 111 can take ENGL 111 instead of ENGL 101 AND ENGL 102), COMM 105, COMM 110 or COMM 115 (depending on the technology requirement), and one of the following three courses: ENGL 204, ENGL 202, or ENGL 200.
2. Five credit hours in Humanities: HUM 111, HUM 112, HUM 113, HUM 151 or HUM 152.
3. Five credit hours in Social and Behavioral Sciences for students in Engineering and Health and Human Services Technologies: SSCI 101, SSCI 102, SSCI 103 or SSCI 104. Five credit hours in Biological and Physical Sciences for students in the Business and Public Services Division Technologies: NSCI 101.
   Following are exceptions to this requirement:
   a. Mental Health/Chemical Dependency/Mental Retardation students must take BIO 112 to fulfill the requirement.
   b. Early Childhood Development, and Interpreting/Transliterating students must take NSCI 101 to fulfill the requirement.
   c. Computer Programming, Microcomputing, Dietetic Technician Major, EDP Auditing and Medical Office Administration students must take SSCI 101, SSCI 102, SSCI 103 or SSCI 104 to fulfill the requirements.

Basic Studies Requirements
Each technical program requires completion of at least 21 credit hours in basic studies. Basic studies are those that provide students with the scientific and theoretical foundations of their technology, or those that provide students with an understanding of the legal, social, economic, or political environments within which they will practice their technology. Courses that fulfill the basic studies. requirements vary from program to program. They are listed in the following section, with the listings of technical program requirements.

Technical Studies Requirements
Each technical program requires completion of 45 to 67 credit hours in courses clearly identifiable with the technical skills, proficiency, and knowledge required for career competency. Technical studies requirements also vary from program to program; they are also listed in the following section, by program.

Students need to work closely with an assigned advisor to assure they meet all requirements for graduation. The student is responsible for meeting all requirements.

Graduation Requirements: Associate of Technical Studies Degree Designing Your Own Degree

The Associate of Technical Studies Degree program enables a student to design an individualized program of study to fulfill a unique career goal that cannot be met through the completion of any one of the College's technical programs. This is accomplished by selecting courses from up to four different technical disciplines, thereby fashioning a coherent technical program. In order to be considered for admission to this program, an applicant must:

1. Demonstrate a level of maturity and motivation which gives promise of successfully handling the responsibilities inherent in this program.
2. Satisfy the general admission requirements of Columbus State Community College.
3. Prepare and submit the Associate of Technical Studies application which includes the proposed program of study. Requirements for the degree are the same as those for the Associate of Applied Science Degree. The dean of the major area of study will assist students in the planning of an Associate of Technical Studies Degree program. Credits by examination/proficiency, non-traditional credit, and transfer credit do not apply toward meeting residency credit hour requirements. To obtain the Associate of Technical Study application, contact the dean of the major area of study: Arts & Sciences Division, (614) 227-2512; Business & Public Services Division, (614) 227-2550; Engineering Division, (614) 227-2575; Health & Human Services Division (614) 227-2511.

Specific Technical Program Requirements

In this section, the requirements for Columbus State's technical programs of study are listed alphabetically by department or technology. After you have located the program you are interested in, you will find a listing of the courses to be taken. The first three or four alpha identifiers of each course number indicate which department offers the course. For example, course numbers beginning with EET are all from the Electronic Engineering Technology and VET indicates Veterinary Technician Technol**ogy.** A chart in the **Course Description Section (** page 83) shows all the departments and their corresponding numbers.

Course descriptions can be found in the next section of the ***Bulletin*** listed alphabetically by department.

department and course number		credit hour
COURSE		
BMGT 231	Small Business Development	3
BMGT 111	Management.....	3

COURSE NUMBER - the three- or four-letter alpha identifier indicates the department; the three numbers that follow identify the specific course. Three or four letters followed by xxx indicate an elective requirement for which only the department is specified.

CREDIT HOUR - indicates amount of credit awarded for completion of the course.

Distance Learning at Columbus State

Going the Distance (GTD) is the name of Columbus State's distance education program. Courses are available to students as an alternative to talking regular on-campus classes, and a two-year degree can be obtained. Central to the GTD program is Columbus State's partnership with the Public Broadcasting Service, the network that supports all GTD colleges by providing award-winning telecourses.

Telecourses allow students to earn college credits at home. Assignments are based on televised programs and accompanying textbooks. Students communicate with the instructor in one or more of the following ways: campus meetings, office hours, telephone, fax, and e-mail. Most tests are administered on campus. Telecourses may be viewed over WOSU-TV, Channel 34, or over Educable, cable's educational access channel in the Columbus area. Also, videotapes of the courses may be rented or viewed in the Educational Resources Center.

Online courses allow students to take credit classes at their convenience to meet degree or certificate requirements or increase workplace skills and knowledge. All classes are taught using the Internet and email. Students need a computer, modem, and an Internet services provider, like CougarNet, Columbus State's Internet access solution for students. Students without their own computers can use selected computer labs around campus or at the off-campus centers.

A two-year degree in Business Management Technology is now available through the GTD program. For courses and requirements, see the program of study for Business Management Technology in this catalog. Other degrees through distance education are being considered for the near future.

Listings, registration procedures, and information about GTD courses are published each quarter in the ***Schedule of Classes.***

For more information on Going the Distance, call the Telephone Information Center (TIC) at (614) 227-2461.

Honors Program

Columbus State is offering an honors program for eligible students. Honor courses offer students more challenging, faster-paced coursework. Courses in English, humanities, and social sciences will be open to students who have completed or placed into ENGL 111, and have received permission from the Director of the Honors Program. Please see the quarterly list of course offerings for the complete listing of honors courses. For more information on the honors program, please call 227-5368.

Technical Programs

Columbus State's technical degree programs are offered in more than 40 career fields within four major areas: Business, Health, Public Services, and Engineering Technologies. Students enrolled in these programs can attend classes on either a full -or part-**time** basis. Graduates receive the Associate of Applied Science or the Associate of Technical Studies Degree and, upon successful completion of their program of study, work as technicians or paraprofessionals.

Each of the College's technical programs is designed and developed in response to needs expressed by local employers who serve on professional advisory committees.

Listed below in bold face are the departments, or technologies, and the programs leading to the Associate of Applied Science Degree. Also listed are the majors and certificate programs that are offered.

ARTS AND SCIENCES DIVISION

Technical Communications Technology

BUSINESS AND ENGINEERING TECHNOLOGIES DIVISION

Accounting Technology
- EDP Auditing Major
- Bookkeeping Certificate
- Certificate of Accounting Concentration
- Certificate of Taxation

Architecture Technology
- Landscape Major

Automotive Technology
- Automotive Service Management Major
- Ford ASSET Program

Aviation Maintenance Technology
- Airframe Certificate
- Powerplant Certificate

Business Management Technology
- Business Management Major
- Small Business Management Major

Civil Engineering Technology
- Surveying Certificate

Computer Programming Technology
- AS/400 Programming Language Certificate
- Networking and Distributed Systems Certificate
- Object-Oriented Programming Certificate

Construction Management Technology

Electro-Mechanical Engineering Technology

Electronic Engineering Technology
- Computer Electronics Major

Environmental Technology
- Health and Safety for Hazardous Waste Operations Training Program Certificate

Financial Management Technology

Graphic Communications Technology

Heating and Air Conditioning Technology
- High Pressure Boiler License Training Program

Human Resources Management Technology

Law Enforcement Technology
- Corrections Major
- Law Enforcement Major
- Law Enforcement Management Major
- Law Enforcement Major - Academy Track

Logistics Management Technology
- Purchasing Major

Marketing Technology
- Customer Service Major
- Direct Marketing Major

Mechanical Engineering Technology

Microcomputing Technology
- PC Hardware/Software Installation & Maintenance Certificate

Multimedia Production Technology
- Authoring Systems Track
- Computer Graphics Track

Office Administration Technology
- Executive Office Administration Major
- Legal Office Administration Major
- Medical Office Administration Major
- Word Processing Certificate

Quality Assurance Technology

Real Estate Technology

Retail Management Technology

HEALTH, HUMAN, AND PUBLIC SERVICES DIVISION

Dental Laboratory Technology

Early Childhood Development Technology

Emergency Medical Services Technology
- EMT-Basic Certificate
- EMT-Intermediate Certificate
- EMT-Paramedic Certificate
- EMS Administration Certificate
- EMS Rescue Certificate
- Advanced Cardiac Life Support Certificate
- Advanced Rescue Certificate
- Basic Trauma Life Support Certificate
- CPR Instructor Certificate
- EMS Dispatcher Certificate
- First Responder Certificate
- Hazardous Materials Certificate
- River Rescue Certificate

Gerontology Technology
- Gerontology Certificate
- Activities Programming for the Elderly Certificate

Health Information Management Technology
- Medical Coding Specialist Certificate
- Medical Transcription Certificate

Hospitality Management Technology
- Chef Apprenticeship Major
- Dietetic Technician Major
- Food Service/Restaurant Management Major
- Travel and Tourism Major
- Dietary Manager Certificate

Interpreting/Transliterating Technology
- American Sign Language/Deaf Studies Certificate
- Teaching American Sign Language Certificate

Legal Assisting Technology
- Workers' Compensation Certificate

Legal Medical Consultant (ATS)

Medical Assisting Technology

Medical Laboratory Technology

Mental Health/Chemical Dependency/Mental Retardation Technology
- Advanced Level Chemical Dependency Certificate
- Community Living Specialist Certificate
- Entry Level Chemical Dependency Certificate
- Foster Parent Treatment Specialist Certificate

Multi-Competency Health Technology
- EMT-Paramedic Major
- Histology Major
- Home Health Major
- Medical Office Major
- Patient Care Major
- Animal Assisted Therapy in Education Certificate
- Dietary Manager Certificate
- Histology Certificate
- Basic Electrocardiography Certificate
- Health Care Manager Certificate
- Home Health Aide Certificate
- Mammography Certificate
- Nurse Aide Training Program Certificate
- Phlebotomy Certificate
- Registered Nurse First Assistant Certificate
- Registered Nurse Home Care Certificate
- Respiratory Care Rehabilitation/Home Care Certificate
- Sleep Studies Certificate

Nursing Technology

Radiography Technology

Respiratory Care Technology
- LPN/Certified Respiratory Therapy Technician Program
- Registered Nurse/Registered Respiratory Therapist Program

Sports & Fitness Management Technology

Surgical Technology

Veterinary Technology

Accounting Technology

Accounting Technology Associate Degree
EDP Auditing Major
Certificate of Accounting Concentration
Bookkeeping Certificate
Certificate of Taxation

Accountants, and the theoretical principles they use in their work, stand at the very center of our financial and economic activities. Economists, investors, business executives, labor leaders, bankers, and government officials all rely upon financial statements and other reports prepared by accountants to summarize and interpret the multitude of financial transactions that comprise day-to-day economic activity. The true value of an accountant is measured by his or her ability to develop and present understandable, reliable analyses of financial positions and the results of operations upon which business decisions are based.

The Accounting Technology Associate Degree program prepares graduates for employment as accountants in business, industry, and government. Many experienced accountants become owners/ operators of their own public accounting firms. The program emphasizes the use of personal computers along with manual procedures of accounting. The Accounting Associate Degree program is ideally suited to the needs of those who wish to take the Ohio CPA Examination with qualifying examinations upon graduation.

The Associate Degree major in EDP Auditing serves many student and employer requests for accounting training that emphasizes systems analysis and programming. This major fills a gap for those trained in accounting or computer science who do not have the opportunity to gain expertise in both areas without on-the-job training or pursuit of advanced degrees. Job opportunities for EDP auditing specialists exist in public accounting firms, industrial-commercial accounting departments (particularly internal auditing), and with governmental accounting employers. The program's diversity also enables graduates to seek employment in data processing management, systems analysis, programming, controlling, cost accounting, and general accounting. Graduates of this program may also qualify to take the Ohio CPA Examination through qualifying equivalency examinations.

The Certificate of Accounting Concentration is intended for individuals that currently possess a bachelor's, master's or Ph.D. in an area other than accounting and want to qualify under Ohio law to sit for the Ohio CPA exam. The 52 hours of course work recommended would provide candidates with the broadest possible knowledge of all four parts of the Ohio exam.

The one-year Bookkeeping Certificate program develops the competencies needed for success as a full-charge bookkeeper. Credits earned in the Certificate program may be applied to an Associate Degree in Accounting, EDP Auditing, or other business technologies.

A seven-course, four-quarter, Certificate of Taxation program prepares individuals to operate their own income tax practice. Graduates should upon completion of the program be able to file federal, state, city, and county income tax returns for individuals, partnerships, and corporations. Graduates may sit for the Enrolled Agents Exam thereby enabling them to acquire a professional license to practice before the Tax Court of the United States.

Columbus State Community College is nationally accredited by the Association of Collegiate Business Schools and Programs (ACBSP) for the offering of its business programs that culminate in the Associate of Arts, Associate of Science, and Associate of Applied Science Degrees.

Upon completion of the Associate Degree in Accounting Technology, the graduate will be able to:

- Apply generally accepted accounting principles to measure, process, and communicate financial information about a business entity.
- Use accounting computer software to maintain accounting records and prepare financial statements.
- Apply theory and practical applications of job order and process cost systems, including the evaluation of actual to standard costs.
- Prepare systems flowcharts and evaluate the internal control of a business system.
- Compare and use financial statements for decision making purposes.
- Explain the purpose and standards for an independent audit.
- Explain the procedures used in applying auditing standards in conducting an independent audit.
- Prepare budgets and forecasts for financial decisions.
- Identify and describe each of the rules contained in the AICPA Code of Professional Conduct.
- Prepare individual income tax returns and research tax questions.
- Prepare federal, state, and local payroll tax returns as well as franchise and personal property tax returns.

EDP Auditing Major

In addition to many of the Accounting Technology competencies, a graduate majoring in EDP Auditing will be able to:

- -Write, debug, test, maintain and document programs, according to a program specification, in IBM mainframe Assembly Language or Structured ANSI COBOL.
- Use an on-line editor for program development.
- Analyze an existing internal control system and reconfigure its specifications to conform to auditing software.
- Perform system analysis to improve accountability of system results.

Accounting Technology Associate Degree

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
NSCI 101	Natural Science I	5
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
ENGL 200	Business Communications	3
COMM 105	Speech	3

Basic Studies Requirements

COURSE		CR
CPT 101	Computer Literacy 1	3
BMGT 111	Management	5
MATH 135	Elementary Statistics	5
LEGL 265	Business Law for Accountants	5
BMGT 272	Case Studies in Business Seminar	3

Technical Studies Requirements

COURSE		CR
ACCT 111	Principles of Accounting I	5
ACCT 112	Principles of Accounting II	5
ACCT 121	Data Processing/Accountants	4
ACCT 126	Accounting Systems	5
ACCT 113	Principles of Accounting III	5
ACCT 201	Intermediate Accounting I	5
ACCT 211	Cost Accounting	5
ACCT 221	Financial Statement Analysis I	3
ACCT 202	Intermediate Accounting II	5
ACCT 232	Federal Taxation	5

ACCT 222	Financial Statement Analysis II	3
ACCT xxx	Accounting Technical Elective	4
ACCT 241	Auditing	4
ACCT 231	State & Local Taxation	3
ACCT 251	Accounting Practice	4

TOTAL CREDIT HOURS 108

Technical Elective must be selected from the following list of courses:

ACCT 206	Advanced Accounting	5
ACCT 236	Advanced Taxation	4
ACCT 261	Controllership/CPA Review	4
ACCT 266	Public Admin./Fund Accounting	4
ACCT 271	Accounting Internship*	2
ACCT 272	Internship Seminar*	2

*** Must be taken together**

EDP Auditing Major

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
ENGL 200	Business Communications	3
COMM 105	Speech	3
SSCI 10x	Social Science 101, 102, 103 or 104	5
HUM lxx	Humanities 111, 112, 113, 151 or 152	5

Basic Studies Requirements

COURSE		CR
MATH 121	Computer Science Math I	5
CPT 101	Computer Literacy 1	3
CPT 111	Assembly Language I	5
LEGL 261	Business Law I	3
CPT 112	Assembly Language II	5

Technical Studies Requirements

COURSE		CR
ACCT 111	Principles of Accounting I	5
	Principles of Accounting II	5
	Program Design & Development	3
ACCT 113	Principles of Accounting III	5
ACCT 121	Data Processing for Accountants	4
ACCT 201	Intermediate Accounting I	5
ACCT 211	Cost Accounting	5
CPT 201	COBOL I	5
CPT 211	Systems Analysis I	4
ACCT 202	Intermediate Accounting II	5
CPT 202	COBOL II	5
CPT 212	Systems Analysis II	4
ACCT 241	Auditing	4
ACCT 256	Final Project	5
xxxx xxx	Technical Elective	3

TOTAL CREDIT HOURS 110

Technical Elective must be selected from the following list of courses:

CPT 241	Introduction to AS/400	3
CPT 151	Basic Business Language	3
CPT 155	Visual Basic	3
CPT 245	Introduction to RPG	5
CPT 246	Advanced RPG	5
CPT 205	COBOL III	5
CPT 221	Database Programming	3
MCT 131	Advanced Spreadsheets	3
CPT 251	Introduction to C++ Programming	5
CPT 252	Advanced C++ Programming	5
MCT 221	Local Area Networks	3
ACCT 232	Federal Taxation	5
ACCT 266	Public Administration/Fund Accounting	4

Certificate of Accounting Concentration

Certificate Requirements

COURSE		CR
ACCT 111	Principles of Accounting I	5
ACCT 121	Data Processing for Accountants	4
ACCT 112	Principles of Accounting II	5
LEGL 265	Business Law for Accountants	5
ACCT 113	Principles of Accounting III	5
ACCT 201	Intermediate Accounting I	5
ACCT 211	Cost Accounting	5
ACCT 202	Intermediate Accounting II	5
ACCT 232	Federal Taxation	5
ACCT 266	Public Administration/Fund Accounting **OR**	4
ACCT 261	Controllership/CPA Review	4
ACCT 241	Auditing	4

TOTAL CREDIT HOURS 52

Bookkeeping Certificate

Certificate Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
MATH 102	Beginning Algebra I	4
CPT 101	Computer Literacy I	3
ACCT 111	Principles of Accounting I	5
ENGL 102	Essay and Research	3
OADM 131	Keyboarding I	3
ACCT 121	Data Processing/Accountants	4
ACCT 112	Principles of Accounting II	5
ENGL 200	Business Communications	3
OADM 132	Keyboarding II	3
ACCT 126	Accounting Machines/Systems	5
ACCT 113	Principles of Accounting III	5
LEGL 261	Business Law I	3
HUM 11x	Civilization I, II, OR III	5
ACCT 211	Cost Accounting OR	5
ACCT 232	Federal Taxation	5
ACCT 23 1	State & Local Taxation	3

TOTAL CREDIT HOURS 62

Certificate of Taxation

Certificate Requirements

COURSE		CR
ACCT 106	Introduction to Accounting I	5
CPT 101	Computer Literacy 1	3
ACCT 232	Federal Taxation	5
ACCT 23 1	State and Local Taxation	3
ACCT 236	Advanced Taxation	4
ACCT 237	Enrolled Agent's Review Course	4
ACCT 238	Tax Practice Management	4

TOTAL CREDIT HOURS 28

Architecture Technology

Architecture Technology Associate Degree
Landscape Major

Architectural technicians assist architects and others who design building projects in preparing plans and specifications. They also work for builders and contractors, land developers, remodelers, facility and property managers, and with building product manufacturers and retailers. The Columbus job market for architectural technicians is remaining strong as Columbus continues to grow.

Columbus State's Associate Degree program in Architectural Technology teaches manual and CAD drafting, product selection and specification, and code evaluation skills used daily in the occupation. Students in the program share common courses in materials, structures, blueprint reading and co-op work experiences with other Construction Department students. This provides architectural students with a strong foundation of technical skills and a sense of teamwork required in the construction industry.

The Landscape Major prepares graduates for a wide range of jobs with landscape design firms, materials wholesalers and retailers, commercial and private landscape facilities departments, and with landscape contractors. Landscape majors learn plant selection, materials specification, landscape design and landscape mainte-

nance procedures. Students in the program share common courses in surveying, materials, blueprint reading, estimating, and co-op work experiences with other Construction Department students giving the students a strong sense of team cooperation.

Both Architectural programs provide students with a solid educational background in communication skills, math, computer literacy and operations, and humanities and behavioral sciences.

Upon completion of the Associate Degree in Architecture Technology. the graduate will be able to:

- Work with one- and two-point perspectives, shades and shadows, and free-hand drawing techniques to express relevant ideas graphically.
- Generate and organize a complete set of architectural working drawings.
- Research materials, consult with industry experts, and use CSI standards to create specifications to support the architectural drawings.
- Read and interpret information from architectural and engineering drawings for material quantity determination and estimating.
- Use building codes and standards to ensure that architectural drawings and specifications comply with legal and safety requirements.
- Utilize wood, steel, and concrete information and handbooks to detail building structures.
- Create isometric layouts of basic mechanical systems employed in commercial buildings.

Landscape Major

Upon completion of the Associate Degree in Architecture Technology with a major in Landscape, the graduate will be able to:

- Assist in the preparation of contract/design documents and construction specifications.
- Assist landscape professionals in managing and implementing the construction process.
- Select suitable herbaceous and woody plants and properly install these plants.
- Estimate landscape project costs by utilizing take-off and costing methods.
- Be able to read and interpret plans and drawings.
- Assist in the survey and stake out of the job site.
- Create manual and/or computer generated drawings of landscape projects.
- Prepare presentation drawings using a variety of graphic techniques.
- Maintain both commercial and residential landscapes.
- Construct landscapes.
- Design and install irrigation systems.
- Identify pests and diseases as they relate to the landscape.

Architecture Technology Associate Degree

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
COM 105	Speech or COMM 110 Conf & Group Discussion	3
ENGL 204	Technical Writing	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
SSCI 10x	Social Science 101, 102, 103 or 104	5

Basic Studies Requirements

COURSE		CR
MATH 104	Intermediate Algebra	5
CPT 101	Computer Literacy 1	3
MATH 148	College Algebra	5
CMGT 121	Building Construction Drawings	3
BMGT 111	Management	5

Technical Studies Requirements

COURSE		CR
ARCH 111	Construction Basic Drafting	4
CIVL 120	Basic Construction Materials..	3
ARCH 100	Introduction to the History of Architecture	5
ARCH 161	Architectural Drafting..	4
ARCH 155	Structural Systems (Wood).	3
ARCH 112	Construction CAD Drafting	3
LAND 152	Site Planning	4
CIVL 232	Statics & Strength of Materials	3
ARCH 212	Mechanical Systems (HAC)	3
ARCH 232	Building Construction Standards	3
ARCH 113	Construction CAD Drafting II	3
ARCH 250	Building Enclosure Materials	3
ARCH 262	Presentation Drawings	4
ARCH 214	Mechanical Systems (Electrical)	3
ARCH 263	Working Drawings I	4
CIVL 237	Structural CAD Design & Detailing	4
ARCH 216	Mechanical Systems (Plumbing)	3
xxx xxx	Technical Elective	3
ARCH 264	Working Drawings II	5

TOTAL CREDIT HOURS 110

Technical Electives must be selected from the following list of courses:

ARCH 29 1	Field Co-Op Experience	4
CMGT 105	Construction Contract Documents...	3
CMGT 141	Supervising Field Operations	3
	Building Estimating	3
LAND 101	Landscape Principles	3
LAND 206	Landscape Graphics	4
SURV 247	Townsite & Urban Development..	3
ARCH 130	Introduction to Interior Design	4

Landscape Major

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
ENGL 204	Technical Writing	3
COMM 105	Speech or COMM 110 Conf & Group Discussion	3
HUM 1xx	Humanities 111, 112, 113, 151 or 152	5
SSCI 10x	Social Science 101, 102, 103 or 104	5

Basic Studies Requirements

COURSE		CR
MATH 104	Intermediate Algebra	5
CHEM 100	Introduction to Chemistry..	4
MATH 148	College Algebra	5
CPT 101	Computer Literacy 1	3
BIO 125	General Botany	5

Technical Studies Requirements

COURSE		CR
ARCH 111	Construction Basic Drafting	4
CIVL 120	Basic Construction Materials..	3
LAND 101	Landscape Principles	3
LAND 102	Landscape Design I	4
LAND 107	Landscape Maintenance	3
LAND 105	Landscape Plants I	4
SURV 141	Basic Surveying	4
ARCH 291	Field Co-op Experience	4
LAND 205	Landscape Plants II	4
LAND 206	Landscape Graphics	4
LAND 207	Landscape Structures	3
LAND 152	Site Planning	4
LAND 222	Landscape Operations	3
LAND 203	Landscape Water/Lighting Systems	3
xxxx xxx	Technical Elective	3
LAND 202	Landscape Design II	4
LAND 201	Landscape Pest Control	3
LAND 108	Landscape Garden Flowers	3

TOTAL CREDIT HOURS 107

Technical Elective must be selected from the following list of courses:

ARCH 112	Construction CAD Drafting..	3
ARCH 113	Construction CAD Drafting II	3
LAND 104	Specialty Gardens	3
LAND 110	Landscape Computer Applications	3
LAND 109	Arboriculture	3

LAND 200	Landscape Practicum	4
LAND 204	Turf Grass Management	3
LAND 208	House Plants	3
LAND 210	Landscape Plants III	4

Automotive Technology

Automotive Technology Associate Degree
Automotive Service Management Major
Ford ASSET Program

Graduates of the Associate Degree program in Automotive Technology are qualified for entry-level positions as automotive service technicians, service writers, and entry-level managers. Many persons already employed in the field use the program to progress to advanced technical or management positions, and to prepare for Automotive Service Excellence (ASE) certification examinations.

Columbus State has one of the few college programs in the nation to be master certified by ASE. To receive this certification, the program was evaluated against industry standards of quality. To earn an Associate Degree, students complete 60 credit hours in automotive technical courses. These courses cover all aspects of mechanical and electrical automotive systems. Students are able to specialize by selecting courses focused on their specialty areas. These specialty areas include the eight basic areas of ASE, alternative fuels, plus service and parts department management. To earn the degree, students must complete 46 credit hours of related coursework (including communication skills, math, management skills, and computer literacy).

The program is designed to allow students to enter at the level most appropriate for their present knowledge and skills. Students with experience and/or prior training may enroll in technical courses to update and improve their knowledge and skills. Courses AUTO 061 and AUTO 062 are designed to prepare students with little experience for other technical courses. Students may receive credit in these courses by satisfactorily completing the courses, by passing proficiency exams, or by presenting evidence of ASE certification. ASE certification may also be used to earn credit in additional technical courses.

Automotive Service Management Major:
The program is designed to prepare students for entry level management positions in automotive service operations. Students will attain a sound foundation in the technical systems of the automobile as well as a broad spectrum of principles and practices needed in managing a repair operation. Students with experience and/or prior training may enroll in technical courses to update and improve their knowledge and skills.

Ford ASSET:
The Automotive Technology Department also offers a two-year cooperative training program sponsored by Ford Motor Company. This program, called ASSET, covers the same material as the regular two-year program but is unique in two ways: (1) all lecture and lab exercises are specific to Ford Motor Company products ; and (2) ASSET is eight quarters in length with students attending classes for 4 quarters and working at a dealership the remaining 4 quarters. For specific information on the Ford ASSET program, contact the Automotive Technology Chairperson. Graduates of this program receive an Associate's degree in Automotive Technology and may earn Ford and ASE certification.

Upon completion of the Associate Degree in Automotive Technology, the graduate will be able to:

- Solve automotive problems in a systematic, logical, and efficient manner.
- Diagnose and repair driveability problems on early and current car models, including those with fuel injection and computerized engine controls.
- Diagnose and repair simple and complex electrical problems.
- Diagnose and repair engine mechanical problems.
- Diagnose and repair automatic transmissions and transaxles, including total rebuilding of units.
- Diagnose and repair manual transmissions and transaxles, as well as other driveline components such as driveshafts, drive axles, and differentials.
- Precisely measure engine and other automotive parts, using the appropriate measuring instruments.
- Diagnose brake system problems and perform a complete brake service (including necessary machining).
- Diagnose and repair steering and suspension problems and properly align the suspension of all types of automobiles and light trucks, using either two- or four-wheel alignment machines.
- Diagnose and repair automotive air-conditioning systems.
- Demonstrate an understanding of basic principles needed for understanding of new technologies as they become incorporated into automobile designs.
- Make repair estimates and complete the necessary paperwork for customer service and warranty repairs.
- Apply basic business practices, including cultivation of good customer and employee relations.

Automotive Technology Associate Degree

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
ENGL 204	Technical Writing	3
SSCI 10x	Social Science 101. 102. 103 or 104	5
COMM 10.5	Speech	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5

Basic Studies Requirements

COURSE		CR
MATH 104	Intermediate Algebra	5
AUTO 061	Automotive Principles	4
AUTO 062	Shop Orientation	4
CPT 101	Computer Literacy	3
NSCI 101	Natural Science I **OR**	5
PHYS 100	Introduction to Physics	5
BMGT xxx	Business Management Elective **OR**	3
FMGT 101	Personal Finance	4

Technical Studies Requirements

COURSE		CR
AUTO 110	Engine Repair	4
AUTO 130	Manual Transmissions	3
AUTO 160	Electrical Systems	4
AUTO 120	Automatic Transmissions	4
AUTO 140	Suspension and Steering	4
AUTO 180	Engine Performance	4
AUTO 170	Heating & Air Conditioning	3
AUTO 150	Brake Systems	4
AUTO 300	Shop Experience	4

In addition to the technical study requirements 18 hours of the following courses must be completed:

AUTO 115	Advanced Engine Repair	3
AUTO 125	Advanced Automatic Transmissions	3
AUTO 135	Advanced Manual Transmissions	3
AUTO 145	Advanced Suspension and Steering..	3
AUTO 155	Advanced Brake Systems	3
AUTO 165	Advanced Electrical Systems	3
AUTO 175	Advanced Heating and Air Conditioning	3
AUTO 181	Fundamentals of Alternate Fuel Systems	3
AUTO 185	Advanced Engine Performance	3

AUTO 190	Automotive Business Management	3
AUTO 191	Service Advising	2
AUTO 192	Automotive Service Management	3

In addition to the technical study requirements 8 hours of the following courses must be completed:

AUTO 210	Current Trends in Engine Repair	2
AUTO 220	Current Trends in Automatic Transmissions	2
AUTO 230	Current Trends in Manual Transmissions	2
AUTO 240	Current Trends in Suspension Systems	2
AUTO 250	Current Trends in Brake Systems	2
AUTO 260	Current Trends in Electrical Systems	2
AUTO 270	Current Trends in A/C Systems	2
AUTO 280	Current Trends in Engine Systems	2
AUTO 186	Advanced Alternate Fuel Systems	3
AUTO 195	Auto Parts - Sales	2
AUTO 196	Auto Parts - Inventory Control	2
AUTO 197	Auto Parts - Management	3
AUTO 297,298,299	Special Topics in Automotive Technology	1-3
AUTO 193	Automotive Service Merchandising	3

TOTAL CREDIT HOURS 106

Automotive Service Management Major

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
	Essay & Research	3
ENGL 102	Business Communications	3
HUM xxx	Humanities 111, 112, 113, 151 or 152	5
COMM 105	Speech	3
SSCI 10x	Social Science 101, 102, 103 or 104	5

Basic Studies Requirements

COURSE		CR
AUTO 061	Automotive Principles	4
AUTO 062	Shop Orientation	4
MATH 104	Intermediate Algebra	5
CPT 101	Computer Literacy 1	3
BMGT 101	Introduction to Business	5
NSCI 101	Natural Science I **OR**	5
PHYS 100	Introduction to Physics	4

Technical Studies Requirements

COURSE		CR
AUTO 110	Engine Repair	4
AUTO 150	Brake Systems	4
AUTO 160	Basic Electricity	4
AUTO 170	Heating & Air Conditioning	3
AUTO 120	Automatic Transmissions	4
AUTO 180	Engine Performance	4
BMGT 111	Management	5
AUTO 140	Steering & Suspension	4
AUTO 130	Manual Transmissions	3
AUTO 190	Automotive Business Management	3
AUTO 191	Service Advising	3
AUTO 192	Automotive Service Management	3
AUTO 193	Automotive Service Merchandising	3
QUAL 240	Total Quality Management	3
AUTO 197	Automotive Parts Management	3
AUTO xxx	Automotive Elective	2
AUTO xxx	Automotive Elective	2

TOTAL CREDITS 105

Technical Electives must be selected from the following list of courses:

BMG 216	Business Ethics	3
AUTO 195	Auto. Parts Inventory Control	2
AUTO 196	Automotive Parts Sales	2
AUTO 101	Autocare	3

Aviation Maintenance Technology

Aviation Maintenance Technology Associate Degree
Airframe Certificate
Powerplant Certificate

Aviation maintenance technicians find many job opportunities with airlines, airport operators, companies with aircraft, oil companies, the space program, and manufacturers. Industry studies predict a shortage of these mechanics during the next 10 years. Many industries not associated with aviation also recognize the skills of these technicians and hire them for non-aviation jobs.

Students in the Aviation Maintenance Technology program may pursue technical training for the Airframe Certificate, the Powerplant Certificate, both certificates, or the Associate Degree. The Airframe Certificate program covers the structure as well as mechanical, electrical, and hydraulic systems of airplanes. The Powerplant Certificate program covers the engine and its accessories. Students who complete both certificate programs may take additional course work to receive an Associate Degree. The Associate Degree or both of the certificate programs may be completed in eight quarters.

The Columbus State Aviation Maintenance facility is located at the Bolton Field Airport southwest of Columbus. The 10,000 square foot hangar houses the College's fleet of single- and multi-engine, reciprocating and jet engine aircraft. Well-equipped classrooms and laboratories provide students with hands-on experience in an airport environment.

The Aviation Maintenance Technology program is approved by the Federal Aviation Administration (FAA Certificate No. DL9T090R) and meets the requirements of FAA Regulation Part 147. Students successfully completing the appropriate technical studies are qualified to take the exam for the FAA Airframe and/or Powerplant certificate rating.

Upon completion of the Associate Degree or both Certificate programs in Aviation Maintenance Technology, the graduate will be able to:

- Use precision measuring tools to work on airframes and aviation powerplants.
- Perform nondestructive inspection and test procedures.
- Identify and select aviation industry hardware.
- Demonstrate a knowledge of correctly evaluating the quality of aircraft welds.
- Read and use blueprints for fabrication and repair procedures.
- Identify aircraft materials and their structural properties.
- Inspect, check, service, troubleshoot, and repair aircraft hydraulic systems; electrical systems; fuel systems; pneumatic/vacuum systems; heating, cooling, and pressurization systems; and control systems.
- Perform structural repairs for both metal and composite airframe structures.
- Use corrosion control materials and procedures correctly and safely.
- Identify and select aircraft finishing material.
- Inspect, check, service, troubleshoot and repair landing gear and related systems.
- Inspect, check, service, troubleshoot and repair turbine engines and related systems.
- Inspect, check, service, troubleshoot and repair propellers and related systems.

Meet FAA certification requirements for the Airframe and Powerplant certificates.

Aviation Maintenance Technology Associate Degree

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
ENGL 204	Technical Writing	3
SSCI 10x	Social Science 101, 102, 103 or 104	5
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
COMM 105	Speech	3

Basic Studies Requirements

COURSE		CR
MATH 103	Beginning Algebra II	4
AVI 111	Aviation Theory	6
MATH 111	Technical Math I	4
PHYS 181	Physics I (Mechanics)	4
PHYS 183	Physics III (Property of Matter)	4

Technical Studies Requirements

COURSE		CR
AVI 115	Aircraft Maintenance Regs., Pubs., and Records	2
AVI 117	Basic Aviation Maintenance	5
AVI 119	Aircraft Drawings	2
AVI 121	Basic Electricity	9
AVI 125	Ground Operations and Cleaning	3
AVI211	Aircraft Environmental Controls	4
AVI 213	Airframe Instruments and Electronics	4
AVI 215	Aircraft Electrical Systems	7
AVI 221	Aircraft Structures I	4
AVI 223	Aircraft Structures II	9
AVI 241	Aircraft Fluid Power Systems	4
AVI 245	Aircraft Fuel Systems	2
AVI 246	Landing Gear Systems	4
AVI 249	Rigging, Assembly, and 100 hour Inspections	6
AVI 311	Reciprocating Engine Theory, Overhaul & Repair	6
AVI 313	Reciprocating Engine Ignition & Fuel Systems	6
AVI 315	Reciprocating Engine Cooling, Induction, & Exhaust	3
AVI 321	Turbine Engine Theory and Overhaul	6
AVI 323	Turbine Engine Airflow Systems	4
AVI 325	Turbine Engine Fuel and Ignition Systems	6
AVI 331	Propellers	6
AVI 333	Engine Instruments and Electrical Systems	3
AVI 335	Powerplant Inspection and Fire Protection	7

TOTAL CREDIT HOURS 156

Airframe Certificate

Certificate Requirements

COURSE		CR
AVI 111	Aviation Theory	6
AVI 115	Aircraft Maintenance Regs., Pubs., and Records	2
AVI 117	Basic Aviation Maintenance	5
AVI 119	Aircraft Drawings	2
AVI 121	Basic Electricity	9
AVI 125	Ground Operations and Cleaning	3
AVI 211	Aircraft Environmental Controls	4
AVI 213	Airframe Instruments and Electronics	4
AVI 215	Aircraft Electrical Systems	7
AVI 221	Aircraft Structures I	4
AVI 223	Aircraft Structures II	9
AVI 241	Aircraft Fluid Power Systems	4
AVI 245	Aircraft Fuel Systems	2
AVI 246	Landing Gear Systems	4
AVI 249	Rigging, Assembly-and 100 hour Inspections	6

TOTAL CREDIT HOURS 71

Powerplant Certificate Program

Certificate Requirements

COURSE		CR
AVI 111	Aviation Theory	6
AVI 115	Aircraft Maintenance Regs., Pubs., and Records	2
AVI 117	Basic Aviation Maintenance	5
AVI 119	Aircraft Drawings	2
AVI 121	Basic Electricity	9
AVI 125	Ground Operations and Cleaning	3
AV1 311	Reciprocating Engine Theory, Overhaul and Repair	6
AVI 313	Reciprocating Engine Ignition & Fuel Systems	6
AVI 315	Reciprocating Engine Cooling, Induction & Exhaust	3
AVI 321	Turbine Engine Theory and Overhaul	6
AVI 323	Turbine Engine Airflow Systems	4
AVI 325	Turbine Engine Fuel and Ignition Systems	6
AVI 331	Propellers	6
AVI 333	Engine Instruments and Electrical Systems	3
AVI 335	Powerplant Inspection and Fire Protection	7

TOTAL CREDIT HOURS 74

Business Management Technology

Business Management Technology Associate Degree

Business Management Major

Small Business Management Major

In order to compete effectively in the 21st Century successful managers and entrepreneurs will require a complex set of interpersonal, communication, analytical and decision-making skills. Columbus State's Business Management Technology program focuses on meeting these requirements for students who wish to attain a two-year degree in business management skill development or who wish to upgrade current job performance skills. The emphasis in the program will be on skill applications through the latest teaching techniques and technologies available. An electronic classroom will be available on main campus for selected topical presentations, tutorials and group study. Included in the program will be the opportunity for the student to elect to take a hands-on internship experience with local companies or government agencies, or to pursue independent research projects. Also featured throughout the program will be a distance learning capability, through the medium of television and computer-based instruction (See "Going the Distance" in the Programs of Study section).

To meet the demands of those students desiring to own their own business, the program includes a Small Business Management Major to be described below.

Columbus State Community College is nationally accredited by the Association of Collegiate Business Schools and Programs (ACBSP) for the offering of its business programs that culminate in the Associate of Arts, Associate of Science, and Associate of Applied Science Degrees.

Upon completion of the Associate Degree program in Business Management Technology, the graduate will be able to:

- Demonstrate a knowledge of management theory, function, skills, and techniques.
- Apply knowledge of current computer technology and computational skills to the business environment.
- Demonstrate a working knowledge of the legal, social, and economic aspects of business according to current ethical and legal standards.
- Define, schedule, and complete management tasks.
- Prepare and present written and oral reports for a variety of audiences at a generally accepted level of business English.
- Apply listening skills to the specific job environment.
- Work effectively as a member of a team.
- Compile, analyze, and synthesize information to solve business problems.

- Identify and react to both internal and external customer needs.
- Demonstrate a working knowledge of current quality management concepts and applications.
- Exhibit knowledge of strategic action planning.

In addition to the Business Management Technology competencies, a graduate pursuing the degree on-campus will be able to:

- Assess their own communication, leadership, and team building styles.
- Recognize the communication, leadership, and team building styles of others.
- Apply creative thinking, communication, adapting to change, motivation, and teamwork to the management functions.
- Prepare a portfolio of selected written assignments, projects, and summary reflections for review by instructors and outside observers.
- Demonstrate a working knowledge of a chosen career path including the development of a career plan.

Small Business Management Major

In addition to the Business Management Technology competencies, a graduate majoring in Small Business Management will be able to:

Start a new business-

* Determine the marketability of the chosen product or service.
- List and explain the major factors influencing the success or failure of a small business.
- Conduct research into selecting an established business.
- Develop a business plan for presentation to potential investors.

Operate a small business-

* Identify all local, regional, state and federal regulations pertaining to a business function.
- Establish a reliable record keeping system and identify the characteristics of such a system.
- Develop appropriate advertising/promotion materials for the business.
- Determine an annual cash budget,
- Design an assertive credit collection program.
- Apply the key ratios used to evaluate the financial condition of a small business.

Business Management Major

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
*ENGL 200	Business Communications	3
ENGL 204	Technical Writing	3
COM 105	Speech	3
HUM 1xx	Humanities 111, 112, 113, 151 or 152	5
NSCI 101	Natural Science I	5

* For Distance Learning Students only

Basic Studies Requirements

COURSE		CR
MATH 101	Business Mathematics	5
MCT 106	Computer Literacy 2	3
PSY 100	Introduction to Psychology..	5
**MCT 211	Information Presentation	3
OADM 101	Business Grammar Usage	3
LEGL 264	Legal Environment of Business	4
ECON 200	Principles of Microeconomics	5
ACCT 106	Introduction to Accounting I	5
ECON 240	Principles of Macroeconomics	5
ACCT 107	Introduction to Accounting II	5
Substitute		
**MKTG 111	For Distance Learning Students only	5

Technical Studies Requirements

COURSE		CR
BMGT 101	Introduction to Business	5
BMGT 102	Introduction to Management Skills	3
BMGT 111	Management	5
*BMGT 220	Leadership Fundamentals	3
BMGT 211	Organizational Behavior for Managers	4
HRM 121	Human Resources Management	4
HRM 220	Labor Relations	5
FMGT 201	Business Finance	5
BMGT 271	Management Decisions	2
**BMGT 273	Management Final Project	3
BMGT 216	Business Ethics	3
xxx xxx	Technical Elective	3
***FMGT 101**	Personal Finance	4
**BMGT 272	Case Studies in Business	3

For Distance Learning Students only

TOTAL CREDIT HOURS **110**

Selected courses from the following departments can be used for the technical elective: Office Administration, Business Management, Computer Science Marketing and Mathematics.

Small Business Management Major

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
ENGL 200	Business Communications	3
COMM 105	Speech	3
NSCI 101	Natural Science I	5
HUM lxx	Humanities 111, 112, 113, 151 or 152	5

Basic Studies Requirements

COURSE		CR
MATH 101	Business Math	5
MCT 106	Computer Literacy 2	3
ECON 100	Introduction to Economics	5
PSY 100	Introduction to Psychology	5
ACCT 101	Financial Accounting	4
LEGL 264	Legal Environment of Business	4
ACCT 102	Managerial Accounting	3
FMGT 201	Business Finance	5

Technical Studies Requirements

COURSE		CR
BMGT 101	Introduction to Business	5
BMGT 111	Management	5
MKT 111	Marketing Principles	5
BMGT 231	Small Business Development	4
HRM 121	Human Resources Management	4
BMGT 232	Small Business Operations	4
MKTG 226	Customer Service Principles	3
BMGT 234	Case Studies in Small Business	4
BMGT 235	Strategic Business Planning..	5
BMGT 238	Small Business Management Internship..	4
BMGT 239	Small Business Mgmt. Internship Seminar	2

TOTAL CREDIT HOURS **101**

Civil Engineering Technology

Civil Engineering Technology Associate Degree
Surveying Certificate

The Associate of Applied Science Degree in Civil Engineering Technology provides a basis for entry-level careers in all phases of the construction continuum; planning, design, construction and operations. The Associate of Applied Science is designed as a

terminal degree providing those skills necessary for immediate employment. Graduates of the program are prepared to work for either private or governmental segments of the construction industry requiring civil engineering technicians. Specific employment positions include manual or computer assisted (CAD) construction drawing and contract document preparation for commercial, heavy and industrial/institutional projects, construction inspection, survey crew operations, and construction material quality control and quality assurance.

In addition to providing entry-level positions, the degree provides opportunities for individuals seeking career changes, continuing education and skills enhancement. The Civil Engineering Technology Degree is preparation for immediate, productive employment.

The Civil Engineering Technology Surveying Certificate is a one-year, three-quarter program, which provides a basis for entry-level careers in survey field and office operations. The one-year certificate is a directed focus program which empowers students with those skills necessary for construction layout of buildings and roadways and, working under the direction of a Registered Surveyor, in land surveying and subdivision of land. Specific employment positions include instrument person, field crew chief and draftsman/designer.

Upon completion of the Associate Degree in Civil Engineering Technology, the graduate will be able to:

- Manually or with the assistance of computer aided drafting (CAD) prepare engineering drawings for public and private work projects.
- Apply appropriate proportioning, mixing, placing, curing and admixtures to ensure quality structural concrete structures.
- Perform appropriate testing of soils, aggregates, asphaltic and portland cement concrete, masonry, steel and wood in accordance with American Society of Testing Methods (ASTM) procedures.
- Correctly apply regulatory and industry standards to design stormwater management systems.
- Correctly apply regulatory and industry standards to design sanitary wastewater collection systems.
- Perform all field operations to determine preliminary route alignment, prepare centerline and offset staking notes and stake a proposed project for finish grade complete with cut sheet.
- Correctly apply Ohio Department of Transportation (ODOT), Federal Highway Administration (FHWA) and industry design standards to plan, design and detail a simulated highway including drainage structures.
- Apply subdivision regulations and surveying laws in the preparation of preliminary sketch, preliminary plat and final plat for a major private land subdivision.
- Perform preliminary site investigations, research infrastructure records, secure appropriate codes and regulations and prepare a set of preliminary drawings of an urban redevelopment site.
- Employ modem supervision techniques in field crew and work team settings.
- Perform quantity takeoffs for bid preparation.

Civil Engineering Technology Associate Degree

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
ENGL 204	Technical Writing	3
SSCI 10x	Social Science 101, 102, 103 or 104	5
COMM 105	Speech or COMM 110 Conf. & Group Discussion	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5

Basic Studies Requirements

COURSE		CR
MATH 148	College Algebra	5
MATH 135	Elementary Statistics	5
CPT 101	Computer Literacy 1	3
xxx xxx	Basic Science Elective*	5
MCT 106	Computer Literacy 2	3

Basic Science Elective must be selected from the following courses:

	College Physics..	5
GEOL 101	Earth Systems I	5
CHEM 113	General and Biological Chemistry	5

Technical Studies Requirements

COURSE		CR
ARCH 111	Construction Basic Drafting	4
CMGT 121	Building Construction Drawings	3
CIVL 120	Basic Construction Materials	3
CMGT 105	Construction Contract Documents	3
CMGT 131	Construction Quantity Survey	3
ARCH 112	Construction CAD Drafting..	3
CIVL 121	Heavy Construction Materials	3
CMGT 106	Supervision of Field Operations	3
SURV 141	Basic Surveying	4
CMGT 123	Heavy Construction Drawings	3
CMGT 125	Heavy Construction Methods	3
SURV 241	Route Surveying	4
CIVL 221	Elementary Hydraulics	3
xxx xxx	Technical Elective	3
SURV 245	Survey Law	3
CIVL 223	Public Utility Systems	3
CIVL 232	Statics & Strength of Materials	3
SURV 243	Heavy Construction Standards	4
SURV 247	Townsite/Urban Development	3
SURV 249	Land Subdivision Systems	3
xxx xxx	Technical Elective	3

TOTAL CREDIT HOURS 110

Technical Electives must be selected from the following list of courses:

ARCH 113	Construction CAD Drafting II	3
CMGT 248	Heavy Construction Estimatmg	2
CIVL 291	FieldCo-OpExperience	4
CMGT 112	Construction Industry Survey	3
	Structural CAD Design & Detailing	4
CMGT 241	Planning & Scheduling	3
LAND 152	Site Planning	3
REAL 102	Real Estate Law	3
CIVL 112	Micro Station CAD Drafting	3

Surveying Certificate

Certificate Requirements

COURSE		CR
ENGL 101	Beginning Composition Drafting	3
ARCH 111	Construction Basic Drafting	4
CMGT 121	Building Construction Drawing:	3
MATH 135	Elementary, Statistics	5
ENGL 102	Essay and-Research	3
MATH 148	College Algebra	5
SURV 141	Basic Surveying.	**4**
CMGT 123	Heavy Construction Drawings..	3
ARCH 112	Construction CAD Drafting..	3
CPT 101	Computer Literacy I..	3
ENGL 204	Technical Writing	3
SURV 243	Heavy Construction Standards	4
SURV 247	Townsite/Urban Development..	3
SURV 245	Survey Law	3
SURV 241	Route Surveying..	**4**

TOTAL CREDIT HOURS 53

Computer Programming Technology

Networking & Distributed Systems Certificate
AS/400 Program Language Certificate
Object-Oriented Programming Certificate
Also see: EDP Auditing Major
(Accounting Technology)
Also see: Computer Electronics Major
(Electronic Engineering Technology)
Also see: Microcomputing Technology

Society's increasing dependence on computers ensures a growing demand for qualified computer programming graduates. To meet this demand, Columbus State's Associate of Applied Science Degree program in Computer Programming Technology provides students with the technical skills required for entry-level programming and related positions in business. Students learn to write programs and use commercially available software on mainframe, mini and micro computers. Laboratory exercises using up-to-date equipment are an integral part of the program.

Columbus State Community College is nationally accredited by the Association of Collegiate Business Schools and Programs (ACBSP) for the offering of its business programs that culminate in the Associate of Arts, Associate of Science, and Associate of Applied Science Degrees.

Upon completion of the Associate of Applied Science Degree in Computer Programming Technology, the graduate will be able to:
- Write, debug, test, maintain and document programs, according to a program specification, in Structured ANSI COBOL, IBM mainframe Assembly Language and some of the following languages: CICS, RPG, C and BASIC.
- Use an on-line editor for program development.
- Write procedures to execute typical business applications on various computer platforms (e.g., JCL).
- Use new program languages, application software or command languages, given the appropriate reference manuals.
- Use PC based word processing, spreadsheet, database and other application software.
- Design, normalize and develop a corporate database using a relational Database Management System (DBMS).
- Understand the fundamental concepts of data communications applicable to business systems.
- Write program specifications for a typical business application using an appropriate system specification.
- Work effectively as part of a project or system team.

In addition to many of the Computer Programming Technology competencies, a graduate with a Certificate in Networking and Distributed Systems will be able to:
- Describe the various types of distributed processing systems and operating systems.
- Design, create, and operate a distributed DBMS.
- Use at least one major LAN operating system.
- Sit for an industry standard network system examination.
- Design, create, and implement a distributed processing system to support the information processing requirements for a large information management organization to include installing a DBMS.

In addition to many of the Computer Programming Technology competencies, a graduate with a Certificate in AS/400 Program Language will be able to:
- Use the basic features of the AS/400 including, handling messages, running programs, memory allocation, job types; starting and terminating jobs; controlling the printer output, the menu system, the help feature, the concepts of objects and libraries, the command language, and the Program Development Manager.
- Use programming constructs needed to develop CL programs and commands.
- Write batch RPG/400 programs utilizing structured code, create physical and logical files, define and access externally described files, and compile and debug RPG/400 programs for business applications.
- Write interactive programs utilizing subfiles.
- Write report programs utilizing external printer files.

In addition to many of the Computer Programming Technology competencies, a graduate with a Certificate in Object-Oriented Programming will be able to:
- Demonstrate techniques of Object Analysis and Object Design.
- Design, code and process ANSI Standard C++ programs.
- Design, code and process ANSI Standard Object-Oriented COBOL programs.
- Design objects and classes associated with Object Technology.
- Develope Windows programs using Object Technology.

Specific Program Admissions Information
Listed below are additional requirements for admission to the Computer Programming Technology and following Certificate programs.

Computer Programming Technology
- Placement into MATH 121 - Computer Science Math I, or complete MATH 103 - Beginning Algebra II
- Complete CPT 101 - Computer Literacy 1, or equivalent approved by Chairperson

Networking and Distributed Systems Certificate
- Complete MCT 221 - Local Area Networks
- Complete AAS degree in Computer Programming, Microcomputing or the equivalent

AS/400 Program Language Certificate
- MCT 106 - Computer Literacy 2
- CPT 105 - PC Applications
- CPT 108 - Program Design & Development
- CPT 1 1 1 - Assembly Language I

Object-Oriented Programming Certificate
- CPT 111 - Assembly Language 1
- CPT 201- COBOL I
- Associate of Applied Science Degree in Computer Programming Technologies or
- Equivalent work experience approved by the Department Chair of Computer Science

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
SSCI 10x	Social Science 101, 102, 103 or 104	5
COMM 105	Speech	3
ENGL 200	Business Communications	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5

Basic Studies Requirements

COURSE		CR
MATH 121	Computer Science Math	5
ACCT 111	Principles of Accounting I	5
ACCT 112	Principles of Accounting II	5
xxxx xxx	Business Elective	3
xxxx xxx	Basic Studies Elective	5

(Accounting, Business Management, or Mathematics)

Technical Studies Requirements

COURSE		CR
CPT 105	PC Applications	3
CPT 108	Program Design & Development	3
CPT 111	Assembly Language 1	5
CPT 112	Assembly Language 2	5
CPT 131	Operating Systems	3
CPT 201	Cobol 1	5
CPT 211	Systems Analysis 1	4
CPT 221	Database Programming..	3
CPT xxx	Technical Electives	11
CPT 202	Cobol 2	5
CPT 212	Systems Analysis 2	4
CPT 225	Database Systems	3
CPT 205	Cobol 3 (CICS)	5
CPT 281	Final Project	5
CPT 289	ACP Examination	1

TOTAL CREDIT HOURS 110

Technical Electives must he selected from the following list of courses:

CPT 155	Visual Basic	3
CPT 206	Introduction to Object-Oriented COBOL	5
CPT 241	Introduction to AS/400	3
CPT 243	Command Language/400	3
CPT 245	Introduction to RPG	5
CPT 246	Advanced RPG	5
CPT 251	C ++ Language Programming	5
CPT 253	Programming in C++ for Windows	5
CPT 252	Advanced C ++	5
CPT 261	Network Communication Systems	5
CPT 262	Client/Server Systems	3
CPT 263	Networking	5
CPT 264	Advanced Networking	5
CPT 265	Distributed Database Management Systems	5
CPT 266	Certification Test Review	1
MCT 221	Local Area Networks	3
CPT 291-6	Special Topics in CS 1-6	1-6
CPT 297-9	Computer Science Internship/Field Experience 1-3	1-3

AS/400 Program Language Certificate

Certificate Requirements

COURSE		CR
CPT 241	Introduction to AS/400	3
CPT 243	Command Language/400	3
CPT 245	Introduction to RPG	5
CPT 246	Advanced RPG	5

Object-Oriented Programming Certificate

Certificate Requirements

COURSE		CR
CPT 251	C++ Programming	5
CPT 155	Visual Basic	5
CPT 252	Advanced C++ Programming	5
CPT 206	Object-Oriented COBOL	5
CPT 253	C++ Programming for Windows	5

Networking & Distributed Systems Certificate

Certificate Requirements

COURSE		CR
CPT 261	Network Communication Systems	5
CPT 262	Client/Server Systems	3
CPT 263	Networking	5
CPT 264	Advanced Networking	5
CPT 265	Distributed Database Management Systems	5
CPT 266	Certification Test Review	1

Construction Management Technology

The Construction Management Technology program prepares graduates for entry-level employment with all types of construction companies. Inside positions include work assignments in marketing, sales, estimating and purchasing; field assignments include those in scheduling, cost control, quality assurance, assisting field superintendents, and monitoring safety programs. The local job market for these graduates is expected to continue to grow as the Columbus construction industry steadily expands.

In addition to technical and management courses taught at the College, Associate Degree students have the opportunity to work directly with employers through a summer quarter cooperative job program that fulfills part of the degree program requirements. Students in the program share a course core curriculum with other construction technologies. This core provides students with a strong foundation of technical skills as well as a sense of the teamwork needed in the construction field. Students also complete courses in communication skills, technical math and computer literacy.

Upon completion of the Associate Degree in Construction Management Technology, the graduate will be able to:

- Analyze and interpret all types of construction drawings and documents.
- Calculate quantities of material, labor, and equipment needed for a project.
- Analyze financial data relative to construction work in the field and office.
- Control field operations through cost analysis and productivity analysis.
- Apply data analysis to identify construction problems, specify goals, and execute projects.
- Utilize the critical path and Gantt bar chart methods to organize complex construction projects.
- Identify and understand the major elements in construction labor and contract law.
- Operate and use micro-computers, pre-packaged project management software, 35mm camera and scan machine.
- Stake out control points for projects using modern laser surveying equipment.
- Assist in developing marketing tools and objectives to increase the sales of no-bid jobs for their employers.
- Assist in purchasing or safety/loss control of equipment and materials.
- Apply bid strategies to marketing proposals for building and heavy construction type projects.
- Assist in resolving construction disputes, claims and arbitration/litigations.

Construction Management Technology Associate Degree

General Studies Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
COMM 105	Speech	3
SSCI 10x	Social Science 101, 102, 103 or 104	5
ENGL 200	Business Communications	3

Basic Studies Requirements

COURSE		CR
MATH 104	Intermediate Algebra	5
CPT 101	Computer Literacy 1	3
MATH 148	College Algebra	5
MCT 106	Computer Literacy 2	3
MATH 135	Elementary Statistics	5

Technical Studies Requirements

COURSE		CR
CMGT 101	Managing a Construction Company	3
CMGT 121	Building Construction Drawings	3
CMGT 105	Construction Contract Documents	3

CMGT 115	Building Construction Methods	3
CMGT 125	Heavy Construction Methods	3
CMGT 106	Supervision of Field Operations	3
CMGT 123	Heavy Construction Drawings	3
CMGT 131	Construction Quantity Survey	3
CMGT 135	Safety and Loss Prevention	3
CMGT 141	Building Estimating	3
CIVL 120	Basic Construction Materials	3
CMGT 248	Heavy Construction Estimating	2
CMGT 241	Planning and Scheduling	3
CMGT 243	Construction Labor Law	3
SURV 141	Basic Surveying	4
CMGT 25 1	Construction Cost Controls	3
CMGT 252	Construction Contract Law	3
xxxx xxx	Technical Elective	6
CMGT 261	Project Management	3
CMGT 263	Marketing Construction Services	3
SURV 241	Route Surveying	4
TOTAL CREDIT HOURS		**110**

Technical Electives must be selected from the following list of courses:

ARCH 111	Basic Construction Drafting	4
ARCH 112	Construction CAD Drafting I	3
CMGT 112	Construction Industry Survey	3
CMGT 253	Residential Construction	3
CMGT 290	Work Experience Seminar	1
CMGT 291	ConstructIon Work Experience	4
SURV 245	Survey Law	3
CIVL 121	Heavy Construction Materials	3
CMGT 231	Computer Estimating	3

Dental Laboratory Technology

Dental laboratory technicians are skilled artisans. They create the appliances that restore or replace oral tissues or structures. For example, they fabricate complete dentures, removable partial dentures, crowns, and bridges.

The Dental Laboratory Technology program provides students with experience in fabricating a wide variety of dental appliances, using state-of-the art materials and equipment. The program develops skill, not only in proper construction, but also in attractive appearance and accuracy of fit for patient comfort. Because workers in the dental lab area may be exposed to infectious materials and communicable diseases, the program emphasizes safety and infection control. Columbus State's program is accredited by the American Dental Association.

New students enter the program in the fall quarter, but applications to the program may be submitted at any time.

Upon completion of the Associate Degree in Dental Laboratory Technology, the graduate will be able to:

- Design-and fabricate complete dentures, removable partial dentures, crowns and bridges to a clinically acceptable degree.
- Apply learned theories to problem cases involving all dental laboratory procedures.
- Identify acceptable dental impressions submitted from clients.
- Read and accurately interpret dental laboratory prescriptions.
- Select and safely use the proper materials and equipment for a given case.
- Recognize specific landmarks of the oral cavity associated with a given case.
- Install, adjust, and store equipment and supplies.
- Demonstrate the attitude, abilities, and professionalism essential for the welfare of the patient.
- Practice safety and health regulations as established by the state and federal government.

Specific Program Admissions Information
Listed below are additional requirements for admission to the Dental Laboratory Technology.

- High school graduate or G.E.D. equivalency
- College placement tests in math, reading, and writing skills
- Contact Dental Laboratory Coordinator for additional details

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
ENGL 200	Business Communications	3
COMM 105	Speech	3
SSCI 10x	Social Science 101, 102, 103 or 104	5
HUM lxx	Humanities 111, 112, 113, 151 or 152	5

Basic Studies Requirements

COURSE		CR
MATH 102	Beginning Algebra I	4
CET 101	Computer Literacy 1	3
CHEM 100	Introduction to Chemistry	4
PHYS 100	Introduction to Physics	4
BIO 101	Introduction to Anatomy & Physiology	3
BMGT 23 1	Small Business Development	4

Technical Studies Requirements

COURSE		CR
DENT 101	Materials I	3
DENT 121	Complete Dentures I	3
DENT 111	Anatomy	3
DENT 102	Materials II	2
DENT 122	Complete Dentures II	2
DENT 132	Occlusion	3
DENT 142	Removable Partial Dentures I	3
DENT 123	Complete Dentures III	3
DENT 143	Removable Partial Dentures II	2
DENT 153	Fixed Partial Dentures I	3
DENT 224	Complete Dentures IV	2
DENT 244	Removable Partial Dentures III	3
DENT 254	Fixed Partial Dentures II	3
DENT 264	Dental History & Ethics	2
DENT 255	Fixed Partial Dentures III	4
DENT 275	Ceramics I	4
DENT 285	Orthodontics	2
DENT 256	Fixed Partial Dentures IV	3
DENT 276	Ceramics II	3
DENT 296	Applied Lab I	3
DENT 297	Applied Lab II	7
TOTAL CREDIT HOURS		**107**

Early Childhood Development Technology

With the increase of both the two income family and the single parent household, there is a great demand for qualified professionals trained in early childhood education. Early childhood professionals are responsible for planning daily activities, developing educational practices, and utilizing community resources to enrich programs and to support the needs of children and their families. The graduate is employed as a pre-kindergarten teacher, associate teacher, preschool/childcare teacher or administrator, nanny, infant/toddler care-giver or children's activity coordinator for a hospital or resort.

The Early Childhood Development (ECD) program is approved by the Ohio Department of Education for the Pre-Kindergarten Associate Teaching Certificate. This certificate meets the standard for pre-kindergarten teachers in public school systems.

The Early Childhood course of study exceeds the requirements for staff as outlined in the revised Ohio Child Care Licensure Law.

Upon completion of the Associate Degree in Early Childhood Develonment, the graduate will be able to:

- Apply principal of human growth, development, and learning to the teaching of young children.
- Demonstrate a respectful and nurturing teaching style.
- Develop appropriate educational practices for young children that foster the growth of skills in problem solving, decision making, critical thinking and communication.
- Recognize individual needs and use appropriate teaching strategies (including identification, selection, and/or preparation of materials and methods) to address children's individual differences in developmental levels, culture, learning styles and activities.
- Recognize and respect unique characteristics of families and use appropriate strategies to address family needs.
- Use a variety of strategies to evaluate children's growth and development with parents and relevant professionals.
- Design a physically safe environment to facilitate children's independence, choices and inner control which will create and sustain positive learning.
- Evaluate professional development of self and role as teacher.

Specific Program Admissions Information
Listed below are additional requirements for admission to the Early Childhood Development Technology.

- High school graduate or G.E.D. equivalency
- Placement into Beginning Composition - ENGL 101
- Completion of the following four courses with a grade of "C" or above:
  ECD 105 - Self Concept
  ECD 107 - Curriculum Planning
  ECD 203 - Creative Curriculum
  PSY 26 1 - Introduction to Child Development

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
COMM 105	Speech	3
	Business Communications	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
NSCI 101	Natural Science	5

Basic Studies Requirements

COURSE		CR
PSY 100	Introduction to Psychology	5
PSY 261	Child Development	5
SOT 101	Introduction to Sociology	5
MATH 101	Business Mathematics	5
SSCI 101	Cultural Diversity	5

Technical Studies Requirements

COURSE		CR
ECD 105	Self Concept	3
ECD 107	Managing Children In Groups	3
ECD 203	Creative Curriculum	3
ECD 161	ECD Field Seminar I	1
ECD 171	ECD Field Experience I	1
ECD 201	Health and Safety..	1-3
ECD 112	Physical Development Curriculum	3
ECD 172	ECD Field Experience II	1
ECD 162	ECD Field Seminar II	1
ECD 103	Cognitive Curriculum	3
ECD 109	Language Exp. Early Childhood Programs	3
GER 103	Interpersonal Communications in Human Services	4
ECD 206	Social Development Curriculum	3
ECD 110	Infant/Toddler Curriculum	3
GER 203	Family Ecology	3
ECD 173	ECD Field Experience III	1
ECD 163	ECD Field Seminar III	1
ECD 264	ECD Seminar IV	1
ECD 274	ECD Field Experience IV	1
ECD 205	Parent Involvement in Early Chld. Programs	3
ECD xxx	Technical Elective	3
ECD 208	Young Children with Special Needs	3
ECD 207	Guidance/Discipline in Early Childhood	3
ECD 265	ECD Seminar V **and**	1
ECD 275	ECD Field Experience V **OR**	1
ECD 267	Student Teaching Seminar **and**	**2**
ECD 277	Student Teaching Practicum	3
TOTAL CREDIT HOURS		**104-106**

Technical Elective must be selected from the following list of courses:

ECD 211	Child Care Administration	3
*ECD 209	Early Childhood Staff..	3
ECD 115	School Age Child Care	3
ECD 151	ECD Media Resource I	1
ECD 152	ECD Media Resource II	1

* Required for students pursuing Pre-K Associate Certification-

Electro-Mechanical Engineering Technology

With the rapid growth occurring in automation, robotics, computer integration, product development, and all new processes for manufacturing, research, material movement, and equipment maintenance support, there is an increased demand for individuals who can apply and perform problem-solving duties associated with the integration of electrical and mechanical devices.

The objective of the Electro-Mechanical Engineering Technology program is to educate and prepare students for career opportunities in manufacturing environments where automated and semi-automated machines are used.

Electro-Mechanical Engineering Technicians perform both preventive and corrective maintenance on electro-mechanical systems as well as aiding in the design of such systems.

Upon completion of the Associate Degree in Electro-Mechanical Engineering Technology, the graduate will be able to:

- Read and interpret engineering drawings.
- Select an appropriate electric motor and control based on known functional requirements.
- Identify and troubleshoot hydraulic and pneumatic systems.
- Troubleshoot electric motors.
- Identify and select electro-mechanical components for typical industrial requirements.
- Select and use appropriate power control devices, timers, transducers and sensors.
- Apply servo-mechanisms with regard to accuracy, overshoot, and stability of automated equipment.
- Identify closed-loop and open-loop systems and select the type of control required to achieve a given system response.
- Demonstrate skill in applying programmable controllers to operate simple processes.
- Perform preventive and corrective maintenance on electro-mechanical automated systems.

The Electro-Mechanical Engineering Technology also shares related courses with the Electronic Engineering Technology, Mechanical Engineering Technology and Quality Assurance Technology. For additional information refer to those section(s) of the ***Bulletin.***

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
COMM 105	Speech	3
ENGL 204	Technical Writing	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
SSCI 10x	Social Science 101, 102, 103 or 104	5

Basic Studies Requirements

COURSE		CR
MATH 111	Technical Math I	4
MATH 112	Technical Math II	4
PHYS 181	Technical Physics (Mechanics)	4
PHYS 183	Technical Physics (Property Matter)	4
MATH 135	Elementary Statistics	5

Technical Studies Requirements

COURSE		CR
EET 111	DC Fundamentals	4
EET 112	DC Laboratory	2
MECH 110	Introduction to Manufacturing..	3
EET 120	AC Fundamentals	4
EET 121	AC Laboratory	2
	Engineering Drawing Interpretation	3
QUAL 120	Total Quality Management	3
EET 130	Electronic Devices	4
EET 132	Digital Fundamentals	3
EET 131	Electronic Devices Laboratory	2
MECH 120	Mechanical Drafting	3
MECH 131	Hydraulics	3
EET 243	Digital Devices	4
EET 244	Digital Devices Laboratory	2
MECH 243	Robotics	3
EMEC 250	Motors & Controls	3
EMEC 25 1	Electro-Mechanical Controls I.	4
MECH 240	Machine Tools	4
MECH 260	Basic Mechanisms	4
EMEC 260	Electro-Mechanical Controls II	4

TOTAL CREDIT HOURS **107**

Students should request a program plan of study from their faculty

Electronic Engineering Technology

Electronic Engineering Technology Associate Degree Computer Electronics Major

The Electronic Engineering Technology opens numerous doors of opportunity for its graduates. Employment in fields as diverse as avionics, banking, biomedicine, distribution, telecommunications, manufacturing, servicing, radio/TV and audio production await today's graduate. Growth in both the number of positions and variety of opportunities is expected to expand well into the 21st century.

Course work covers the basics of electronics with technical electives available for specialization in computer repair, digital and fiber optic communication, electric power, computer aided drafting and control.

Columbus State's Electronic Engineering Technology program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC of ABET).

Graduates who wish to continue their education may transfer their Associate Degree credits to a number of four-year institutions that offer baccalaureate degrees in electronic engineering technology.

Upon completion of the Associate Degree in Electronic Engineering Technology, the graduate will be able to:

- Apply technical terms in their proper context when writing or speaking.
- Analyze and locate problems in basic electronic circuits.
- Demonstrate knowledge of a basic approach to troubleshooting.
- Read and interpret engineering specifications.
- Measure electrical quantities (e.g., voltage, current, resistance, frequency, etc.) accurately and draw conclusions.
- Collect, compile, and graph experimental data.
- Write technical reports.
- Use calculators and/or computers for analysis and technical problem solving.
- Prepare electronic schematics using manual and computer-aided systems.
- Analyze and interpret circuit diagrams.
- Apply a knowledge of the basics of electronics to a variety of applications the graduates will see as they work in the profession.

The Electronic Engineering Technology also shares related coursework with the Electro-Mechanical Engineering and Quality Assurance Technologies. For additional information refer to those sections of the ***Bulletin.***

Computer Electronics Major

Students interested in combining electronics with computer programming should consider the Computer Electronics Major. This program enables the student to enroll in courses on how to use computers as well as the electronics of the computer. Please contact the chairperson of either the Electronic Engineering Technology or Computer Programming Technology for more information.

In addition to the general Electronic Engineering Technology competencies, a graduate majoring in Computer Electronics will be able to:

- Write, debug, test, maintain and document programs in Assembly C and Language programs.
- Write Job Control Language (JCL) necessary to execute typical business applications on an IBM mainframe computer using DOS/VSE.
- Use a terminal in an on-line environment (ADR/VOLLIE).
- Use word processing, spreadshccl, and graphic software available for the IBM PC and local are networks.
- Use flow charting.

Specific Program Admission Information

Listed below are additional requirements for admission to the Computer Electronics Major.

- Complete CPT 101 - Computer Literacy 1 or equivalent approved by the Chairperson of **Computer** Programming Technology

Electronic Engineering Technology

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
COMM 105	Speech	3
ENGL 102	Essay & Research	3
ENGL 204	Technical Writing	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
SSCI 10x	Social Science 101, 102, 103 or 104	5

Basic Studies Requirements

COURSE		CR
MATH 111	Technical Mathematics I	4
EET 110	Electronic Drafting	2
MATH 112	Technical Mathematics II	4
PHYS 181	Technical Physics (Mechanical)	4
MATH 113	Technical Mathematics III	4
PHYS 185	Technical Physics (Heat, Light, Sound)	4

Technical Studies Requirements

COURSE		CR
EET 111	DC Fundamentals	4
EET 112	DC Laboratory	2
EET 120	AC Fundamentals	4
EET 121	AC Laboratory	2
EET 130	Electronic Devices	4
EET 131	Electronic Devices Lab	2
EET 132	Digital Fundamentals	3
EET lxx	Technical Elective	3
EET 240	Calculus for Electronics	5
EET 241	Electronic Devices Circuit Analysis	4
EET 242	Electronic Devices Circuit Analysis Lab	2
EET 243	Digital Devices	4
EET 244	Digital Devices Lab	2
EET 250	Electronic Communications I	4
EET 251	Communications I Laboratory	2
EET 252	Microprocessors	4
EET 253	Microprocessor Lab	2
EET 254	Electronic Fabrication	2
EET 260	Industrial Electronics	4
EET 261	Industrial Electronics Lab	2
EET 2xx	Technical Elective	3

TOTAL CREDIT HOURS 108

Technical Electives must be selected from the following list of courses:

EET 1xx - select one of the flowing:

	CAD/Electronics	3
EET 134	Electric Power Technology	3
EET 144	PC Hardware	3
EET 145	Computer Maintenance	3

EET 2xx - select one of the following:

EET 255	Instrumentation and Controls	3
EET 262	Digital Communications and Telecommunications	3
EET 264	Fiber Optic Communication	3

Computer Electronics Major

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
ENGL 204	Technical Writing **OR**	3
ENGL 200	Business Communications	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
SSCI 10x	Social Science 101, 102, 103 or 104	5
COMM 105	Speech	3

Basic Studies Requirements

COURSE		CR
MATH 121	Computer Science Math I	5
PHIL 150	Introduction to Logic	5
MATH 111	Technical Math I	4
MATH 112	Technical Math II	4
PHYS 181	Technical Physics (Mechanics)	4

Technical Studies Requirements

COURSE		CR
CPT 105	Introduction to Computer Applications	3
EET 144	PC Hardware	3
CPT 108	Program Design Development	3
EET 111	DC Fundamentals	4
EET 112	DC Laboratory	2
EET 110	Electronic Drafting	2
CPT 111	Assembly Language I	5
EET 120	AC Fundamentals	4
EET 121	AC Laboratory	2
EET 130	Electronic Devices	4
EET 131	Electronic Devices Lab	2
EET 132	Digital Fundamentals	3
MCT 221	Local **Area** Networks	3
EET 254	Electronic Fabrication	2
CPT 251	C Language Programming	5
EET 241	Electronic Devices Circuit Analysis	4
EET 242	Electronic Devices Circuit Analysis Lab	2
EET 243	Digital Devices	4
EET 244	Digital Devices Lab	2
EET 145	Computer Maintenance	3
CPT 131	Operating Systems	3

TOTAL CREDIT HOURS 109

Emergency Medical Services Technology

Emergency Medical Services Associate Degree
EMT-Basic Certificate
EMT-Intermediate Certificate
EMT-Paramedic Certificate
Advanced Cardiac Life Support Certificate
Advanced Rescue Certificate
Basic Trauma Life Support Certificate
CPR Instructor Certificate
EMS Dispatcher Certificate
First Responder Certificate
Hazardous Materials Certificate
River Rescue Certificate
EMS Administration Certificate
EMS Rescue Certificate

Emergency medical technicians work under the direction of a physician to act as the primary pre-hospital care provider in the health care system. They must first make a comprehensive evaluation of the patient's condition and the overall situation. They may then need to provide immediate life-saving care. Technicians must demonstrate a high degree of technical skill, calmness, and professionalism, even under the most adverse conditions.

Columbus State's Associate Degree program in Emergency Medical Services exposes students to a wide variety of victim care situations, including direct patient care in local hospitals and on emergency vehicles. Instructors are highly experienced and active in the field of emergency medicine.

In addition to the Associate Degree, the Emergency Medical Services program offers the EMT- Basic Certificate, the EMT-Intermediate Certificate and the EMT-Paramedic Certificate accredited by the State, Board of Emergency Medical Services Nos. 063305 and 5-3-007. The EMT-Paramedic Certificate program is also nationally accredited through the Commission on Accreditation of Allied Health Education Programs. For information on additional certificates see the Emergency Medical Services Technology Coordinator.

Students in the EMT-Basic Certificate program must first complete the EMT-Basic course, and then pass the State/National EMT-A Certification written and practical exams. By state law, a student must be a certified EMT-Basic before enrolling in the EMT-Intermediate or the EMT-Paramedic Certificate programs.

Good mental and physical health are critical in emergency medical services. Students must have a physical examination and must meet program health requirements before they may participate in clinical laboratory experiences. Because students and workers in the health care field may be exposed to infectious materials and communicable diseases, the program emphasizes safety and prevention. In addition, all students must be covered by EMT-student liability insurance while enrolled in the certificate courses.

Upon completion of the Associate Degree requirements in Emergency Medical Services Technology, the graduate will be able to:

- Perform all of the duties included in EMT-Basic and EMT-Paramedic training, after successfully completing State of Ohio/National certification exams in these two areas.
- Demonstrate knowledge of the legal aspects of emergency medical service.
- Prepare for and deal with disasters, including those involving hazardous materials.
- Explain the complexity of emergency medical service.

EMT-Basic Certificate

Students completing the EMT-Basic Certificate will be able to:
- Meet State of Ohio/National requirements to take the EMT-Basic certification examination.
- Evaluate the nature and seriousness of a patient's condition or the state of the patient's injuries and assess requirements for emergency care.
- Administer appropriate emergency care to stabilize the patient's condition, including tracheal intubation and automated external defibrillation.
- Lift, move, position, and otherwise handle the patient in such a way as to minimize discomfort and further injury.

EMT-Intermediate Certificate

Students completing the EMT-Intermediate Certificate will be able to:
- Meet State of Ohio/National requirements to take the EMT-Intermediate certification examination.
- Perform all duties of an EMT-Basic.
- Initiate appropriate intravenous procedures as specifically authorized by medical authority in advance.

EMT-Paramedic Certificate

Students completing the EMT-Paramedic Certificate will be able to:
- Meet State of Ohio/National requirements to take the EMT-Paramedic certification examination.
- Perform all duties of the EMT-Basic.
- Initiate appropriate intravenous procedures as specifically authorized by medical authority in advance.
- Initiate and continue emergency medical care under medical control, including recognizing presenting conditions and initiating appropriate invasive andnoninvasive therapies (e.g., surgical and medical emergencies, airway and respiratory problems, cardiac dysrhythmias, cardio pulmonary arrest, and psychological crisis), and assessing the response of the patient to that therapy.

For information on additional certificates see the Emergency Medical Services Technology Coordinator.

Specific Program Admissions Information

Listed below are additional requirements for admission to the Emergency Medical Services Technology.
- High school graduate or G.E.D. equivalency
- 18 years of age or older
- Possess a valid Ohio driver's license
- Contact EMS Technology Coordinator for additional requirements
- Completed health statement

Emergency Medical Services Technology Associate Degree

General Studies Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
COMM 105	Speech	3
ENGL 200	Business Communications	3
SSCI 10x	Social Science 101, 102, 103 or 104	5
HUM lxx	Humanities 111, 112, 113, 151 or 152	5

Basic Studies Requirements

COURSE		CR
MATH 102	Beginning Algebra I	4
BIO xxx	Biological & Physical Science Elective	3
BIO 115	Microbiology	5
BIO 161	Human Anatomy	5
BIO 169	Human Physiology	5

Technical Studies Requirements

COURSE		CR
EMS 110	EMT- Basic	8
EMS 123	Emergency Psych. Intervention	3
EMS 124	Public Health Education	3
EMS 125	Disaster Aid	3
EMS 211	EMT-P I	7
EMS 281	Hospital Clinical I	2
EMS 291	Field Clinical I	1
EMS 126	Advanced Rescue Techniques	4
EMS I27	Handling Hazardous Material Situations	2
EMS xxx	Technical Elective	2
EMS 212	EMT-P II	6
EMS 232	Advanced Cardiac Life Support	1
EMS 282	Hospital Clinical II	2
EMS 292	Field Clinical II	1
EMS 121	EMS Systems	3
EMS 122	Legal Principals for EMT	2
EMS 213	EMT-P Ill	5
EMS 283	Hospital Clinical III	2
EMS 293	Field Clinical III	1
EMS 214	EMT-P IV	1
EMS 234	Basic Trauma Life Support	1
EMS 284	Hospital Clinical IV	2
EMS 294	Field Clinical IV	2
TOTAL CREDIT HOURS		108

Technical Elective must be selected from the following list of courses:

EMS 130	River Rescue	3
EMS 131	Special Topics For EMT	3
EMS 132	EMS Dispatcher	2
EMS 133	Ice & Cold Water Rescue	2
EMS 134	EMS Administration I	4
EMS 135	EMS Administration II	3
EMS 140	Construction/Collapse for Fire/Rescue	3
EMS 141	Hazardous Material (Technician Level)	2
EMS 142	Vertical Rescue	2
EMS 143	Search and Rescue	2
EMS 144	Confined Space Rescue	2
EMS 145	Vehicle Extraction	2
EMS I47	Farm/Agricultural Rescue	2

EMT-Basic Certificate

Certificate Requirements

COURSE		CR
EMS 110	EMT - Basic	8

EMT-Intermediate Certificate

Certificate Requirements

COURSE		CR
EMS 111	EMT - Intermediate	6

EMT-Paramedic Certificate

Certificate Requirements

COURSE		CR
EMS 21 I	EMT-PI	7
EMS 281	Hospital Clinical I	2
EMS 291	Field Clinical I	1
EMS 212	EMT-P II	7
EMS 282	Hospital Clinical II	2
EMS 292	Field Clinical II	1
EMS 213	EMT-P III	1
EMS 283	Hospital Clinical III	2
EMS 293	Field Clinical III	1

EMS 214	EMT-P IV	2
EMS 284	Hospital Clinical IV	2
EMS 294	Field Clinical IV	2

EMS-Administration Certificate

Certificate Requirements

COURSE		CR
BMGT 218	Supervisor Training for Managers	5
HRM 121	Human Resources Management	4
MCT 106	Computer Literacy 2	3
EMS 121	EMS Systems	3
EMS 134	EMS Administration I	4
EMS 135	EMS Administration II	3

EMS - Rescue Certification

Certificate Requirements

COURSE		CR
EMS 140	Construction/Collapse for Fire/Rescue	3
EMS 130	River Rescue	3
EMS 133	Ice & Cold Water Rescue	2
EMS 141	Hazardous Materials (Technician Level)	2
EMS 142	Vertical Rescue	2
EMS 143	Search & Rescue	2
EMS 144	Confined Space Rescue	2
EMS 145	Vehicle Extraction	2

Environmental Technology

Health & Safety for Hazardous Waste Operations Training Program Certificate

Environmental technicians work in a wide variety of entry-level positions for environmental engineering consulting firms, environmental laboratories, wastewater and water treatment facilities, lead abatement contractors, manufacturing facilities, govemmental agencies, and other organizations requiring individuals to work in environmentally related positions. The demand for technicians capable of performing tasks such as sample collection, monitoring, data management, and instrumentation calibration, operation, and maintenance continues to increase. According to recent surveys, and current job placement rates, the job market for environmental technicians in Central Ohio is very strong.

Columbus State's Associate Degree program in Environmental Technology has a diverse curriculum which includes many basic science courses, as well as, courses offered by other engineering technologies. This curriculum provides students with a strong foundation of technical skills necessary for careers in the environmental industry. A summer quarter internship program also offers students hands-on experience in a real work setting.

In additional to providing environmental technicians with entry-level training, the degree provides opportunities for individuals seeking career changes, continuing education and skills enhancement.

For additional information on the Health and Safety for Hazardous Waste Operations Training Program Certificate, or other OSHA training opportunities, see the Environmental Technology Advisor.

Upon completion of the Associate Degree in Environmental Technology, the graduate will be able to:

- Compile data and perform data manipulation and reporting tasks using a word processor, spreadsheet and graphics.
- Assist the cnginccrin preparing reports using technical writing skills.
- Collect air, water, waste, and soil samples for routine monitoring as required by regulatory agencies.
- Review toxic or hazardous waste studies to provide information for compliance with environmental standards.
- Assist in the operation and maintenance of systems used to control pollution at the source as required by environmental laws.
- Perform duties related to the management, storage, disposal, and emergency response to spills of hazardous materials and toxic substances in accordance with OSHA health and safety requirements.
- Collect and compile data necessary for an environmental site assessment.
- Utilize basic concepts of geology and hydrology in summarizing data to be used in analyzing the environmental fate and transport of hazardous substances.
- Conduct field investigations using environmental instrumentation.
- Understand basic risk assessment and toxic substances exposure analysis techniques.
- Understands duties requiring knowledge of industrial hygiene in hazardous materials, including OSHA legislation.

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
COMM 110	Conference &, Group Discussion	3
ENGL 204	Technical Writing	3
SSCI 104	World Economic Geography	5
HUM lxx	Humanities 111, 112, 113, 151 or 152	5

Basic Studies Requirements

COURSE		CR
MATH 112	Technical Math II	4
GEOL 101	Earth Systems I	5
BIO 111	Introductory Biology I	5
CHEM 111	Elementary Chemistry I	5
BIO 127	Environmental Science	5
MATH 135	Elementary Statistics	5

Technical Studies Requirements

COURSE		CR
ENVR 101	Environmental Project Coordination	3
ENVR 158	Environmental Analysis	3
ENVR 110	Industrial Pollution Control	3
ENVR 130	Environmental Regulations	5
SURV 141	Basic Surveying	4
ENVR 120	Environmental Aspects of Soils	3
ENVR 252	Health & Safety Training for Hazardous Waste Oper.	3
ENVR 253	Environmental Systems Analysis	3
ENVR 250	Subsurface Investigation Techniques	5
ENVR 220	Environmental Chemistry	3
ENVR 224	Environmental Hydrology	3
CIVL 221	Elementary Hydraulics	3
ENVR 255	Air Monitoring	4
xxx xxx	Technical Elective	3-4
ENVR 254	Subsurface Restoration Techniques	5
ENVR 112	Environmental Computer Applications	3

TOTAL CREDIT HOURS 107-108

Technical elective must be selected from the following list of courses:

	Public Utility Systems	3
ENVR 291	Field Co-op Experience	4
ARCH 111	Construction Basic Drafting	4
MULT 102	Cardiopulmonary Resuscitation (CPR)	1
MULT 103	Responding to Emergencies	2
MECH 111	Manufacturing Processes	4
ENVR 222	Water Treatment Techniques	3
ENVR 223	Wastewater Treatment Techniques	3
ENVR 256	Hazardous Materials Refresher Training	1
ENVR 290	Work Experience Seminar	1

Health & Safety Training for Hazardous Waste Operations Training Program

Certificate Requirements

COURSE		CR
ENVR 252	Health & Safety Training for Hazardous Waste Op.	3

Financial Management Technology

Today's banking, consumer credit, and commercial credit industries offer outstanding career opportunities for community college graduates. The Associate Degree program in Financial Management Technology gives students the knowledge and skills they need to succeed in entry-level and management training positions. These may be in finance departments of corporations, government agencies, and departments of banks, savings and loans, mortgage companies, and insurance companies. Examples of these positions include loan processor, loan officer, mortgage banking trainee, credit analyst, insurance analyst, financial planner, collections manager, stockbroker trainee, and financial analyst.

Columbus State's six-quarter program cooperates with the Columbus Chapter of the American Institute of Banking (AIB). Through this arrangement, students may earn AIB certificates of academic achievement, in addition to completing the Associate Degree.

Columbus State is nationally credited as an associate degree granting institution offering business programs by the Association of Collegiate Business Schools and Programs (ACBSP).

Upon completion of the Associate Degree in Financial Management Technology, the graduate will be able to:

- Explain the key concepts of financial transactions.
- Explain operational methods of various financial institutions.
- Plan credit investigations and make credit granting decisions for both commercial and consumer credit.
- Analyze financial statements.
- Analyze stocks, bonds, and mutual funds and the interrelationship between them.
- Analyze financial problems with spread sheet software.
- Apply capital budgeting techniques.
- Write personal financial plans.
- Produce research reports on current topical issues relevant to financial markets.

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
ENGL 200	Business Communications	3
NSCI 101	Natural Science I	5
COMM 105	Speech	3

Basic Studies Requirements

COURSE		CR
CPT 101	Computer Literacy I	3
ACCT 101	Financial Accounting	4
MATH 103	Beginning Algebra II	4
ACCT 102	Managerial Accounting	3
MATH 135	Elementary Statistics	5
LEGL 264	Legal Environment of Business	4
ECON 200	Principles of Microeconomics	5
ECON 240	Principles of Macroeconomics	5

Technical Studies Requirements

COURSE		CR
BMGT 111	Management	5
MCT 106	Computer Literacy II	3
FMGT 101	Personal Finance	4
FMGT 201	Business Finance	5
FMGT 202	Money & Banking	5
xxx xxx	Business Electives	8
FMGT 211	Investments	3
FMGT 221	Credit Administration	5
MKTG 111	Marketing Principles	5
FMGT 25 1	Finance Research	2
BMGT 27 1	Management Decisions	2
TOTAL CREDIT HOURS		102

Business Elective courses may be selected from courses in: Math, Computer Programming, Financial Management, Retail, Real Estate, Accounting, Business Management and Marketing.

Technical Electives for AIB:

COURSE		.CR
FMGT 232	Principles of Bank Operations	4
FMGT 234	Trust Operations	4
FMGT 237	Law and Banking	4

Gerontology Technology (Aging Studies)

Gerontology Technology Associate Degree
Gerontology Certificate
Activities Programming for the Elderly Certificate

Gerontology is the study of the process of aging and includes the interrelationship of physical, psychological, and social aging. The practice of gerontology emphasizes the promotion of independence and self-reliance and attempts to improve social functioning and to foster satisfying relationships between older adults and their environments.

The olderpopulation is the fastest growing age group in the nation. Steady growth is expected to continue, and by the year 2000, older persons will represent 12.6% of Ohio's total population. This increased older population has created a need for graduates trained in Gerontology.

In addition to the Associate Degree, the Gerontology Technology program offers a Gerontology Certificate. This certificate is designed for individuals with previous degrees or professional credentials from accredited institutions who wish to work in Gerontology. The Gerontology Certificate consists of 2 parts: 1) required core courses and 2) an emphasis in either Human Services or Business. Life experience credit for emphasis area courses will be evaluated on an individual basis by the Gerontology coordinator. For additional information on the Activities Programming for the Elderly Certificate, see the Gerontology Technology Coordinator.

Graduates are prepared to work with seniors in community centers, social service agencies, home health programs, nutrition projects, or retirment communities. The student is trained to link the elderly with community resources, assist in finding housing or employment, and to provide creative outlets through recreational activities.

Upon completion of the Associate Degree in Gerontology, the graduate will be able to:

- Recognize biological, psychological, social, and psychosexual aspects of aging.
- Acknowledge the later years as a time of growth and development.
- Assess adaptations to aging in terms of interpersonal relationships and personality.
- Support clients and families in the grieving process.
- Address the psychosocial, biological and economic needs of older women in our culture.

- Relate the demographics of a target population to program planning needs.
- Adapt interpersonal communication skills to the needs of older adults.
- Use appropriate interventions to facilitate problem solving: information and referral, advocacy, data gathering, problem identification, and care management.
- Demonstrate an understanding of legal rights of older adults related to income sources, medical services, discrimination, housing, and community services.
- Assist older adults in selecting appropriate housing environments .
- Demonstrate knowledge of diagnostic and assessment processes for organic and functional mental illness that may affect older adults.
- Demonstrate an understanding of the effects of social policy on organizational and operational structures as related to older adults.
- Use appropriate physical, social, and mental health interventions along the continuum of well-elderly to frail-elderly.

Specific Program Admissions Information

Listed below are additional requirements for admission to the Gerontology Technology

- High school graduate or G.E.D. equivalency
- Placement into ENGL 101 - Beginning Composition
- Completion of GER 101 - Social Gerontology with a grade of "C" or above

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
SSCI 101	Cultural Diversity	5
ENGL 102	Essay & Research	3
ENGL 202	Writing for the Health & Human Services	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
COMM 110	Conference & Group Discussion	3

Basic Studies Requirements

COURSE		CR
PSY 100	Introduction to Psychology	5
PSY 240	Human Growth & Development	4
PSY 230	Abnormal Psychology	3
CPT 101	Computer Literacy 1	3
BIO 101	Anatomy & Physiology	3
MATH 101	Business Mathematics	5

Technical Studies Requirements

COURSE		CR
GER 101	Social Gerontology	3
GER xxx	Gerontology Elective	3-5
GER 105	Human Services for the Elderly	4
GER 103	Interpersonal Communication in Human Services	4
GER 109	Social Work with the Elderly	5
GER 191	Seminar I	1
GER 192	Practicum I	2
GER xxx	Gerontology Elective	3-5
GER 291	Seminar II	1
GER 292	Practicum II	2
GER 209	Aging and Mental Health	3
GER 213	Aging and Physical Health	3
GER 293	Seminar III	1
GER 294	Practicum III	2
GER 207	The Older Woman	3
GER 211	Counseling the Elderly	3
GER 201	Social Policy and Aging	3
GER 204	Death and Bereavement	3
GER 295	Seminar IV	1
GER 296	Practicum IV	2
TOTAL CREDIT HOURS		96-100

Gerontology Certificate Requirements

COURSE		CR
GER 101	Social Gerontology	3
GER 105	Human Services for the Elderly	3
GER 201	Social Policy and Aging	3
GER 209	Aging and Mental Health	3
GER 213	Aging and Physical Health	3
GER 191-205	Seminar	1-2
GER 192-296	Practicum	2-4
Emphasis in Human Services		
GER 109	Social Work with the Elderly	5
GER 103	Interpersonal Communications in Human Services	3
GER 204	Death & Bereavement	3
GER 207	The Older Woman	3
Emphasis in Business		
BMGT 111	Management	5
MKTG 111	Marketing Principles	5
HRM 121	Human Resource Management	4
BMGT 23 1	Small Business Development	3
BMGT 232	Small Business Operations	3
MULT 272	Health Care Resource Management	4

Graphic Communications Technology

Graphic communications is the transmission of ideas, concepts, and information by word, picture, or symbol from one person to another. New materials, techniques, and processes make graphic communications an ever-expanding, challenging technology. Because the demand for advertising, printing, publishing, packaging, storage and retrieval of information is so high, the communication industry ranks fifth in total income and employment opportunities.

Students enrolled in the Associate of Applied Science degree program in the Graphic Communications Technology receive practical training in all types of print production operations. They also take technical electives in such areas as color photography, advanced publishing and multimedia. Graduates of the program are qualified to work in any industry where the transmission of ideas, concepts, and information is essential.

Upon completion of the Associate Degree in Graphic Communications Technology, the graduate will be able to:

- Specify type styles and sizes, coordinate colors, and employ the elements of design to communicate effectively.
- Prepare camera-ready mechanicals (including multicolor overlays).
- Prepare flats or image carriers for single and multicolor work; prepare proofs for single and multiple color designs.
- Operate a 35 mm camera, process the film, make enlargements, and perform general darkroom and photo lab duties.
- Calibrate a lithographic camera for proper exposure, develop film, operate film processors, read densitometers, and adjust density range on halftones.
- Operate computer-controlled typesetting equipment, format and tabulate copy, and store and retrieve information on disks.
- Operate single and multicolor offset presses safely and demonstrate knowledge of cylinder packing procedures and fountain chemical solutions.
- Demonstrate knowledge of various text-generating computer graphic technologies and equipment; and relate them to local industry trends.
- Use communication skills (verbal, written, and graphic) to interact effectively with clients, co-workers, and others in the work environment.

- Demonstrate the ability to manage and evaluate print production operations, including estimating the cost of a production order, analyzing specification and production data to assign time and personnel to specific jobs, and applying a working knowledge of the graphics industry to the operation of the business.

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
COMM 105	Speech	3
ENGL 204	Technical Writing	3
SSCI 10x	Social Science 101, 102, 103 or 104	5
HUM lxx	Humanities 111, 112, 113, 151 or 152	5

Basic Studies Requirements

COURSE		CR
MATH 102	Algebra I	4
PHYS 100	Introduction to Physics	4
BMGT 101	Introduction to Business	5
BMGT 111	Management	5
ACCT 101	Financial Accounting	4

Technical Studies Requirements

COURSE		CR
GRPH 112	Introduction to Computer Graphics	3
GRPH 110	Survey of Graphic Communications	3
GRPH 111	Black and White Photography	3
GRPH 125	Image Assembly	4
GRPH 122	Electronic Publishing	5
GRPH 130	Press Operations	3
GRPH 131	Design and Typography	3
GRPH 132	Paper and Ink	3
GRPH 243	Computer Graphic Illustration	3
GRPH 242	Lithographic Camera	3
GRPH 241	Estimating	4
GRPH 251	Electronic Imaging	3
GRPH 244	Quality Control in Graphic Communication	4
GRPH 140	Printing Production Management	4
GRPH xxx	Technical Electives	6
TOTAL CREDIT HOURS		98

Technical Electives must be selected from the following list of courses:

GRPH 270	Advanced Black and White Photography	3
GRPH 271	Studio Photography	3
GRPH 273	Design II	3
GRPH 281	Color Photography	3
GRPH 282	Electronic Publishing II	3
GRPH 283	Multimedia Presentation Graphics	3
GRPH 279	Estimating II	3
GRPH 278	Photo Lab Practicum	1
GRPH 297, 298, 299	Special Topics in Graphic Communications	1-3

Students should request a program plan of study from their faculty advisor.

Health Information Management Technology

Health Information Management Technology Associate Degree
Legal Medical Consulting (ATS) (See Legal Assisting Technology)
Medical Coding Specialist Certificate
Medical Transcription Certificate

The Health Information Management Technology prepares the student to become a professional responsible for maintaining components of health information systems consistent with the medical, administrative, ethical, legal, accreditation, and regulatory requirements of the health care delivery system. In all types of health care facilities the health information management technician possesses the technical knowledge and skills necessary to process, maintain, compile, and report health information data for reimbursement, facility planning, marketing, risk management, utilization management, quality assessment and research; abstract and code clinical data using appropriate classification systems; and analyze health records according to standards. The health information management technician may also be responsible for functional supervision of the various components of the health information system.

The Medical Transcriptionist Certificate Program prepares students for entry-level skills needed to become a medical transcriptionist. Certificate completion provides an individual with a basic knowledge in medical science, English and skills in computers, and transcribing medical dictation. Accuracy, clarity, timeliness and displaying professional and ethical conduct are qualities required by employers of Medical Transcriptionists.

The Medical Coding Specialist Certificate program prepares students with entry-level skills needed to code, classify, and index diagnoses and procedures for the purpose of reimbursement, standardization, retrieval and statistical analysis. Principles in ICD-PCM coding, CPT coding, and third-party reimbursement will be emphasized.

Upon completion of the Associate Degree in the Health Information Management Technology, the graduate will be able to:
- Review health records for completeness and accuracy.
- Verify components necessary to ensure appropriateness and adequacy of health care documentation.
- Maintain and compile secondary health information.
- Apply legal principles, policies, regulations, and standards for the control, use, and dissemination of health information.
- Collect, compute, analyze, interpret, and present statistical data related to health care services.
- Code, classify, and index diagnoses and procedures for the purpose of reimbursement, standardization, retrieval and statistical analysis.
- Review, retrieve, and compile health data for reimbursement, quality assessment, patient care research, clinical registers, and other identified informational needs.
- Apply principles of supervision and leadership and the tools used to effectively manage human resources.

Completion of the Associate Degree in Health Information Management Technology will permit graduates to transfer to The Ohio State University for a Bachelor of Science Degree in Health Information Administration.

Medical Coding Specialist Certificate

Upon completion of the Medical Coding Specialist Certificate, the graduate will be able to:
- Review health records for completeness and accuracy.
- Identify components of appropriate and adequate documentation of health care.
- Code, classify, and index diagnosis and procedures for the purposes of reimbursement.
- Abstract information from patient records to complete a claim properly.

Medical Transcription Certificate

Upon completion of the Certificate in Medical Transcription, the graduate will be able to:
- Demonstrate aknowledge and usage of medical terminology as it relates to the science of medicine.
- Demonstrate aknowledge of the diagnostic techniques, indications, values and significant results used in clinical diagnosis and treatment of patients.

- Demonstrate a knowledge of surgery, radiology and pathology procedures.
- Demonstrate proper English usage, grammar, spelling, punctuation and sentence structure.
- Demonstrate a knowledge of the equipment used in transcribing dictation and the ability to use it.
- Recognize, discriminate, and clarify inconsistencies and appropriately edit while transcribing.
- Demonstrate accuracy and productivity in transcribing dictation.
- Demonstrate an understanding of medical ethics and medical legal responsibilities of a transcriptionist.
- Demonstrate an awareness of the environment in which the transcriptionist is employed.

Specific Program Admissions Information

Listed below are additional requirements for admission to the Health Information Management Technology.

- High school graduate or G.E.D. equivalency
- Required high school (or equivalent) courses:
  Algebra, with a grade of "C" or above
  Biology, with a grade of "C" or above
  Chemistry, with a grade of "C" or above
- Placement into ENGL 101 - Beginning Composition
- Placement into MATH 102 - Beginning Algebra I

Health Information Management Technology

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
ENGL 200	Business Communications	3
SSCI 10x	Social Science 101, 102, 103 or 104	5
COMM 110	Conference & Group Discussion	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5

Basic Studies Requirements

COURSE		CR
BIO 121	Anatomy, Physiology & Pathology I	5
BIO 122	Anatomy, Physiology & Pathology II	5
MCT 106	Computer Literacy 2	3
MATH 102	Beginning Algebra I	4
LEGL 238	Insurance Law	3
MULT 102	Cardiopulmonary Resuscitation	1

Technical Studies Requirements

COURSE		CR
HIMT 111	Introduction to Health Information Mgmt. Tech.	2
HIMT 121	Advanced Medical Terminology	3
HIMT 123	Health Data Management	3
HIMT 132	Introduction to Medical Transcription	2
HIMT 133	Legal Aspects of the Health Record	3
HIMT 134	Analysis of the Health Record	3
HIMT 141	Pharmacology for HIMT	3
HIMT 243	Ancillary Health Facilities	3
HIMT 267	Principles of Management	3
HIMT 245	ICD-9-CM Coding	5
HIMT 255	CPT-4 Coding	5
HIMT 256	Clinical Data Analysis	3
HIMT 257	Introduction to Health Statistics	3
HIMT 259	Quality and Resource Management.	4
HIMT 265	Medical Reimbursement	3
HIMT 267	Principles of Management	3
HIMT 291	Health Information Mgmt. Seminar	2
HIMT 292	Clinical Practicum I	2
HIMT 293	Clinical Practicum II	2
HIMT 296	Clinical Practicum III	2

Four (4) hours of technical electives must be selected from the following list of courses:

HIMT 112	Internet Applications in Health Care	2
HIMT 113	Managed Care Trends	2
HIMT 270	Certified Case Manager	4
HIMT 27 1	Cancer Registries	4
HIMT 272	Advanced Medical Transcription Lab	4

TOTAL CREDIT HOURS 106

Medical Coding Specialist Certificate

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay and Research	3
ENGL 200	Business Communications	3
BIO 121	Anatomy, Physiology, and Pathology I	5
BIO 122	Anatomy, Physiology, and Pathology II	5
MCT 106	Computer Literacy 2	3
HIMT 121	Advanced Medical Terminology	3
HIMT 134	Analysis of the Health Record	3
HIMT 141	Pharmacology for HIMT	3
HIMT 245	ICD-9-CM Coding	5
HIMT 255	CPT-4 Coding	5
HIMT 256	Clinical Data Analysis	3
HIMT 265	Medical Reimbursement	3

TOTAL CREDIT HOURS 47

Medical Transcription Certificate

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay and Research	3
ENGL 200	Business Communications	3
BIO 121	Anatomy, Physiology & Pathology I	5
BIO 122	Anatomy, Physiology & Pathology II	5
MCT 106	Computer Literacy II	3
HIMT 121	Advanced Medical Terminology	3
HIMT 132	Introduction to Medical Transcription	2
HIMT 141	Pharmacology for HIMT	3
HIMT 272	Advanced Medical Transcription Lab	4

TOTAL CREDIT HOURS 34

Heating and Air Conditioning Technology

Heating and Air Conditioning Technology Associate Degree
High Pressure Boiler License Training Program

The Heating and Air Conditioning Technology prepares graduates for a wide variety of occupations in the 150 billion dollar mechanical environment sciences field. Graduates find employment with large commercial heating and air conditioning contractors, residential mechanical contractors, parts and equipment distributors, large commercial and industrial facility maintenance departments, hospital facilities maintenance departments, custom design or new construction markets.

The large increase in new high rise buildings and real estate development within all major cities is a clear indication of the rapid increase in job market opportunities available. Also many of our graduates find employment with equipment manufacturers in research and development. Today's society is demanding more emphasis on the ethical, legal and regulatory requirements relating to environmental concerns that are facing the HVAC industry today and in the future.

The degree program offers the training needed to develop a high degree of technical skill, as well as the ability to work with minimal supervision and a strong sense of personal responsibility. Graduates with field experience and further experience in business management can look to ownership of their own HVAC companies.

The four course High Pressure Boiler License Training program prepares students to take the State of Ohio High Pressure Boiler Operators License examination. Students will still be required to establish actual work experience around high pressure boilers in

accordance with State of Ohio requirements. This boiler license program gives technicians the opportunity to progress from licensed boiler operator through many more responsible jobs in industry and commercial applications.

Upon completion of the Associate Degree in Heating and Air-Conditioning Technology, the graduate will be able to:

- Create manual and computer-graphic representations of HVAC projects.
- Select piping materials and design piping systems.
- Be able to perform designs for commercial and industrial piping systems, including water, steam and refrigeration piping.
- Calculate heat loss and heat gain loads for residential and commercial structures, using National ACCA manuals and computer software.
- Use testing and analyzing instruments, calculate combustion process for various fuels (e.g., natural gas, coal, and fuel oil) to ensure proper operation for the most efficient operation of boilers and furnaces.
- Assist in the selection and application of various residential and commercial HVAC equipment to solve environmental problems.
- Assist in the design of automatic control circuits using electromechanical and electronic control devices.
- Assist in designing preventative maintenance programs for various HVAC systems.
- Research and apply local, state and national codes to various environmental systems.
- Assist in conducting energy audits of residential and commercial structures.
- Test and calculate air flow through system equipment.
- Read control schematics and test control circuits for malfunctions.
- Troubleshoot and repair gas/electric furnaces, fuel oil furnaces, split system air conditioners and heat pumps, humidifiers and electronic air cleaners.

Heating and Air Conditioning Technology Associate Degree

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
ENGL 200	Business Communications	3
COMM 105	Speech	3
SSCI 10x	Social Science 101, 102, 103 or 104	5
HUM lxx	Humanities 111, 112, 113, 151 or 152	5

Basic Studies Requirements

COURSE		CR
CPT 101	Computer Literacy 1	3
MATH 104	Intermediate Algebra	5
MATH 148	College Algebra	5
EET 101	Basic Electricity	3
EET 102	Electronics & Digital Fundamentals	3
CIVL 120	Basic Construction Materials	3

Technical Studies Requirements

COURSE		CR
ARCH 111	Construction Basic Drafting	4
HAC 141	Principles of Refrigeration	3
HAC 183	HAC Wiring Diagrams I	4
HAC 112	Piping Systems	4
HAC 161	Hand Tools Laboratory	4
HAC 284	HAC Wiring Diagrams II	4
HAC 152	Instrumentation/Combustion Process	4
ARCH 112	Construction CAD Drafting	3
HAC 222	Res. Load Calculations	4
HAC 253	Automatic Controls I	3
HAC 23 1	HAC Commercial Load Calculations	4
HAC 254	Heating Systems	4
HAC 244	Heat Pump Systems	4
HAC 256	Automatic Controls II	3
HAC 242	HAC Mechanical Standards/Safety	3
HAC 243	Air Conditioning Systems	4
HAC xxx	Technical Elective	3
HAC 266	Advanced Problems	4

TOTAL CREDIT HOURS 110

Technical Elective most be selected from the following list of courses:

HAC 235	Field Co-Op Experience	4
HAC 258	Pneumatic Controls I	4
HAC 285	HAC Electronic Controls I	4
HAC 287	Boiler Systems	4
HAC 288	Ammonia Systems	4
HAC 263	Energy Management	3
HAC 299*	Special Topics in HAC	l-5

* Please see an advisor before scheduling this class.

High Pressure Boiler License Training Program Program Requirements

COURSE		CR
HAC 112	Piping System	4
HAC 242	HAC Mechanical Standards/Safety	3
HAC 152	Instrumentation/Combustion	4
HAC 287	Boiler Systems	4

TOTAL CREDIT HOURS 15

Hospitality Management Technology

Hospitality Management Technology Associate Degree
Chef Apprenticeship Major
Dietetic Technician Major
Foodservice/Restaurant Management Major
Travel and Tourism Major
Dietary Manager Certificate

The Hospitality Management Technology program provides the knowledge and skills necessary for success in a wide range of positions in foodservice, lodging and travel. Several majors leading to Associate Degrees are available for Chef Apprenticeship, Dietetic Technician, Foodservice/Restaurant Management, and Travel and Tourism. In addition, a Dietary Manager Certificate is available.

The Chef Apprenticeship Major is offered in cooperation with the American Culinary Federation Columbus Chapter. It includes the theory-related classroom instruction and on-the-job training required for the National Apprenticeship Training Program of the American Culinary Federation. Chef apprentices are placed for employment for three years of on-the job training under a professional chef in a restaurant, club, or hotel. At the same time, the apprentices attend classes at Columbus State one full day each week to work toward the Associate Degree. The Columbus State program is accredited by the American Culinary Federation Educational Institute (ACFEI) Accrediting Commission. Program graduates qualify as Certified Cooks through the ACFEI and as Journeyman Chefs through the U.S. Department of Labor.

The Dietetic Technician Major is approved by the American Dietetic Association (ADA). The seven-quarter program provides practicums coordinated with classroom instruction. Graduates are eligible for technician membership in ADA and qualify to take the national registration exam to be credentialed as a Dietetic Technician Registered (DTR).

The Foodservice/Restaurant Management Major combines classroom instruction, laboratory experience, and required hospitality industry work experiences. The Associate Degree program prepares graduates for supervisory positions in a variety of foodservice operations. This major is accredited by the American Culinary Federation Educational Institute (ACFEI) Accrediting Commission, and graduates with appropriate workexperience can qualify as Certified Cooks through the ACFEI. Certificate-bearing courses leading to the completion of the National Restaurant Association Professional Management Development Program are included.
The Hotel Management curriculum has been merged with the Travel and Tourism curriculum. The Travel and Tourism Major prepares students for a wide variety of positions in hotels, travel agencies, attractions, and related tourism organizations. Required cooperative work experiences and hands-on instruction in computer reservations systems are included in a course of study appropriate for individual growth and advancement in hospitality and tourism.

The 18-credit Dietary Manager Certificate is approved by the Dietary Managers Association and is recognized by the Ohio Department of Health. It is open to persons working in the foodservice operation of a health care facility that employs a Registered Dietitian (whoserves as the preceptor to the student). Persons completing the program are eligible to take the national certification exam to become a Certified Dietary Manager (CDM). Credit hours earned may be applied to an Associate in Applied Science degree in the Dietetic Technician major or in Multi-Competency Health Technology.

Upon completion of the Associate Degree in Hospitality Management Technology. the graduate will be able to:
- Maintain appropriate standards of professionalism, including ethical behavior and adherence to dress and grooming codes required for the industry.
- Set and maintain high quality service standards for satisfying diverse customers.
- Demonstrate effective communication and interpersonal skills with management, employees and customers.
- Demonstrate skills in training, coaching, team-building, staffing, motivating and supervising employees.
- Perform basic math skills necessary for the industry.
- Utilize computers and software appropriate to the industry.
- Demonstrate problem solving and critical thinking skills.
- Analyze financial repoarts and determine appropriate operational procedures.

Foodservice/Restaurant Management Major

In addition to the general Hospitality Management competencies, a graduate majoring in Foodservice/Restaurant Management will be able to:
- Establish and maintain sanitation standards for foodservice operations.
- Produce high quality food products using appropriate ingredients and equipment.
- Apply nutrition principles to menu planning and food production for a variety of customers.
- Define concepts and procedures for purchasing, receiving, storage and inventory; and develop specifications for purchase of food and non-food items.
- Demonstrate a knowledge of and an ability to comply with laws, rules and regulations governing foodservice operations.
- Demonstrate the ability to market and sell foodservice products and services.
- Identify methods for controlling bar/lounge operations including beverage identification and responsible legal beverage service.
- Plan, organize, and supervise the production and service of food and beverage to customers.

Chef Apprenticeship Major

In addition to the general Hosnitalitv Management comnetencies, a graduate majoring in Chef Apprenticeship will be able to:
- Produce high quality food products using appropriate ingredients and equipment.
- Establish and maintain safety and sanitation standards for foodservice operations.
- Apply nutrition principles to menu planning and food production for a variety of customers.
- Define concepts and procedures for purchasing, receiving, storage, and inventory; and develop specifications for purchase of food and non-food items.
- Demonstrate a knowledge of and an ability to comply with laws, rules, and regulations governing foodservice operations.
- Identify methods for controlling bar/lounge operations including beverage identification and responsible legal beverage service.
- Plan, organize, and supervise the production and service of food and beverage to customers.
- Demonstrate proficiency in all food production departments in a commercial kitchen.
- Work effectively as a first-line supervisor and trainer in food production.

Dietetic Technician Major

In addition to the general Hospitality Management competencies, a graduate majoring in the Dietetic Technician program will be able to:
- Apply nutrition principles to menu planning and food production for a variety of customers.
- Modify diets and menus to meet the needs of persons requiring texture, energy and nutrient modifications.
- Gather and analyze diet history data and apply this information to nutrition care planning for persons on normal and modified diets.
- Provide basic nutrition education for individuals and groups.
- Plan, organize, and supervise the production and service of food and beverage to customers.
- Define concepts and procedures for purchasing, receiving, storage and inventory; and develop specifications for purchase of food and non-food items.
- Produce high quality food products using appropriate ingredients and equipment.
- Establish and maintain sanitation standards for foodservice operations.
- Monitor and analyze quality of patient care and foodservice operations.
- Demonstrate a knowledge of and an ability to comply with laws, rules andregulations governing foodservice and healthcare operations.

Travel and Tourism Major

In addition to the general Hospitality Management competencies, a graduate majoring in Travel in Tourism will be able to:
- Apply destination geography knowledge as required in hotels and tourism.
- Utilize travel industry reference materials.
- Complete detailed customer travel itineraries for individuals and group tours.
- Demonstrate a working knowledge of lodging operations.
- Market and sell hospitality or tourism products and services.
- Demonstrate a knowledge of and an ability to comply with laws, rules and regulations governing hospitality/tourism.
- Demonstrate a basic knowledge of the meeting planning and catering services.

Specific Program Admissions Information
Listed are additional requirements for admission to the Chef Apprenticeship Major and the Dietetic Technician Major.

Chef Apprenticeship Major

- High school graduate or G.E.D. equivalency
- Placement into ENGL 101 - Beginning Composition
- Placement into MATH 101 - Business Mathematics
- Supplemental application required by the department
  Interview with the Apprenticeship Committee

Dietetic Technician Major

- High school graduate or G.E.D. equivalency
- Recommended high school or equivalent courses:
  Algebra, Chemistry and Biology
- Completed health statement (see Program Coordinator)
- Placement into DEV 03 1 or higher
- Placement into ENGL 100 or higher

Chef Apprenticeship Major

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
COMM 110	Conference & Group Discussion	3
NSCI 101	Natural Science I	5
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
ENGL 200	Business Communications	3

Basic Studies Requirements

COURSE		CR
MATH 101	Business Math	5
CPT 101	Computer Literacy 1	3
ACCT 101	Financial Accounting	4
BMGT 101	Introduction to Business	5
SSCI 101	Cultural Diversity	5

Technical Studies Requirements

COURSE		CR
HOSP 122	Sanitation & Safety..	3
HOSP 102	Foodservice Equipment	2
HOSP 101	Survey of Hospitality/Tourism Industry	2
HOSP 293	Hospitality Co-Op/Work Experience I	3
HOSP 153	Nutrition..	5
HOSP 107	Food Principles	5
HOSP 106	Food Laboratory I	3
HOSP 294	Hospitality Co-Op/work Experience II..	3
HOSP 121	Computer Applications in Foodservice	2
HOSP 216	Food Laboratory II..	3
HOSP 123	Food Purchasing	3
HOSP 217	Garde Manger	3
HOSP 203	Beverage Management	3
HOSP 295	Hospitality Co-Op/Work Experience III	3
HOSP 225	Menu Planning	3
HOSP 205	Records & Cost Controls	4
HOSP 218	Baking..	3
HOSP 271	Meeting Planning & Catering Services	3
HOSP 224	Hospitality Personnel Management	5
HOSP 286	Apprenticeship Final Project	2

TOTAL CREDIT HOURS 107

Dietetic Technician Major

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition ..	3
SSCI 101	Cultural Diversity	5
ENGL 102	Essay & Research	3
COMM 105	Speech	3
ENGL 202	Writing for Health and Human Services	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5

Basic Studies Requirements

COURSE		CR
CPT 101	Computer Literacy I	3
MATH 102	Beginning Algebra I	4
MULT 101	Medical Terminology	2
BIO 101	Intro. to Anatomy & Physiology	3
BMGT 101	Introduction to Business	5
BIO 169	Human Physiology	5

Technical Studies Requirements

COURSE		CR
MLT 100	Introduction to Health Care	3
HOSP 102	Foodservice Equipment	2
HOSP 122	Sanitation and Safety	3
DIET 191	Dietetic Technician Practicum I	1
HOSP 107	Food Principles	5
HOSP 109	Food Production	3
DIET 192	Dietetic Technician Practicum II	2
HOSP 123	Food Purchasing	3
HOSP 121	Computer Applications in Foodservice	2
DIET 193	Dietetic Technician Practicum III..	2
HOSP 153	Nutrition..	5
DIET 297	Dietetic Technician Practicum IV	3
DIET 275	Diet Therapy I	5
HOSP 205	Records and Cost Control	4
DIET 298	Dietetic Technician Practicum V	2
HOSP 225	Menu Planning..	3
DIET 276	Diet Therapy II	5
HOSP 224	Hospitality Personnel Management	5
DIET 265	Dietetic Technician Seminar	1
DIET 299	Dietetic Technician Practicum VI	3
HOSP 219	Food Production Management..	4

TOTAL CREDIT HOURS 110

Foodservice/Restaurant Management Major

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
NSCI 101	Natural Science I	5
ENGL 102	Essay & Research	3
COMM 105	Speech	3
ENGL 200	Business Communications	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5

Basic Studies Requirements

COURSE		CR
MATH 101	Business Mathematics	5
ACCT 101	Financial Accounting	4
CPT 101	Computer Literacy I..	3
BMGT 101	Introduction to Business	5
SSCI 101	Cultural Diversity	5

Technical Studies Requirements

COURSE		CR
HOSP 101	Survey of Hospitality/Tourism Industry	2
HOSP 102	Foodservice Equipment	2
HOSP 122	Sanitation & Safety..	3
HOSP 153	Nutrition..	5
HOSP 109	Food Production	3
HOSP 107	Food Principles	5
HOSP 123	Food Purchasing	3
HOSP 121	Computer Applications in Foodservice	2
HOSP 203	Beverage Management	3
HOSP 205	Records & Cost Controls	4
HOSP 271	Meeting Planning & Catering Services	3
HOSP 224	Hospitality Personnel Management	5
HOSP 225	Menu Planning	3
HOSP 246	Marketing of Hospitality and Tourism	3
HOSP 293	Hospitality Co-Op/work Experience I	3
HOSP 143	Hospitality and Travel Law	3
HOSP 294	Hospitality Co-Op/work Experience II	3
BMGT 272	Case Studies in Business Seminar	3
HOSP 219	Food Production Management	4

TOTAL CREDIT HOURS 106

Hotel Management Major

(See Travel and Tourism Major)

Travel and Tourism Major

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
COMM 110	Conference & Group Discussion	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5

NSCI 101	Natural Science I	5
ENGL 200	Business Communications	3

Basic Studies Requirements

COURSE		CR
MATH 101	Business Math	5
OADM 131	Keyboarding I	3
CPT 101	Computer Literacy I	3
BMGT 101	Introduction to Business	5
PSY 101	Introduction to Psychology	5
ACCT 101	Financial Accounting	4
SSCI 101	Cultural Diversity	5
ACCT 102	Managerial Accounting	3

Technical Studies Requirements

COURSE		CR
HOSP 101	Survey of Hospitality/Tourism Industry	2
HOSP 154	Destination Geography	5
MKTG 111	Marketing Principles	5
HOSP 155	Travel Agency Operations	4
HOSP 156	Principles of Transportation	5
MKTG 266	Customer Service Principles	3
HOSP 145	Lodging Operations	4
HOSP 293	Hospitality Co-Op Work Experience I	3
HOSP 294	Hospitality Co-Op Work Experience II	3
HOSP 143	Hospitality & Travel Law	3
HOSP 257	Computer Reservations Systems	3
HOSP 271	Meeting Planning & Catering Services	3
HOSP 224	Hospitality Personnel Management	5
HOSP 246	Marketing of Hospitality and Tourism	3

TOTAL CREDIT HOURS 106

Dietary Manager Certificate

Certificate Requirements

COURSE		CR
DMGR 101	Dietary Manager Seminar I	4
DMGR 194	Dietary Manager Co-Op/Work Exp. I	2
DMGR 102	Dietary Manager Seminar II	4
DMGR 195	Dietary Manager Co-Op/work Exp. II	2
DMGR 103	Dietary Manager Seminar III	4
DMGR 196	Dietary Manager Co-Op/Work Exp. III	2

Human Resources Management Technology

Over the last four decades the human resource (personnel) function has evolved from a "hiring/firing paper processing" job to an extremely complex profession. Human resources requires the ability to understand how all the facets of human resources management impact on one another and on the organization as a whole. The myriad of federal and state laws regulating virtually all aspects of the employee/employer relationship, compounded by conflicting judicial interpretations, requires professionals skilled in understanding and applying these laws to day-to-day management decisions. Wrong decisions, by any representative of the organization, in hiring, discipline, termination, or the way employees are treated may result in a multimillion dollar lawsuit; and may cripple a company by costing thousands of dollars even if they win.

In the last two decades, senior management has begun to recognize that human resource management professionals, skilled in technical areas such as human resource and labor law, labor relations, policy development and administration, compensation and benefits, and employee counseling are no longer a cost "drag" on the organization, but make a positive impact on the bottom line. Management has also come to realize that the human resource management professional is everyone in the human resources department, from the secretary, to the benefits administrator, to the employment interviewer, to the director or manager of the department.

Larger companies have human resources management staffs of 5 to 35 people, small and mid-sized companies often have only 1 or 2 people to provide human resources management services; both need skilled human resources professionals to comply with the governmental aspect of the relationship and to minimize the potential for crippling lawsuits.

The purpose of the Human Resources Management Technology is to provide a program that will teach human resources management skills and provide hands-on application in a learning environment that bridges the necessity of academic theory and human resources management in "the real world." Throughout, the program provides for a strong legal foundation in each area of human resources management; then provides for application of that foundation to the human resources management functions.

Upon completion of the Associate Degree in Human Resources Management Technology, the graduate will be able to:

- Demonstrate an in-depth knowledge of the laws governing the employment process and apply these laws to employment related decisions; write a legal employment policy and procedure.
- Demonstrate a knowledge of manual and automated records and information management systems; and design systems that meet industry and professional standards, support the key tasks of the human resources department, and meet the legislative requirements with which the organization must comply
- Demonstrate an in-depth knowledge of the legal aspects of interviewing and conduct the various types of interviews used in business; develop and use a disciplinary system; develop standards-of-performance (SOP) appraisal system; and develop and train supervisors in proper interviewing methods.
- Demonstrate a knowledge of the symptoms of chemical dependency; the addiction assessment processes; treatment planning, and intervention strategies with the chemical dependent person; the effects of chemical dependency on the work environment; and the community resources available to assist in prevention, education, and treatment for the individual and the family.
- Demonstrate a knowledge of the Drug Free Workplace Act and write a legal and appropriate drug free workplace policy for the organization.
- Demonstrate an in-depth knowledge of the major laws impacting on the relationship between management and organized workers and apply these laws to the organizing, negotiating, grievance, and arbitration processes.
- Demonstrate an in-depth knowledge of the Fair Labor Standards Act and other laws governing monetary compensation, and apply these laws to monetary compensation decisions.
- Develop a job analysis questionnaire, write job descriptions, job specifications, develop a job evaluation system, and price jobs according to the system; and develop a market survey instrument, compile and present market data vs. organizational data, and develop and present appropriate recommendations.
- Demonstrate a knowledge of the laws impacting on benefits; apply these laws to the development and writing of benefit policies, procedures and plan descriptions for all types of benefit programs.
- Demonstrate an in-depth knowledge of the laws governing discrimination, affirmative action, sexual harassment, discipline, termination, and safety; and apply these laws to the development and writing of legal policies, procedures, rules and handbook summaries.

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
COMM 105	Speech	3
HUM 1xx	Humanities 111, 112, 113, 151 or 152	5
ENGL 200	Business Communications	3
NSCI 101	Natural Science I	5

Basic Studies Requirements

COURSE		CR
MATH 103	Beginning Algebra II	5
MCT 106	Computer Literacy 2	3
MATH 135	Elementary Statistics	5
MCT 211	Information Presentation	3
LEGL 261	Business Law I	3
PSY 100	Introduction to Psychology	5
ECON 200	Microeconomics	5
MHCR 245	Chemical Dependency I	4

Technical Studies Requirements

COURSE		CR
BMGT 111	Management	5
HRM 121	Human Resources Management	4
HRM 122	Human Resources Policy & Proc. Writing	3
HRM 224	Human Resources Information Systems	3
HRM 124	Personnel Interviewing	4
HRM 220	Labor Relations	5
HRM 221	Staffing Under the Law	5
HRM 222	Monetary Compensation	4
HRM 223	Benefits/Non-Monetary Compensation	4
BMGT 211	Organizational Behavior for Managers	4
HRM 240	Administration of Human Resources	5
HRM 242	HRM Practicum	4
HRM 243	HRM Practicum Seminar	2

TOTAL CREDIT HOURS 107

Interpreting/Transliterating Technology

American Sign Language/Deaf Studies Certificate Teaching American Sign Language Certificate

The Interpreting/Transliterating Technology program prepares graduates for entry-level interpreting/transliterating positions where persons who are deaf or hard of hearing and hearing persons must communicate with each other. The Associate Degree program offers extensive course work in American Sign Language. A language lab helps students develop their skills during six core skill-building courses. A two-quarter practicum gives students opportunities to gain first-hand experience applying their interpreting/transliterating skills and knowledge of professional ethics under the supervision of an agency interpreter.

To qualify for admission to the Associate Degree program, students must (1) have a good command of spoken English; (2) agree to adhere to the Code of Ethics established by the Registry of Interpreters for the Deaf, Inc.; and (3) be interviewed by the technology coordinator during spring quarter.

For additional information on the American Sign Language/Deaf Studies and Teaching Certificates see the Interpreting/Transliterating Technology Coordinator.

Upon completion of the Associate Degree in Interpreting/Transliterating, the graduate will be able to:

- Demonstrate basic competency with American Sign Language (ASL) as well as a basic understanding of Manually Coded English.
- Put signed ASL messages accurately into spoken English, and put spoken English messages accurately into ASL.
- Put Manually Coded English messages accurately into spoken English, and put spoken English messages accurately into Manually Coded English.
- Explain the role of the interpreter/transliterator to both deaf and hearing consumers.
- Demonstrate knowledge of the Deaf Community and a sensitivity toward the cultural traditions of the community.
- Assess the deaf consumer's preferred mode of communication.
- Analyze and adapt the physical aspects of the interpreting setting or be able to adapt to physical aspects that cannot be changed.
- Demonstrate knowledge of the various agencies/organizations serving the Deaf Community.
- Demonstrate a grasp of the unique skills required for interpreting in specialized settings (e.g., oral, medical, mental health, deaf-blind, etc.).
- Demonstrate an understanding of the interpreting/transliterating profession and apply the profession's code of ethics in the work environment.

Specific Program Admissions Information

Listed below are additional requirements for admission to the Interpreting/Transliterating Technology.

- High school graduate or G.E.D. equivalency
- Placement into ENGL 101 - Beginning Composition or above, and MATH 102 via Compass Test
- Meet with the Interpreting/Transliterating Technology Coordinator during spring quarter
- Submit all college transcripts to the Registrar's Office

Note: American Sign Language/Deaf Studies Certificate candidates do not need to interview with the Interpreting/Transliterating Technology Coordinator.

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
NSCI 101	Natural Science I	5
COMM 115	Oral Interpretation	3
ENGL 200	Business Communications	3

Basic Studies Requirements

COURSE		CR
CPT 101	Computer Literacy 1	3
ITT 110	Introduction to Interpreting/Transliterating	3
ITT 111	Introduction to the Deaf Community	5
ITT 141	American Sign Language I	5
PSY 100	Introduction to Psychology OR	5
SOC 101	Introduction to Sociology	5

Technical Studies Requirements

COURSE		CR
ITT 130	Fingerspelling	2
ITT 142	American Sign Language II	5
ITT 120	English for the Interpreter	3
ITI 150	Linguistics of ASL	3
ITT 143	American Sign Language III	5
ITT 121	Legal & Ethical Aspects of Interpreting	3
ITT 201	Interpreting I	3
ITT 144	American Sign Language IV	5
ITT 202	Interpreting II	3
ITT211	Transliterating I	3
ITT 145	American Sign Language V	5
ITT 123	Specialized Interpreting/Transliterating	4
ITT212	Transliterating II	3
ITT 292	Practicum I	4
ITT 290	Practicum Seminar I	1
ITT 203	Interpreting III	3
ITT 293	Practicum II	4
ITT 291	Practicum Seminar II	1
ITT 213	Transliterating III	3
ITT 220	Sign to Voice Interpreting/Transliterating	4

TOTAL CREDIT HOURS 110

Law Enforcement Technology

Law Enforcement Technology Associate Degree
Corrections Major
Law Enforcement Major
Law Enforcement Management Major
Law Enforcement Major - Academy Track

Persons trained for the law enforcement field are in high demand in many public and private organizations. Columbus State's Law Enforcement Technology teaches students the technical skills they need to enter or advance in a wide variety of positions in criminal justice. Three Associate Degree majors give students a range of options to meet their personal career goals.

The Law Enforcement major prepares students for a variety of careers in federal, state, or local law enforcement agencies. The Law Enforcement Major - Academy Track offers additional training required by the Ohio Peace Officers Training Council (OPOTC) for certified peace officers. Graduates of the Academy track are eligible to take the OPOTC certification exam.

The Law Enforcement Management Major is intended for students who currently possess Ohio Peace Officer Certification or an Associate Degree or higher. At least one year of law enforcement work experience is highly recommended before entering. This major is designed to prepare in-service officers to assume managerial positions within law enforcement agencies.

Students enrolling in the Academy track must meet the following admissions requirements: (1) have a high school diploma or GED certificate; (2) pass a physical; (3) take a personality factor inventory; (4) submit to a criminal history check (students with prior felony convictions may be excluded from the program; contact the department chairperson for more information); (5) possess a valid Ohio drivers license; and (6) complete a supplemental application required by the department.

The Corrections major trains students for careers in probation, parole, correctional institutions, community-based correctional programs, and social service agencies.

Upon completion of the Associate Degree in Law Enforcement Technology, the graduate will be able to:
- Locate and apply criminal law correctly.
- Prepare required reports accurately and in a concise, readable style.
- Prepare cases for trial and professionally testify in a court of law.

Corrections Major
In addition to the general Law Enforcement competencies, a graduate majoring in Corrections will be able to:
- Prepare presentence reports and other required reports accurately.
- Demonstrate knowledge of effective correctional institution security measures.

Law Enforcement Major
In addition to the general Law Enforcement competencies, a graduate majoring in Law Enforcement will be able to:
- Demons&ate proper arrest procedures.
- Locate applicable case law.
- Process information at an accident scene and correctly complete required reports.
- Identify hazardous materials and initiate proper response.

Law Enforcement Management Major
In addition to the general Law Enforcement competencies, a graduate majoring in Law Enforcement Management will be able to:
- Develop contingency plans for emergencies or other events requiring rapid and/or extensive deployment of police resources.
- Effectively utilize research in reaching managerial decisions.
- Prepare a community policing strategy to meet the needs of a specific neighborhood.
- Participate in a collective bargaining process.
- Recognize areas of potential legal liability and prepare policies, directives and training programs to minimize exposure to litigation.
- Demonstrate effective managerial decision-making skills.

Law Enforcement Major - Academy Track

In addition to the general Law Enforcement competencies, and the Law Enforcement major competencies, a graduate majoring in Law Enforcement - Academy Track will be able to:
- Understand and handle safely the double action revolver, the semi-automatic pistol, and the shotgun.
- Demonstrate proficiency with the handgun and shotgun to current Ohio Peace Officer Training Council (OPOTC) standards for qualification.
- Perform safe and effective driving maneuvers to current OPOTC standards.
- Demonstrate basic crowd control techniques and riot formations.
- Demonstrate recommended self defense techniques.

Corrections Major

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition.	3
ENGL 102	Essay & Research	3
COMM 105	Speech	3
ENGL 200	Business Communications	3
NSCI 101	Natural Science I	5
HUM lxx	Humanities 111, 112, 113, 151 or 152	5

Basic Studies Requirements

COURSE		CR
LAWE 268	Hazardous Materials	3
CPT 101	Computer Literacy I.	3
MATH 101	Business Mathematics	5
LAWE 104	Government and the Law	3
SSCI 101	Cultural Diversity	5
ANTH 240	Forensic Anthropology	5

Technical Studies Requirements

COURSE		CR
LAWE 101	Introduction to Criminal Justice	3
LAWE 120	Criminology	3
LAWE 208	Community Based Corrections	3
LAWE 204	Juvenile Procedures	3
LAWE 121	Juvenile Deliquency	3
LAWE 124	Penology	3
LAWE xxx	Law Enforcement Elective	3
LAWE 212	Ohio Criminal Code.	4
LAWE 110	Criminal Investigation I	4
LAWE 210	Crises Intervention	3
LAWE 128	Special Category Offenders	3
LAWE 112	Criminal Investigation II	4
LAWE 219	Correctional Law	4
LAWE 211	Institutional Corrections	3
LAWE 221	Counseling-Probation & Parole	4
LAWE 260	Criminal Evidence and Trial	3
LAWE 223	Correctional Administration	3
LAWE 256	L.E. Practicum	2
LAWE 257	L.E. Practicum Seminar.	1
TOTAL CREDIT HOURS		105

Technical Elective must be selected from the following list of courses:

LAWE 102	Patrol Procedures	3
LAWE 111	Criminalistics I	2
LAWE 115	Community & Personal Relations	3
LAWE 220	Constitutional Law	4
LAWE 241	Correctional Internship I AND	1
LAWE 249	Corrections Seminar II	1
LAWE 252	Police Administration	3
LAWE 253	Criminal Procedure	3
LAWE 299	Special Topics in Law Enforcement	3

Law Enforcement Major

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
COMM 105	Speech	3
ENGL 200	Business Communications	3
NSCI 101	Natural Science I	5
HUM lxx	Humanities 111, 112, 113, 151 or 152	5

Basic Studies Requirements

COURSE		CR
LAWE 104	Government and the Law	3
CPT 101	Computer Literacy I	3
MATH 101	Business Mathematics	5
SSCI 101	Cultural Diversity	5
LAWE 268	Hazardous Materials	3
ANTH 240	Forensic Anthropology	5
EMS 100	Crash Injury Management	2

Technical Studies Requirements

COURSE		CR
LAWE 101	Introduction to Criminal Justice	3
LAWE 120	Criminology	3
LAWE xxx	Law Enforcement Elective	3
LAWE 253	Criminal Procedure	3
LAWE 115	Community & Personal Relations	3
LAWE 204	Juvenile Procedures	3
LAWE 125	Traffic Accident Investigation	3
LAWE 102	Patrol Procedures	3
LAWE 252	Police Administration	3
LAWE 110	Criminal Investigation I	4
LAWE 212	Ohio Criminal Codes	4
LAWE 111	Criminalistics I	2
LAWE 210	Crisis Intervention	3
LAWE 112	Criminal Investigation II	4
LAWE 113	Criminalistics II	2
LAWE 220	Constitutional Law	3
LAWE 260	Criminal Evidence and Trial	3
LAWE 256	LE Practicum I	2
LAWE 257	LE Practicum Seminar I	1

TOTAL CREDIT HOURS 103

Technical Elective must be selected from the following list of courses:

LAWE 121	Juvenile Delinquency	3
LAWE 124	Penology	3
LAWE 128	Special Category Offender	3
LAWE 205	Contemporary Corrections	3
LAWE 208	Community Based Corrections	3
LAWE 211	Institutional Corrections	3
LAWE 219	Correctional Law	3
LAWE 22 1	Counseling Probation and Parole	4
LAWE 223	Correctional Administration	3
LAWE 299	Special Topics in Law Enforcement	3

Law Enforcement Management Major

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay and Research	3
COMM 105	Speech	3
ENGL 200	Business Commumcations OR	3
ENGL 208	Communications for Mass Media	3
NSCI 101	Natural Science I	5
HUM lxx	Humanities 111, 112, 113, 151 or 152	5

Basic Studies Requirements

COURSE		CR
LAWE 104	Government and the Law	3
CPT 101	Computer Literacy 1	3
MATH 101	Business Math.	5
SSCI 103	Social Problems	5
HRM 121	Human Resources Management	4
LAWE 273	Legal Computing	2
ACCT 106	Introduction to Accounting	5

Technical Studies Requirements

COURSE		CR
LAWE 120	Criminology	3
LAWE 150	Administration of Justice	3
LAWE 252	Police Administration	3
LAWE 155	Managing Police Operations	4
LAWE 218	Supervision of Public Service Personnel	3
LAWE 153	Civil Liability in Law Enforcement	4
HRM 220	Labor Relations	5
LAWE 232	Task Force/Major Case Management	3
LAWE xxx	Law Enforcement Elective	3
LAWE 23 1	Criminal Justice Plan and Analysis	3
LAWE 220	Constitutional Law	3
LAWE xxx	Law Enforcement Elective	3
LAWE 242	Community Policing	4
LAWE 275	Police Management Assessment	4
LAWE 27 1	Contemporary Issues in Criminal Justice	2

TOTAL CREDIT HOURS 99

Law Enforcement Major - Academy Track

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay and Research	3
COMM 105	Speech	3
ENGL 200	Business Communications OR	3
ENGL 204	Technical Writing	3
NSCI 101	Natural Science I	5
HUM lxx	Humanities 111, 112, 113, 151 or 152	5

Basic Studies Requirements

COURSE		CR
LAWE 104	Government and the Law	3
MATH 101	Business Mathematics	5
SSCI 101	Cultural Diversity or SOC 101	5
CPT 101	Computer Literacy I.	3
LAWE 268	Hazardous Materials	3
LAWE 124	Penology	3

Technical Studies Requirements

COURSE		CR
LAWE 101	Introduction to Criminal Justice	3
LAWE 120	Criminology	3
LAWE 253	Criminal Procedure	3
LAWE 115	Community & Personal Relations	3
LAWE 103	Academy Orientation	2
LAWE 204	Juvenile Procedures	3
LAWE 125	Traffic Accident Investigation	3
LAWE 102	Patrol Procedures	3
LAWE 110	Criminal Investigation I	4
LAWE 212	Ohio Criminal Codes	4
LAWE 111	Criminalistics I	2
LAWE 210	Crises Intervention	3
LAWE 112	Criminal Investigation II	4
LAWE 113	Criminalistics II	2
LAWE 220	Constitutional Law	3
LAWE 260	Criminal Evidence and Trial.	3
LAWE 265	Police Physical Fitness	3
LAWE 256	LE Practicum I	2
LAWE 257	LE Practicum Seminar I	1
LAWE 271	Contemporary Issues in Law Enforcement	2
LAWE 264	Police Firearms	3
LAWE 261	Defensive Driving and Emergency Response	2
LAWE 263	Unarmed Self Defense	4

TOTAL CREDIT HOURS 109

Legal Assisting Technology

Workers' Compensation Certificate

Due to the explosive growth of legal services now being requested in all sectors of our economy, there is a continuous demand for well trained personnel in all facets of the legal assisting process. The need for legal assistants is so great that it is estimated that one paralegal will assist every three or four attorneys and in some areas of practice, such as corporate legal departments, there will be one legal assistant hired for every attorney.

The nature of the Legal Assistants position in the legal community requires individuals with a well rounded educational background. Critical thinking and excellent communication skills are essential competencies of a Legal Assistant and are included in courses in English, Mathematics, Humanities, Social Science and Basic Science.

The technical curriculum has been designed to provide students with knowledge and skills in the areas of: the role of a legal assistant, ethical requirements, legal research, analysis, the preparation of legal documents, litigation practice and procedure, real estate transactions, family law, administrative law, criminal law, and probate law and practice.

Legal assistants have traditionally been utilized in legal environments that are intensive in both client contact and document preparation. Workers' compensation is an example of a legal arena that has a history of legal assistant employment. The workers' compensation system processes and adjudicates claims, as well as investigates abuses in the system, establishes premiums, and works with self-insured and state fund employers. The Columbus State Community College Legal Studies Department offers a Departmental Certificate designed to teach legal assistants the skills they need to obtain employment from state agencies, third party administrators, attorneys, and employers. In order to enroll for the Workers' Compensation Certificate, the student must have completed an Associate or Bachelor Degree in Legal Assisting, or apply to the Legal Studies Department Chairperson for permission to take courses based on legal assisting work experience.

Upon completion of the Associate Degree in Legal Assisting Technology, the graduate will be able to:

- Demonstrate proficiency in manual and computer assisted research of legal questions and incorporate the same into properly cited memoranda of law.
- Demonstrate an understanding of the legal and ethical responsibilities of a legal assistant.
- Demonstrate an ability to use municipal, county, state, and federal clerks of court and other recording offices.
- Prepare deeds, notes, and other documents for residential real estate transfer.
- Draft documents required to complete family law matters.
- Draft pleadings, motions and other documents within the applicable rules of evidence and procedure to prepare and complete civil and criminal litigation.
- Prepare documents for use in corporate, partnership and other business related matters.
- Draft wills, trusts, and other documents necessary for estate administration.
- Describe the.legislative and judicial functions of administrative agencies.

NOTE: Legal assistants may not sign legal documents, appear in court or give legal advice. All activities in legal matters must be supervised by a licensed attorney.

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
ENGL 200	Business Communications	3
COMM 105	Speech OR	3
COMM 110	Conference & Group Discussion	3
HUM 1xx	Humanities 111, 112, 113, 151 or 152	5
NSCI 101	Natural Science I	5

Basic Studies Requirements

COURSE		CR
OADM 131	Keyboarding I OR	3
OADM 164	Wordperfect for Windows	3
LAWE 104	Government and the Law	3
MATH 101	Business Mathematics	5
CPT 101	Computer Literacy	3
SOC 101	Introduction to Sociology	5
PSY 100	Introduction to Psychology	5

Technical Studies Requirements

COURSE		CR
LEGL 101	Introduction to Legal Assisting	4
LEGL 102	The Legal System	2
LEGL 103	Law Office Procedures and Management	3
LEGL 111	Legal Research & Writing I	4
LEGL 114	Family Law	3
LEGL 119	Real Estate Transactions	3
LEGL 112	Legal Research & Writing II	4
LEGL 226	Administrative Law	3
LEGL 205	Litigation Practices and Procedures I	3
LEGL 201	General Practice	4
LEGL 210	Criminal Law and Procedure	3
LEGL 215	L.A. Practicum I	2
LEGL 216	L.A. Practicum Seminar I	1
LEGL 25 1	Computer Assisted Legal Research	2
LEGL 224	Probate Law and Practice	3
LEGL 220	Business Organizations	3
LEGL xxx	Electives	5
LEGL 227	L.A. Practicum II	2
LEGL 228	L.A. Practicum Seminar II	1
TOTAL CREDIT HOURS		101

Workers' Compensation Certificate

Certificate Requirements

COURSE		CR
LEGL 255	Introduction to Workers' Compensation Law	4
LEGL 256	Introduction to BWC Claims Processing	4
LEGL 257	Workers' Compensation Adjudication	4
LEGL 258	Workers' Compensation Rating System	4
LEGL 259	Workers' Compensation Practice and Procedure	4

Legal Medical Consultant

(Associate of Technical Studies degree)

Many changes are occurring within the health care industry resulting in the need to expand the skills necessary to be a productive health care professional. An integration of legal and medical training gives either the legal assistant or health care professional the skills necessary to broaden the opportunities for medicolegal employment. A legal medical consultant is a professional with sufficient legal and medical knowledge to understand both the legal and medical implications of health related issues. Insurance underwriters, personal injury attorneys, workers' compensation and social security administrators, and hospital risk managers are only a few of the employment possibilities for a student graduating with a degree in Legal Medical Consulting. The combination of the legal assisting and health information management curriculum provides the basic proficiencies the student will need to be successful in this profession.

The nature of the legal medical consultant's position in the medicolegal community requires individuals with a well-rounded educational background. Critical thinking and excellent communication skills are essential competencies of a legal medical consultant and are included in courses in English, mathematics, humanities, social science and basic science.

The technical curriculum has been designed to provide students with knowledge and skills in the area of: the role of a legal medical consultant, ethical requirements, legal research, analysis, the preparation of legal documents, litigation practice and procedure.

Upon completion of the Associate Degree in Legal Medical Consulting the graduate will be able to:

- Demonstrate proficiency in manual and computer-assisted research of legal questions and incorporate the same into properly cited memoranda of law.
- Demonstrate an understanding of the legal and ethical responsibilities of a legal medical consultant.
- Demonstrate an ability to use municipal, county, state, and federal clerks of court and other recording offices.
- Draft pleadings, motions, and other documents witin the applicable rules of evidence and procedure to prepare and complete civil litigation.
- Describe the legislative and judicial functions of administrative agencies.
- Review health records for completeness and accuracy.
- File, maintain, and compile primary and secondary health information.
- Apply legal principles, policies, regulation, and standards for the control and use of health information.
- Collect, compute, analyze, interpret, and present statistical data related to health care services.
- Review, retrieve, and compile health data for reimbursement, quality assessment, patient care research, clinical registers, and other identified informational needs.

NOTE: Legal Medical Consultants may not give any legal advice. All activities in legal matters must be supervised by a licensed attorney.

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay and Research	3
COMM 110	Conference & Group Discussion	3
ENGL 200	Business Communications OR	3
ENGL 204	Technical Writing	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
SSCI lxx	Social Sciences 101, 102, 103 or 104	5

Basic Studies Requirements

COURSE		CR
MCT 106	Computer Literacy 2	3
BIO 121	Anatomy, Physiology & Pathology I	5
BIO 122	Anatomy, Physiology & Pathology II	5
MATH 101	Business Math	5
BMGT 216	Business Ethics	3

Technical Studies Requirements

Technical Major

COURSE		CR
LEGL 101	Introduction to Legal Assisting	4
LEGL 102	Legal Systems	2
LEGL 111	Legal Research and Writing I	4
LEGL 20 1	General Practice	4
LEGL 112	Legal Research and Writing II	4
LEGL 251	Computer Assisted Legal Research	2
LEGL 205	Litigation Practice & Procedure I	3
LEGL 240	Professional Malpractice	3
LEGL 226	Administrative Law	3
LEGL 238	Insurance Law	3
LEGL 266	Liability Issues in Health Professions	3

Technical Elective must be selected from the following:

LEGL 234	Litigation Practice & Procedure II	3
LEGL 267	Legal Medical Consult Practicum AND	2
LEGL 268	Legal Medical Consult Practicum Seminar	1

Technical Minor

COURSE		CR
HIMT 121	Advanced Medical Terminology	3
HIMT 133	Medicolegal Aspects of the Record	3
HIMT 134	Analysis of the Health Record	3
HIMT 245	Inpatient Coding	5
HIMT 141	Pharmacology for Health Information Mgmt. Tech.	3
HIMT 255	Ambulatory Coding	5
HIMT 259	Health Info. Registries & Quality Improvement	4

Logistics Management Technology

Purchasing Management Major

Logistics (or distribution) is the term used to describe all of the activities related to the movement of materials from the time they're manufactured to when they reach their ultimate consumer. Logistics professionals manage all aspects of the "pipeline" that keeps goods and services moving. Columbus' central location has seen its development as a strategic distribution hub. The greater Columbus metropolitan area is home to many distribution operations including centers for The Limited Inc., Spiegel, Eddie Bauer, JCPenney, Consolidated Stores Corporation and McGraw-Hill Companies.

The Purchasing Management major is designed to provide focused skills in purchasing and negotiation to students interested in this field. This major is built upon a solid foundation in current logistics management theory and practice.

Logistics Management graduates may expect entry-level, first-line management positions as supervisors and managers in such areas as warehousing, traffic and transportation, inventory control, purchasing, materials control, traffic and operations management.

Columbus State Community College is nationally accredited by the Association of Collegiate Business Schools and Programs (ACBSP) for the offering of its business programs that culminate in the Associate of Arts, Associate of Science , and Associate of Applied Science degrees.

Upon completion of the Associate of Applied Science Degree in Logistics Management Technolonv, the graduate will be able to:

- Describe the various functions that-comprise logistics and describe the interrelationship between them and other functional areas within a company.
- Exhibit a knowledge of carrier markets and techniques for selecting carriers.
- Demonstrate knowledge of how to manage freight loss, damage claims, and claims adjustments, including claim filing procedures.
- Demonstrate knowledge of receiving, shipping, and inventory control procedures.
- Demonstrate knowledge of logistics terminology and technologies including inventory techniques, bar-coding systems, picking and delivery processes, and storage and sorting systems .
- Demonstrate knowledge of the function and operation of warehouses and distribution facilities.
- Explain the role of inventory and production control.
- Describe the traffic management function and its role in carrier selection and rate determination and negotiation.
- Demonstrate knowledge of state and federal laws that impact the distribution function, including knowledge of common carrier obligations.

- Participate in the development of plan of action consistent with established logistics goals.

Purchasing Management Major

In addition to the Logistics Management competencies, a graduate with a Purchasing major will be able to:

- Explain the legal aspects of purchasing, and regulatory laws and agencies that affect shipping and purchasing.
- Describe the interrelationship between purchasing and inventory control, manufacturing, quality assurance and physical distribution functions.
- Design andimplement purchasing policies and procedures for the acquisition of capital goods and services.
- Negotiate purchasing contracts.
- Demonstrate the use and need for purchasing management information systems.

Logistics Management Technology

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay and Research	3
COMM 105	Speech	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
ENGL 200	Business Communications	3
NSCI 101	Natural Science I	5

Basic Studies Requirements

COURSE		CR
ACCT 101	Financial Accounting	4
ACCT 102	Managerial Accounting	3
ECON 200	Microeconomics	5
FMGT 201	Business Finance	5
HRM 121	Human Resources Management	4
MATH 103	Beginning Algebra II	4
MATH 135	Elementary Statistics	5
OADM 173	Spreadsheets & Word Processing for Managers	2

Technical Studies Requirements

COURSE		CR
BMGT 218	Management Training for Supervisors	5
BMGT 253	Negotiation Principles	3
LOGI 100	Principles of Logistics	5
LOGI 110	Transportation and Traffic Management	3
LOGI 151	Purchasing Principles	3
LOGI 208	Production & Inventory Control	4
LOGI 210	Warehouse Management	3
LOGI 271	Advanced Logistics	5
MKTG 111	Marketing Principles	5
MKTG 226	Customer Service	3
RETL 204	Store Operations & Control	4
xxx xxx	Technical Electives	6

TOTAL CREDIT HOURS 103

Purchasing Management Major

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay and Research	3
COMM105	Speech	3
HUMlxx	Humanities 111, 112, 113, 151 or 152	5
ENGL 200	Business Communications	3
NSCI 101	Natural Science I	5

Basic Studies Requirements

ACCT 101	Financial Accounting	4
ACCT 102	Managerial Accounting	3
ECON 200	Microeconomics	5
ECON 240	Macroeconomics	5
FMGT 201	Business Finance	5
LEGL 264	Legal Environment of Business	4
MATH 103	Beginning Algebra II	4
MATH 135	Elementary Statistics	5
OADM 173	Spreadsheets & Word Processing for Managers	2

Technical Studies Requirements

COURSE		CR
BMGT 253	Negotiation Principles	3
LOGI 100	Principles of Logistics	5
LOGI 110	Transportation and Traffic Management	3
LOGI 151	Purchasing Principles I	3
LOGI 152	Purchasing Principles II	3
LOGI 208	Production & Inventory Control	4
LOGI 210	Warehouse Management	3
LOGI 256	Advanced Purchasing Seminar	3
MKTG 111	Marketing Principles	5
MKTG 226	Customer Service	3
xxx xxx	Technical Electives	6

Total Credit Hours 100

Marketing Technology

Customer Service Major
Direct Marketing Major

Marketing is at the heart of what every business must do to be successful: get and keep customers. Marketing professionals are responsible for knowing how to produce, price, promote and distribute goods and services. Program graduates enjoy tremendous career opportunities in such diverse areas as product management, advertising, market research, public relations, customer service and sales.

The Marketing Technology program provides a strong foundation in fundamental marketing concepts and principles, while the advanced courses provide the opportunity for studying topics of particular interest to the student in such areas as business-to-business marketing, public relations, and advanced sales techniques.

The Customer Service and Direct Marketing majors build on a solid foundation in marketing to provide advanced skills in these specialized areas. The Customer Service major focuses on customer retention, call center supervision, and customer loyalty and the specific financial impact of these areas on corporate profitability. The Direct Marketing major provides graduates a survey of the major components of direct marketing including creative design, list selection, database management and financial evaluation of direct marketing programs. Particular emphasis is placed on interactive technologies and their impact on direct marketing.

Columbus State Community College is nationally accredited by the Association of Collegiate Business Schools and Programs (ACBSP) for the offering of its business programs that culminate in the Associate of Arts, Associate of Science, and Associate of Applied Science Degrees.

Upon completion of the Associate Degree in Marketing Technology, the graduate will be able to:

- Demonstrate knowledge of the issues involved in makingmarketing decisions and the environmental forces that impact these decisions.
- Demonstrate a knowledge of the major marketing communications functions (e.g. advertising, public relations).
- Understand the major components of the marketing mix: price, product, promotion and distribution.
- Understand the market research process and be able to use market research results to effect market decisions.
- Demonstrate a knowledge of how consumer behavior impacts overall marketing strategy.
- Comprehend the sales process and know how to prepare effective sales presentations.
- Identify issues that arise in global marketing and describe the basic mechanisms for entering foreign markets.
- Understand various consumer and industrial systems of distribution.

- Understand the basics of customer service for both internal and external customers.
- Participate in the development of an integrated plan of action that is consistent with established marketing goals and strategies.

Customer Service Major

In addition to the Marketing Technology competencies, a graduate with a Customer Service Major will be able to:

- Analyze customer requirements.
- Handle problem transactions and difficult customers.
- Apply oral and written communication skills to problem solving.
- Describe the elements of effective customer service as they relate to customer acquisition, growth and retention.
- Understand the basic operations of a telephone call center.
- Demonstrate the interpersonal and supervisory skills necessary for successful communication among employees and between customer service and customers.
- Be able to lead, motivate and empower teams of call service representatives.

Direct Marketing Major

In addition to the Marketing Technolonv comnetencies, a graduate with a Direct Marketing Major will be able to:

- Define and develop a target market and select themost appropriate methods to reach it.
- Select and use the appropriate methodology to assess the costs of direct marketing efforts.
- Understand and be able to utilize interactive direct marketing media.
- Plan and implement telemarketing campaigns for purposes of direct selling, fund-raising, and business-to-business sales.
- Integrate creative activities and outcomes with appropriate direct marketing techniques.

Marketing Technology

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay and Research	3
COMM 105	Speech	3
ENGL 200	Business Communications	3
NSCI 101	Natural Science I	5
HUM lxx	Humanities 111, 112, 113, 151 or 152	5

Basic Studies Requirements

COURSE		CR
MATH 101	Business Math..	5
OADM 173	Spreadsheets & Word Processing for Managers	2
ECON 200	Principles of Microeconomics	5
ACCT 101	Financial Accounting	4
LEGL 264	Legal Environment of Business	4
FMGT 201	Business Finance	5

Technical Studies Requirements

COURSE		CR
BMGT 111	Management	5
MKTG 111	Marketing Principles	5
MKTG 140	Advertising and Promotion	5
MKTG 122	Business and the Internet	3
RETL 101	Introduction to Retailing	5
MKTG 131	Market Research Principles	3
LOGI 100	Principles of Logistics	5
MKTG 221	Consumer Behavior	3
MKTG 226	Customer Service Principles..	3
MKTG 223	Sales	3
MKTG 236	Direct Marketing..	3
MKTG 271	Advanced Marketing	5
MKTG 241	Marketing Practicum I	4
MKTG 242	Marketing Seminar I	2
xxx xxx	Approved Elective	3

TOTAL CREDIT HOURS 104

Any advisor approved courses from the following list can be used for the Marketing Elective:

MKTG 228	Advanced Sales	3
MKTG 224	Public Relations	3
MKTG 227	Customer Service Management	3
MKTG 229	Business-to-Business Marketing	3
MKTG 237	Database Marketing	3
BMGT 271/272	Case Studies in Business Seminar	6
HRM 121	Human Resources Management	4
MATH 135	Elementary Statistics	5

Customer Service Major

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay and Research	3
COMM 105	Speech	3
ENGL 200	Business Communications	3
NSCI 101	Natural Science I	5
HUM lxx	Humanities 111, 112, 113, 151 or 152	5

Basic Studies Requirements

COURSE		CR
ACCT 101	Financial Accounting	4
ACCT 102	Managerial Accounting	3
ECON 200	Principles of Microeconomics	5
FMGT 201	Business Finance	5
MATH 101	Business Math..	5
OADM 173	Spreadsheets & Word Processing for Managers	2

Technical Studies Requirements

COURSE		CR
BMGT 111	Management	5
MKTG 111	Marketing Principles	5
MKTG 13 1	Market Research Principles	3
MKTG 140	Advertising and Promotion	5
MKTG 122	Business and the Internet	3
MKTG 221	Consumer Behavior	3
MKTG 226	Customer Service Principles	3
MKTG 227	Customer Service Management	3
MKTG 262	Telemarketing	3
MKTG 264	Telephone Center Operations	3
MKTG 241	Marketing Practicum I	4
MKTG 242	Marketing Seminar I	2
MKTG 291	Advanced Customer Service Seminar	5
RETL 101	Introduction to Retailing	5
xxx xxx	Approved Elective	3

TOTAL CREDIT HOURS 101

Direct Marketing Major

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay and Research	3
COMM 105	Speech..	3
ENGL 200	Business Communications	3
NSCI 101	Natural Science I	5
HUM lxx	Humanities 111, 112, 113, 151 or 152	5

Basic Studies Requirements

COURSE		CR
ACCT 101	Financial Accounting	4
ACCT 102	Managerial Accounting	3
ECON 200	Microeconomics	5
FMGT 201	Business Finance	5
MATH 101	Business Math..	5
OADM 173	Spreadsheets & Word Processing for Managers	2

Technical Studies Requirements

COURSE		CR
BMGT 111	Management	5
MKTG 111	Marketing Principles	5
MKTG 13 1	Market Research Principles	3
MKTG 140	Advertising and Promotion..	5
MKTG 122	Business and the Internet	3
MKTG 221	Consumer Behavior	3

MKTG 226	Customer Service Principles	3
MKTG 236	Direct Marketing Principles	3
MKTG 237	Database Marketing	3
MKTG 260	Direct Marketing Using Electronic Media	3
MKTG 261	Financial Analysis of Direct Marketing	3
MKTG 262	Telemarketing	3
MKTG 263	Direct Marketing Creative	3
MKTG 241	Marketing Practicum	4
MKTG 242	Marketing Seminar	2
RETL 101	Introduction to Retailing	5
MKTG 281	Advanced Direct Marketing	5
TOTAL CREDIT HOURS		107

Mechanical Engineering Technology

The Mechanical Engineering Technology program is designed to train students in technology based, entry-level, occupations related to the mechanical and manufacturing engineering fields. Many diverse occupations find their origins in the mechanical field. These occupations include a variety of titles in the areas of drafting, production, testing, design, and analysis, to name but a few. Students graduating with an Associate of Applied Science Degree in the Mechanical Engineering Technology are qualified to play a support role in engineering professions in the industrial, consulting, scientific research, and manufacturing communities.

Upon completion of the Associate Degree in Mechanical Engineering Technology, the graduate will be able to:

- Discuss and apply basic knowledge of mechanical technology to assist in the solution of engineering problems, follow engineering procedures, use engineering symbols, read and relate to engineering publications, and understand the role of professional societies.
- Demonstrate basic knowledge of manufacturing practices used in the production of raw materials and products made from those materials.
- Read and interpret engineering blueprints, drawings, and specifications; assist in the establishment of tolerances related to the production of products.
- Apply basic knowledge of orthographic and isometric drawing techniques along with other drafting fundamentals to the creation and revision of mechanical drawings using manual and computer techniques.
- Apply a basic knowledge of physics to the solution of problems involving bodies at rest or in motion.
- Use knowledge of a materials properties and performance in the selection and design of components and systems.
- Apply knowledge of hydraulic components and systems for use. in the manufacturing environment and in manufactured products.
- Apply, program and/or operate a variety of manual and automated production devices in the production of products.
- Make contributions to the improvement of products, and systems in manufacturing by applying knowledge of Statistical Process Control and other quality tools.
- Apply computers to solve engineering and related problems using knowledge of computer language, computer operating systems, spreadsheets, word processors, and database applications software packages.
- Apply a basic knowledge of cost estimating procedures to new designs, selection of equipment, and the application of manufacturing processes.
- Utilize a variety of communications skills (verbal, written, and graphic) to communicate effectively with clients. co-workers and others in the work environment.

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay and Research	3
COMM 105	Speech	3
ENGL 204	Technical Writing	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
SSCI 10x	Social Sciences 101, 102, 103 or 104	5

Basic Studies Requirements

COURSE		CR
MATH 111	Technical Mathematics I	4
MATH 112	Technical Mathematics II	4
PHYS 181	Technical Physics (Mechanics)	4
EET 101	Basic Electricity	3
MATH 113	Technical Mathematics III	4
EET 102	Electronic and Digital Fundamentals	3

Technical Studies Requirements

COURSE		CR
MECH 110	Introduction to Manufacturing Technology	3
MECH 111	Manufacturing Process	4
MECH 112	Computer Applications in Manufacturing	3
MECH 120	Mechanical Drafting I	3
QUAL 240	Total Quality Management	3
MECH 130	Statics	3
MECH 131	Hydraulics	3
MECH 240	Machine Tools	4
MECH 241	Mechanical Drafting II	3
MECH 242	Strength of Materials	3
MECH 244	Statistical Process Control	3
MECH 243	Robotics	3
MECH 250	Material Science	3
MECH 25 1	Computer Aided Drafting I	3
MECH 252	Computer Programming for the Technician	3
MECH 253	Numerical Control	3
MECH 260	Basic Mechanisms	4
MECH 261	Machine Design	4
MECH 262	Computer Aided Drafting II	3
MECH 263	Computer Aided Manufacturing	4
TOTAL CREDIT HOURS		109

Students should request a program plan of study from their faculty **advisor.**

Medical Assisting Technology

The Medical Assisting Technology prepares graduates to work as medical assistants primarily in ambulatory settings such as medical offices and clinics. Medical assistants are professional, multiskilled persons who assist in patient care management. They perform a broad range of clinical and administrative duties, including scheduling and receiving patients, establishing and maintaining medical records, performing secretarial skills, handling telephone calls, writing correspondence and managing finances. Medical assistants are a valuable member of the healthcare team, and job opportunities are numerous in the central Ohio area as well as nationwide.

Upon completion of the Associate Degree in Medical Assisting Technology, the graduate will be able to:

- Prepare and maintain records.
- Apply computer concepts for office procedures.
- Perform medical transcription.
- Take vital signs.
- Perform first aid and CPR.
- Interview, take patient histories and prepare patients for procedures.
- Assist the physician with examinations and treatments.
- Use quality control.
- Perform selected tests that assist with diagnosis and treatment.

- Screen and follow up patient test results.
- Prepare and administer medication as directed by the physician.
- Dispose of controlled substances in compliance with government regulations.
- Inventory equipment and supplies.
- Instruct patients with special needs.
- Teach patients methods of health promotion and disease protection.
- Implement Current Procedural Terminology and ICD-9 coding.
- Analyze and use current third party guidelines for reimbursement.
- Provide necessary leadership, direction and documentation to effectively supervise people.

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
COMM 105	Speech OR	3
COMM 110	Conference and Group Discussion	3
HUM 1xx	Humanities 111, 112, 113, 151 or 152	5
ENGL 200	Business Communications OR	3
ENGL 202	Writing for the Health and Human Services	3
SSCI 10x	Social Science 101, 102, 103 or 104	5

Basic Studies Requirements

COURSE		CR
BIO 101	Introduction to Anatomy & Physiology	3
MCT 106	Computer Literacy II	3
MATH 101	Business Mathematics	5
MATH 100	Calculations and Dosages	2
PSY 100	Introduction to Psychology	5
MULT 120	Nurse Aide Training	5

Technical Studies Requirements

COURSE		CR
MAT 100	Introduction to Medical Assisting	2
MULT 101	Medical Terminology	2
HIMT 121	Advanced Medical Terminology	3
MAT 110	Clinical Procedures	4
MULT 102	Cardiopulmonary Resuscitation	1
MAT 120	Office Procedures	4
MULT 103	Responding to Emergencies	2
HIMT 132	Introduction to Medical Transcription	2
MULT 116	Venipuncture for Health Care Providers	2
MULT 108	Twelve Lead Electrocardiography	2
HIMT 255	Ambulatory Coding	5
HIMT 265	Medical Reimbursement	3
MAT 130	Pharmacology	4
MAT 140	Physician's Office Laboratory	4
MAT 190	Practicum I	1
MULT 131	Referral Strategies for Chronically Ill Patients	3
MAT 192	Practicum II	2
MAT 195	Seminar	2
MAT 112	Diseases of the Human Body	3
HIMT 245	Inpatient Coding	5

TOTAL CREDIT HOURS 101

Medical Laboratory Technology

Medical laboratory technicians play an important role in the diagnosis and treatment of disease. They perform a variety of laboratory tests, such as chemical analysis of body fluids, classification of blood cells, identification of disease producing microorganisms, and the selection of compatible donor blood for transfusion. The Medical Laboratory Technology Associate Degree program prepares students to work in a variety of laboratory settings. Graduates are employed in hospitals, independent laboratories, and clinics, as well as veterinary, research, environmental science and quality assurance laboratories. They also pursue careers in technical consultation, customer service, marketing and sales.

The first six quarters of the Medical Laboratory program provides the students with entry-level knowledge and skills in clinical chemistry, clinical microbiology, hematology, immunohematology, immunology, and phlebotomy in a classroom laboratory setting. This training is enriched during the seventh quarter of ,the program when the students have the opportunity to apply their previously acquired knowledge and skills in an actual working environment. Affiliated hospital and private laboratories in and surrounding Columbus within an approximate sixty-mile radius will be utilized for this ten-week clinical experience. Because of the nature of the work, the program emphasizes safety and accident prevention.

Graduates are eligible to take the American Society of Clinical Pathologists Board of Registry Medical Laboratory Technician Examination, and the National Certification Agency for Clinical Laboratory Technology Registry Examination. Graduates may also advance in the field to become a technologist or specialist by pursuing additional education or technical experience.

The Medical Laboratory Technology program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). The program has produced over 700 graduates in the past 25 years who have consistently met or exceeded the national average on credentialing examinations. It is recognized as a "Program of Excellence" by the Ohio Board of Regents.

Upon completion of the Associate Degree in Medical Laboratory Technology, the graduate will be able to:

- Perform routine collection and processing procedures for biological specimens.
- Perform routine analytical techniques on body fluids using automated equipment and/or manual methods with accuracy and precision.
- Follow prescribed strategies to recognize technical or instrumental problems, identify direct causes, and make simple corrections when they are indicated.
- Perform and monitor quality control to evaluate analytical procedures within predetermined parameters.
- Perform preventive maintenance of laboratory instruments by referring to appropriate sources/reference materials.
- Relate laboratory findings to common disease processes.
- Log in specimens, keep accurate records, prepare reports, and transmit reports clearly and completely.
- Follow prescribed safety procedures in all areas of laboratory work.
- Meet requirements to take a national certifying examination for medical laboratory technicians.
- Apply basic scientific principles in learning new techniques and procedures.
- Demonstrate professional conduct and interpersonal communication skills with patients, co-workers, and other health care professionals.
- Recognize and act upon one's need for continuing education as a function of growth and maintenance of professional competence.

Specific Program Admissions Information

Listed below are additional requirements for admission to the Medical Laboratory Technology.

- High school graduate or G.E.D. equivalency
- Required high school (or equivalent) courses:
  Algebra, grade of "C" or above
  Biology, grade of "C" or above
  Chemistry, grade of "C" or above
- Placement into ENGL 101, Beginning Composition
- Placement into MATH 103 - Beginning Algebra II
- Completed health statement

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
COMM 105	Speech	3
SSCI 10x	Social Science 101, 102, 103 or 104	5
ENGL 102	Essay & Research	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
ENGL 200	Business Communications	3

Basic Studies Requirements

COURSE		CR
MATH 103	Beginning Algebra II	4
BIO 169	Human Physiology	5
CHEM 113	General and Biological Chemistry	5
CPT 101	Computer Literacy 1	3
BIO 115	General Microbiology	5

Technical Studies Requirements

COURSE		CR
MLT 100	Introduction to Health Care	3
MLT 141	Hematology I	6
MLT 130	Immunology	5
MLT 120	Role & Responsibility of the MLT	2
MLT 260	Clinical Chemistry	6
MLT 250	Clinical Microbiology	8
MLT 220	Immunohematology	8
MLT 240	Hematology II	6
MLT 242	Body Fluids	2
MLT 244	Medical Lab Technical Case Studies	2
MULT 116	Venipuncture for Health Care Providers	2
MLT 271	Clinical Seminar	2
MLT 270	Clinical Experience	5
xxx xxx	Technical Elective	2
TOTAL CREDIT HOURS		103

Mental Health/ Chemical Dependency/ Mental Retardation Technology

Mental Health Track
Chemical Dependency Track
Mental Retardation Track
Advanced Level Chemical Dependency Certificate
Community Living Specialist Certificate
Entry Level Chemical Dependency Certificate
Foster Parent Treatment Specialist Certificate

With social, economic, and moral issues constantly changing, society is faced with increasingly complex problems which require professional, caring helpers. This has created a high demand for Human Service specialists. These Human Service specialists have a professionally and personally challenging role in providing services to both children and adults with a variety of problems and/or disabilities. Graduates work with persons with mental retardation and/or developmental disabilities, emotional/mental difficulties, and chemical dependency. Specialists also work in consultation with psychologists, educators, psychiatrists, and social workers.

Innovative educational approaches, including videotaping, simulated situations, role-playing and discussion in small group seminars, are used to help students develop the knowledge, therapeutic skills and necessary attitudes to succeed in this profession. The program stresses the characteristics graduates will need to be effective helpers.

The Associate Degree program enables students to specialize in one of the following educational tracks during their second year: Mental Health, Chemical Dependency, and Mental Retardation. The six-quarter, three-track program includes 560 hours of hands-on experience under the direct supervision of professionals in local agencies. Internships include the following community placements: mental health centers, group homes, state psychiatric hospitals, schools, workshops, private hospitals, rehabilitation facilities and drug and alcohol treatment centers.

Graduates who complete the Associate Degree program are eligible to apply for a Certificate of Registration as a social worker assistant with the State of Ohio Counselor and Social Worker Board. The Mental Health/Chemical Dependency and Mental Retardation program is accredited by the Council for Standards in Human Service Education.

The Technology also offers the following certificate programs:

Advanced Level Chemical Dependency Certificate
Fifty four (54) credit hour program for students with an associate, bachelor or master degree in a related field. Completion of this certificate will meet 270 hours of acceptable chemical dependency training for CCDC II and CCDC III. Students will have three supervised clinical placements including one with dual-diagnosed client population.

Community Living Specialist Certificate
Thirty nine (39) credit hour program for students who have, in the past, struggled with their own severe mental illness. Students will make use of their coping skills to work effectively with persons with severe mental illness. Students will do two clinical placements on a mental health community treatment team.

Entry Level Chemical Dependency Certificate
Forty six (46) credit hour program for students who are currently employed as a primary counselor in the chemical dependency field, with no prior college degree. Completion of this certificate will meet acceptable chemical dependency training for CCDC I and CCDC II levels. Students will have two supervised clinical placements with clients who are chemically dependent.

Foster Parent Treatment Specialist Certificate
Fifty two (52) credit hour program for students who desire to be a foster parent to youths who have special needs. Students will have a supervised practicum experience in a community agency that serves the needs of youths. Students must be 21 years of age, have space in their home for a young person, and meet additional licensing requirements of the Ohio Department of Human Services.

COURSES MHCR 111 , MHCR 115, MHCR 131, MHCR 133, MHCR 191, MHCR 241, MHCR 255, MHCR 263 AND MHCR 297 ARE APPROVED BY OHIO DEPARTMENT OF MENTAL RETARDATION AND DEVELOPMENTAL DISABILITIES IN OBTAINING ADULT SERVICE CERTIFICATION. ALL TECHNICAL COURSES IN THE CHEMICAL DEPENDENCY TRACK ARE ACCEPTED BY THE OHIO CHEMICAL DEPENDENCY COUNSELOR'S CREDENTIALING BOARD.

Upon completion of the Associate Degree in Mental Health/Chemical Dependency/Mental Retardation Technology, the graduate will be able to:

- Gather functional/psycho/social data using observation, interviewing, standardized assessment tools, activities, and/or record review.
- Organize data and formulate functional/psycho/social assessments.
- Develop treatment programs based on assessments of functional/psycho/social needs.

- Monitor and develop progress reports, social histories, and transfer/discharge summaries.
- Utilize case management skills.
- Utilize positive behavior change strategies.
- Use advanced counseling skills in helping relationships.
- Participate as a member of an interdisciplinary process team.
- Exhibit positive professional work habits.
- Exhibit professional characteristics of an effective helper.
- Use professional terminology appropriate to the field of MH/CD/MR/DD.

In addition to the general Mental Health/Chemical Dependency/ Mental Retardation Technology competencies, a graduate in the Mental Health Track will be able to:

- Utilize job development and job coaching skills.
- Develop and implement activities to utilize as a tool in helping relationships.
- Plan for, co-lead, and process therapeutic groups.
- Teach/train severely mentally disabled persons to perform activities of daily living.

In addition to the general Mental Health/Chemical Dependency/ Mental Retardation Technology competencies, a graduate in the Chemical Dependency Track will be able to:

- Recognize and identify significant signs and symptoms of chemical dependency using a variety of assessment tools.
- Identify varying levels of care for chemical dependency treatment and common criteria for appropriate referral.
- Identify relapse dynamics/triggers and utilize a variety of intervention strategies.
- Describe the philosophy and benefits of 12-step support groups in the recovery process.
- Plan for, co-lead, and process therapeutic groups.

In addition to the general Mental Health/Chemical Dependency/ Mental Retardation Technology competencies, a graduate in the Mental Retardation Track will be able to:

- Teach/train persons with MR/DD to perform activities of daily living.
- Use professional terminology appropriate to the field of MR/DD.
- Utilize a variety of habilitation techniques to teach and support persons with MR/DD.
- Utilize job development and job coaching skills to provide supported employment services to persons with MR/DD.

The MH/CD/MR Technology has articulation agreements with the following four year colleges/universities: Ohio Dominican College, Otterbein College, Capital University, and Franklin University.

Because students and workers in the health care field may be exposed to infectious materials and communicable diseases, the program emphasizes safety and prevention.

Specific Program Admissions Information
Listed below are additional requirements for admission to the Mental Health/Chemical Dependency/Mental Retardation Technology:

- High school graduate or G.E.D. equivalency
- Completion of the following three courses with a grade of "C" or above:
  MHCR 111 - Introduction to Human Services: MR/DD/CD and MH
  MHCR 113 - Values and Attitudes
  MHCR 115 - Interviewing in Human Services
- Must meet requirements as outlined in the department Admissions Policy
- Interview with the Mental Health/Chemical Dependency/ Mental Retardation Technology Admissions Coordinator

Core curriculum for Mental Health/Chemical Dependency/ Mental Retardation Technology
General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
ENGL 202	Writing for the Health and Human Services	3
COMM 105	Speech	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
BIO 112	Introductory Biology II	5

Basic Studies Requirements

COURSE		CR
PSY 100	Introduction to Psychology	5
CPT 101	Computer Literacy	3
SSCI 101	Cultural Diversity	5
PSY 240	Human Growth & Development	4
PSY 230	Abnormal Psychology	3
MHCR 251	Social Policy & Programs	4

Technical Studies Requirements

COURSE		CR
MHCR 111	Intro. to Human Services: MR/DD/CD/MH	4
MHCR 113	Values and Attitudes	1
MHCR 115	Interviewing in Human Services	3
MHCR 133	Case/Program Management	4
MHCR 191	Fundamentals in Human Service Practice	8
MHCR 131	Principles of Behavior Management	4
MHCR 242	HIV/Aids in Human Service Practice	4
MHCR 241	Counseling Skills	4

Mental Health Track

COURSE		CR
MHCR 243	Adjunctive Therapy	4
MHCR 292	Field Practicum in Adjunctive Therapy	4
MHCR 263	Job Coaching/Principles of Work	4
MHCR 297	Field Practicum in Job Coaching	4
MHCR 253	Therapeutic Group Work Skills	4
MHCR 295	Field Practicum in Group Work	4

Chemical Dependency Track

COURSE		CR
MHCR 245	Chemical Dependency I	4
MHCR 293	Field Practicum in Chemical Dependency I	4
MHCR 253	Therapeutic Group Work Skills	4
MHCR 295	Field Practicum in Group Work	4
MHCR 265	Chemical Dependency II	4
MHCR 296	Field Practicum in Chemical Dependency II	4

Mental Retardation Track

COURSE		CR
MHCR 243	Adjunctive Therapy	4
MHCR 292	Field Practicum in Adjunctive Therapy	4
MHCR 263	Job Coaching/Principles of Work	4
MHCR 297	Field Practicum in Job Coaching	4
MHCR 255	Principles of Habilitation Programming	4
MHCR 294	Field Practicum in Habilitation Programming	4

TOTAL CREDIT HOURS 102

Students who wish to pursue in-depth training may choose course number MHCR 274 and/or MHCR 284 Special Studies in MH/CD/MR 1-4

Foster Parent Treatment Specialist Certificate

COURSE		CR
ENGL 101	Beginning Composition	3
PSY 100	Introduction to Psychology	5
MHCR 113	Values and Attitudes	1
MHCR 111	Introduction to Human Services	4
MHCR 115	Interviewing in Human Services	3
MHCR 191	Fundamentals in Human Service Practice	8
MHCR 245	Chemical Dependency I	4
MHCR 131	Principles of Behavior Management	4
MHCR 133	Case/program Management	4
PSY 240	Human Growth and Development	4
MHCR 243	Adjunctive Therapy	4
MHCR 274	Special Studies in MH/CD/MR	3
SSCI 101	Cultural Diversity	5

Community Living Specialist Certificate

COURSE		CR
	Developmental Courses/(Support Seminar) OR	
ENGL 101	Beginning Composition	3
PSY 100	Introduction to Psychology OR	5
PSY 240	Human Growth & Development Through the Life Span OR	4
ENGL 100	Language Development OR	5
DEV 042	Principles of Writing	5
MHCR 111	Introduction to Human Services	4
MHCR 113	Values and Attitudes	1
MHCR 115	Interviewing in Human Services	3
SSCI 101	Cultural Diversity	5
MHCR 191	Fundamentals in Human Service Practice	8
MHCR 133	Case/Program Management	4
MULT 171	Current Issues: HIV Infection	1
MHCR 131	Behavior Management	4
MHCR 284	Special Studies/Clinical Placement	4

Advanced Level Chemical Dependency Certificate

COURSE		CR
MHCR 111	Introduction to Human Services	4
MHCR 113	Values and Attitudes	1
MHCR 115	Interviewing in Human Services	3
SSCI 101	Cultural Diversity	5
MHCR 191	Fundamentals in Human Service Practice	8
MHCR 133	Case/Program Management	4
MHCR 241	Counseling Skills	4
MHCR 245	Chemical Dependency I	4
MHCR 293	Field Practicum in Chemical Dependency I	4
MHCR 253	Therapeutic Group Work Skills	4
MHCR 295	Field Practicum in Therapeutic Group Work Skills	4
MULT 171	Current Issues: HIV Infection	1
MHCR 265	Chemical Dependency II	4
MHCR 296	Field Practicum in Chemical Dependency II	4

Entry Level Chemical Dependency Certificate

COURSE		CR
ENGL 101	Beginning Composition	3
PSY 100	Introduction to Psychology	5
MULT 171	Current Issues: HIV Infection	1
MHCR 113	Values and Attitudes	1
MHCR 111	Introduction to Human Services	4
MHCR 115	Interviewing in Human Services	3
SSCI 101	Cultural Diversity	5
MHCR 191	Fundamentals in Human Service Practice	8
MHCR 133	Case/Program Management	4
MHCR 241	Counseling Skills	4
MHCR 245	Chemical Dependency I	4
MHCR 293	Field Practicum in Chemical Dependency I	4

Microcomputing Technology

PC Hardware/Software Installation and Maintenance Certificate

Also see: Computer Programming Technology

Revolutionary new computer hardware and software programs have created a growing demand for computer-literate administrative assistants and microcomputer support professionals. Many businesses, especially smaller companies, are looking for individuals who have the computer skills and knowledge to increase the productivity and efficiency of their organization.

Columbus State Community College offers a two-year Associate of Applied Science degree in Microcomputing Technology. The six-quarter program is designed to provide students with the opportunity to develop increased skills in a variety of business-related applications including Word Processing, Spreadsheet, Database, Graphics, Communications, Networking, and Information Presentation.

Columbus State Community College is nationally accredited by the Association of Collegiate Business Schools and Programs (ACBSP) for the offering of its business programs that culminate in the Associate of Arts, Associate of Science, and Associate of Applied Science Degrees.

Upon completion of the Associate Degree in Microcomputing Technology, the graduate will be able to:

- Understand and use the basic terms and concepts of information systems for business applications.
- Keyboard 45 words per minute.
- Prepare letters, reports, tabulations, and business forms using various word processing software.
- Create and modify spreadsheets, including graphics, database, and export/import functions of Lotus 1-2-3.
- Create and modify database files, select and sort data, and produce reports using appropriate database software.
- Create and modify presentation graphics, including grouppresentations.
- Query Bulletin Boards, using on-line communication facilities, to select appropriate information relative to a specific topic.
- Use Operating System commands to perform basic system operations, such as: formatting disks; copying, moving, deleting, and renaming files; creating and changing file directories; backing up and restoring system files; creating and modifying Configuration Files.
- Demonstrate an understanding of the importance of human relations and positive attitudes in working with others and for others, and work effectively as a part of a group on a typical business system project.
- Understand the basic principles of Local Area Networks, including various topologies, types of communication, security operations, and available diagnostics.
- Select (with justification), install, configure, operate, and provide operational maintenance of a personal computer system (including hardware and software) for business applications.
- Be able to specify the requirements for a personal computer system, including hardware, software, data management, data processing policies and procedures, training, operation and maintenance.

Specific Program Admissions Information

Listed below are additional requirements for admission to the Microcomputing Technology.

- Placement into MATH 102 - Beginning Algebra I, or completion of DEV 031 - Pre-Algebra
- OADM 131 - Keyboarding I

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
SSCI 10x	Social Science 101, 102, 103 or 104	5
COMM 105	Speech:	3
HUM 1xx	Humanities 111, 112, 113, 151 or 152	5
ENGL 200	Business Communications	3

Basic Studies Requirements

COURSE		CR
MATH 102	Beginning Algebra I	4
xxx xxx	Basic Education Electives	6
OADM 132	Keyboarding II	3
ACCT 101	Financial Accounting	4
ACCT 102	Managerial Accounting	3
BMGT 101	Introduction to Business	5

Technical Studies Requirements

COURSE		CR
CPT 101	Computer Literacy 1	3
MCT 106	Computer Literacy 2	3
MCT 121	PC Operating Systems	3
MCT 131	Advanced Spreadsheets	3
MCT 141	Advanced Database Systems	3

OADM 192	Advanced Word Processing	3
MCT211	Information Presentation	3
MCT 215	Microcomputer Fundamentals	3
MCT 221	Local Area Networks	3
MCT 205	Page Design and Electronic Publishing	3
MCT 251	Introduction to Systems Analysis	3
MCT 241	Intranet for Business Applications	3
MCT 281	Final Project	5
MCT 231	Introduction to Internet	3
MCT 261	Introduction to Visual BASIC	3
MCT xxx	Technical Elective	3
TOTAL CREDIT HOURS		97

Technical Electives must be selected from the following list of courses:

MCT 225	Integrated PC Applications	3
EET 144	P.C. Hardware	3
CPT 241	Introduction to AS/400	3
CPT 291	Special Topics in CS 1	1
CPT 292	Special Topics in CS 2	2
CPT 292	Special Topics in CS2	2
CPT 293	Special Topics in CS 3	3
CPT 294	Special Topics in CS 4	4
CPT 295	Special Topics in CS 5	5
CPT 297	Computer Science Internship/Field Experience 1	1
CPT 298	Computer Science Internship/Field Experience 2	2
CPT 299	Computer Science Internship/Field Experience 3	3

PC Hardware/Software Installation and-Maintenance Certificate

COURSE		C R
MATH 102	Beginning Algebra I	4
OADM 131	Keyboarding I	3
CPT 101	Computer Literacy 1	3
EET 145	Computer Maintenance	3
MCT 106	Computer Literacy 2	3
MCT 121	PC Operating Systems	3
MCT 215	Microcomputer Fundamentals	3
MCT 221	Local Area Networks	3
MCT 23 1	Introduction to the Internet	3

Multi-Competency Health Technology

Dietary Manager Certificate
EMT-Paramedic Major
Histology Major
Patient Care Major
Home Health Major
Medical Office Major
Animal Assisted Therapy in Education
Histology Certificate
Health Care Manager Certificate
Basic Electrocardiography Certificate/Elective
EMT-Basic Elective
EMT-Intermediate Elective
Home Health Aide Certificate/Elective
Mammography Certificate
Nurse Aide Training Program Certificate/Elective
Phlebotomy Certificate/Elective
Respiratory Care Rehabilitation/Home Care Certificate
Registered Nurse First Assistant Certificate
Registered Nurse Home Care Certificate
Sleep Studies Certificate
Medical Transcription Certificate (see Health Information Management Technology)

Many health care facilities are reorganizing traditional department functions for greater efficiency. To make these changes work, department managers use across-training program. Columbus State's Multi-Competency Health Technology program responds to this multiple-skill approach to health care.

Students can tailor the curriculum to meet their individual goals. To complete the degree students take basic and general eduation courses that include mathematics, sciences, communications, and behavioral sciences. Because students and workers in the health care field may be exposed to infectious materials and communicable diseases, the program emphasizes safety and prevention. Technical courses vary according to the major and technical electives studied.

The Associate Degree requires students to complete 90 credit hours, including the selection of one major and at least one technical elective, plus a total of at least six credit hours in core courses.

Students who complete these programs find employment as dietary managers, nurse aides, home health aides, medical transcriptionists, health care managers, emergency medical technicians for ambulances, emergency medical technician-paramedics, histology technicians, and patient care technicians. The flexibility of the program also allows health care professionals to upgrade job skills and keep pace with the changing health field. Programs are available for radiographers, registered nurses and respiratory therapists.

The Histology Major is accredited by the National Accrediting Agency for Clinical Laboratory Sciences. The Emergency Medical Technician - Paramedic Major is accredited by the Commission on Accreditation of Allied Health Education Programs. The Phlebotomy elective is approved by the National Accrediting Agency for Clinical Laboratory Sciences. The Nurse Aide Training Program elective is approved by the Ohio Department of Health. The Dietary Manager Certificate is approved by the Dietary Managers Association. The Registered Nurse First Assistant is approved by Ohio Board of Nursing.

For information on additional certificates see the Multi-Competency Health Technology Coordinator.

Upon completion of the Associate Degree requirements in Multi-Competency Health Technology, the graduate will be able to:

- Use medical terminology correctly.
- Recognize life-threatening situations and administer necessary first aid and/or CPR.
- Demonstrate an understanding of medical ethics, medical legal responsibilities, and safety procedures, as well as professional attitudes.
- Demonstrate entry level competence in a major and a technical elective.

EMT-Paramedic Major

A student completing the EMT-Paramedic major will be able to:

- Meet State of Ohio requirements to take the EMT-Paramedic certification examination.
- Perform all duties of the EMT-Basic.
- Initiate appropriate intravenous procedures as specifically authorized by medical authority in advance.

- Initiate and continue emergency medical care under medical control, including recognizing presenting conditions and initiating appropriate invasive and noninvasive therapies (e.g., surgical and medical emergencies, airway and respiratory problems, cardiac dysrhythmias, cardiac pulmonary arrest, and psychological crisis), and assessing the response of the patient to that therapy.

Histology Major

A student completing the Histology Major will be able to:
- Identify the source of the tissue and correlate tissue identification with function.
- Prepare stain solutions and fix tissue while utilizing universal precautions and following OSHA and CDC guidelines.
- Prepare and stain slides of organs or tissues safely and correctly for examination by a pathologist.
- Identify inadequate staining preparations and make corrections to improve quality of slides to the satisfaction of the pathologist.
- Meet requirements to take the certification exam in histology administered by the American Society of Clinical Pathologists.

Health Care Manager Certificate

A student completing the Health Care Management certificate will be able to:
- Apply theories and principles of human resource management to real life health care situations.
- Generate action plans, implementation activities, and evaluation processes to assure continuous quality improvement in health care institutions.
- Apply strategies, processes and current trends in health care management.
- Understand risk management and the underlying legal principles inherent in the health care system.

Basic Electrocardiography (EKG) Certificate/Elective

A student completing the EKG certificate/elective will be able to:
- Position leads and use electrocardiographic equipment correctly.
- Obtain and prepare an electrocardiography recording for analysis by a physician.
- Recognize and correct technical errors in an electrocardiography recording.
- Recognize and call attention to life-threatening abnormalities of an electrocardiograph.
- Provide safe, professional direct patient contact, specifically in the areas of infection control, electrical safety, privacy and environmental safety.

EMT-Basic Elective

A student completing the EMT-Basic elective will be able to:
- Meet State of Ohio requirements to take the EMT-Basic certification examination.
- Evaluate the nature and seriousness of a patient's condition or the state of the patient's injuries and assess requirements for emergency care.
- Administer appropriate emergency care to stabilize the patient's condition.
- Lift, move, position, and otherwise handle the patient in such a way as to minimize discomfort and further injury.

EMT-Intermediate Elective

A student completing the EMT-Intermediate elective will be able to:
- Meet State of Ohio requirements to take the EMT-Intermediate certification examination.
- Perform all duties of an EMT-Basic.
- Initiate appropriate intravenous procedures as specifically authorized by medical authority in advance.

Home Health Aide Certificate/Elective

A student completing the Home Health Aide certificate/elective will be able to:
- Work for an organization under professional supervision in the role of homemaker-home health aide.
- Understand and work with various client populations.
- Identify and practice skills in home management, personal care, interpersonal communications, and infection control.
- Meet the requirements published by the National Home Caring Council.

Mammography Certificate/Elective

A student completing the Mammography Certificate will be able to:
- Independently perform breast imaging techniques and related procedures for interpretation and/or intervention bym or at the request of a licensed physician.
- Provide for the physical, psychological, and educational needs of mammography clients essential to the delivery of mammographic services, to include breast self-examination techniques.
- Coordinate, operate, and maintain a mammographic facility in compliance with federal regulatory standards and professional guidelines to assure safe, accurate, and reliable breast imaging and/or interventional procedures.
- Exercise professional judgement in providing quality patient care and maintaining confidentiality in accordance with accepted ethical standards.

Nurse Aide Training Program Certificate/Elective

A student completing the Nurse Aide certificate/elective will be able to:
- Effectively communicate in the health care setting.
- State and demonstrate principles of medical asepsis and universal precautions.
- Identify and demonstrate the principles of safe resident care.
- Discuss and demonstrate correct basic nursing skills.
- Meet the requirements set forth in the Omnibus Budget Reconciliation Act of 1987.

Registered Nurse First Assistant Certificate/Elective

A student completing the Registered Nurse First Assistant Certiticate will be able to:
- Act effectively and safely as a first assistant in surgery.
- Meet eligibility requirements to take the advanced certificate examination.

Registered Nurse Home Care Certificate/Elective

A student completing the Registered Nurse Home Care Certificate will be able to:
- Provide safe client care in the home.
- Communicate effectively with other home care providers.
- Perform the necessary documentation for compliance with government and private regulatory bodies.

Phlebotomy Certificate/Elective

A student completing the Phlebotomy certificate/elective will be able to:
- Collect a quality blood specimen by venipuncture and capillary puncture using the appropriate collection equipment with minimum trauma to the patient.
- Demonstrate professional conduct and interpersonal communication skills with patients, laboratory personnel and other health care professionals.

- Identify problems which may occur during blood collection and handle them effectively and correctly in a professional manner.
- Perform all duties utilizing universal precautions while conforming to current OSHA standards and CSC guidelines.

Dietary Manager Certificate

A student completing the Dietary Manager Certificate will be able to:

- Coordinate the activities of a foodservice department.
- Establish and monitor a sanitation and safety program for a foodservice operation.
- Create and maintain records related to the management of a foodservice operation.
- Plan menus to meet the nutritional needs of persons in a healthcare setting.
- Assist with maintaining records related to nutritional status of individuals.

Respiratory Care Rehabilitation/Home Care Certificate

A student completing the Respiratory Care Rehabilitation/Home Care Certificate will be able to:

- Educate patient and care-giver in disease process, medications, equipment care, and available resources.
- Monitor patient's equipment needs.
- Establish and maintain records as required for patient care, billing records, and governmental records.

Specific Program Admissions Information

Listed below are additional requirements for admission to the Multi-Competency Health Technology.

- High school graduate or G.E.D. equivalency
- Recommended high school (or equivalent) courses:
  Algebra
  Biology
  Chemistry
- Completed health statement (See Coordinator for detailed requirements)

Multi-Competency Health Technology Associate Degree

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
COMM 105	Speech	3
HUM 1xx	Humanities 111, 112, 113, 151 or 152	5
SSCI 10x	Social Science 101, 102, 103 or 104	5
ENGL 200	Business Communications	3

Basic Studies Requirements

COURSE		CR
MATH 102	Beginning Algebra I	4
BIO 115	Microbiology	5
BIO 161	Human Anatomy OR	5
BIO 121	Anatomy, Physiology & Pathology I	5
BIO 169	Human Physiology OR	5
BIO 122	Anatomy, Physiology & Pathology II	5
CHEM 113	General & Biological Chemistry	5
BIO 170	Human Pathophysiology	5

*These requirements may vary according to major/plan of study.

Technical Studies Core - Required

COURSE		CR
MULT 101	Medical Terminology	2
MULT 102	Cardiopulmonary Resuscitation (CPR)	1
MULT 180	Professionalism for Health Care Providers	2

Students must select a minimum of 6 credit hours from core courses (listed below).

Core Courses

COURSE		CR
MULT 103	Responding to Emergencies	2
MULT 112	Identifying Cardiac Rhythms	2
MULT 121	Nurse Aide to Home Health Aide	2
MULT 123	Waived Tests for Health Care Providers	3
MULT 125	Information Processing Assisting	5
MULT 126	Patient Care Skills I	4
MULT 129	Patient Care Skills Rehabilitation	4
MULT 131	Referral Strategies for Chronically III Clients	3
MULT 133	Success Strategies for Patient Care Assistants	2
MULT 142	Home Care Skills for Nurses	3
MULT 143	Advanced Skills for Home Health Aides	3
MULT 153	Point of Care Testing	1
MULT 170	Cancer Prevention Diagnosis and Treatment	1
MULT 171	Current Issues: HIV Infection	1
MULT 172	Instructor HIV/AIDS Course	1
MULT 174	Personal Health	3
MULT 175	Alternative Healing - Homeopathy	4
MULT 176	Fundamentals of Herbology	4
MULT 183	Introduction to Inpatient Coding	1
MULT 184	Introduction to Ambulatory Coding	1
MULT 185	Introduction to Third Party Reimbursement	1
MULT 190	Radiation Protection for General Machine Operators	2
MULT 250	NATP - Train the Trainer	3

EMT-Paramedic Major Requirements

COURSE		CR
EMS 211	EMT-P I	7
EMS 281	Hospital Clinical I	2
EMS 291	Vehicle Clinical II	1
EMS 212	EMT-P II	7
EMS 282	Hospital Clinical II	2
EMS 292	Vehicle Clinical II	1
EMS 213	EMT-P III	5
EMS 283	Hospital Clinical III	2
EMS 293	Vehicle Clinical III	1
EMS 214	EMT-P IV	2
EMS 284	Hospital Clinical IV	2
EMS 294	Vehicle Clinical IV	2
EMS 110	EMT - Basic	8

Histology Major Requirements

COURSE		CR
MLT 100	Introduction to Health Care	3
MULT 169	Introduction to Histology	2
MULT 160	Tissue Identification	3
MULT 161	Chemistry of Stains	3
MULT 162	Chemistry of Stains II	2
MULT 163	Basic Histology Techniques I	4
MULT 164	Basic Histology Techniques II	3
MULT 165	Histology Seminar I	1
MULT 167	Histology Clinical Experience I	4
MULT 166	Histology Seminar II	3
MULT 168	Histology Clinical Experience II	8

Patient Care Major

COURSE		CR
MULT 120	Nurse Aide Training Program	5
MULT 126	Patient Care Skills I	4
MULT 108	Twelve Lead EKG and	2
MULT 112	Identifying Cardiac Rythmias OR	4
MULT 110	Basic EKG	6
MULT 115	Phlebotomy OR	6
MULT 116	Venipuncture for Health Care Providers	2
MULT 153	Point of Care Testing	1
MULT 125	Information Processing Assistance	5
MULT 183	Introduction to In-Patient Coding	1
MULT 185	Introduction to Third Party Providers	1
MULT 171	Current Issues in HIV	1

Home Health Major

COURSE		CR
MULT 122	Home Health Aide	5
MULT 126	Patient Care Skills I	4
MULT 108	Twelve Lead EKG and	2
MULT 112	Identifying Cardiac Rythmias OR	2
MULT 110	Basic EKG	6

MULT 115	Phlebotomy OR	6
MULT 116	Veniptmcture for Health Care Providers	2
MULT 153	Point of Care Testing	1
MULT 184	Introduction to Ambulatory Coding	1
MULT 185	Introduction to Third Party Providers	1
MULT 171	Current Issues in HIV	1

Medical Office Major

COURSE		CR
MULT 100	Introduction to Health Care	3
MULT 108	Twelve Lead EKG and	2
MULT 112	Identifying Cardiac Rythmias OR	2
MULT 110	Basic EKG	6
MULT 115	Phlebotomy	6
MULT 114	Phlebotomy Practicum II	1
MULT 123	Waived Lab Tests for Health	3
MULT 153	Point-of-Care Testing	1
MULT 184	Introduction to Ambulatory Coding	1
MULT 185	Introduction to Third Party Providers	1
MULT 171	Current Issues in HIV	1
MULT 190	Radiation Protection for General Machine Operator	2
CPT 101	Computer Literacy	3

Animal Assisted Therapy in Education Certificate

COURSE		CR
MULT 181	Introduction to Human-Animal Interaction	2
MULT 178	Animals & Nature - Therapeutic Programs	3

Health Care Manager Certificate Requirements

COURSE		CR
CPT 101	Computer Literacy,	3
BMGT 218	Management Training for Supervisors	3
MULT 270	Human Resource Mgmt. in Health Services Organ.	4
MULT 272	Health Care Resource Management	4
MULT 274	TQM/UM/Accreditation	4
MULT 276	Legal Aspects and Risk Management	3

EKG Certificate/Elective

COURSE		CR
MULT 110	Electrocardiography (EKG) OR	6
MULT 108	Twelve Lead EKG	2

EMT-Basic Elective

COURSE		CR
EMS 110	EMT-Basic	8

EMT-Intermediate Elective

COURSE		CR
EMS 111	EMT-Intermediate	6

Nurse Aide Certificate/Elective

COURSE		CR
MULT 120	Nurse Aide Training Program	5

Home Health Aide Certificate/Elective

COURSE		CR
MULT 122	Home Health Aide	5

Mammography Certificate

COURSE		CR
MULT 203	Diagnostic and Intervent. Proc. for the Mammographer	3
MULT 205	Mammographic Physics and Quality Assessment	4
MULT 207	Clinical Experience in Mammography	1-3

Phlebotomy Certificate/Elective

COURSE		CR
MULT 115	Phlebotomy	6
MULT 114	Phlebotomy Practicum II	1

Registered Nurse First Asst. Certificate/Elective

COURSE		CR
MULT 245	Registered Nurse First Assistant..	5
MULT 246	Registered Nurse First Assistant Practicum	2

Registered Nurse Home Care Certificate/Elective

COURSE		CR
MULT 142	Home Care Skills for Nurses	3
MULT 23 1	Maternal Child Home Care..	2
MULT 233	Pediatric Home Health Care	3

Respiratory Care Rehabilitation/Home Care Certificate Requirements

COURSE		CR
RESP 251	Respiratory Rehabilitation Home Care Techniques	3
RESP 252	Patient Management in Respiratory Rehabilitation	3
RESP 253	Respiratory Rehabilitation Home Care Administrator	4

Sleep Studies Certificate

COURSE		CR
MULT 221	Introduction to Sleep Problems	2
MULT 223	Level I Polysomnography Technician	2
MULT 225	Level II Polysomnography Technician..	2
MULT 224	Level I Polysomnography Technician Clinical	2
MULT 226	Level II Polysomnography Technician Clinical	2
MULT 228	Polysomnography Current Topics	2

Dietary Manager Certificate

COURSE		CR
DMGR 101	Dietary Manager Seminar I	4
DMGR 194	Dietary Manager Co-Op Work Exp. I	2
DMGR 102	Dietary Manager Seminar II	4
DMGR 195	Dietary Manager Co-Op Work Exp. II	2
DMGR 103	Dietary Manager Seminar III	4
DMGR 196	Dietary Manager Co-Op Work Exp. III..	2
BMGT 218	Management Training for Supervisors	3
CPT 101	Computer Literacy	3
MULT 270	Human Resource Management	4
MULT 272	Home Health Care Resource Management	4
MULT 274	TQM/UM/Accreditation	4
MULT 276	Legal Aspects and Risk Management	3

Multimedia Production Technology

Multimedia Production Technology
Associate Degree
Authoring Systems Track
Computer Graphics Track

The Multimedia Production Technology program provides the community with well-trained individuals who can create and assemble multimedia products for corporate interactive training, advertising, and marketing, including executive and instructional presentations. Students are able to develop and produce scripts and computer animation for the television and entertainment industries. Students apply multimedia technology to assemble graphics,

text, sound, and video into meaningful productions. The program provides the opportunity for specialization in either a multimedia authoring or computer graphics track.

The program supports an industry need to provide multimedia production technicians to work in the ever-expanding market of integrated and interactive media communications. The multimedia products and services market is expected to increase from $8.5 billion to $95.8 billion by the year 2000.

As manufacturers have given way to a post industrial service sector age, the hardware-based computer age is now giving way to a software-based computer age. Job postings are becoming more common for positions available in multimedia related production and information engineering technology. Advertisements for multimedia designers, 2D and 3D programmers, game designers, and computer animators are becoming more common.

The jobs available in multimedia production are varied. Typical job possibilities for program graduates include: multimedia technician; multimedia specialist; multimedia developer; media specialist; digital prepress technician; instructional designer; program authoring specialist; computer graphic artist; 3D computer animator; multimedia illustrator; desktop media publisher; interface designer; animator; script integrator; digital journalist; presentation artist; video maintenance technician; and interactive systems designer.

Upon completion of the Associate Degree program in Multimedia Production Technology, the graduate will be able to:

- Build animation sequences.
- Define and implement hypertext and hyperlinks.
- Create navigation controls.
- Operate audio and video production equipment.
- Formulate electronic imaging and image processing solutions.
- Develop interactive multimedia presentations for distributions on CD-ROM disks.
- Use HyperCard and Quick Time software design tools.
- Integrate multimedia hardware systems to meet customer's needs.
- Produce multimedia authoring, bringing together text, graphic animation, screen images, video, and audio.
- Use digital film, video and editing systems.
- Plan and implement a multimedia production project.

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
SSCI 10x	Social Science 101, 102, 103 or 104	5
COMM 105	Speech	3
ART 111	Fundamental Concepts of Art	5
ENGL 204	Technical Writing	3

Basic Studies Requirements

COURSE		CR
MATH 111	Technical Math I	4
MCT 106	Computer Literacy 2	3
ART 122	Two-Dimensional Design	5
ART 230	Color Composition	5
MKTG 111	Principles of Marketing	5

Technical Studies Requirements

COURSE		CR
MMPT 101	Introduction to Multimedia	5
MMPT 111	Multimedia Systems	5
MMPT 116	Information Logistics	5
MMPT 226	Multimedia Telecom/Network	4
MMPT 131	Multimedia Project Planning	5
MMPT 231	2D/3D Technical Illustration	6
MMPT 299	Multimedia Internship/Field Experience	3

Authoring Systems Track

MMPT 201	Multimedia Authoring with Director	6
MMPT 206	Multimedia Authoring with Authorware	6
MMPT211	Multimedia Scripting	6
MMPT 241	Multimedia Authoring for WWW	6

Computer Graphics Track

MMPT 216	Still Digital Video Image Editing	6
MMPT 217	Digital A N Editing	6
MMPT 236	Modeling	6
MMPT 237	Animation Development	6

Nursing Technology

Home Health Aide Certificate/Elective (see Multi-Competency Health Technology)
Nurse Aide Training Program Certificate/Elective (see Multi-Competency Health Technology)
Registered Nurse First Assistant Cert./Elective (see Multi-Competency Health Technology)
Registered Nurse Home Care Certificate/Elective (see Multi-Competency Health Technology)

Columbus State's Associate Degree program in Nursing Technology prepares graduates to provide direct care to clients with common, recurring health problems in a structured setting.

The seven-quarter program blends knowledge from the nursing, biological and social sciences with psychomotor and technical skills developed through laboratory practice. This enables students to acquire skills, use knowledge, and develop a sense of judgment and responsibility in meeting the needs of clients and providing safe nursing care. Because students and workers in the health care field may be exposed to infectious materials and communicable diseases, the program emphasizes safety and prevention. Students also learn to work collaborately with other health team members within the health care delivery system.

Students take 53 credit hours of nursing courses and 56 credit hours in arts and sciences. They participate in 4-18 hours of clinical experience each week in a variety of local health care settings under the direction of an instructor, as well as practicing in the College's modem nursing skills lab.

Students who successfully complete the Associate Degree program are qualified to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN). The Nursing Technology program at Columbus State is accredited by the National League for Nursing and the North Central Association of Colleges, and is approved by the Ohio Board of Nursing.

Upon completion of the Associate Degree in Nursing Technology, the graduate will be able to:

- value own role as an Associate Degree nurse.
- Plan care for persons of all ages using the nursing process.
- Demonstrate safe, competent, nurturing care in the practice of nursing.
- Communicate effectively, including the use of teaching and counseling techniques, in the promotion, maintenance, and restoration of health.
- Manage nursing care for a diverse population of clients in a variety of practice settings.
- Synthesize knowledge from nursing and related disciplines using critical thinking skills.
- Analyze legal, ethical, and economic concepts that influence nursing practice.
- Account for competence and personal growth.

Specific Program Admissions Information
Listed below are additional requirements for admission to the Nursing Technology.

- High school graduate or G.E.D. equivalency
- Required high school (or equivalent) courses:
  Algebra, grade of "C" or above
  Biology, grade of "C" or above
  Chemistry, grade of "C" or above
- Placement into ENGL 101 - Beginning Composition or ENGL 111 - English Composition or completion of ENGL 100 - Language Development
- Placement into MATH 135 - Elementary Statistics or completion of MATH 103 - Beginning Algebra II, with a grade of "C" or above
- Completion of the following courses:
  MULT 120 - Nurse Aide Training Program, MULT 126- Patient Care Skills, CHEM 113 - General and Biological Chemistry
- Attend Nursing Technology Information session
- Completed health statement
- Grade point average of 2.0 or better through most recently completed coursework

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
COMM 105	Speech OR	3
COMM 110	Conference and Group Discussion	3
SSCI 10x	Social Science 101, 102, 103 or 104	5
ENGL 202	Writing for the Health and Human Services OR	3
ENGL 200	Business Communications	3

Basic Studies Requirements

COURSE		CR
BIO 161	Human Anatomy..	5
BIO 169	Human Physiology	5
BIO 115	General Microbiology	5
PSY 100	Introduction to Psychology	5
PSY 240	Human Growth & Development Along the Life Span	4
BIO 170	Human Pathophysiology	5
MATH 135	Elementary Statistics	5

Technical Studies Requirements

COURSE		CR
NURS 110	Introduction to Nursing	3
NURS 120	Health Assessment in Nursing I	2
NURS 111	Health Promotion of Women and Families	4
NURS 121	Health Assessment in Nursing II	2
NURS 130	Concepts of Pharmacology I..	3
NURS 112	Intro. to Nursing Concepts of Hlth. Maint. & Restbration	6
NURS 131	Concepts of Pharmacology II	3
NURS 113	Nursing Skills	2
NURS 210	Nursing Concepts of Hlth. Maint. & Restoration	6
NURS 211	Nursing Concepts of Hltb. Maint. & Restoration II	6
NURS 212	Nursing Concepts of Hlth. Maint. & Restoration III	6
NURS 213	Concepts of Nursing Management	8
NURS 190	Nursing Special Topics Elective..	2
TOTAL CREDI T HOURS		109

Office Administration Technology

Office Administration Technology Associate Degree
Executive Office Administration Major
Legal Office Administration Major
Medical Office Administration Major
Word Processing Certificate

Students in the Office Administration Technology may select from one of three program majors: Executive, Legal, or Medical Office Administration. A Word Processing Certificate program is also available.

The Executive Office Administration Major prepares graduates to fulfill the duties of a professional secretary. According to Professional Secretaries International, a secretary is "an assistant to an executive, possessing mastery of office skills and ability to assume responsibility without direct supervision, who displays initiative, exercises judgment, and makes decisions within the scope of his or her authority." Employment opportunities for such skilled secretaries are many and diverse.

The Legal Office Administration Major prepares graduates to work in law offices, prosecuting attorneys' or public defenders' offices, various courts, or the legal departments of large companies or corporations. Practicing attorneys act as guest speakers to enhance the teaching of specialized areas of law. The program meets the criteria of the National Association of Legal Secretaries. The demand for competent legal secretaries has increased dramatically in recent years; this program is structured to meet those demands by providing entry-level secretaries with specialized knowledge of legal procedures.

The Medical Office Administration Major prepares graduates to work in medical settings, such as hospitals, physicians' offices, nursing homes, medical clinics, pharmaceutical companies, local and state health departments, research centers, medical insurance companies, and dental offices. The increased demand for better medical care has heightened the need for qualified assistance.

The four-quarter Word Processing Certificate program prepares students for entry-level positions in word processing centers and general offices. Students develop skills and knowledge in keyboarding, word processing basics, information management, and accounting.

Columbus State is accredited as an associate degree granting institution offering business programs by the Association of Collegiate Business Schools and Programs (ACBSP).

Upon completion of the Associate Degree in Office Administration Technology, the graduate will be able to:

- Keyboard accurately at a minimum of 60 words per minute and transcribe accurately from electronic media.
- Maintain a tiling system (alphabetic, numeric, geographic, and/or by subject).
- Write or draft responses to routine correspondence, use correct grammar, and use punctuation rules accurately.
- Perform basic accounting tasks.

Executive Office Administration Major

In addition to the general Office Administration competencies, a graduate in the Executive Office Administration Major will be able to:

- Understand and use Excel for Windows, create and revise spreadsheets.
- Use Windows commands to operate microcomputers effectively.
- Prepare graphics and present information.
- Research information using a variety of resources including the Internet and annotate articles.
- Use computers to integrate graphics into documents.
- Transcribe a variety of documents accurately and at an acceptable production rate.

Legal Office Administration Major

In addition to the general Office Administration competencies, a graduate in the Legal Office Administration Major will be able to:

- Transcribe letters and documents of a legal nature in correct form at an acceptable production rate.
- Demonstrate a basic knowledge of court structure and court proceedings at the federal, state, and local levels.
- Demonstrate a knowledge of the basics of the law and of legal procedures in the areas of civil, criminal, probate, domestic relations? corporate, real estate, and bankruptcy law.
- Understand the documents, procedures, and sequence of events involved in appellate proceedings.
- Use Microsoft software efficiently.

Medical Office Administration Major

In addition to the general Office Administration competencies, a graduate in the Medical Office Administration Major will be able to:

- Spell and pronounce medical terms accurately.
- Transcribe a variety of medical reports accurately and at an acceptable production rate.
- Use fee schedules and collection procedures as well as banking, accounting, and payroll procedures applicable in a medical office setting.
- Use Microsoft software efficiently.

Executive Office Administration Major

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
NSCI 101	Natural Science I	5
ENGL 102	Essay & Research	3
COMM 105	Speech OR	3
COMM 110	Conference and Group Discussion	3
ENGL 200	Business Communications	3

Basic Studies Requirements

COURSE		CR
OADM 101	Business Grammar Usage	3
OADM 111	Accounting Basics	4
CPT 101	Computer Literacy 1	3
MATH 101	Business Mathematics	5
LEGL 261	Business Law I	3
BMGT xxx	Business Electives	5

Technical Studies Requirements

COURSE		CR
OADM 121	Records Management	3
OADM 132	Keyboarding II	3
OADM 102	Editing Business Documents	3
OADM 133	Keyboarding III	3
OADM 134	Keyboarding IV	3
OADM 144	Notetaking using SuperWrite	3
OADM 167	Desktop Publishing with PageMaker	3
OADM 192	Microsoft Word II	3
OADM 151	Machine Transcription	4
OADM 177	Microsoft Excel Basics	3
OADM 164	WordPerfect for Windows I	3
OADM xxx	Technical Elective	3
OADM 211	Office Management	4
OADM 261	Electronic Office Procedures	4
OADM 252	Advanced Transcription	4
OADM 224	Executive Office Field Experience I	2
OADM 191	Microsoft Word I	3
OADM 225	Office Field Experience II	2
OADM 165	WordPerfect with Windows II	3

TOTAL CREDIT HOURS 104

Legal Office Administration Major

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
NSCI 101	Natural Science I	5
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
COMM 105	Speech OR	3
COMM 110	Conference and Group Discussion	3
ENGL 102	Essay & Research	3
ENGL 200	Business Communications	3

Basic Studies Requirements

COURSE		CR
OADM 101	Business Grammar Usage	3
OADM 111	Accounting Basics	4
CPT 101	Computer Literacy I	3
MATH 101	Business Mathematics	5
LEGL 261	Business Law I	3
BMGT xxx	Business Electives	6

Technical Studies Requirements

COURSE		CR
OADM 144	Notetaking using SuperWrite	3
OADM 121	Records Management	3
OADM 132	Keyboarding II	3
OADM 102	Editing Business Documents	3
OADM 133	Keyboarding III	3
OADM 151	Machine Transcription	4
OADM 165	WordPerfect for Windows II	3
OADM 164	WordPerfect for Windows I	3
OADM 253	Legal Transcription I	4
OADM 211	Office Management	4
OADM 261	Electronic Office Procedures	4
OADM 191	Microsoft Word I	3
OADM 224	Office Field Experience I	2
OADM 254	Legal Transcription II	4
OADM 225	Office Field Experience II	2
OADM 134	Keyboarding IV	3
OADM 172	Microsoft Excel Basics	3
OADM 167	Desktop Publishing with PageMaker	3
OADM 191	Microsoft Word II	3

TOTAL CREDIT HOURS 106

Medical Office Administration Major

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
BIO 111	Introduction to Biology	5
ENGL 102	Essay & Research	3
COMM 105	Speech OR	3
COMM 110	Conference and Group Discussion	3
ENGL 200	Business Communications	3

Basic Studies Requirements

COURSE		CR
OADM 101	Business Grammar Usage	3
OADM 111	Accounting Basics	4
MATH 101	Business Mathematics	5
CPT 101	Computer Literacy I	3
LEGL 261	Business Law I	3
MULT 123	Physician's Office Urinalysis	3

Technical Studies Requirements

COURSE		CR
OADM 121	Records Management	3
OADM 132	Keyboarding II	3
OADM 102	Editing Business Documents	3
OADM 133	Keyboarding III	3
OADM 151	Machine Transcription	4
MULT 101	Medical Terminology	2
OADM 164	WordPerfect for Windows I	3
OADM 211	Office Management	4
OADM 26 1	Electronic Office Procedures I	4
MLT 100	Introduction to Health Care	3
OADM 224	Medical Office Field Experience I	2
OADM 191	Microsoft Word I	3
OADM 225	Office Field Experience II	2
OADM 165	WordPerfect with Windows II	3
OADM 144	Notetaking using SuperWrite	3
OADM 134	Keyboarding IV	3
OADM 172	Microsoft Excel Basics	3
OADM 212	Medical Office Management	3
OADM 192	Microsoft Word II	3
OADM xxx	Technical Elective	3
OADM 252	Advanced Transcription	3

TOTAL CREDIT HOURS 107

Word Processing Certificate

COURSE		CR
MATH 101	Business Mathematics	5
OADM 101	Business Grammar Usage	3
OADM 132	Keyboarding II	3
OADM 121	Records Management	3
ENGL 101	Beginning Composition	3
CPT 101	Computer Literacy I	3
OADM 133	Keyboarding III	3
OADM 161	Data Entry Database Management	3
OADM 102	Editing Business Documents	3
COMM 105	Speech OR	3
COMM 110	Conference and Group Discussion	3
OADM 164	WordPerfect for Windows I OR	3
OADM 191	Microsoft Word I	3
OADM 151	Machine Transcription	4
OADM 111	Accounting Basics	4
OADM 172	Spreadsheet Basics Using Excel	3
OADM 167	Desktop Publishing Using PageMaker	3
OADM 165	WordPerfect for Windows II OR	3
OADM 192	Microsoft Word II	3
OADM 112	Computerized Accounting	1
OADM 134	Keyboarding IV	3
OADM 181	Windows	1
OADM 201	Business Research using the Internet	1

TOTAL CREDIT HOURS 58

Quality Assurance Technology

Increasing requirements for quality in the goods and services consumers buy has created additional demand for trained technicians and supervisors who are responsible for monitoring, testing, and continuously improving the quality of those goods and services. Individuals entering the field of quality assurance must be skilled in the areas of quality transformation, teamwork, statistical process control, product and service improvement, cost reduction, reliability development, and quality planning and management.

This program is designed to meet the employment needs of business and industry. Students work on quality improvement projects for local organizations as part of their course work. They apply the techniques being studied in class, and practice teamwork and communications skills in real life settings while developing a portfolio to demonstrate their expertise. Graduates are qualified for a wide range of positions such as quality control technician, inspector, quality/reliability analyst, value engineering analyst, cost improvement or statistical process control coordinator, or methods planner.

The Quality Assurance program was originally designed to meet increasing needs for quality assurance personnel in electronic and mechanical manufacturing. Many courses in the program, however, address quality needs of the service industries. Students and prospective students interested in pursuing a quality assurance program in any of the following options: banking, insurance, food processing, chemical processing, or another option not listed are encouraged to contact the Chairperson to set up an individual program which meets their specific needs.

Upon completion of the Associate of Applied Science Degree in Qualitv Assurance Technolonv. the graduate will be able to:

- Demonstrate skill in apply&g fundamental principals of project management and total quality management.
- Use and apply statistical and problem-solving techniques to products and services in manufacturing and service environments.
- Read and interpret engineering blueprints, drawings, and specifications.
- Apply a basic knowledge of physics and electronics, and manufacturing processes to solve problems.
- Demonstrate basic knowledge of manufacturing practices used in the production of raw materials and products using those materials.
- Make contributions to the improvement of products and systems by applying methods of statistical process control.
- Apply knowledge of sampling plans and testing techniques to the analysis for materials, structures and components.
- Apply basic knowledge of cost estimating and cost containment procedures to new and existing products and systems, while maintaining quality.
- Utilize a variety of teamwork and communication skills (verbal, written, and graphic) to communicate effectively with clients, co-workers and others in the work environment.

The Quality Assurance Technology also shares related courses with the Electronic Engineering Technology and the Mechanical Engineering Technology. For additional information refer to Electronic Engineering Technology and Mechanical Engineering Technology which are listed in this section of ***the Bulletin.***

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
COMM 105	Speech	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
ENGL 204	Technical Writing	3
SSCI 10x	Social Science 101, 102, 103 or 104	5

Basic Studies Requirements

COURSE		CR
MATH 111	Technical Math I	4
MATH 112	Technical Math II	4
PHYS 181	Technical Physics (Mechanics)	4
MATH 135	Elementary Statistics	5
PHYS 185	Technical Physics	4

Technical Studies Requirements

COURSE		CR
EET 111	DC Fundamentals	4
EET 112	DC Laboratory	2
MECH 110	Introduction to Manufacturing	3
MECH 112	Computer Applications in Manufacturing	3
QUAL 120	Engineering Drawing Interpretation	3
QUAL 240	Total Quality Management	3
MECH 120	Mechanical Drafting	3
MECH 244	Statistical Process Control	3
EET 120	AC Fundamentals	4
EET 121	AC Laboratory	2
MECH 111	Manufacturing Processes	4
QUAL 150	Quality Transformation	4
EET 132	Digital Fundamentals	3
QUAL 251	Value Engineering	3

EET 130	Electronic Devices	4
EET 131	Electronic Devices Laboratory	2
MECH 240	Machine Tools	4
QUAL 250	Metrology	3
QUAL 260	Reliability & System Maintainability	3
QUAL 261	Project Management	3
QUAL 262	Materials Testing & Analysis	3
TOTAL CREDIT HOURS		109

Students should request a program plan of study from their faculty advisor.

Radiography Technology

Radiographers are highly skilled professionals qualified by education to perform imaging examinations and accompanying responsibilities at the request of a physician. A radiographer is able to perform diagnostic imaging, fluoroscopy, trauma, surgical, and portable radiography. Specialized areas included in the curriculum: Computed tomography, vascular and digital imaging and magnetic resonance imaging.

Technology classes begin in the summer quarter. Admission to the program is competitive with completed applications received annually. Because students and health care workers in the health care field may be exposed to infectious materials and communicable diseases, the program emphasizes safety and prevention.

Upon completion of the Associate Degree in Radiography Technology, the graduate will be able to:

- Apply knowledge of anatomy, physiology, positioning, and radiographic techniques to accurately show anatomical structures on an image.
- Determine exposures that achieve optimum images with minimum radiation to the patient.
- Act as an agent through observation and communication to obtain pertinent information for the physician to aid in the diagnosis and treatment management of the patient.
- Evaluate radiographic images for appropriate positioning and image quality.
- Apply the principles of radiation protection for the patient, staff and others.
- Provide patient care and comfort during procedures.
- Recognize emergency patient conditions and initiate life-saving first aid and basic life-support procedures.
- Evaluate the performance of radiologic systems, know the safe limits of equipment operation, and report malfunctions to the proper authority.
- Exercise independent judgement and discretion in the performance of medical imaging procedures.
- Participate in radiologic quality assurance programs.

Specific Program Admissions Information

Listed below are additional requirements for admission to the Radiography Technology.

- High school graduate or G.E.D. equivalency
- Required high school (or equivalent) courses:
  Algebra, grade of "C" or better
  Biology, grade of "C" or better
  Chemistry, grade of "C" or better
  Physics, grade of "C" or better
- Placement into ENGL 101 - Beginning Composition
- Placement into MATH 135/148 - College Algebra
- Written statement relevant to interest and intent in Radiography Technology
- Health care experience or volunteer service
- Completed health statement

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay&Research	3
SSCI 10x	Social Science 101, 102, 103 or 104	5
ENGL 200	Business Communications	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
COMM 105	Speech	3

Basic Studies Requirements

COURSE		CR
BIO 161	Anatomy	5
MATH 148	College Algebra	5
BIO 169	Physiology	5
PHYS 117	College Physics	5
BIO 170	Human Pathophysiology	5

Technical Studies Requirements

COURSE		CR
RAD 111	Introduction to Radiologic Technology	3
RAD 141	Radiographic Procedures I	4
RAD 142	Radiographic Procedures II	4
RAD 261	Clinical I	2
RAD 113	Radiologic Science	5
RAD 143	Radiographic Procedures III	4
RAD 262	Clinical II	2
RAD 118	Radiographic Exposure and Processing	5
RAD 148	Special Radiologic Procedures	3
RAD 263	Clinical III	2
RAD 123	Advanced Exposure and Processing	4
RAD 211	Sectional Anatomy	1
RAD 264	Clinical IV	3
RAD 126	Radiation Biology and Processing	3
RAD 222	Computerized Imaging	1
RAD 265	Clinical V	3
RAD 231	Radiographic Pathology	3
RAD 266	Clinical VI	3
RAD 267	Clinical VII	3
MULT 101	Medical Terminology	2
TOTAL CREDIT HOURS		107

Real Estate Technology

The Associate Degree program in Real Estate Technology offers training that meets new standards of professionalism in the real estate industry. The program follows a "blueprint" for real estate education developed by the Ohio Association of Realtors. Courses meet the educational requirements for real estate licensure in the State of Ohio.

The program meets the training needs of persons with a variety of career goals. For students seeking to enter the real estate field, it offers formal education that meets the industry's new goals of professionalism. For licensed real estate brokers and sales associates, it provides training to upgrade their professional competence and to meet future educational requirements of the industry. For students who plan to continue their education beyond the Associate Degree, it offers credit courses that transfer to some four-year colleges and universities.

Prospective real estate associates or brokers who plan to take real estate licensing exams are more sucessful when they take courses in the proper sequence.

Only the continuing education courses approved by the Ohio Real Estate Commission qualify for continuing education credit for licensed professionals. Please check for course approval before enrolling. Courses required for licensing do not qualify for continuing education credit. The date on which individuals complete 10 hour post-licensure course determines the date by which continuing education requirements must be completed.

Before students schedule classes, they should contact their advisor if they are interested in taking (1) only the sequence of courses to prepare for specific real estate licensing exams, (2) only selected courses to meet continuing education requirements of the Ohio Real Estate Commission, or courses to meet the various appraisal classifications.

Columbus State Community College is nationally accredited by the Association of Collegiate Business Schools and Programs (ACBSP) for the offering of its business programs that culminate in the Associate of Arts, Associate of Science, and Associate of Applied Science Degrees.

Upon completion of the Associate Degree in Real Estate Technology, the graduate will be able to:

- To demonstrate understanding of key principles and concepts involved in a real estate-transaction.
- To prepare and present correctly all forms necessary to complete a real estate transaction.
- Create effective promotional plans to market property.
- Identify and explain different types of construction materials.
- Apply one of three appraisal techniques to the evaluation of a residential or commercial property.
- Utilizing current industry techniques, conduct an investment analysis of a selected property.
- Manage a real estate property sales force effectively.
- To apply relevant formulas and microcomputer applications to the practice of real estate.

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
ENGL 200	Business Communications	3
COMM 105	Speech	3
NSCI 101	Natural Science I	5

Basic Studies Requirements

COURSE		CR
PSY 100	Introduction to Psychology	5
CPT 101	Computer Literacy I	3
BMGT 101	Introduction to Business	5
LEGL 262	Business Law II	3
ACCT 111	Principles of Accounting	5
BMGT 216	Business Ethics	3
ECON 200	Principles of Microeconomics	5
FMGT 201	Business Finance	5

Technical Studies Requirements

COURSE		CR
REAL 101	Real Estate Principles & Practices	3
REAL 102	Real Estate Law	3
REAL 104	Real Estate Math	3
REAL 111	Real Estate Finance	3
REAL 112	Real Estate Appraisal	3
REAL 121	Residential Sales Practices	3
REAL 123	Real Estate Marketing	3
REAL 202	Real Estate Commercial Investment	5
CMGT 253	Residential Construction	3
REAL 236	Real Estate Development	3
REAL 212	Income Property Appraisal	3
REAL 213	Advanced Real Estate Investment Analysis	3
REAL xxx	Technical Elective	3
REAL 221	Professional Property Management	3
REAL 234	Human Resource Management	4

TOTAL CREDIT HOURS 104

Technical Elective courses must be selected from the following list:

REAL 281	Real Estate Today Seminar I	1
REAL 282	Real Estate Today Seminar II	2
REAL 283	Real Estate Today Seminar III	3
REAL 284	Uniform Standards of Prof. Appraisal Practice	2

Respiratory Care Technology

Registered/Graduate Nurse to the Registered Respiratory Therapist Program
LPN to a Certified Respiratory Therapy Technician Program
Respiratory Care Rehabilitation/Home Care Certificate
(See Multi-Competency Health Technology)

Respiratory care offers people an opportunity to help patients with lung problems return to a more active life. Respiratory care therapists are life support specialists concerned with managing, controlling, and treating problems related to the cardiopulmonary system. Respiratory care practitioners serve beside the physician, nurse, and other health care personnel.

The complexity of the respiratory care worker's responsibility requires extensive training, dedication, and professionalism. Respiratory care takes place in such settings as the newborn nursery, surgical and medical wards, emergency rooms, outpatient departments, and intensive care units of hospitals.

In addition to their classroom learning, students enrolled in the Respiratory Care program gain hands-on experience while working in area hospitals, under the supervision of qualified instructors. These clinical experiences teach students to apply their knowledge and skills in actual work environments. Because students and workers in the health care field may be exposed to infectious materials and communicable diseases, the program emphasizes safety and prevention.

The Registered Nurse/Graduate Nurse to the Registered Respiratory Therapist (RN/RRT) Program is being offered to enhance nurses' employment opportunities and to assist health care employers who want cross-trained workers. This program is offered only to graduates of associate degree nursing programs (A.D.N.), or graduates of bachelors degree nursing programs (B.S.N.), who plan to work in critical care, subacute care, home care, or pulmonary physician offices. Participants in this program can complete an Associate of Applied Science degree in respiratory care and be eligible for the registry as a Respiratory Therapist with only an additional 36 hours of credit. This program starts during summer and winter quarters.

The Licensed Practical Nurse to a Certified Respiratory Therapy Technician (LPN/CRT) Program facilitates the advancement of a graduate licensed practical nurse to become cross-trained in respiratory care. The curriculum allows this individual to meet the requirements for an Associate Degree in Technical Studies (ATS), with a major in Respiratory Care and a minor in Multi-Competency Health Technology. Completion of this degree will enable the graduate to receive a certificate of completion from the Respiratory Care Entry Level Program.

Columbus State's program is accredited by the Joint Review Committee for Respiratory Care Technology.

Upon completion of the Associate Degree in Respiratory Care Technology, the graduate will be able to:

- Review existing data in patient medical record and recommend diagnostic procedures based on available patient information.
- Collect and evaluate pertinent clinical information.
- Perform diagnostic procedures and interpret results.

- Determine appropriateness of prescribed respiratory care plan, recommend modifications where indicated, and participate in the development of respiratory care plan.
- Select and obtain equipment, and assure cleanliness of equipment appropriate to the respiratory care plan.
- Assemble, check for proper function, identify malfunctions of equipment, and take action to correct malfunctions of equipment.
- Explain planned therapy and goals to patient, maintain records and communication; and protect against patient nosocomial infections.
- Conduct therapeutic procedures to achieve maintenance of a patient airway, including the care of artificial airways; to achieve the removal of secretions.
- Conduct therapeutic procedures to achieve adequate spontaneous and artificial ventilation.
- Conduct therapeutic procedures to achieve adequate arterial and tissue oxygenation.
- Evaluate and monitor patient's response to respiratory care.
- Make necessary modifications in therapeutic procedures, and recommend respiratory care plan modifications based on patient response.
- Initiate and conduct, or modify respiratory care techniques in an emergency setting.
- Demonstrate personal and professional behaviors required for successful employment.
- Apply the principles of continuous quality improvement and quality assurance to work situations.

Specific Program Admissions Information

Listed below are additional requirements for admission to the Resoiratorv Care Technology.

- High school graduate or G.E.D. equivalency
- Placement into MATH 135 - Elementary Statistics
- Placement into ENGL 101 - Beginning Composition
- High school Biology with a "C" or better
- Chem 113 with a "C" or better
- Completed health statement

Respiratory Care Technology Associate Degree

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
ENGL 102	Essay & Research	3
COMM 105	Speech	3
ENGL 200	Business Communications	3
SSCI 10x	Social Science 101, 102, 103 or 104	5

Basic Studies Requirements

COURSE		CR
BIO 161	Human Anatomy	5
MATH 135	Elementary Statistics	5
HIMT xxx	HIMT Elective	2
BIO 115	General Microbiology	5
BIO 169	Human Physiology	5

Technical Studies Requirements

COURSE		CR
RESP 100	Introduction to Respiratory Care	5
RESP 114	Introduction to Pulmonary Disease	4
RESP 150	Introduction to Pharmacology	2
RESP 130	Patient Assessment	2
RESP 152	Case Management I	2
RESP 196	Clinical Practice I	8
RESP 132	Patient Assessment II	2
RESP 154	Case Management II	2
RESP 198	Clinical Practice II	8
RESP 230	Patient Assessment III	2
RESP 256	Case Management III	2
RESP 290	Clinical Practices III	8
RESP 270	Current Issues in Respiratory Care	2
RESP 292	Clinical Practices IV	8
RESP xxx	Technical Elective	3
RESP 295	Clinical Experience	4

TOTAL CREDIT HOURS 108

Technical Electives

EMS 232	Advanced Cardiac Life Support	1
RESP 170	Mechanical Ventilation	1
RESP 232	Pediatric Respiratory Care	3
RESP 238	Pulmonary Functions	3
RESP 251	Respiratory Care Home Care Techniques	3
RESP 260	Organization and Administration	2

Registered Nurse/Graduate Nurse to the Registered Respiratory Therapist Program

Program Requirements

COURSE		CR
RESP 100	Introduction to Respiratory Care	5
RESP 130	Patient Assessment I	2
RESP 132	Patient Assessment II	2
RESP 170	Mechanical Ventilators	1
RESP 230	Patient Assessment III	2
RESP 256	Case Management III	2
RESP 290	Clinical Practice III	8
RESP 270	Current Issues in Respiratory Care	2
RESP 292	Clinical Practice IV	8
RESP 295	Clinical Practicum	4

TOTAL CREDIT HOURS 36

Licensed Practical Nurse to a Certified Respiratory Therapy Technician Program

Certificate Requirements

COURSE		CR
MATH 103	Beginning Algebra II	4
CHEM 111	Elementary Chemistry	5
BIO 161	Anatomy	5
MULT 120	Nurse Aide Training Program	5
MULT 126	Patient Care Skills I	5
ENGL 101	Beginning Composition	3
ENGL 102	Essay and Research	3
ENGL 200	Business Communications	3
COMM 105	Speech	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
SSCI lxx	Social Sciences 101, 102, 103 or 104	5
RESP 100	Introduction to Respiratory Care	5
RESP 114	Introduction to Pulmonary Disease	4
RESP 130	Patient Assessment I	2
RESP 152	Case Management I	2
RESP 196	Clinical Practice I	8
RESP 132	Patient Assessment II	2
RESP 216	Clinical Specialties	3
RESP 154	Patient Assessment II	2
RESP 198	Clinical Practice II	8
RESP 230	Patient Assessment III	2
RESP 256	Case Management III	2
RESP 290	Clinical Practice III	8
RESP 193	Clinical IV	3

TOTAL CREDIT HOURS 97

Retail Management Technology

Retailing is the final link in the chain that reaches from producer to the customer. Last year, retailing accounted for more than $2.2 trillion in annual sales in the United States alone and employed over 20 million workers. One of every 5 American workers is involved in the retailing field. Department of Labor statistics indicate that by the year 2005 retail employment will increase to 24 million workers, offering motivated individuals significant career opportunities.

Students in Columbus State's two-year Associate Degree program in Retail Management Technology begin with a strong foundation

in basic business principles as well as in-depth exposure to retail management principles. An internship program supported by many of the city's leading retail operations provides students the opportunity to put classroom knowledge to work.

Columbus State Community College is nationally accredited by the Association of Collegiate Business Schools and Programs (ACBSP) for the offering of its business programs that culminate in the Associate of Arts, Associate of Science, and Associate of Applied Science Degrees.

Upon completion of the Associate Degree in Retail Management Technology, the graduate will be able to:

- Explain all facets of the buying and selling of merchandise.
- Exhibit a knowledge of merchandise management including planning, control, and evaluation of the merchandise mix.
- Identify the various types of stock control systems.
- Perform the various functions of store operations.
- Develop and execute sales promotional activities including merchandise presentations.
- Describe the logistics of dealing with suppliers, merchandise handling, receiving and stocking.
- Demonstrate an understanding of all phases of basic store operations.
- Demonstrate an understanding of consumer buying behavior and the psychological factors influencing a customer's decision as to where to shop.
- Comprehend retail information systems and demonstrate the ability to use the data productively in problem solving and decision making.

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
COMM 105	Speech	3
ENGL 200	Business Communications	3
NSCI 101	Natural Science I	5

Basic Studies Requirements

COURSE		CR
MATH 101	Business Math	5
ACCT 101	Financial Accounting	4
HRM 121	Human Resources Management	4
FMGT 201	Business Finance	5
OADM 173	Word Processing & Spreadsheets for Managers	2
BMGT 218	Management Training for Supervisors	5

Technical Studies Requirements

COURSE		CR
RETL 101	Introduction to Retailing	5
MKTG 111	Marketing Principles..	5
BMGT 111	Management	5
RETL 104	Merchandising & Sales Promotion	5
MKTG 223	Sales	3
RETL 213	Retail Buying	3
RETL 204	Retail Store Operation/Controls	4
MKTG 226	Customer Service Principles	3
RETL 281	Retail Internship I	4
RETL 285	Special Problems in Retail I	2
RETL 282	Retail Internship II	4
RETL 286	Special Problems in Retail II	2
xxx xxx	Technical Electives	6

TOTAL CREDIT HOURS 98

Any advisor approved course from the following technologies can he used for the Elective: RETL 223, MKTG 227, MKTG 228, RETL 283/287, RETL 297.

Sports and Fitness Management Technology

The Sports and Fitness Management Technology prepares students to work in health and/or fitness centers. From private clubs to public facilities, trained managers are needed to develop, train, staff, and implement programming to address the needs of the general public or specific clients, in compliance with state and federal guidelines. Risk management, anatomy, physiology, exercise science, and sports business courses will develop the skills necessary to gain a managerial or technical position within the sport and fitness field.

Upon completion of the Associate Degree in Sports & Fitness Management Technology the graduate will be able to:

- Communicate effectively about current information on exercise, nutrition and health to clients.
- Promote recreational fitness and health activities in the community.
- Assess fitness levels by evaluating, recommending, and monitoring client physiological and behavioral responses.
- Design sports and fitness programs by utilizing assessment data to prepare and apply the programs to individuals and/ or groups.
- Instruct individuals and/or groups in a variety of activities by describing and demonstrating acceptable practices in the industry including the safe use of equipment, body mechanics, and modification strategies.
- Apply safety procedures in accordance with federal, state, and local guidelines, and possess the ability to manage emergency situations.
- Provide organizational and administrative skills in delivery of sports and fitness activities.
- Provider leadership by serving as a role model, establishing program direction, and maintaining professional ethics.

Specific Program Admissions Information

Listed below are additional requirements for admission to the Sport & Fitness Management Technology.

- High school graduate or G.E.D. equivalency
- Placement into ENGL 101 - Beginning Composition
- Placement into MATH 101 - Business Math

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
SSCI 10x	Social Science 101, 102, 103 or 104	5
COMM 105	Speech	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
ENGL 200	Business Communications	3

Basic Studies Requirements

COURSE		CR
MATH 101	Business Math..	5
HOSP 153	Nutrition..	5
ACCT 101	Financial Accounting..	4
BIO 121	Anatomy, Physiology and Pathology I	5
LEGL 26 1	Business Law I..	3
BIO 122	Anatomy, Physiology and Pathology II	5
ACCT 102	Managerial Accounting	3

Technical Studies Requirements

COURSE		CR
MULT 171	Current Issues: HIV/AIDS	1
SFMT 100	Personal Fitness Concepts	3
SFMT 101	Introduction to Sports & Fitness Mgmt.	3
BMGT 111	Business Management	5
SFMT xxx	Technical Elective	2
SFMT 115	Introduction to Weight Training	2

SFMT xxx	Technical Elective	2
SFMT 224	Sport Management Foundations	5
SFMT 233	Outdoor Community Recreation	3
SFMT 235	Sport Law	3
SFMT 234	Sport Marketing	5
SFMT 230	Fitness Concepts for Special Populations	1
SFMT 231	Exercise Physiology	5
SFMT 292	Sports & Fitness Management Practicum I	3
SFMT xxx	Technical Elective	2
SFMT 294	Sports & Fitness Management Practicum II	3
SFMT 226	Care and Prevention of Athletic Injuries	3
MULT 103	Responding to Emergencies	2
TOTAL CREDIT HOURS		105

Students should request a plan of study from their faculty advisor.

Surgical Technology

In order to meet the critical labor demands placed on health care organizations throughout the country, hospitals and medical centers have responded by employing additional allied health professionals. The operating room areas have reacted to the shortage by attempting to employ an increased number of surgical technologists who have the knowledge and skills to meet the critical demands in the operating room.

Columbus State Community College offers a two-year Associate of Applied Science Degree program in Surgical Technology. This six-quarter program provides students with coursework that includes general education and health-oriented courses which encompass both lecture and clinical instruction. Throughout the program, students will gain hands-on experience in a variety of hospitals under the supervision of the technology's faculty.

Graduates of the program are eligible to take the national certification examination administered by the Liaison Council on Certification for the Surgical Technologist (LCC-ST).

Upon completion of the Associate Degree in Surgical Technology, the graduate will be able to:

- Apply the principles of asepsis in a knowledgeable manner to provide optimum patient care.
- Identify the structure and function of body parts; recognize common disorders of the body.
- Identify emergency situations and use sound judgement in instituting established procedures. Correct situations in a calm and efficient manner.
- Respect the patient's inherent right of privacy, dignity, and safety.
- Protect the safety of clients, self, and others while practicing within the legal and ethical parameters of surgical technology.
- Describe the actions and use of anesthetic agents in order to be able to care for the patient in an intelligent manner.
- Prepare and know the specific uses of all equipment and supplies used for surgical procedures.
- Differentiate sterilization methods for special equipment and instruments necessary for specific surgical procedures.
- Develop skills in the organization of work by learning to use economy in time, motion, and materials when performing in the role as a surgical technician in all aspects of surgical techniques, in both routine and special surgical procedures.
- Display dexterity in the use of surgical instruments and the knowledge of specific surgical procedures.
- Anticipate the needs of the surgeon in order to expedite the procedure, thus minimizing the patient's exposure to trauma.
- Realize the importance of teamwork, consideration, and cooperation.
- Recognize limits of individual responsibility, and clearly understand that each individual is totally responsible for her or his own actions.
- Relate operating room technique to the total hospital environment.
- Identify the services provided by the surgeon in relation to the patient's restoration to health and return to the community.
- Explore advances in surgical procedures, subjects relating to the operating room and to the surgical patient.

Specific Program Admission Information

Listed below are additional requirements for admission to the Surgical Technology.

- High school graduate or G.E.D. equivalency
- Required high school (or equivalent) courses:
  Algebra, grade of "C" or above
  Biology, grade of "C" or above
  Chemistry, grade of "C" or above
- Placement into ENGL 101 - Beginning Composition
- Placement into MATH 103 - Beginning Algebra II, or completion of MATH 103 - Beginning Algebra II
- MULT 120 - Nurse Aide Training
- MULT 102 - Cardiopulmonary Resuscitation
- MULT 101 - Medical Terminology
- Completed health statement

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
SSCI 10x	Social Science 101, 102, 103 or 104	5
COMM 105	Speech OR	3
COMM 110	Conference & Group Discussion	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
ENGL 2xx	English 200, 202 or 204	3

Basic Studies Requirements

COURSE		CR
BIO 115	General Microbiology	5
CHEM 113	General and Biological Chemistry	5
BIO 170	Human Pathophysiology	5
BIO 161	Human Anatomy..	5
BIO 169	Human Physiology	5
MATH 104	Intermediate Algebra	5

Technical Studies Requirements

COURSE		CR
MULT 126	Patient Care Skills I	4
MLT 100	Introduction to Health Care	3
HIMT 141	Pharmacology	3
SURG 110	Surgical Technology I	6
SURG 120	Surgical Technology II	6
SURG 130	Surgical Technology III	7
SURG 210	Surgical Technology IV..	7
SURG 220	Surgical Technology V	8
SURG 230	Surgical Technology VI..	8
SURG 235	Surgical Specialties	2
SURG 240	Current Issues in the O.R.	2
TOTAL CREDIT HOURS		108

Technical Communication Technology

Technical Communication is the process of translating technical information into forms that are usable by the desired audience for the intended purpose. In the areas of business, industry, government, healthcare, and technology, there is a need for written material that communicates information to audiences in various forms. Technical communicators, therefore, write procedures manuals, texts, public relations materials, press releases, memos, environmental impact statements, video scripts, and on-line documentation for others to use.

The Associate of Applied Science Degree in Technical Communication at Columbus State Community College is the only such program in Central Ohio. The program provides students with the practical, specific skills and technical knowledge needed to get entry-level jobs as technical writers. Nearly all the courses are taught on the computer or have computer components, so the student becomes familiar with a variety of computer applications.

The program is designed to be completed within six quarters of full-time study. Students are required to take nine courses in Technical Communication (TCO courses) and an additional 15-25 credits in a single cognate (specialization) area. The choice of the cognate area is up to the student in consultation with the Technical Communications advisor and the advisor in the cognate area. Currently there are over 20 approved cognates in areas such as accounting, aviation maintenance, computer programming, marketing, environmental technology and graphic communications. For a complete listing, contact the Technical Communication Department.

The technical communicator should be able to discuss writing projects with a technical expert and know the best way to translate information so the targeted audience will understand it. The cognate area enhances the knowledge and skills of the technical communicator and provides vocabulary and basic knowledge about the chosen field.

Upon completion of the Associate of Applied Science Degree in the Technical Communication Technology, the graduate will be able to:

- Write in the forms most often required of a Technical Communicator (e.g., processes and procedures, reports, manuals, etc.).
- Translate complex material into clear, concise and easy-to-use terms for specific targeted audiences.
- Participate in the entire technical writing cycle both individually and collaboratively -- planning, researching, and coordinating projects, writing, revising, and editing documents; designing and placing graphics; and producing a final product.
- Prepare and deliver oral presentations both in formal and informal settings.
- Develop basic graphics and integrate them into text.
- Apply the principles learned in technical cognates to technical communication.
- Critically evaluate existing documentation for clarity, completeness, and general effectiveness.
- Operate the word processors and desktop design packages that are most widely used in the technical communication field.
- Incorporate the basic concepts of multimedia production into professional technical presentations.
- Edit documents individually and collaboratively using both hard copy and on-line methods.
- Carry out, prepare, and produce documented primary or secondary research.
- Demonstrate an understanding of concepts of time/project management both in individual and team projects.

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research.	3
HUM lxx	Humanities 111, 112, 113, 151 or 152	5
COMM 105	Speech.	3
ENGL 200	Business Communications	3
NSCI 101	Natural Science I	5

Basic Studies Requirements

COURSE		CR
TCO 101	Careers in Technical Communication	2
CPT 101	Computer Literacy l	3
xxxx xxx	Math or Science Elective	5
MCT 106	Computer Literacy 2	3
OADM 101	Business Grammar Usage.	3
COMM 110	Conference and Group Discussion	3
SSCI 101	Cultural Diversity	5

Technical Studies Requirements

COURSE		CR
TCO 203	Introduction to Technical Communication	3
TCO 204	Introduction to Technical Editing	3
OADM 167	Desktop Publishing Using PageMaker	3
TCO 223	Advanced Technical Communication	3
TCO 214	Document Design & Delivery Methods	3
TCO 215	Online Documentation	3
TCO 230	Technical Presentations	3
xxx xxx	Technical Writing Elective	3
TCO 250	Capstone Project	3
TCO 260	Career Development	1
TCO 290	Industry Internship	4

Between 15-25 hours must also be completed in a Technical Cognate.

TOTAL CREDIT HOURS 93-103

Technical Writing Electives may be selected from the following courses:

ENGL 202	Writing for the Health and Human Services	3
ENGL 206	Governmental Communications	3
ENGL 208	Communication for the Mass Media	3
ENGL 215	Magazine Publication	3
ENGL 280	Publishing Practicum	2
TCO 224	Advanced Technical Editing	3
TCO 297, 298,299	Special Topics in Technical Communication.	l-5

Veterinary Technology

Veterinary technicians assist veterinarians in many areas of practice, including medical, laboratory, and office procedures. All tasks are performed under the supervision of a veterinarian. Compassion for animals is desired, because the main interest of workers in this field must be treating and nursing sick animals.

Columbus State's Veterinary Technology program is accredited by the American Veterinary Medical Association. The Associate Degree program provides students with classroom as well as clinical experience. Students have the opportunity to intern at The Ohio State University's Veterinary Teaching Hospital. They also spend a portion of their clinical experiences in various veterinary facilities, including research facilities, private practices, 'or the zoo. Because students and workers in the health care field may be exposed to infectious materials and communicable diseases, the program emphasizes safety and prevention.

Students must submit evidence of health insurance before beginning VET 111 Veterinary Technology.

For students interested in equine health, a joint program has been developed between Columbus State's Veterinary Technology and Otterbein College's Equine Health Technology. Special advising is necessary for students who wish to participate in this joint program. Contact the department chairperson for more information. Upon completion of the Associate Degree in Veterinary Technology, the graduate will be able to:

- Obtain andrecordcase histories for animals in an animal health care setting.
- Explain to clients preventative medicine, treatment protocol, medical and surgical procedures, and medications dispensed by the hospital.
- Prepare medications according to a prescription.
- Administer treatment and/or medication either orally or parenterally.
- Apply wound dressings.
- Collect patient specimens for clinical laboratory procedures including blood samples, urine samples and skin scrapings.

- Perform clinical laboratory procedures, including complete blood counts, serum chemistries, microbiology, immunologic testing, urinalysis, and cytology.
- Identify internal, external, and blood parasites of dogs, cats, horses, and food animals.
- Perform routine procedures on laboratory animals (rats, mice, guinea pigs, rabbits).
- Prepare equipment, instruments, animals and medications for surgical procedures.
- Administer and monitor anesthesia induction, maintenance and recovery by inhalation or by parenteral injection.
- Assist in diagnostic, medical and surgical procedures.
- Perform dental prophylaxis.
- Administer and monitor intensive nursing care.
- Position animals, expose and develop radiographs.

Specific Program Admissions Information

Listed below are additional requirements for admission to the Veterinary Technology.

- High school graduate or G.E.D. equivalency
- Required high school (or equivalent) courses:
  Algebra, grade of "C" or above
  Biology, grade of "C" or above
  Chemistry, grade of "C" or above
- Placement into ENGL 101 - Beginning Composition
- Placement into MATH 103 - Beginning Algebra II, or completion of MATH 102 - Beginning Algebra I
- Completed health statement
- Health insurance or signed waiver
- Computer Literacy 1 or completion of CPT 101

General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition	3
ENGL 102	Essay & Research	3
COMM 105	Speech	3
HUM.lxx	Humanities 111, 112, 113, 151 or 152	5
SSCI 10x	Social Science 101, 102, 103 or 104	5
ENGL 200	Business Communications	3

Basic Studies Requirements

COURSE		CR
MATH 103	Beginning Algebra II	4
MATH 100	Calculations & Dosages	2
CHEM 113	General & Biological Chemistry	5
BIO 161	Human Anatomy	5
BIO 169	Human Physiology	5

Technical Studies Requirements

COURSE		CR
VET 111	Veterinary Technology	5
VET 114	Client Relations	2
VET 122	Veterinary Parasitology	3
VET 131	Veterinary Anatomy & Physiology	3
VET 136	Animal Health and Disease I	3
VET 138	Veterinary Surgical Techniques	3
VET 124	Principles of Veterinary Radiology	2
VET 126	Principles of Veterinary Anesthesia	3
VET 133	Clinical Application I	3
VET 135	Veterinary Hematology	5
VET 291	Clinical Experience I	6
VET 254	Clinical Seminar I	2
VET 262	Veterinary Pharmacology	3
VET 266	Animal Health & Disease II	3
VET 267	Veterinary Urinalysis & Clin. Chemistry	4
VET 269	Veterinary Microbiology	5
VET 263	Clinical Application II	3
VET 293	Clinical Experience II	6
VET 274	Clinical Seminar II	2
TOTAL CREDIT HOURS		109

Course Descriptions

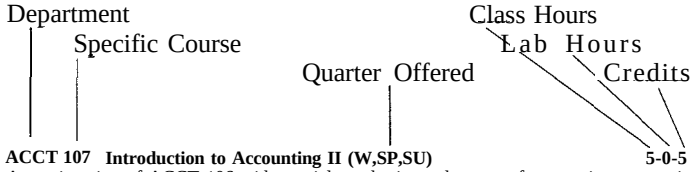
Columbus State's Course Numbering System

No two courses at Columbus State have the same course number. The three or four-letter alpha identifier indicates the department, and the three numbers indicate the specific course within each department.

Listed below are the various departments in alphabetical order. Refer to this chart to find the department in which a given course can be found. For example, ACCT 107 Introduction to Accounting would be found in the Course Descriptions section under Accounting Technology.

Accounting Technology ..... ACCT
Anthropology ..... ANTH
Arabic . . . . . ARAB
Architecture Technology ..... ARCH
Art . . . . . ART
Automotive Technology ..... AUTO
Aviation Maintenance Technology ..... AVI
Biology . . . . . BIO
Business Management Technology ..... BMGT
Chemistry ..... CHEM
Civil Engineering Technology CIVL
Communication Skills ..... COMM
Computer Programming Technology ..... CPT
Construction Management Technology ..... CMGT
Dance . . . . . DANC
Dental Laboratory Technology ..... DENT
Developmental Education ..... DEV
Dietetic Manager Certificate . DMGR (See Hospitality Management)
Dietetic Technician Major ..... DIET (See Hospitality Management)
Early Childhood Development Technology ..... ECD
Economics ..... ECON
Electro-Mechanical Engineering Technology .... EMEC
Electronic Engineering Technology ..... EET
Emergency Medical Services Technology ..... EMS
English . . . . . ENGL
English as a Second Language ... ESL
Environmental Technology .... ENVR
Financial Management Technology ..... FMGT
French . . . . . FREN
Geography . . . . GEO
Geology . . . . . GEOL
German . . . . . GERM
Gerontology Technology ..... GER
Graphic Communications Technology ..... GRPH
Health Information Management Technology .... HIMT
Heating and Air Conditioning Technology..... HAC
Hospitality Management Technology ..... HOSP
Human Resources Mgmt ..... HRM
Humanities.. ..... HUM
Interpreting/Transliterating Technology ..... ITT
Italian . . . . . ITAL
Japanese . . . . . JAPN
Landscape Major ..... LAND (See Architecture Technology)
Latin . . . . . LATN
Law Enforcement Technology ..... LAWE
Legal Assisting Technology .... LEGL
Legal Medical Const. .. LEGL/HIMT
Literature . . . . ENGL
Logistics Mgmt. Tech.. ..... LOGI
Marketing Technology ..... MKTG
Mathematics ..... MATH
Mechanical Engineering Technology ..... MECH
Medical Assisting Tech ..... MAT
Medical Laboratory Technology ..... MLT
Mental Health/Chemical Dependency/Mental Retardation Technology .... MHCR
Microcomputing Technology ... MCT
Multi-Competency Health Technology ..... MULT
Multimedia Production Tech. MMPT
Music . . . . . MUS
Natural Science.. ..... NSCI
Nursing Technology ..... NURS
Office Administration Tech.. OADM
Philosophy . . . . . PHIL
Physics . . . . . PHYS
Political Science ..... POLS
Psychology . . . . . PSY
Quality Assurance Technology ..... QUAL
Radiography Technology ..... RAD
Real Estate Technology ..... REAL
Retail Management Technology ..... RETL
Social Sciences ..... SSCI
Sociology . . . . . SOC
Spanish . . . . . SPAN
Sports & Fitness Mgmt. Tech. SFMT
Surgical Technology.. ..... SURG
Surveying.. . . SURV
Technical Communications Technology ..... TCO
Theater . . . . . THEA
Veterinary Technology ..... VET

Explanation of Course Description Codes



ACCT 107 Introduction to Accounting II (W,SP,SU) **5-0-5**
A continuation of ACCT 106 with special emphasis on the uses of accounting reports in management decisions and in control of business operations; focus is on the internal use of accounting information. Prerequisite: ACCT 106. Not open to Accounting majors.

Course Number - the three or four letter alpha identifier indicates the department; the three numbers that follow identify the specific course. Three or four letters followed by xxx indicate an elective requirement for which only the department is specified; here the student may choose the specific course, subject to approval of his/her advisor. Where no alphabetical or numerical characters appear, the elective may come from more than one department.

Quarter Offered - indicates which quarter or quarters the course is offered during the year: A-autumn, W-winter, SP-spring, SU-summer.

Prerequisites - any coursework that must be completed before the student is eligible to enroll for the course. For example, if ENGL 101 were listed as a prerequisite for a course, then only students who have completed ENGL 101 would be eligible to register for the course.

Concurrent Courses - any coursework that must be completed during the same quarter as the course in which you are enrolling. For example, if course ACCT 27 1 is concurrent with course ACCT 272, both courses must be taken during the same quarter.

Class Hours - the number of hours per week a particular course meets in a lecture classroom.

Lab Hours - the number of hours per week a particular class meets in a laboratory situation. This is usually in addition to class hours.

Credits - the number of credits to be awarded to students who successfully complete the course.

Lab Fee - the amount of money (if any) required of students registering for the course. This fee is needed to help offset the cost of consumable materials used in lab situations. Examples are chemicals, glassware, booklets, manuals, and edibles.

Accounting Technology (ACCT)

ACCT 101 Financial Accounting (A,W,SP,SU) 4-0-4
The first of a two-quarter sequence introducing financial accounting to non-accounting majors. The course is a fundamental study of the principles and procedures of double-entry accounting as applied to sole proprietorships. Concepts of this first course are continued and applied in the second course, Managerial Accounting. Students are advised to avoid any time lapse between these courses. Lab fee: $2.00.

ACCT 102 Managerial Accounting (A,W,SP,SU) 3-0-3
An extension of financial accounting applying introductory accounting techniques to business situations. It is designed to acquaint the student with the use of accounting information in the control of a business operation and the interpretation of such information for management's use. This course is an overview of the analysis of financial statements, cost and responsibility accounting, budgeting, cost volume profit analysis and decision making. Lab fee: $2.00. Prerequisite: ACCT 101 or ACCT 111,

ACCT 106 Introduction to Accounting I (A,W,SP,SU) 5-0-5
The uses of accounting reports for business entities; focus on the uses of accounting for external reporting, emphasizing accounting as a provider of financial information. This course is intended for students who plan to transfer to a four-year college or university to complete a Bachelor's Degree. Not open to Accounting majors. Lab fee: $2.00.

ACCT 107 Introduction to Accounting II (A,W,SP,SU) 5-0-5
A continuation of ACCT 106 with special emphasis on the uses of accounting reports in management decisions and in control of business operations; focus is on the internal use of accounting information. Lab fee: $2.00. Prerequisite: ACCT 106. Not open to Accounting majors.

ACCT 111 Principles of Accounting I (A,W,SP,SU) 5-0-5
An introductory course in accounting with emphasis on 1) the accounting cycle as applied to a service organization 2) adaptations in accounting for a merchandising concern, and 3) recording throughthe use of specializedjournals. Lab fee: $6.00. Prerequisites: Placement into ENGL 101 and MATH 102. Not recommended for Associate of Arts or Associate of Science degree seeking students.

ACCT 112 Principles of Accounting II (A,W,SP,SU) 5-0-5
A continuation of ACCT 111 will specifically emphasize the major types of assets, as well as the category of current liabilities, and payroll accounting, with particular emphasis of the effect of their measurement on net income and their presentation in the financial statements. The course is rounded out with a discussion of corporate equity and the Statement of Retained Earnings. Lab fee: $4.00. Prerequisite: ACCT 111 with a "C" or better.

ACCT 113 Principles of Accounting III (A,W,SP,SU) 5-0-5
A continuation of ACCT 112 with special emphasis on accounting problems peculiar to corporations (focusing on long-term liabilities and corporate earnings). A major portion of this course is devoted to the analysis and interpretation of accounting information enabling management to plan their organization's financial destiny. Lastly, the students will be expected to apply their accumulated knowledge of ACCT 111, ACCT 112 and ACCT 113 to a computerized practice set for a merchandising corporate entity. Lab fee: $4.00. Prerequisite: ACCT 112 with a "C" or better.

ACCT 121 Data Processing for Accountants (W,SP) 2-4-4
A survey of types of software packages often used by accountants. In-depth practice in the varied practical applications of Lotus Electronic Spreadsheet is provided. Lab fee: $12.00. Prerequisite: CPT 101

ACCT 126 Accounting Systems (SP,SU) 2-5-5
An introduction to systems fundamentals including flowcharting and internal control. A comprehensive application of accounting principles studied in ACCT 111 and ACCT 112 using microcomputers. Lab fee: $8.00. Prerequisites: ACCT 121 and ACCT 112

ACCT 201 Intermediate Accounting I (A) 4-3-5
A continuation of accounting theory. An in-depth study of the accounting process and accounting records; the nature and content of accounting statements: balance sheet, income statement, and retained earnings statement; analysis of working capital; analysis and methods of valuation and statement presentation of the following items: cash and receivables, inventories and property, plant and equipment. Lab fee: $1.00. Prerequisite: ACCT 113 with a "C" or better, and ACCT 126.

ACCT 202 Intermediate Accounting II (W) 4-3-5
A continuation of ACCT 201 including analysis and methods of valuation and statement presentation of the following items: current liabilities contractual and contingent items; intangible assets; deferred charges and long-term liabilities, investments, leases, equity transactions, earnings per share, statement of cash flow. Lab fee: $1.00. Prerequisite: ACCT 201 with a "C" or better.

ACCT 206 Advanced Accounting (SP) 4-3-5
Covers series of advanced topics such as partnership accounting, branch accounting, consolidations and installment sale accounting. These topics are such that they round out the student's knowledge of accounting for the most common organizational types. Prerequisite: ACCT 202

ACCT 211 Cost Accounting (A) 4-3-5
A study of the field of job order cost accounting; the cost cycle methods of handling materials, labor costs, and manufacturing overhead expenditures (controllable and uncontrollable); process cost accounting; byproducts and joint products; fundamental cost-volume-profit relationships (break-even analysis); flexible budgeting and standard costs. Lab fee: $3.00. Prerequisite: ACCT 113

ACCT 221 Financial Statement Analysis I (A,SU) 2-3-3
A study of forms of business organization; source and management of working capital; financial statement presentation; tools of analysis; percentages, comparisons to past performance industry standards, and basic ratios including working capital. Lab fee: $1.00. Prerequisite: ACCT 113

ACCT 222 Financial Statement Analysis II (W,SU) 2-3-3
A continuation of course ACCT 221; ratios of equity, return on equity and return on assets; corporate securities; financing through securities; sources and management of long-term assets, debt, and equity including capital budgeting; expansion and combinations, reorganization, receivership, and dissolution. Lab fee: $2.00. Prerequisite: ACCT 221

ACCT 231 State and Local Taxation (SP,SU) 2-3-3
Payroll taxes (withholding and reports), unemployment taxes, workmen's compensation, franchise taxes, personal property taxes (classified and intangible), city income taxes, Ohio personal taxes, sales and use taxes, real estate taxes, and vehicle and other taxes. Lab fee: $5.00. Prerequisite: ACCT 113

ACCT 232 Federal Taxation (W,SU) 4-3-5
Individual income taxes; returns, income exemptions, deductions, gains and losses, rates, adjustments. Problems of proprietorship, partnerships, corporations, inventories, depreciation accounting, installment and deferred sales treatment. Filing requirements, payments, refunds, claims. Tax planning techniques. Lab fee: $5.00. Prerequisite: ACCT 113

ACCT 236 Advanced Taxation (SP) 3-3-4
A continuation of ACCT 232, including non-liquidating distributions, accumulated earnings, and undistributed income. Sub-chapter S corporations, stock redemption and partial liquidations, corporate reorganization, and estate and gift taxation. Lab fee: $2.00. Prerequisite: ACCT 232

ACCT 237 Enrolled Agent's Review Course 3-2-4
This course is an intense review of all aspects of personal income tax, corporate partnership taxes, the unified transfer tax, taxation of trusts and exempt entity requirements. The purpose of the course is to prepare the student to successfully complete the Enrolled Agent's Examination of the Internal Revenue Service. Emphasis is placed upon examination questions rather than tax return preparation or detailed reporting requirements. Lab fee: $5.00. Prerequisite: ACCT 236. Concurrent: ACCT 238.

ACCT 238 Tax Practice Management 4-0-4
A study of those aspects of operating a successful tax practice. Maintaining internal control over client tax documents. Issues surrounding deficiency, assessment, and collection procedures. Examination of returns by the Internal Revenue Service (audit flags). Practice before the Internal Revenue Service. Civil and criminal tax procedures. Ethical responsibilities of the preparer. Lab fee: $5.00.

ACCT 241 Auditing (SP,SU) 3-3-4
A course concerned with identification of professional qualifications and responsibilities of an auditor and study of auditing concepts and techniques utilized in the investigation and appraisal of economic information. Topics of study will include: professional ethics, legal liability, internal control, statistical sampling, reports, and auditing standards and procedures used in an independent audit. Lab fee: $40.00. Prerequisite: ACCT 202

ACCT 251 Accounting Practice (SP) 3-3-4
A capstone course in the technology intended to tie course material presented throughout the Accounting Technology curriculum to a single practical application herein students form simulated accounting firms to maintain accounting records for an on-going enterprise. A secondary thrust is intended to assist students in post-graduation pursuits of employment and continuing education. Lab fee: $10.00. Prerequisite: ACCT 202

ACCT 256 Final Project (SP) 2-8-5
A capstone course for students who are enrolled in the EDP Auditing Major. The course integrates materials presented throughout the curriculum through use of a simulated accounting engagement. Students will design appropriate software in conjunction with both systems analysis and design and apply it to a period of transactions of a hypothetical business enterprise. Prerequisite: ACCT 202

ACCT 261 Controllership/CPA Review (SP) 3-3-4
The emphasis of this course is the practical accounting problems and questions on accounting theory as presented in the C.P.A. examination which students have not had in other Columbus State classes such as: fund accounting, consolidated financial statements, foreign currency transactions, and partnership accounting (including liquidations). Other emphasis will include test taking strategies, Geometry in the G.R.E., statement of cash flow, review of intermediate accounting. Lab fee: $4.00. Prerequisite: ACCT 202

ACCT 266 Public Administration/Fund Accounting (SP,SU) 3-3-4
A course dealing with the principles and applications of fund accounting as it relates to state and local governments. It includes budgeting, accounting, reporting, and auditing for federal government, colleges, universities, and hospitals. Prerequisite: ACCT 202

ACCT 271 Accounting Internship (A,W,SP,SU) 0-20-2
A structured employment situation in which the student is introduced into an actual accounting office. The student is expected to perform many of the accounting procedures studied in conjunction with their other classes (i.e., bank reconciliations, payroll, journal entries, etc.) and to gain relevant experience and a limited work record. Weekly supervision of the intern is used to solve any job-related problems and to attempt to develop a sense of responsibility and a professional attitude within the student/intern. Prerequisite: ACCT 201. Concurrent: ACCT 272

ACCT 272 Internship Seminar (A,W,SP,SU) 2-0-2
A practical work experience in which the student is expected to perform several operational auditing procedures (i.e., flowcharts, organization charts, analysis of existing internal control, recommendations, etc.) related to an accounting internship position. Emphasis is placed upon analyzing and further understanding the student's working environment. Prerequisite: ACCT 201. Concurrent: ACCT 27 1.

Anthropology (ANTH)

ANTH 200 Introduction to Physical Anthropology (A,W,SP,SU) 5-0-5
An introduction to anthropology with primary emphasis on the subdiscipline of physical anthropology. Other anthropological subdisciplines will be drawn on and incorporated where relevant. Topics to be covered include: basic genetic concepts, nonhuman primates, human evolution, and modem human biological diversity. A biocultural approach is used. Lab fee: $6.00. Prerequisite: Placement into ENGL 101.

ANTH 201 World Prehistory (A,W,SP,SU) 5-0-s
A basic survey of the prehistoric human past. Prehistory focuses on the use of material remains and their context to reconstruct past lifeways. Topics include cross-cultural treatment of major transitions in prehistory (such as the development of farming economies and of complex societies) and general theories of cultural change in a broad geographical and temporal context. Lab fee: $6.00. Prerequisite: Placement into ENGL 101.

ANTH 202 Introduction to Cultural Anthropology (A,W,SP,SU) 5-0-5
An introduction to the study of anthropology with primary emphasis on the subdiscipline of cultural anthropology. Other anthropological subdisciplines will be drawn on and incorporated where relevant. Topics to be covered will include: basic anthropological concepts and theories; various world cultures, the nature of cultural diversity; and sociocultural systems. Lab fee: $6.00. Prerequisite: Placement into ENGL 101.

ANTH 240 Introduction to Forensic Anthropology (On Demand) 5-0-5
An introduction to the field of forensic anthropology. Topics to be covered will include basic forensic anthropology concepts and theories; the study of human growth and development; and the nature of modem human biological diversity. Lab fee: $6.00. Prerequisites: ANTH 200 or LAWE 111 and LAW 113 or LEGL 210 or BIO 161.

ANTH 290 Capstone Experience in Anthropology (On Demand) 2-2-3
This course is designed for students completing the two-year Associate of Arts or Associate of Science degree who have a special interest in continuing in a baccalaureate degree program in Anthropology. Students will devise a research project that relates to their academic interest after reviewing research methodologies and findings in Anthropology; complete a portfolio that covers their academic career at Columbus State Community College, and participate in summative testing of their academic skills. Open only to Associate of Arts or Associate of Science students preparing to graduate within two academic quarters. Lab fee: $10.00. Prerequisite: Completion of AA/AS core requirements and at least 75 hours toward the degree with five credit hours in anthropology.

ANTH 293 Independent Study in Anthropology (On Demand) **l-5**
An individual student-structured course. The independent study elective permits a student to pursue his/her interests within the context of a faculty-guided program. Lab fee: $5.00. Prerequisite: Permission of the Instructor and the Chairperson.

ANTH 299 Special Topics in Anthropology (On Demand) **l-5**
Detailed examination of selected topics of interest in anthropology. Lab fee: $5.00. Prereq-uisites vary.

Arabic (ARAB)

ARABIC 101 Elementary Arabic I (On Demand) 5-0-5
Introduction to the fundamentals of the Arabic language with practice in listening, reading, speaking, and writing. Includes studies in Arabic culture. Meets elective requirements in the Associate of Arts and Associate of Science Degree programs and transfer requirements in foreign languages and literature. Lab fee: $6.00. Prerequisite: Placement into ENGL 101.

ARABIC 102 Elementary Arabic II (On Demand) 5-0-5
Continuation of ARAB 101 with further development of listening, reading, speaking, and writing skills and further study of Arabic culture. Meets elective requirements in the Associate of Arts and Associate of Science Degree programs and transfer requirements in foreign languages and literature. Lab fee: $6.00. Prerequisite: ARAB 101 with a grade of "C" or better.

Architecture Technology (ARCH)

ARCH 100 Introduction to the History of Architecture (A,W,SP,SU) 5-0-5
A study of the fundamental elements of architecture and its development and a study of what constitutes which begins with the question "what is architecture?" Architecture is viewed from the perspectives of form, funciton, interior and exterior space, technological development and landscape. The course will explore the meanings of architecture to various cultures throughout western history. Meets elective requirements in the Associate of Arts and Associate of Science Degree programs. Lab fee: $9.00.

ARCH 111 Construction Basic Drafting (A,W,SP,SU) 2-6-4
This is a basic drafting course using manual drafting. Areas covered include lettering, linework, layout, dimensioning, geometric construction and orthographic projection. Problems are drawn from throughout the construction industry. Lab fee: $12.00.

ARCH 112 Construction CAD Drafting (A,W,SP,SU) **l-5-3**
This course is an entry-level computer aided drafting class. Emphasis is placed on the basic drawing, editing, display, dimensioning and block commands. Several small projects will be created utilizing these features. Lectures, in-class demonstrations, and hands on work sessions are employed as teaching tools during the course. The course uses the current release of AutoCAD. Lab fee: $15.00. Prerequisite: ARCH 111 or permission of instructor.

ARCH 113 Construction CAD Drafting II (A,W,SP,SU) 2-3-3
This course builds upon the basics learned in ARCH 112. Emphasis is placed on advanced dimensioning features, hatching, attributes, and external references. Several small projects will be created utilizing these features. The final project in the course will allow the student to pull together all of the features learned in ARCH 112 and during ARCH 113 to prepare a complete set of construction documents for a residential house. Lectures, in-class demonstrations, and hands on work sessions are employed as teaching tools during the course. The course uses current release of AutoCAD. Lab fee: $15.00. Prerequisite: ARCH 112.

ARCH 130 Introduction to Interior Design (AU,SP) 2-6-4
An introduction to the design process, focusing on space planning, through the use of project assignments in a design studio. Emphasis is on problem solving and the process of design, exploring the tools and resources available, and presentation. Several projects, small in scope, will be employed to give the student exposure to a wide variety of typical interior design problems. Lecture, discussion, and studio critiques will be employed as teaching methods during the course. Lab fee: $12.00. Prerequisites: ARCH 161, ARCH 100 or CMGT 112 or permission of instructor.

ARCH 155 Structural Systems (Wood) (A,SP) **l-5-3**
This course involves the structural design and detailing of various systems used in wood construction, including conventional light framing, post and beam, trusses, and various plywood panel systems. Additional topics discussed include installation, insulation and protection of wood structures. Lab fee: $12.00. Prerequisite: MATH 104, ARCH 111 and CIVL 120.

ARCH 161 Architectural Drafting (W,SU) **l-7-4**
This course follows construction basic drafting with the emphasis on advanced orthographic projection and basic descriptive geometry as found in the construction of buildings. Problems are designed to develop the students ability to think three-dimensionally and solve problems involving the intersection of surfaces and lines. Basic perspective, planimetric, and isometric drawing are included. Lab fee: $12.00. Prerequisite: ARCH 111

ARCH 212 Mechanical Systems I (HAC) (A,W) 2-2-3
This course identifies the elements that affect the comfort of interior spaces. It stresses the fundamentals of comfort conditioning, heat loss and heat gain calculations, methods of heating, ventilation and air conditioning. The student will learn how to incorporate the necessary elements of HAC into the building envelope. Lab fee: $12.00. Prerequisites: ARCH 161 and CMGT 121.

ARCH 214 Mechanical Systems II (Electrical) (W,SP) 2-2-3
This course deals with the fundamentals of lighting in buildings. The essentials of the electrical code, electrical systems, standards, conventional symbols, nomenclature and layouts. Coordination of electrical work with the elements of the building, and fixture and equipment schedules. Lab fee: $12.00. Prerequisites: ARCH 161 and CMGT 121.

ARCH 216 Mechanical Systems III (Plumbing) (A,SP) 2-2-3
This course emphasizes water supply and sanitation. Deals with plumbing codes, standards, equipment, andtechniques. Conventional symbols, nomenclature, details, schedules and other representation on drawings. Lab fee: $12.00. Prerequisites: ARCH 161 and CMGT 121.

ARCH 232 Building Construction Standards (A,SP) **l-5-3**
This course focuses primarily on building and zoning codes. Emphasis is placed on the OBBC (Ohio Basic Building Code) and the Columbus, Ohio zoning code. Other areas of study include: the influence of professional associations, manufacturers, and testing laboratories in design and construction documents; CSI specifications, their organization, content and relationship to other contract documents; and professional practice in architecture Lab fee: $12.00. Prerequisite: CMGT 121.

ARCH 250 Building Enclosure Materials (A,SP) **l-5-3**
This course is intended to follow ARCH 120 and expose the student to those materials which are specifically associated with the shell of buildings. Topics covered include interior finishes, window and door openings, moisture and thermal protection, acoustical treatments, and mechanical conveyance systems. Lab fee: $12.00. Prerequisite: CIVL 120.

ARCH 262 Presentation Drawings (A, SP) **1-9-4**
An introduction to presentation drawing techniques using computer techniques to focus on three-dimensional drafting, modeling and other computer applications useful to the profession. Lab fee: $15.00. Prerequisite: ARCH 113.

ARCH 263 Working Drawings I (W,SU) **l-9-4**
This course introduces the student to the practice of working drawings, and deals with the generation of schedules, details, plans and other drawings necessary, and ADA requirements, with an emphasis on the organization and coordination necessary among the drawings. Lab fee: $12.00. Prerequisites: ARCH 250 and ARCH 155.

ARCH 264 Workings Drawings II (SP,A) **1-11-5**
This course uses all of the knowledge obtained from the previous architectural courses. A complete set of working drawings is created as a team effort. The student learns to incorporate consultant information in the final set of working drawings. Independent search for and use of information is encouraged. Lab fee: $20.00. Prerequisites: ARCH 232 and ARCH 263.

ARCH 291 Field Co-Op Experience (SU) 0-40-4
Off-campus work experience in architecture, consulting engineering or construction related paid employment, that augments formal education received in the technology, with actual work conditions and job experience. "N" credit will not be allowed for this course. Lab fee: $15.00. Prerequisites: CMGT 290 or permission of instructor.

Landscape Major (LAND)

LAND 101 Landscape Principles (A,W,SP,SU) 2-3-3
Landscape principles will study the basic components of landscape design and those elements, that when combined together create such designs.

LAND 102 Landscape Design I (A,W,SU) 2-6-4
This course will study the application of landscape design principles to construction situations, design vs. style, perform site inventory and analysis and draft basic projects. Lab fee: $20.00. Prerequisites: ARCH 111 and LAND 101.

LAND 104 Specialty Gardens (W) 2-3-3
This course will study the history, development and basic design of gardens including Estate, Victorian, Colonial Patio, Water, etc., gardens. The class will combine both in-class and field experience. Lab fee: $15.00. Prerequisite: LAND 102.

LAND 105 Landscape Plants I (SP,SU) 3-3-4
Thiscourse will study the identification parameters, landscape features and growing conditions of trees and shrubs indigenous to the midwest climate zone. This class will combine both in-class and field experience.

LAND 107 Landscape Maintenance (W,SP) 2-3-3
Basic landscape maintenance principles will be discussed with an emphasis on procedures best suited to promote optimum growth and aesthetic qualities of landscape plants. Other areas include soil structure and amendments. Lab fee: $10.00.

LAND 108 Landscape Garden Flowers (SP,SU) 2-3-3
This course will study the identification parameters, landscape features and growing conditions of herbaceous flowering plants such as annuals, perennials, bulbs and herbs. Design of perennial gardens will also be covered. Lab fee: $15.00.

LAND 109 Landscape Arboriculture (A,W) 2-2-3
This course introduces the basic principles of tree biology and care. Arboricultural practices will be discussed and performed. Lab fee: $15.00.

LAND 110 Landscape Computer Applications (W,SU) 2-3-3
This course will explore current computer applications as they relate to the landscape industry. Lab fee: $10.00. Prerequisites: LAND 102 and CPT 101 or permission of instructor.

LAND 152 Site Planning (A,SP) 2-6-4
This course identifies the elements of a site and influences, methods and examples of site planning for environmental design projects. Emphasis on interdisciplinary nature of site planning. Regulatory and technical requirements. Creation and evaluation of prototypical site planning projects. Lab fee: $20.00. Prerequisites: LAND 102 or ARCH 161 or SURV 141 or permission of instructor.

LAND 200 Landscape Practicum (SU) 2-4-4
Students will be exposed to many working methods of the landscape industry. Through actual hands-on experience the following areas will be taught: skid steel operation, maintenance equipment operation, irrigation line assembly, paver construction, wood construction, retaining wall construction and trencher operation. Lab fee: $40.00.

LAND 201 Landscape Pest Control (SP) 2-3-3
This course will study basic control methods as they apply to insects, fungi, bacteria, abiotic and other pests in the landscape. Identification of pests as well as mechanical, cultural, biological and chemical controls will be discussed. Lab fee: $5.00. Prerequisite: LAND 105 or permission of instructor.

LAND 202 Landscape Design II (W,SP,SU) 2-6-4
This course builds on skills learned in LAND 102 and emphasizes graphic representations of plant materials and landscape structures. Lab fee: $20.00. Prerequisites: LAND 102, LAND 206 and LAND 105 and/or LAND 205.

LAND 203 Landscape Water/Lighting Systems (A,W) 2-3-3
This course will study the design principles of landscape irrigation and lighting systems. Cost/estimation factors will also be discussed. Lab fee: $12.00. Prerequisites: LAND 102 and MATH 104.

LAND 204 Turfgrass Management (SP,SU) 2-3-3
To teach the student basic principles of turfgrass science and culture, specifically turfgrass identification, turf disease diagnosis, turf insect pest control, turf weed control and specific turfgrass cultural and management practices. Lab fee: $10.00. Prerequisites: LAND 101 and LAND 201.

LAND 205 Landscape Plants II (A,SU) 3-3-4
The plants in this course are not the same as those covered in LAND 105. This course will study the identification parameters, landscape features and growing conditions of trees and shrubs indigenous to the midwest climate zone. This class will combine both in-class and field experience.

LAND 206 Landscape Graphics (A,SP) 2-4-4
This course will study the graphic symbols used to create landscape drawings. Included will be such information as color renderings, graphic representation of trees and shrubs, and shadowing. Lab fee: $15.00.

LAND 207 Landscape Structures (A,SP) 2-3-3
This course will study the design and construction principles of landscape decks, patios, etc., and design projects of each will be drafted. Lab fee: $15.00. Prerequisites: LAND 102.

LAND 208 House Plants (W,SU) 2-3-3
This course will study the features and growing conditions of indoor plant materials and maintenance procedures for same. Lab fee: $10.00. Prerequisite: LAND 102 or permission of instructor.

LAND 210 Landscape Plants III (W) 3-3-4
This course will study the identification parameters, landscape features and growing conditions of evergreen trees and shrubs indigenous to our climate. Prerequisite: LAND 105 or LAND 205.

LAND 222 Landscape Operations (W,SP) 2-3-3
This is a capstone course in the Landscape Major; students will receive an overview of the technical operations of a landscape design/build firm. Students will work on group and indiviudal class projects simulating the day to day business operations of a landscape firm. Prerequisites: LAND 202, LAND 203, and LAND 207.

Art (ART)

ART 101 History of Western Art (A,W,SP,SU) 5-0-5
A survey of artistic expression in the Western world from the earliest times to the present including the types of media used and their limitations, the role of patronage in artistic development, the relationship of art and the artist to developments in society, and a consideration of the attributes of "great" art in any time or age. Meets elective requirements in the Associate of Arts and Associate of Science Degree programs and distributive transfer requirements in Humanities, and the Arts. Lab fee: $5.00. Prerequisites: Placementinto ENGL 101.

ART 111 Fundamental Concepts of Art (W,SU) 5-0-5
This is a course that specifically explores the principles of artistic communication through the structural devices of line, color, iconography, shape, perspective, collage, montage, etc. Selected major works of art and styles in the history of art, as well as the moving image, film and video will be analyzed in relation to what they were intended to communicate and how this communication is achieved. Lab fee: $6.00. Prerequisite: Placement into ENGL 101.

ART 121 Beginning Drawing (A,W,SP,SU) **0-10-5**
An introduction to the basic techniques of freehand drawing. Emphasis is on media, concepts, drawing from observation and development of technique. Meets elective requirements in the Associate of Arts and Associate of Science Degree programs and distributive transfer requirements in the Arts. Lab fee: $8.00.

ART 122 Two-Dimensional Design (W and On Demand) **0-10-5**
An introduction to the basic concepts of 2-dimensional design: line, shape, space, hue, value and texture. Use of various media in a variety of problem-solving projects leading toward an awareness of the principles of visual organization. Lab fee: $8.00.

ART 123 Beginning Painting (On Demand) **0-10-5**
An introduction to studio painting fundamentals utilizing varied subject matter and media. Lab fee: $8.00.

ART 131 3-Dimensional Design (W,SU) **0-10-5**
Design II is aimed at developing the student's basic understanding of three dimensional visual communication through the exploration of three dimensional principles. Student's learn through the process of solving visual art problems. Solutions to these problems are achieved through the fabricating of three dimensional art objects. Various techniques and media are also systematically addressed that are common to this area of study. Lab fee: $10.00. Prerequisite: ART 122 or permission of instructor.

ART 230 Color Composition (On Demand) **0-10-5**
This course examines the theory and artistic application of basic color principles through student projects and lecture. Such topics as color mixing, interaction, and organization are presented. Lab fee: $10.00. Prerequisite: ART 111 or ART 121.

ART 242 World Cinema (On Demand) **5-0-5**
A course exploring the history of world cinema through analysis of the content and structure of selected major historic examples in the genre from the beginnings of film in the late 19th century to the present. Special attention will be given to the work of important filmmakers from around the world, and the social and philosophical context in which they worked. Lab fee: $6.00. Prerequisite: Placement into ENGL 101.

ART 290 Capstone Experience in Art (On Demand) **2-2-3**
A capstone course focusing on Art. Students will work on developing techniques and methodologies in the field of art. Students will apply these techniques to a project of their own

design, complete a personal portfolio covering their studies at Columbus State, and participate in summative testing of their academic skills. Open only to AA and AS students preparing to graduate within 2 academic quarters. Lab fee: $10.00.

ART 299 **Special** Topics **in Art (On Demand)** **l-5**
Detailed examination of selected topics of art. Lab fee: $2.00. Prerequisites vary.

Automotive Technology (AUTO)

AUTO 061 Automotive Principles (A,W,SP,SU) 3-3-4
This course covers the basic systems of an automobile and their theory of operation. Includes the physical, hydraulic, and electrical theoretical basics, as appled to cars and light trucks. This course and AUTO 062 are prerequisites for all other automotive courses. Credit for this course can be obtained by satisfactory completion of the course, documented previous training and/or experience, or by satisfactory results of a proficiency exam administered by the department. Lab fee: $15.00. Recommend concurrent with AUTO 062.

AUTO 062 Shop Orientation (A,W,SP,SU) 3-3-4
This course covers the operation of an automotive shop. Includes use of hand and power tools and basic maintenance operations on cars and light trucks. This course and AUTO 061 are prerequisites for all other automotive courses, Credit for this course can be obtained by satisfactory completion of the course, documented previous training and/or experience, or by satisfactory results of a proficiency exam administered by the department. Lab fee: $15.00. Concurrent or prerequisite: Recommended concurrent with AUTO 061.

AUTO 101 Autocare (A,SP) 2-2-3
This course is designed for the non-automotive student who is interested in obtaining a familiarity with the fundamentals of automotive systems and preventative maintenance. Also included is information on choosing a repair shop, tips and techniques for dealing with minor breakdowns, and vehicle purchasing strategies. Lab fee: $20.00.

AUTO 110 Engine Repair (A,SU) 2-4-4
A basic course in the theory of operation and automotive engines. All engine mechanical systems are explored during teardown and assembly of a current automotive engine. Common in-car repairs are covered. Credit for this course can be obtained by satisfactory completion of the course, ASE certification in this area, or by satisfactory results of a proficiency exam administered by the department. Lab fee: $20.00. Prerequisites: AUTO 061 and AUTO 062.

AUTO 115 Advanced Engine Repair (A,SU) 2-2-3
An advanced engine course including minor cylinder head and valve machining, component service, and engine removal and installation. Prepares student to achieve national ASE certification in engine repair. Lab fee: $20.00. Prerequisite or concurrent: AUTO 110.

AUTO 120 Automatic Transmissions (W,SP) 2-4-4
A basic course in automatic transmission theory of operation. Hydraulic and electrical systems are emphasized during a complete teardown and assembly. Credit for this course can be obtained by satisfactory completion of the course, ASE certification in this area, or by satisfactory results of a proficiency exam administered by the department. Lab fee: $15.00. Prerequisites: AUTO 061 and AUTO 062.

AUTO 125 Advanced Automatic Transmissions (W,SP) 2-2-3
An advanced course in automatic transmission and transaxle service and diagnostics. Emphasis on field diagnostics and repairs. Prepares student to achieve national ASE certification in automatic transmissions. Lab fee: $15.00. Prerequisite or concurrent: AUTO 120.

AUTO 130 Manual Transmissions (A,SU) 2-2-3
This course provides a working knowledge of manual transmissions, transaxles, and differentials. Repair and diagnostics are covered during complete teardown and assembly. Credit for this course can be obtained by satisfactory completion of the course, ASE certification in this area, or by satisfactory results of a proficiency exam administered by the department. Lab fee: $15.00. Prerequisites: AUTO 061 and AUTO 062.

AUTO 135 Advanced Manual Transmissions (A,SU) 2-2-3
An advanced course in clutch, manual transmission, transaxle, and differential diagnostics. Includes clutch and transmission removal and installation. Prepares student to achieve national ASE certification in manual transmissions. Lab fee: $15.00. Prerequisite or concurrent: AUTO 130.

AUTO 140 Suspension and Steering (ASU) 2-4-4
This course provides a working knowledge of the diagnosis and repair of wheels, tires, suspension systems, steering systems, and wheel alignment diagnosis and adjustment. Credit for this course can be obtained by satisfactory completion of the course, ASE certification in this area, or by satisfactory results of a proficiency exam administered by the department. Lab fee: $15.00. Prerequisites: AUTO 061 and AUTO 062.

AUTO 145 Advanced Suspension and Steering (W,SU) 2-2-3
An advanced course covering detailed diagnostics and service of suspension components. Includes instruction on both two-wheel and four-wheel alignment. Prepares student to achieve national ASE certification in suspension and steering. Lab fee: $15.00. Prerequisite or concurrent: AUTO 140.

AUTO 150 Brake Systems (W,SP) 2-4-4
This course provides a working knowledge of the diagnosis and repair of the hydraulic system, drum brake systems, disc brake systems, power assist units, and associated systems including wheel bearings, parking brakes and related electrical circuits. Credit for this course can be obtained by satisfactory completion of the course, ASE certification in this area, or by satisfactory results of a proficiency exam administered by the department. Lab fee: $20.00. Prerequisites: AUTO 061 and AUTO 062.

AUTO 155 Advanced Brake Systems (A,SP) 2-2-3
An advanced course covering detailed diagnostics and repair of automotive brake systems including anti-lock systems. Prepares student to achieve national ASE certification in brake systems. Lab fee: $15.00. Prerequisite: AUTO 150.

AUTO 160 Electrical Systems (W,SP) 3-3-4
This course provides a working knowledge of the diagnosis and repair of general electrical systems: the battery, starting, charging, and lighting systems. Also included are gauges, warning devices, wiper systems, and other electrical accessories. Credit for this course can be obtained by satisfactory completion of the course, ASE certification in this area, or by satisfactory results of a proficiency exam administered by the department. Lab fee: $15.00. Prerequisites: AUTO 061 and AUTO 062.

AUTO 165 Advanced Electrical Systems (A,SP) 2-2-3
An advanced course designed to provide students with a knowledge of electronic components, circuits and diagrams, and testing and service of automotive computer systems. Prepares student to achieve national ASE certification in electrical systems. Lab fee: $15.00. Prerequisite or concurrent: AUTO 160.

AUTO 170 Heating and Air Conditioning Systems (SP) 2-2-3
This course provides a working knowledge of the diagnosis and repair of air conditioning systems, refrigeration systems, heating and engine cooling systems, and control units. Credit for this course can be obtained by satisfactory completion of the course, ASE certification in this area, or by satisfactory results of a proficiency exam administered by the department. Lab fee: $15.00. Prerequisites: AUTO 061 and AUTO 062.

AUTO 175 Advanced Heating and Air Conditioning Systems (SU) 2-2-3
An advanced course designed to provide the knowledge necessary to diagnosis and repair automotive air conditioning systems, including the diagnosis and repair of automatic temperature controls and related electronic systems. Prepares student to achieve national ASE certification in heating and air conditioning systems. Lab fee: $20.00. Prerequisite: AUTO 170.

AUTO 180 Engine Performance (A,W) 2-4-4
This coarse provides the opportunity to gain a working knowledge of engine performance diagnostics. Includes diagnosis and repair of the ignition system, fuel and exhaust systems, emission control systems, and an introduction to engine electrical and computer control systems. Credit for this course can be obtained by satisfactory completion of the course, ASE certification in this area, or by satisfactory results of a proficiency exam administered by the department. Lab fee: $15.00. Prerequisites: AUTO 061 and AUTO 062.

AUTO 181 Fundamentals of Alternate Fuel Systems (W,SP) 2-2-3
This course provides a working knowledge of the predominate alternate fuel systems currently in use in automotive applications. These include CNG, LNG, propane, ethanol, methanol, electric, oxygenated gasoline, and gasohol. The unique characteristics of each fuel along with the systems used to adapt automobiles to its use is explored along with the federal legislation that is mandating and controlling this technology. Lab fee: $20.00. Prerequisites: AUTO 180.

AUTO 185 Advanced Engine Performance (W,SP) 2-2-3
The course is designed to provide students with a working knowledge in the area of advanced engine diagnostics. Diagnosis and repair of fuel injection and computerized engine control systems are included. Prepares student to achieve national ASE certification in engine performance. Lab fee: $15.00. Prerequisite: AUTO 180.

AUTO 186 Advanced Alternate Fuel Systems (A,SP) 2-2-3
An advanced course designed to provide students with background knowledge and experience on current alternate fuel conversion systems and proper installation procedures. Symptom analysis, diagnosis, and repair of alternate fuel related engine performance problems are covered. Prepares student to achieve national ASE certification in alternate fuels. Lab fee: $20.00. Prerequisites: AUTO 181 and 185.

AUTO 190 Automotive Business Management (A,W,SP,SU) 2-2-3
An introduction to automotive management principles. Topics covered include: A systems approach to management, management styles, financial measures, MBO and quality, time management, customer and employee relations, marketing and the legal environments. Lab fee: $10.00. Prerequisites: AUTO 061 and AUTO 062

AUTO 191 Service Advising (W,SP) 2-2-3
The primary responsibilities of a Service Advisor: Writing a proper repair order, scheduling, selling maintenance and customer relations are covered in depth in this course. Estimating, repair order tracking and time management skills are also presented. Lab fee: $10.00. Prerequisite: AUTO 190.

AUTO 192 Automotive Service Management (A,SP) 2-2-3
This course covers the variety of duties of the service manager. Principles presented in AUTO 190 are further developed along with practical implementation strategies. Facilities and equipment planning and management along with financial management and analysis are covered. Lab fee: $10.00. Prerequisite: AUTO 190.

AUTO 193 Automotive Service Merchandising (A,SU) 2-2-3
Principles of marketing, merchandising and advertising and their application in the automotive repair industry will be covered in this course. Upon completion of this course the student will be able to demonstrate the ability to develop specific merchandising and advertising items and to develop a departmental marketing plan. Lab fee: $10.00. Prerequisite: AUTO 190.

AUTO 195 Auto Parts - Sales (On Demand) **l-2-2**
The duties and responsibilities of a parts department counter-person are covered in this course. The use of catalogs and locator systems, as well as outside sales, are included. Lab fee: $10.00. Prerequisite: AUTO 190.

AUTO 196 Auto Parts - Inventory Control (On Demand) 1-2-2
This course covers the various inventory control systems that are commonly used in automotive parts departments and stores. Determining inventory levels is an integral part of this course. Lab fee: $10.00. Prerequisite: AUTO 190.

AUTO 197 Auto Parts - Management (A,W) 2-2-3
This course covers the various management duties of a parts department manager. Pricing, inventory merchandising, forecasting, and purchasing are included. Lab fee: $10.00. Prerequisite: AUTO 190

AUTO 210 Current Trends in Engine Repair (A,W) **I-2-2**
The content of this course reflects recent technological advances and changes in engine design and repair made by the automobile industry during the current model year. Lab fee: $15.00. Prerequisite: AUTO 115

AUTO 220 Current Trends in Automatic Transmissions (SP,SU) **I-2-2**
The content of this course reflects recent technological advances and changes in automatic transmission design and repair made by the automobile industry during the current model year. Lab fee: $15.00. Prerequisite: AUTO 125

AUTO 230 Current Trends in Manual Transmissions (A,W) **I-2-2**
The content of this course reflects recent technological advances and changes in manual transmission design and repair made by the automobile industry during the current model year. Lab fee: $15.00. Prerequisite: AUTO 135

AUTO 240 Current Trends in Suspension Steering (A,SP) **I-2-2**
The content of this course reflects recent technological advances and changes in steering and suspension system design and repair made by the automobile industry during the current model year. Lab fee: $15.00. Prerequisite: AUTO 145

AUTO 250 Current Trends in Brake Systems (SP,SU) **I-2-2**
The content of this course reflects recent technological advances and changes in brake system design and repair made by the automobile industry during the current model year. Lab fee: $15.00. Prerequisite: AUTO 155

AUTO 260 Current Trends in Electrical Systems(W) **I-2-2**
The content of this course reflects recent technological advances and changes in electrical system design and repair made by the automobile industry during the current model year. Lab fee: $15.00. Prerequisite: AUTO 165

AUTO 270 Current Trends in A/C Systems (A) **I-2-2**
The content of this course reflects recent technological advances and changes in heating and air conditioning system design and repair made by the automobile industry during the current model year. Lab fee: $15.00. Prerequisite: AUTO 175

AUTO 280 Current Trends in Engine Systems (SP,SU) **I-2-2**
The content of this course reflects recent technological advances and changes in engine control system design and repair made by the automobile industry during the current model year. Lab fee: $15.00. Prerequisite: AUTO 185

AUTO 297/298/299 Special Topics in Automotive Technology (On Demand) 1-3
Advanced level course electives. This course will address current issues in the automotive industry. Lab fee: $15.00. Prerequisites: AUTO 061 and AUTO 062.

AUTO 300 Shop Experience (SP) **I-8-4**
This course is taken during a student's final quarter. It includes a final assessment of skills and knowledge. Skills are measured in a shop condition with the students performing diagnostics and repairs. A review of the eight ASE areas is also included. Lab fee: $25.00. Prerequisite: Permission of instructor.

Aviation Maintenance Technology (AVI)

AVI 111 Aviation Theory (A,SP) 4-4-6
Basic science for the aviation maintenance technician, including aerodynamics and flight stability, mathematics, physics, and weight and balance effects. Lab fee: $16.00. Prerequisite: DEV 031 with a grade of "C" or better, or placement into MATH 102.

AVI 115 Aircraft Maintenance Regs., Pubs., and Records (A,SP) **I-3-2**
Application of Federal Aviation Regulations to aircraft maintenance and the aircraft technician. The use of aircraft maintenance forms, records, publications, and other pertinent technical data. Lab fee: $16.00. Prerequisite: DEV 031 with a grade of "C" or better, or placement into MATH 102.

AVI 117 Basic Aviation Maintenance (A,SP) 3-4-5
Develop an understanding of basic aviation maintenance procedures and the tools used by the aircraft technician. Covers identification and selection of materials used in aircraft construction. Practice in fabricating and installing fluid lines and fittings. Select and perform nondestructive inspection processes. Lab fee: $16.00. Prerequisite: DEV 031 with a grade of "C" or better, or placement into MATH 102.

AVI 119 Aircraft Drawings (A,SP) **I-3-2**
Develop an understanding of the general language and symbolism of the aviation industry. Fundamentals of blueprint reading and interpretation of drawings and shop sketches for fabricating parts. Lab fee: $16.00. Prerequisite: DEV 031 with a grade of "C" or better, or placement into MATH 102.

AVI 121 Basic Electricity (W,SU) **5-11-9**
Inspect and service batteries. Determine the relationship of voltage, current, and resistance in electrical circuits. Measure voltage, current, resistance, and continuity, calculate and measure power, read and interpret aircraft electrical circuit diagrams including solid state devices, and logic functions. Calculate and measure capacitance and inductance, and operating principles of generators, alternators, and motors. Lab fee: $16.00. Prerequisites: AVI 111, AVI 115, AVI 117, and AVI 119.

AVI 125 Ground Operations and Cleaning (W,SU) 2-2-3
Ground operations and servicing of aircraft. Identify and select fuels. Identify and select cleaning materials. Identify, remove and treat aircraft corrosion and perform aircraft cleaning. Lab fee: $16.00. Prerequisites: AVI 111, AVI 115, AVI 117, and AVI 119.

AVI 211 Aircraft Environmental Controls (A,SP) 3-3-4
This course includes aircraft oxygen and environmental control systems. The pressurization system, deicing and anti-icing systems, and fire detection and extinguishing systems are explored. Emphasis is placed on troubleshooting systems. Lab fee: $16.00. Prerequisites: AVI 121 and AVI 125.

AVI 213 Airframe Instruments and Electronics (A,SP) 2-6-4
This course centers around aircraft instrument, navigation and communication systems. The theory of operation and troubleshooting the systems. Lab fee: $16.00. Prerequisites: AVI 121 and AVI 125.

AVI 215 Aircraft Electrical Systems (A,SP) 5-6-7
This course deals with the operation and control of electrical generation and distributing systems. Included are wiring procedure and operation principles of electrical appliances such as solenoids, diodes, transistors, motors and switches. Emphasis is placed on troubleshooting the systems. Lab fee: $16.00. Prerequisites: AVI 121 and AVI 125.

AVI 221 Aircraft Structures I (W, SU) 3-3-4
A study of aircraft wood and its defects. Selection, application, inspection, testing and repair of aircraft fabric materials. Selection, identification and application of finishing materials, trim, letters, and touch-up paint. Lab fee: $16.00. Prerequisites: AVI 121 and AVI 125.

AVI 223 Aircraft Structures II (W,SU) **4-15-9**
Identification of aircraft structural materials, properties of aircraft metals, and heat treatment. Inspection of welded assemblies. Layout from blueprints, bend allowances, forming and fabrication techniques. Installation and inspection of conventional and special rivets and fasteners. Construction techniques, inspection, repair and finishing of composite structures and components. Lab fee: $16.00. Prerequisites: AVI 121 and AVI 25.

AVI 241 Aircraft Fluid Power Systems (A,SP) 3-3-4
Inspect, troubleshoot, service and repair aircraft hydraulic and pneumatic system components in accordance with pertinent maintenance directives. Lab fee: $16.00. Prerequisites: AVI 211, AVI 213, AVI 215, AVI 221, and AVI 223.

AM 245 Aircraft Fuel Systems (A,SP) **I-2-2**
Inspect, troubleshoot, service and repair aircraft fuel system components in accordance with pertinent maintenance directives. Lab fee: $16.00. Prerequisites: AVI211, AVI213, AVI215, AVI 221 and AVI 223.

AVI 246 Aircraft Landing Gear Systems (A,SP) 3-3-4
Inspect, troubleshoot, service and repair aircraft landing gear system components in accordance with pertinent maintenance directives. Lab fee: $16.00. Prerequisites: AVI 211, AVI 213, AVI 215, AVI 221, and AVI 223.

AVI 249 Aircraft Rigging, Assembly and 100-Hour Inspection (A,SP) 3-7-6
Study of aircraft rigging and assembly. Inspection of the complete airframe and all its systems. Review of airframe topics via written examinations that present a comprehensive overview of all airframe training units. Lab fee: $16.00. Prerequisites: AVI 211, AVI 213, AVI 215, AVI 221, and AVI 223.

AVI 311 Reciprocating Engine Theory, Overhaul, and Repair (W,SU) 4-6-6
Theory and operation of aircraft reciprocating engines. Study of the reciprocating engine construction and design. Reciprocating engine maintenance, inspection, repair, and troubleshooting. Procedures of engine removal, installation, rigging, and testing. Lab fee: $16.00. Prerequisites: AVI 121 and AVI 125.

AVI 313 Reciprocating Engine Ignition and Fuel Systems (W,SU) 4-6-6
Electrical principles of reciprocating ignition systems. Aircraft magneto inspection, repairand overhaul. Installation and adjustment of aircraft magnetos. Reciprocating engine ignition harness construction and repair. Aircraft spark plug inspection and servicing. Reciprocating engine ignition system troubleshooting. Theory of operation, maintenance, repair and troubleshooting of aircraft carburetors. Operation, maintenance, repair and troubleshooting of reciprocating engine fuel injection systems. Repair and maintenance of engine fuel systems,. Lab fee: $16.00. Prerequisites: AVI 121 and AVI 125.

AVI 315 Reciprocating Engine Cooling, Induction, and Exhaust Syst. (W,SU) **2-3-3**
The theory, maintenance, troubleshooting, and repair of reciprocating engine lubrication systems. Inspection and repair of reciprocating engine cooling systems. Fundamentals and repair of reciprocating engine induction and exhaust systems. Lab fee: $16.00. Prerequisites: AVI 121 and AVI 125.

AVI 321 Turbine Engine Theory and Overhaul (A,SP) **4-6-6**
Theory and operation of aircraft turbine engines. Study of the turbine engine construction and design. A study of turbine engine maintenance, inspection, repair, and troubleshooting techniques. Application of procedures to remove, install, rig and operationally test turbine engines. Identification and repair of lubrication systems and components. Lab fee: $16.00. Prerequisites: AVI 121 and AVI 125.

AVI 323 Turbine Engine Airflow Systems (A,SP) 3-2-4
A study of fundamental principles of turbine engine ice and rain, cooling, exhaust and thrust reverser systems. A study of the applied techniques to inspect, maintain, troubleshoot, repair and service induction and airflow systems to industry standards. Lab fee: $16.00. Prerequisites: AVI 121 and AVI 125.

AVI 325 Turbine Engine Fuel and Ignition Systems (A,SP) 4-6-6
A study of operating principles, and theory of turbine engine fuel systems, fuel metering systems and subsystems. A study of applied techniques to inspect, maintain, troubleshoot, repair and adjust respective systems to industry standards. A study of electrical principles of turbine engine ignition systems. Principles of operating turbine engine starting systems of both electrical and pneumatic type. A study of applied techniques to inspect, service, troubleshoot and repair respective system components to industry standards. Lab fee: $16.00. Prerequisites: AVI 121 and AVI 125.

AVI 331 Propellers (W,SU) 4-6-6
Aerodynamic principles of propellers. Propeller types, construction and operation. Inspection, repair and troubleshooting. Installation, removal, tracking and balance. Controllable propellers. Constant speed governor control, operation and adjustment. Reversible propellers. Hazards of propeller operation. Lab fee: $16.00. Prerequisites: AVI 311, AVI 313, AVI 315, AVI 321, AVI 323, and AVI 325.

AVI 333 Engine Instruments and Electrical Systems (W,SU) **2-1-3**
Identify types of powerplant instrument and electrical systems, operating principles and procedures to inspect, check and troubleshoot temperature, pressure and RPM indicating systems. Lab fee: $16.00. Prerequisites: AVI 311, AVI 313, AVI 315, AVI 321, AVI 323, and AVI 325.

AVI 335 Powerplant Inspection and Fire Protection (W,SU) 4-8-7
One hundred hour inspection of powerplants and systems. Use of inspection equipment and aids. Procedures for returning aircraft engines to service. FAA regulations and maintenance records. Theory, inspection, service and troubleshooting of engine fire protection and fire detection systems. Radial engine design, systems and differences. A summative evaluation course to determine, in a comprehensive manner, the competence necessary for certification testing. Lab fee: $16.00. Prerequisites: AVI 311, AVI313, AVI 315, AVI 321, AVI 323, and AVI 325.

Biology (BIO)

A mandatory safety lesson (normally given in the laboratory) must be completed before the student is admitted to certain biology laboratory sessions. Approved safety glasses are required for some laboratory sessions and may be purchased through the Bookstore. Attendance during the first week of class is mandatory and may affect a student's continued enrollment in these classes. Students must complete 60% of the laboratories to receive course credit.

BIO 100 Introduction to Biological Sciences (A,W,SP,SU) 4-0-4
A general biology course in which basic principles of the characteristics of life, biochemistry, cell reproduction and genetics are explored. Lab fee: $3.00. Prerequisite: Placement into ENGL 100 or higher. Not open to students with credit for BIO 111, BIO 112, BIO 125, BIO 126, BIO 131, BIO 132, NSCI 101, NSCI 102, NSCI 103, BI0 161, BIO 169, BIO 174 or BIO 175.

BIO 101 Introduction to Anatomy and Physiology (A,W,SP,SU) 3-0-3
A general overview of normal human anatomy and physiology. Topics include the cell, tissues, musculo-skeletal, nervous, cardiovascular, genitourinary, digestive, respiratory, and endocrine systems. Lab fee: $3.00. Prerequisite: Placement into ENGL 100 or higher. Not open to students with credit for BIO 121, BIO 122, BIO 161 or BIO 169.

BIO 111 Introductory Biology I (A,W,SP,SU) 4-3-5
An introduction to the biological sciences for the non-major student. Topics included are cell structure and function, bioenergetics, DNA structure and function, cell reproduction, biodiversity, ecology, and evolution. Lab fee: $19.00: Prerequisite: Placement into ENGL 101. Not open to students with credit for BIO 174 or BIO 175. This course and BIO 112 or BIO 115 or BIO 125 or BIO 126 or BIO 127 provide a two-quarter sequence in biological science that will fulfill the elective requirement for the Associate of Science Degree.

BIO 112 Introductory Biology II; Human Biology (A,W,SP,SU) 4-3-5
An introduction to the study of human biology. Topics included are human evolution, human reproduction, human growth and development, homeostasis, the human brain, and the environmental impact of humans on earth. Lab fee: $19.00. Prerequisites: Highschool biology or BIO 100 or BIO 111, and placement into ENGL 101.

BIO 115 General Microbiology (A,W,SP,SU) 3-4-5
A general microbiology coarse for biology majors (non-microbiology majors). Topics covered include taxonomy, morphology and staining, culture techniques, bacterial metabolism and physical and chemical methods for microbial control. General concepts in immunology, including host defense mechanisms and hypersensitivity, are also covered. Related laboratory is required, including identification of unknown bacteria. Lab fee: $26.00. Prerequisites: high school chemistry and biology, or CHEM 100 and BIO 100 or NSCI 103, and placement into ENGL 101.

BIO 116 Microbial Diseases (On Demand) 3-0-3
A basic study of the concepts of microbial disease. Topics covered are host-parasite interactions and resistance and immunity to disease, including the development of the immune system and mechanics of antigen-antibody reactions. Additional topics for detailed discussion are human airborne, foodborne and waterborne infections and human contact diseases. Lab fee: $3.00. Prerequisites: BIO 115, ENGL 101.

BIO 121 Anatomy, Physiology and Pathology I (A,W,SP,SU) 4-3-5
An integrated organ systems approach to the anatomy, physiology and pathology of the human body. Topics include cell biology, histology, and integumentary, skeletal, muscular and nervous systems. The cat and human cadavers are used for demonstrations in the laboratory. Lab fee: $19.00. Prerequisites: High school biology and chemistry or BIO 100 and CHEM 100 or NSCI 103 and placement into ENGL 101. Not open to students with credit for BIO 161 or BIO 169.

BIO 122 Anatomy, Physiology and Pathology II (A,W,SP,SU) 4-3-5
A continuation of BIO 121. Topics include endocrinology, respiratory system hematology, cardiovascular system, metabolism, gastro-intestinal system, thermal regulation, and renal and reproductive systems. The cat and human cadavers are used for demonstrations in the laboratory. Lab fee: $19.00. Prerequisite: BIO 121

BIO 124 Human Genetics (On Demand) 3-0-3
Mendelian and classical genetics are presented. Emphasis is also placed on the discovery of the DNA molecule and its structure, genetic mutations and diseases as well as genetic engineering and its implications. Lab fee: $3.00. Prerequisites: high school biology or BIO 100 or NSCI 103, and ENGL 101.

BIO 125 General Botany (A,SP,SU) 4-3-5
This course covers the biology of the major plant groups. Topics include diversity, physiology, reproduction, ecology, and economic significance. Lab fee: $18.00. Prerequisites: Placement into ENGL 101; high school chemistry and biology, or CHEM 100 and BIO 100, or NSCI 103.

BIO 126 Introduction to Ecology (On Demand) 4-3-5
This course provides an introduction to ecology. Topics include population dynamics, distribution of species, and energetics. Lab fee: $16.00. Prerequisites: BIO 111 or BIO 174, high school chemistry, CHEM 100, or NSCI 103.

BIO 127 Environmental Science (A,SP,SU) 4-3-5
This course provides a survey of current issues in the study of environmental science. Topics include scientific principles and concepts, human population dynamics, resources and resource management, pollution, world problems, and environment and society. Emphasis will be placed on how individual actions, and economic and political policies can affect the environment. Proposed solutions to environmental problems will be considered. Lab fee: $19.00. Prerequisites: NSCI 101 and NSCI 102; or BIO 111 or BIO 174 or equivalent and placement into ENGL 101.

BIO 161 Human Anatomy (A,W,SP,SU) 3-4-5
The gross anatomy of the entire human body is presented in detail. The cat is used for laboratory dissection. Human cadavers are used for demonstrations. Lab fee: $26.00. Prerequisites: high school biology or BIO 100 or BIO 101 or NSCI 103; placement into ENGL 101. This course and BIO 169 provide a two-quarter sequence in biological science that will fulfill the. elective requirement for the Associate of Science Degree. Not open to students with credit for BIO 121.

BIO 162 Human Embryology (On Demand) 3-0-3
Starting with gametogenesis and reproduction, the embryological development of humans from fertilization to birth is presented for morphogenesis and organogenesis of the following: face, neck, pharynx, limbs, circulatory system, nervous system, respiratory system, digestive system, urinary system, and reproductive system. Lab fee: $3.00. Prerequisites: BIO 161, and placement into ENGL 101.

BIO 169 Human Physiology (A,W,SP,SU) 4-2-5
An introductory course in human physiology designed to cover the normal physiology of all organ systems. Lab fee: $13.00. Prerequisites: BIO 161 or equivalent, CHEM 113 or CHEM 112 or equivalent, placement into ENGL 101. Not open to students with credit for BIO 121.

BIO 170 Human Pathophysiology (A,W,SP,SU) 5-0-5
This course deals with the disordered functioning of the human body due to disease. It is designed for students or practitioners in nursing or other allied health professions who wish to increase their understanding of the changes occurring in physiology due to an abnormality. Lab fee: $3.00. Prerequisites: BIO 169 or equivalent; CHEM 112 or CHEM 113 or equivalent or permission of instructor.

BIO 174 Biological Sciences I (A,W,SP,SU) 4-3-5
A biology course designed for biology majors that provides an in-depth coverage of cell biology, genetics and embryology. Lab fee: $26.00. Prerequisites: High school chemistry or CHEM 100, high school biology or BIO 100. Concurrent: CHEM 111 or CHEM 171. This course and BIO 175 provide a two-quarter sequence in biological science that will fulfill the elective requirement for the Associate of Science Degree.

BIO 175 Biological Sciences II (A,W,SP,SU) 4-3-5
A continuation of BIO 174. A biology course designed for biology majors that provides an in-depth coverage of evolution, diversity of life, animal behavior, and ecology. Lab fee: $25.00. Prerequisite: BIO 174.

BIO 201 General Zoology: Animal Diversity and Systematics (A,SP) 4-3-5
A survey of the diversity of organisms in the animal kingdom. Emphasis will be placed on evolutionary interrelationships. locomotory, nutritional, and reproductive strategies of the major groups. Lab fee: $26.00. Prerequisite: BIO 174. This course and BIO 174 provide a two-quarter sequence in biological science that will fulfill the elective requirement for the Associate of Science Degree.

BIO 290 Capstone Experience in Biology 2-2-3
An integrated science course blending elements of chemistry, physics and biology. Topics include the historical development of the sciences, ethical issues in science and how they affect the advancement of scientific thought, and the scientific method as it relates to experimental design and interpretation of scientific results. The laboratory utilizes an investigative approach taking students through the process of identifying a research problem, conducting a literature review, writing a research proposal, collecting and analyzing data, writing a scientific paper and presenting results. Lab fee: $19.00. Prerequisites: 75 hours or more of course work completed with a minimum of 20 credit hours within the sciences. This course is required for all biological science majors seeking either the Associate of Arts or Associate of Science degree.

Business Mgmt. Technology (BMGT)

BMGT 101 Introduction to Business (A,W,SP,SU) 5-0-5
A discussion of all significant activities in the field of business including the interaction of business with internal and external forces, ownership, organization, marketing, location, purchasing, production, personnel, finance, and control. These areas are described as related to the basic principles of management and economics. Lab fee: $5.00.

BMGT 102 Introduction to Management Skills (A,W,SP,SU) **I-4-3**
This course introduces the student to management themes and the five primary skill sets required to be a successful manager. The course provides opportunities for students to begin to learn, develop, and apply managerial skills through personal assessment and an introduction to various skill concepts and behavior models. Lab fee: $25.00.

BMGT 111 Management (A,W,SP,SU) 5-0-5
The basic management functions of planning, organizing, leading, controlling and staffing business organizations are covered, The organization is viewed as a system of interdependent parts which interacts with the outside environment. Topics include leadership, motivation, communication and problem solving. Lab fee: $5.00.

BMGT 211 Organizational Behavior (A,W,SP,SU) 3-2-4
An introduction to the fundamental concepts of human relations in an organization. Topics include intrapersonal, interpersonal and organizational communication styles, understanding the self motivational techniques, and personal and organizational values and attitudes. Lab fee: $5.00. Prerequisite: BMGT 111.

BMGT 216 Business Ethics (A,W,SP,SU) 3-0-3
A comprehensive and practical study of ethical systems designed to explore, analyze and evaluate the organizational values, strategic policies and expected behaviors required to develop high ethical standards both on a personal and organizational level. Emphasis will be placed on case studies and exercises in ethical behaviors. Lab fee: $5.00. Prerequisites: BMGT 111 and LEGL 264.

BMGT 218 Management Training for Supervisors (A,W,SP,SU) 5-0-5
A comprehensive examination of management functions and techniques and of the role of a supervisor. This course will increase awareness of the role and present proven methods and techniques to do a better job. Major areas covered include: setting objectives, problem identification techniques, decision-making, time management, management styles, motivation, training subordinates, performance evaluation, verbal and non-verbal communications, interviewing techniques, and a look at the challenge of leadership in an organizational setting. Emphasis will be placed on actual on-the-job problems. Lab fee: $5.00.

BMGT 219 International Business (A,SP) 3-0-3
The course focuses on the economic, social and cultural considerations in doing business overseas. The globalization of markets and the growth of overseas business ventures is explored. The need to develop varied techniques for managing people from other cultural backgrounds, the means of minimizing risks in financial transactions, and development of systems for coordinating and controlling operations will be stressed. Techniques to overcome international business barriers are examined. Lab fee: $5.00.

BMGT 220 Leadership Fundamentals 2-2-3
This course provides an in-depth study of leadership styles, skills, roles, and the functions of leaders in organizations. The course integrates writings from the Humanities, military leaders, political leaders, religious leaders, and business leaders with basic leadership principles. The course provides the opportunity for the student to explore the concept of leadership and to develop and improve his/her leadership skills. Prerequisites: Placement into program level reading, writing, mathematics, and computer science, or completion of requirement developmental courses in these areas.

BMGT 231 Small Business Development (A,W,SP,SU) 4-0-4
First of a two-quarter sequence that introduces the fundamental considerations in planning and executing the start-up of a new small business venture. Concentrates on planning selected critical aspects of a business plan in the areas of: Orientation to Small Business, Strategic Planning, Financial Considerations, Location, Layout and Beginning Inventory. Lab fee: $5.00.

BMGT 232 Small Business Operations (A,W,SP,SU) 4-0-4
This course is a sequel to BMGT 231 and completes the basic instruction necessary for competence in managing a small business enterprise. Topics covered will include effective operation of an established business with emphasis on strategic planning, market analysis, pricing, inventory control and credit collections. Lab fee: $5.00. Prerequisite: BMGT 231

BMGT 234 Case Studies in Small Business (A,SP) 4-0-4
Cases covering all functional areas of small business management will be analyzed and presented. Emphasis will be placed on the problem-solving process as a tool for developing and implementing small business management strategies and operational techniques. In addition, a small business computer simulation will be required to apply skills learned. Lab fee: $5.00. Prerequisites: BMGT 231 and BMGT 232.

BMGT 235 Strategic Business Planning (A,SP) 2-6-5
Preparation and presentation of a formal business plan using Lotus 1-2-3. Lab fee: $10.00. Prerequisites: ACCT 101, ACCT 102, BMGT 231, BMGT 232, MKTG 111.

BMGT 238 Small Business Management Internship (A,W,SP,SU) 0-40-4
Supervised copperative work experience. with on-the-job application of knowledge and skills acquired in the classroom. Prerequisite: Advisor approval required the quarter before the student actually begins the internship. Lab fee: $2.00. Concurrent: BMGT 239.

BMGT 239 Small Business Management Seminar (A,W,SP,SU) 2-0-2
On-campus seminar which allows students to report on small business management knowledge gained in specific areas of the internship. May include a market research survey, case reports or other special projects. Lab fee: $1.00. Prerequisite: Advisor approval requied. Concurrent: BMGT 238.

BMGT 253 Negotiation Principles (SU) 3-0-3
A review of negotiation objectives, skills, tactics and preparation. The student, with a foundation on the technical aspect of purchasing, now has the opportunities to understand the human behavior part of the acquisition cycle. This involves resolving complex issues with many different people, both inside and outside of the organization. Lab fee: $5.00.

BMGT 261 Business Management Internship I (A,W,SP,SU) 0-40-4
Supervised on-the-job application of knowledge and skills acquired in the classroom. Prerequisite: Advisor approval required the quarter before the student actually begins the internship. Lab fee: $2.00. Concurrent: BMGT 262.

BMGT 262 Special Problems in Business Management I (A,W,SP,SU) 0-4-2
Application of business management knowledge to specific areas of on-the-job internship visa a report. Lab fee: $1.00. Prerequisite: Advisor approval required. Concurrent: BMGT 261.

BMGT 263 Business Management Internship II (A,W,SP,SU) 0-40-4
Continuation of BMGT 261. Prerequisite: BMGT 261 and advisor approval required the quarter before the student actually begins the internship. Lab fee: $1.00. Concurrent: BMGT 264.

BMGT 264 Special Problems in Business Management II (A,W,SP,SU) 0-4-2
Continuation of BMGT 262. Lab fee: $2.00. Prerequisite: Advisor approval required. Concurrent: BMGT 263

BMGT 271 Management Decisions (A,W,SP,SU) 0-4-2
A practical presentation of how to apply fundamental accounting principles to the decision making process in business. A computer simulation is used as an integral part of this course. Lab fee: $10.00. Prerequisite: Open to graduating students only or through advisor approval.

BMGT 272 Case Studies in Business Seminar (A,W,SP,SU) 3-0-3
The fundamentals of problem solving and decision making will be covered in-depth and applied, using the case approach to a variety of organizational situations. A group case presentation will be a requirement of the course. Lab fee: $10.00. Prerequisite: Open to graduating students only or through advisor approval.

BMGT 273 Management Final Project (A,W,SP,SU) **I-4-3**
This course requires the student to serve in a leadership role as a member of an external team in a community-based project setting in a private industly, public sector agency, or not-for-profit organization; or to serve as a facilitator for a team in the Introduction Management Skills course. In a community-based project setting the student will lead the team in the identification, analysis, and development of potential solutions to one or more problem situations. As a team facilitator, the student will facilitate the team in developing and accomplishing assigned tasks. Lab fee: $10.00.

BMGT 275 Training and Development 3-2-4
This course provides basic knowledge and skills to conduct effective training. Topics include adult learning practices, needs assessment, training needs analysis, instructional design and development, training delivery, reinforcement for transition of learning and evaluation. Emphasis will be placed on application of effective training delivery skills. Students will demonstrate through the development of training materials related to their area of work or personal interest. Lab fee: $10.00.

BMGT 281-293 Studies in Contemporary Business **I-6**
Studies in Contemporary Business is a specially designed course offering to meet the needs of the constantly changing business community and student population. Prerequisite: Advisor approval.

Chef Apprentice Major
(See Hospitality Management Technology)

Chemistry (CHEM)

A mandatory safety lesson must be completed before the student is admitted to any other chemistry laboratory sessions. Approved Chemical Splash Resistant goggles are required and may be purchased through the Bookstore. Certain clothing restrictions exist and will be explained by the instructor. Attendance during the first week of class is mandatory and may affect a student's continued enrollment in these classes. Students must complete 60% of the laboratories to receive course credit.

CHEM 100 Introduction to Chemistry (A,W,SP,SU) 3-3-4
A preparatory chemistry course covering the basic concepts of chemistry with emphasis on the physical and chemical properties of matter, problem-solving, and an introduction to chemical reactions. Related laboratory work and demonstrations. Safety training and goggles are required for laboratory sessions. Lab fee: $13.00. Prerequisites: MATH 102 or higher. Placement into ENGL 100 or higher. Not open to students with credit for CHEM 111, CHEM 112, CHEM 113, CHEM 171, CHEM 172, or CHEM 173.

CHEM 111 Elementary Chemistry I (A,W,SP,SU) 4-3-s
An introductory course in fundamental chemical concepts and laboratory techniques. Topics include atomic structure, periodic classification of elements, stoichiometry, solutions, acids and bases, pH and buffers, the gas laws, chemical equilibrium, and nuclear chemistry. Lab fee: $19.00. Safety training and goggles are required for laboratory sessions. Prerequisites: high school chemistry or CHEM 100; MATH 102 or equivalent; placement into ENGL 101. Not open to students with credit for CHEM 171, CHEM 172, or CHEM 173. This course and CHEM 112 provide a two-quarter sequence in physical science that will fulfill the elective requirement for the Associate of Science Degree.

CHEM 112 Elementary Chemistry II (A,W,SP,SU) 4-3-5
An introductory course in fundamental organic chemistry and laboratory techniques. The study of carbon compounds organized according to functional groups including carbohydrates, lipids, proteins, enzymes, and vitamins. Emphasis is placed on physiological function. Not open to students with credit for CHEM 171 or CHEM 251. Safety training and goggles are required for laboratory sessions. Lab fee: $19.00. Prerequisite: CHEM 111.

CHEM 113 General and Biological Chemistry (A,W,SP,SU) 4-3-s
This is a course in elementary chemical concepts designed primarily for allied health students. It includes the study of principles of general chemistry as applied to physiological principles; basic organic chemistry, especially related to functional groups; and biochemistry including carbohydrates, lipids, proteins, enzymes and nucleic acids. Emphasis is placed on physiological function. Safety training and goggles are required for the laboratory session. Lab fee: $19.00. Prerequisites: High school chemistry completed within the last three years or CHEM 100 or successfully completing a chemistry placement exam; MATH 102 or equivalent, and placement into ENGL 101. Not open to students with credit for CHEM 112.

CHEM 171 General Chemistry I (A,W,SP,SU) 4-3-5
A course in fundamental chemical principles for chemistry majors and pre-professionals. Topics include chemical calculations, the mole concept, atomic structure, periodic classification, bonding, and acid-base chemistry. Laboratory sessions provide bench experiences. Safety training and goggles are required for laboratory sessions. Lab fee: $19.00. Prerequisites: high school chemistry or CHEM 100, MATH 148 or equivalent, and placement into ENGL 101. This course and CHEM 172 provide a two-quarter sequence in physical science that will fulfill the elective requirements for the Associate of Science Degree.

CHEM 172 General Chemistry II (A,W,SP,SU) 4-3-5
A continuation of CHEM 171. Topics include solutions, oxidation-reduction reactions, kinetics, gases and kinetic theory, thermodynamics, kinetics, and equilibrium. Laboratory sessions provide bench experiences. Safety training and goggles are required for laboratory sessions. Lab fee: $19.00. Prerequisite: CHEM 171.

CHEM 173 General Chemistry III (A,W,SP,SU) 4-3-5
A continuation of CHEM 172. Topics include acid-base and solubility equilibria, electrochemistry, nuclear chemistry, the representative and transition elements, and qualitative analysis., Laboratory sessions provide bench experiences. Safety training and goggles are required for laboratory sessions. Lab fee: $19.00. Prerequisite: CHEM 172.

CHEM 251 Organic Chemistry I (A,W,SP,SU) **5-0-5**
The first course in a three-course sequence in organic chemistry. Structure, nomenclature, physical properties, bonding and reactions of alkanes, alkenes, and alkyl halides. Lab fee: $6.00. Prerequisite: CHEM 173.

CHEM 252 Organic Chemistry II (A,W,SP,SU) 5-0-5
The second course in a three-course sequence in organic chemistry. This course includes the study of physical and chemical properties of aromatic compounds, alcohols, thiols, ethers, epoxides, sulfides, carbonyl compounds, carboxylic acids and their derivatives, and carbohydrates. Lab fee: $6.00. Prerequisite: CHEM 251.

CHEM 253 Organic Chemistry III (A,W,SP,SU) 5-0-5
The third course in a three-course sequence in organic chemistry. This course includes the study of spectroscopic methods, molecular orbital theory, polymers, the chemical and physical properties of amines, amino acids, proteins, lipids, and nucleic acids. Lab fee: $6.00. Prerequisite: CHEM 252.

CHEM 290 Capstone Experience in Chemistry (On Demand) 2-2-3
An integrated science course blending elements of chemistry, physics and biology. Topics include the historical development of the sciences, ethical issues in science and how they affect the advancement of scientific thought, and the scientific method as it relates to experimental design and interpretation of scientific results. The laboratory utilizes an investigative approach taking students through the process of identifying a research problem, conducting a literature review, writing a research proposal, collecting and analyzing data, writing a scientific paper and presenting results. Lab fee: $18.00. Prerequisites: 75 hours or more of course work completed with a minimum of 20 credit hours within the sciences. This course is required for all science majors seeking either the Associate of Arts or Associate of Science degree.

Civil Engineering Technology (CIVL)

CIVL 112 MicroStation CAD Drafting I (A,W,SP) **l-5-3**
This course is to provide training in the use of basic display, drawing, manipulation, dimensioning, text, cell, reference files and plotting commands required to the elementary use of Microstation. After mastering system basics, students will be given individual projects. Lab fee: $15.00. Prerequisite: ARCH 111 or permission of instructor.

CIVL 120 Basic Construction Materials (A,W,SP,SU) 2-3-3
A study of the properties, construction applications, standards, specifications and elementary material testing methods of soils, aggregates, asphalts, portland cement concrete, masonry, metals and woods. Laboratory exercises include basic common construction industry materials testing procedures and comparison of results to industry standards and specifications. Lab fee: $15.00. Prerequisite: MATH 102 or placement into a higher level mathematics course.

CIVL 121 Heavy Construction Materials (A,W,SP) 2-3-3
A comprehensive study and application of the material testing methods of soils, aggregates, asphalt and portland cement concrete required in the heavy construction industry. The laboratory exercises provide fundamental hands-on experience toward the American Concrete Institute (ACI) Grade 1 Concrete Field Technician and Ohio Department of Transportation (ODOT) Asphalt Technician Certification. Lab fee: $15.00. Prerequisite: CIVL 120.

CIVL 221 Elementary Hydraulics (A,W) 2-3-3
A study of liquids at rest and in motion in enclosed conduits and open channels. The effects of static head, velocity, pressure and friction in enclosed piping systems are analyzed. Principles of pump systems, pump station design and detailing are emphasized. Fundamentals of open channel flow, quantification of rainfall runoff and culvert design are introduced. Lab fee: $12.00. Prerequisite: MATH 104 or MATH 112.

CIVL 223 Public Utility Systems (W,SU) 2-3-3
A study of the principles of public utility theory, planning, design and detailing. Emphasis is placed on applying current design standards and local and state regulations to the planning, design and plan preparation for sanitary collection systems, stormwater management systems and water distribution systems. Detail plan preparation using CAD systems is also emphasized. Lab fee: $12.00. Prerequisites: CIVL 221 and CMGT 123.

CIVL 232 Statics & Strength of Materials (A,W,SU) 2-3-3
A study of the application of external loads on rigid bodies and analysis of the resulting forces and internal stresses in those bodies. The rigid bodies include beams, columns and truss systems. Topics covered include statics, shear, bending, properties of sections and stress and stain relationships. Lab fee: $12.00. Prerequisite: MATH 148.

CIVL 233 Structural Steel Systems (A,W) l-5-3
Design and drafting exercises of steel construction techniques and detailing using the steel construction handbooks, Structural layouts, details, schedules, ship drawing techniques, checking and coordination of steel structural elements with other parts of the building will he examined. Some computer materials testing lab exercises will he scheduled. Lab fee: $9.00. Prerequisites: CIVL 232 and ARCH 121.

CIVL 235 Structural Concrete Systems (W,SP) **l-5-3**
Design and drafting exercises of concrete construction techniques, and detailing using the concrete construction handbooks. Structural layout, details, schedules, shop drawing techniques, checking and coordination of concrete structural elements with other parts of the building will be examined. Some computer and materials testing lab exercises will be scheduled. Lab fee: $9.00. Prerequisites: CIVL 232 and ARCH 121.

CIVL 237 Structural CAD Design and Detailing (A,W,SP) 2-6-4
A study in the design and detailing of structural members and systems. CAD applications in the production of formal and semi-formal drawings is emphasized. Structoral layouts, details schedules, shop drawings and coordination of steel and reinforced concrete elements are examined. Lab fee: $10.00. Prerequisites: CMGT 121 and CIVL 232.

CIVL 291 Field Co-Op Experience (SU) 0-40-4
Off-campus work experience in construction, consulting engineering or construction related paid employment, that augments formal education received in the technology, with actual work conditions and job experience. "N" credit will not be allowed for this course. Lab fee: $15.00. Prerequisites: CMGT 290 and permission of instructor.

Communication Skills (COMM)
(Also see English and Theater)

COMM 105 Speech (A,W,SP,SU) 3-0-3
Emphasis is placed on both verbal and nonverbal communication techniques in public speaking. Individual presentations, including at least three major speeches, are required. The fundamental principles of interpersonal communications and small group discussion are introduced. Audio and/or video taping of selected projects will occur. This course, or its equivalent, is required for all degrees. Lab fee: $3.00. Prerequisite: ENGL 101 or ENGL 111 or concurrent registration with ENGL 101 or ENGL 111.

COMM 110 Conference and Group Discussion (A,W,SP,SU) 3-0-3
Through role play, discussion, and participation, students will develop attitudes, skills, and knowledge of methods necessary to effectively participate in discussion at conferences, in committees, and in other small groups. This course is recommended as a substitute for COMM 105 in some technologies. Check with your academic advisor. Lab fee: $3.00. Prerequisite: ENGL 101 or ENGL 111 or concurrent registration with ENGL 101 or ENGL 111.

COMM 115 Oral Interpretation (A,W,SP,SU) 3-0-3
Students will read literature orally and listen critically. They will then practice techniques for presenting literature dramatically. The cultural and social functions of oral literature will be discussed. Emphasis will be placed on analyzing literary works, recognizing their emotional and dramatic values, and projecting those qualities through oral presentations. Writing assignments include response journals and short critical papers. This course is recommended as a substitute for COMM 105 for all Associate of Arts and Associate of Science students. Lab fee: $3.00. Prerequisite: ENGL 101 or ENGL 111 or concurrent registration with ENGL 101 or ENGL 111.

COMM 220 Introduction to Mass Communications (A) 5-0-5
Students will become better consumers of news and other mass media through the study and discussion of the history, roles, and impact of mass media in American society. Principal ethical, policy, and legal questions confronting reporters and media are reviewed. Students are introduced to news writing, advertising, and public relations techniques. Lab fee: $3.00. Prerequisite: ENGL 102 or ENGL 111.

COMM 297-298-299 Special Topics in Communications (On Demand) **1-5**
Special topics from the communication skills area designed to meet specific needs. Prerequisites vary.

Computer Electronics Major
(See Electronic Engineering Technology)

Computer Programming Technology (CPT)

CPT 101 Computer Literacy I (A,W,SP,SU) 2-2-3
An introductory course designed to provide basic information about computer hardware, software, data communications, operating systems, popular application packages and ethical issues. Hands-on lab experience using the PC and a popular integrated software package is emphasized in the course. The software package introduces the student to business applications using a word processor, file manager, spreadsheet, and graphics Note: This course meets the Computer Literacy requirements for all technologies. Lab fee: $10.00. Prerequisites: DEV 030 and DEV 040, OADM 131 is recommended.

CPT 105 PC Applications (A,W,SP,SU) 2-3-3
A course designed to provide computer programming majors with fundamental data processing concepts. Hands-on lab experience using word processing, spreadsheet, database and presentation graphics software is emphasized. Lab fee: $25.00. Prerequisites: CPT 101 and MATH 103.

CPT 108 Program Design and Development (A,W,SP,SU) 2-3-3
Introduction to programming logic for business applications. No programming language is used. Students develop language-independent solutions to typical business applications involving the use of totals, minor and major control breaks, and a sequential update. Lab fee: $5.00. Prerequisites: CPT 101 and MATH 103. CPT 105 may be taken prior to or with CPT 108.

CPT 111 Assembly Language 1 (A,W,SP) 2-8-5
Introduction to programming in Assembly Language on an IBM mainframe. Students learn the basic principles of editing numeric data and packed decimal arithmetic. Programs are run on an IBM mainframe computer system using the DOS/VSE operating system. Lab fee: $40.00. Prerequisite: MATH 121. CPT 108 may be taken prior to or with CPT 111.

CPT 112 Assembly Language 2 (W,SP,SU) 2-8-5
A continuation of CPT 111. Emphasizes the use of binary arithmetic, table handling, sequential disk tiles, and the external scat. Programs are run on an IBM mainframe computer system using the DOS/VSE operating system. Lab fee: $40.00. Prerequisite: CPT 111

CPT 131 Operating Systems (SP,SU) 2-3-3
Selected topics of current interest will be presented, including a comparative discussion of operating systems, for micros (MS/PC-DOS and Windows), and mini (OS/400) mainframe (DOS/VSE, OS/MVS, and UNIX). The student will code several JCL lab exercises. Lab fee: $10.00. Prerequisite: CPT 111.

CPT 151 BASIC Business Language (On Demand) 2-3-3
Introduction to the BASIC programming language with business applications. Lab fee: $25.00. Prerequisite: CPT 111.

CPT 155 Visual Basic (A,W,SP,SU) 2-8-5
Emphasizes the essential aspects of creating the graphical user interface of a Visual Basic Windows program. The student will also learn fundamental aspects of coding a Visual Basic program, along with more advanced topics such as manipulating MS Access databases, sequential and random-access file processing, error handling and data validation. Programs are run on IBM micro computers using the Windows operating system. Lab fee: $40.00. Prerequisite: CPT 111.

CPT 201 COBOL 1 (A) 2-8-5
Introduction to the concepts and techniques of batch COBOL programming using structured programming techniques. Sequential access methods are stressed. An introduction to alternate mediums will be used. Lab fee: $40.00. Prerequisite: CPT 112.

CPT 202 COBOL 2 (W) 2-8-5
A continuation of CPT 201, Sort procedures, random access through VSAM tile structure and table handling are stressed. Alternate mediums will be used. Lab fee: $40.00. Prerequisite: CPT 201.

CPT 205 COBOL 3 (CICS) (SP) 2-8-5
On-line programming using IBM's CICS system. Pseudo-conversational techniques will be used to solve a variety of business applications. Lab fee: $40.00. Prerequisite: CPT 202. CPT 205 may be taken prior to or with CPT 281.

CPT 206 Introduction to Object-Oriented COBOL (A,W,SP,SU) 2-8-5
Introduction to OOCOBOL using classes and objects are discussed. Object Analysis and Object Design concepts are introduced for COBOL programming. Programs written are runable on personal computers using and ANSI-standard COBOL-97 compiler. Lab fee: $40.00. Prerequisites: CPT 201.

CPT 211 Systems Analysis 1 (A) 3-2-4
An introduction to the science of systems analysis and design to include explanation of systems flowcharting, documentation and decision support systems. Readings concerning selected topics of current interest in the field of systems analysis will be presented. Lab fee: $15.00. Prerequisite: CPT 111.

CPT 212 Systems Analysis 2 (W) 3-2-4
A continuation of CPT 211. The student will learn to use system flowcharting techniques to design typical business systems. Additionally, the students will learn to apply the principles of systems analysis and design to manage and develop large data processing projects. Lab fee: $15.00. Prerequisite: CPT 211.

CPT 221 Database Programming (A,W,SP,SU) 2-3-3
This course presents an overview of Database Management Systems (DBMS) programming techniques and systems. The student will write programs using Oracle. Lab fee: $25.00. Prerequisite: CPT 111.

CPT 225 Database Systems (W,SU) 2-3-3
An introduction to database systems in theory and application. Students will design and build a database on IBM personal computers using Oracle. Lab fee: $25.00. Prerequisite: CPT 221.

CPT 241 Introduction to AS/400 (A,W,SP,SU) 2-3-3
Survey of IBM AS1400 computer system operation and use of application development tools. Topics include: Program Development Manager (PDM), Source Entry Utility (SEU), DataFile Utility (DFL), Query/400, and Screen Design Aid (SDA). Lab fee: $25.00. Prerequisite: CPT 105 for Computer Programming students; MCT 106 for Microcomputing Technology students.

CPT 243 Command Language/400 (A,W,SP,SU) 2-3-3
Introduction to Control Language Programming on the AS/400 will stress the skills required to effectively use Control Language in the operations of an AS/400. Topics include: basic CL programming, input/output in CL programs, and advanced file techniques. Lab fee: $25.00. Prerequisites: CPT 108 and CPT 241,

CPT 245 Introduction to RPG (A,SP) 2-8-5
Study of the fundamentals of Report Program Generator (RPG) programming language, particularly as it applies to an IBM AS/400 computer. Topics include: structured program design in both batch and interactive applications, file handling, arithmetic operations, externally defined files, and table and array handling. Lab fee: $40.00. Prerequisites: CPT 111 and CPT 241.

CPT 246 Advanced RPG (W,SU) 2-8-5
A continuation of CPT 245. Advanced course in RPG programming using the IBM AS/400 computer. Topics include: structured RPG programming with interactive file processing (Subfiles), Command and System Application Program Interfaces (APIs), data structures, and other advanced topics. Lab fee: $40.00. Prerequisite: CPT 245.

CPT 251 Introduction to C++ Programming (A,W,SP,SU) 2-8-5
An introductory course in ANSI-Standard C++ Language Programming. Lab problems are are targeted towards- writing programs with business applications. Computer lab projects will provide hands-on experience in developing programs with an ANSI-Standard C++ compiler environment. Lab fee: $40.00. Prerequisites: CPT 111 or CPT 155 or CPT 201 or CPT 245.

CPT 252 Advanced C++ Programming (A,W,SP,SU) 2-8-5
An advanced course in ANSI-Standard C++ Language programming. Lab problems are targeted towards writing programs that explore data structures using object-oriented techniques. Computer lab projects will provide further hands-on experience in developing programs with an ANSI-Standard C++ compiler environment including debugging techniques. Lab fee: $40.00. Prerequisite: CPT 251.

CPT 253 Programming in C++ for Windows (A,W,SP,SU) 2-8-5
The Windows graphical user interface and creation of related C++ programming projects are built and tested. Students experience first hand coding and use of C++ to drive the Windows Application Interface (API). Programs are runable on personal computers using the Windows operating system and an installed ANSI-Standard C++ compiler for Windows development. Lab fee: $40.00. Prerequisites: CPT 155 and CPT 252.

CPT 261 Network Communication Systems (A,W,SP,SU) 5-0-5
Students will learn the fundamentals of data communication and computer networks. To include basic communication theory as applied to both digital and analog communication networks. Also students will learn the basics of the OSI layered network model and characteristics of the wide area, and local area data communication networks. Prerequisite: MCT 221.

CPT 262 Client Server Systems (A,W,SP,SU) 2-3-3
Students will learn the basic information about client/server computing and the operation of Local Area Networks (LAN). Students will create users, establish network security, share printers, and oother network resources in a single server environment. Lab fee: $25.00. Prerequisite: MCT 221.

CPT 263 Networking (A,W,SP,SU) 2-8-5
A continuation of CPT 262. Students will learn advanced local area network concepts and how they can be applied to support enterprise wide information management of a large organization. Student will learn to install and use a popular LAN operating system. Lab fee: $40.00. Prerequisite: MCT 221.

CPT 264 Advanced Networking (A,W,SP,SU) 2-8-5
A continuation of CPT 263. Students will learn to use Microsoft Windows NT software to support small and enterprise wide information management systems. Students will complete a series of laboratory assignments using Windows NT software Lab fee: $40.00. Prerequisite: CPT 263.

CPT 265 Distributed Database Management Systems (A,W,SP,SU) 2-8-5
Students will learn the characteristics and types of distributed DBMS currently available for use on distributed data networks. Additionally, students will learn to design and create an enterprise wide database (Oracle) that will be maintained on a distributive network system in a laboratory environment. Lab fee: $40.00. Prerequisite: CPT 264.

CPT 266 Certification Test Review (A,W,SP,SU) **0-3-1**
Students will review the material necessary to become certified with a popular network operating systems software. Students will complete a series of practical exercises designed to enhance their ability to successfully complete a popular vendor certification program. Lab fee: $15.00. Prerequisite: CPT 264.

CPT 281 Final Project (SP,SU) 2-8-5
This is the capstone course for the Computer Programming Technology. Students will work in small groups to design, choose appropriate medium and program a typical business system. Lab fee: $40.00. Prerequisite: CPT 202 and CPT 212. CPT 205 may be taken prior to or with CPT 281.

CPT 289 ACP Examination (A,W,SP,SU) **0-3-1**
Students will review topics covered in all previous technical courses. Students will be eligible to sit for the general and COBOL areas of the Associate Computer Professional (ACP) examination administered by the Institute for the Certification of Computer Professionals (ICCP). All students in Computer Programming Technology will take CPT 289 during their graduating quarter. Lab fee: $20.00.

CPT 291 Special Topics in CS 1 (On Demand) **l-5,0,1-5**
CPT 292 Special Topics in CS 2 (On Demand) **l-5,0,1-5**
CPT 293 Special Topics in CS 3 (On Demand) **l-5,0,1-5**
CPT 294 Special Topics in CS 4 (On Demand) **l-5,0,1-5**
CPT 295 Special Topics in CS 5 (On Demand) **l-5,0,1-5**
CPT 296 Special Topics in CS 6 (On Demand) **l-5,0,1-5**
Special topics in CS is a series of courses specifically designed to meet the needs of the constantly changing business community and student population. Courses will be designed with the advice of the particular group requesting the course and approval of the department chairperson. Lab fee: $30.00.

CPT 297 Computer Science Internship/Field Experience 1 (On Demand) **0-12-1**
The student works 12 hours per week in an activity which relates to the students' occupational objective. The on-the-job experience is coordinated by a faculty member who aids in the students' growth and development.

CPT 298 Computer Science Internship/Field Experience 2 (On Demand) 0-24-2
The student works 24 hours per week in an activity which relates to the students' occupational objective. The on-the-job experience is coordinated by a faculty member who aids in the students' growth and development.

CPT 299 Computer Science Internship/Field Experience 3 (On Demand) 0-36-3
The student works 36 hours per week in an activity which relates to the students' occupational objective. The on-the-job experience is coordinated by a faculty member who aids in the students' growth and development.

Construction Mgmt. Technology (CMGT)

CMGT 101 Managing a Construction Company (A,W,SP) 2-3-3
An overview of the operations of a construction firm with a simulation of the management process by student teams demonstrating skills and competencies required. Lab fee: $2.00.

CMGT 105 Construction Contract Documents (A,W,SP,SU) 2-3-3
Intensive study of all documents related to a project with emphasis on the important legal aspects of each, and the role of the contractor in the final project. Lab fee: $4.00.

CMGT 106 Supervision of Field Operations (W,SP) 2-3-3
An overview of the principles of field supervision which includes leadership skill, problem solving, motivation techniques, problem solving processes, communication methods and useful supervisory aids for construction projects. Lab fee: $4.00.

CMGT 112 Construction Industry Survey (A,W,SP,SU) 3-0-3
An introduction to the employment fields within the construction technologies with emphasis on architecture, civil engineering, and construction management. The development of an appreciation of the many diverse human personality characteristics used in the construction industry jobs and contributions of workers within the industry. Management, organization practices and interrelationships of special interest groups will be discussed.

CMGT 115 Building Construction Methods (A,W,SP,SU) 2-3-3
A study of the methods used in work-site preparation, materials handling systems, assembly of construction materials and systems as related to building projects such as offices, schools, stores, industrial buildings and hospitals, along with the strategies employed to control and coordinate these activities. Lab fee: $3.00.

CMGT 121 Building Construction Drawings (A,W,SP,SU) 2:3-3
Reading and interpretation of construction drawings and project manuals as related to residential, commercial, and industrial construction projects. Interpretation of the relationship between plans, elevations, sections, details, and the coordination of these drawings with materials specifications. The use of basic construction math will be explained along with the interpretation of construction terms and symbols. The Dodge SCAN microfilm readers and Sweets catalogues will be used in this course. Lab fee: $9.00. Prerequisite: MATH 103 or higher.

CMGT 123 Heavy Construction Drawings (A,W,SP) 2-3-3
Reading and interpretation of construction drawings as related to highway and public works construction projects. Interpretation of the relationships of plans, elevations, sections and details, and the coordination with published specifications. A basic method of material quantity take-off will be explained. Lab fee: $5.00.

CMGT 125 Heavy Construction Methods (A,W) 2-3-3
A study of methods used to build horizontal projects, such as highways, dams, airports, bridges and utility lines. The various pieces of equipment and materials used in these type projects will be explained as well as the processes used. Lab fee: $5.00.

CMGT 131 Construction Quantity Survey (A,W,SP,SU) **l-4-3**
Development of the use of construction math relative to linear, square and cubic measures of common construction materials. The computation and organization of basic material quantities used in a typical building construction project including the site preparation. Lab fee: $9.00. Prerequisite: CMGT 121. Concurrent: MATH 104.

CMGT 135 Safety and Loss Prevention (SP) 2-3-3
Identification of work hazards and unsafe practices, safety codes and standards, safety programs and training with the role of O.S.H.A. and insurance companies in safety programs. Basic first aid and CPR are included. How to develop theft reduction programs with the cooperation of local law enforcement departments and insurance companies will also be studied. Lab fee: $7.00.

CMGT 141 Building Estimating (W,SP,SU) 2-3-3
Development of topics such as material price extensions, equipment requirements, labor requirements, and time requirements as related to building construction projects. Involving the take-off procedure used. Lab fee: $9.00. Prerequisites: CMGT 131 and CMGT 115.

CMGT 231 Computer Estimating (A) 2-3-3
A continuation of the study for the skills required to "take-off' the amount of materials from a set of construction plans in an orderly manner. The course will develop the general background information for the process of bidding a construction project utilizing computer software and discussing the most current software applications. Lab fee: $20.00. Prerequisites: CMGT 141, CMGT 131 and MATH 104.

CMGT 241 Planning and Scheduling (A) 2-3-3
A study of project control and coordination through systematic planning and scheduling, including operational adjustments for resource changes and alterations. Computer computation of critical path methods and analysis. Lab fee: $10.00. Prerequisite: CMGT 115 or CMGT 131.

CMGT 243 Construction Labor Law (A) 2-3-3
Investigation of the legal areas of labor contracts, project contracts, NLRB regulations, insurance requirements, fringe benefit collection, dispute resolution, arbitration and litigation as related to construction labor disputes. Lab fee: $3.00.

CMGT 248 Heavy Construction Estimating (A,SU) **l-3-2**
A comprehensive study of the topics associated with and unique to heavy/highway construction estimating. The major focus of the course will involve determining the cost factors of the equipment intensive operations associated with heavy/highway construction. The secondary focus will be relating the equipment selection and cost factors to the labor requirements, materials price extensions, and time requirements as utilized in the model crew method of estimating. Lab fee: $9.00. Prerequisites: CMGT 125, CMGT 123 and CMGT 131.

CMGT 251 Construction Cost Controls (W) 2-3-3
Methods and techniques of cost analysis used to develop skills in controling construction computer computation of costs, budgets, and related critical path analysis and adjustment, operating costs and cost forecasting of completed production. Lab fee: $10.00 Prerequisites: CMGT 141 or CMGT 248 and CMGT 241.

CMGT 252 Construction Contract Law (W) 2-3-3
Analysis of the special conditions of construction law as applied to contractual on-site conditions, document usage, negotiations of disputes, change orders and master contracts. Lab fee: $1.00. Prerequisite: CMGT 105.

CMGT 253 Residential Construction (A,SU) 2-3-3
The basic construction of a single family residence from the ground up, emphasizing construction methods, equipment used, structural design theory, materials and terminology. Lab fee: $2.00.

CMGT 261 Project Management (SP) 2-3-3
Tracking a project through a construction firm which includes job start, control assignments, control structures, organization, and move-out phases of the construction project. Computer simulation of project activities and management processes. Lab fee: $10.00. Prerequisite: CMGT 25 1.

CMGT 263 Marketing Construction Services (SP) **2-3-3**
Application of data analysis principles to the area of finding business projects. Contract negotiation, financial and contract packaging, along with the study of techniques of written and oral communications will be developed to include recording on-site activities to prospective clients. Lab fee: $5.00.

CMGT 290 Work Experience Seminar (SP) **1-0-l**
This class will prepare the student to work as a co-op student in a construction related position. Resumes, interviews, and job preparation will be discussed. The student taking this class should have been a student in one of the construction engineering technology programs for at least two previous quarters.

CMGT 291 Construction Work Experience (SU) 0-40-4
Off-campus work experience in construction, consulting engineering or construction related paid employment, that augments formal education received in the technology, with actual work conditions and job experience. "N" credit will not be allowed for this course Lab fee: $15.00. Prerequisites: CMGT 290 or permission of instructor.

Corrections Major
(See Law Enforcement Technology)

Dance (DANC)

DANC 101 Classical Ballet I (On Demand) 0-6-2
Classical ballet at the beginning~level. Fundamentals of classical ballet technique, coordination, strength and flexibility with an emphasis on proper execution and comprehension. Lab fee: $8.00.

DANC 102 Classical Ballet II (On Demand) **0-6-2**
A continuation of Classical Ballet I, following through on the development of basic skills and their incorporation into combinations of movements. Lab fee: $8.00. Prerequisite: 6 hours of Ballet I or permission of instructor.

DANC 106 Classical Ballet VI (On Demand) **0-9-3**
Professional level training offered to serious dance students, with extensive aptitude and abilities wishing to pursue a serious career in Ballet. Emphasis is on high level of technical proficiency combined with artistic interpretation and personal discipline. Lab fee: $8.00. Prerequisite: By audition only.

DANC 107 Ballet Repertoire VI (On Demand) 0-6-2
The opportunity to learn works from the classical dance repertoire and to participate in BalletMet company rehearsals and performances. Emphasis on professional standards of performance and work habits. Lab fee: $8.00. Prerequisite: Acceptance into DANC 106.

DANC 111 Modern Dance I (On Demand) 0-6-2
Introductory level training in modem dance. Emphasis on fundamental movement principals of modem dance including the release of weight in and out of the flow, mobility of the back and three dimensional usage of the spine, while frequently moving off the vertical plan. Lab fee: **$8.00.**

DANC 112 Modern Dance II (On Demand) **0-6-2**
A continuation of Modem Dance I integrating the use of more complex concepts and rhythms. Lab fee: $8.00. Prerequisite: 6 hours of Modem Dance I or permission of instructor.

DANC 121 Theatre Dance I (On Demand) 0-6-2
Jazz and tap techniques at the beginning level. Jazz dance combines classic Broadway theatre dance with contemporary movement styles. Elementary body part isolations, introduction to basic movement elements and basic combinations. Tap classes emphasize precession in sound, rhythm, movement, gesture and expression. Lab fee: $8.00.

DANC 122 Theatre Dance II (On Demand) 0-6-2
Fundamentals of jazz and tap developed to include more complex movement combinations and interpretations. Emphasis on quick and efficient learning skills. Lab fee: $8.00. Prerequisite: 6 hours of Theatre Dance I or permission of instructor.

DANC 201 Fundamentals of Music and Dance (On Demand) 2-0-2
Exploration of the relationship of music and dance. The elements of music reinforced from a dance perspective and the elements of dance examined within the context of music theory. Lab fee: $8.00.

DANC 210 History of Dance (On Demand) 3-0-3
An appreciation of dance as it exists today through the understanding of the historical developments both within dance and the world. How dance sometimes mirrors the concerns or fashions of the time and its place in the world today. Lab fee: $8.00.

DANC 254 African Dance History (On Demand) 3-0-3
An overview of the evolution and significance of African dance from its roots to the influences exerted on other dance forms of today. Lab fee: $8.00.

Dental Laboratory Technology (DENT)

DENT 101 Materials I (A) 3-0-3
This course involves a comprehensive study of the chemical and physical properties of materials used by the dental technician. Prerequisite: Acceptance into program.

DENT 102 Materials II (A) 2-0-2
This course is a continuation of the study of materials introduced in DENT 101. Prerequisite: DENT 101.

DENT 111 Anatomy (A) 2-3-3
This course provides the student with an introduction to the masticatory system. The student will be exposed to the significant structures and landmarks of the oral cavity, with extensive study of the permanent dentition. Prerequisite: Acceptance in to program.

DENT 121 Complete Dentures I (A) **l-6-3**
This course involves an introduction to complete dentures and includes a study of the procedures from preliminary impressions through wax contouring, with special emphasis upon artificial tooth arrangement. Lab fee: $55.00.

DENT 122 Complete Dentures II (W) l-3-2
This course is a continuation of the study of complete dentures and includes procedural material from flasking through patient remount and occlusal adjustments. Lab Fee: $55.00. Prerequisite: DENT 121.

DENT 123 Complete Dentures HI (SP) **l-6-3**
This course involves a study of procedures required to solve specific postinsertion problems, e.g. repair, rebase, and reline. In addition, the student is introduced to the immediate denture technique. Lab fee: $55.00. Prerequisite: DENT 122

DENT 132 Occlusion (W) **l-6-3**
This course will entail a study of occlusal morphology, the tempromandibular joint and mandibular movements. Prerequisite: DENT 111.

DENT 142 Removable Partial Dentures I (W) **l-6-3**
This course is a basic study of removable partial dentures, and presents principles such as survey, design, and fabrication. Prerequisite: DENT 121.

DENT 143 Removable Partial Dentures II (SP) **l-3-2**
This course will involve an intensification of the study of survey, design and fabrication of removable partial dentures. Prerequisite: DENT 142.

DENT 153 Fixed Partial Dentures I (SP) **l-6-3**
This course will introduce the student to the fixed appliance. The content will be limited to the single unit crown. Prerequisite: DENT 132.

DENT 224 Complete Dentures IV (SU) **l-3-2**
In this course, the student will fabricate an overdenture and will concentrate upon characterization of complete dentures. Lab fee: $55.00. Prerequisite: DENT 123.

DENT 244 Removable Partial Dentures III (SU) **l-6-3**
During this course, the student will apply acquired knowledge and skills by fabrication of removable partial dentures. The didactic portion will encompass the specialized designs such as stressbreakers, precision attachments and the RPI technique. Prerequisite: DENT 143.

DENT 254 Fixed Partial Dentures II (SU) **l-6-3**
This course is designed to extend the students' experiences in construction of fixed appliances and will contain material related to veneers. Prerequisite: DENT 153.

DENT 255 Fixed Partial Dentures III (A) 2-6-4
This course will extend the students' experiences in crown and bridge construction by introducing soldering and multiple unit appliances. The unit will also cover temporary appliances and alternate model construction methods. Lab fee: $55.00. Prerequisite: DENT **254**

DENT 256 Fixed Partial Dentures IV (W) l-6-3
This course will involve a study of crown and bridge cases not covered previously as well as the use of attachments. The student will construct multiple unit appliances and construct one piece castings. Lab fee: $55.00. Prerequisite: DENT 255.

DENT 264 History and Ethics (SU) 2-0-2
This course deals with the history of dental technology and its effect upon dentistry. In addition, the course will explore current problems and situations a dental technician must cope with. Prerequisite: DENT 123.

DENT 275 Ceramics I (A) 2-6-4
This course is an introduction to dental ceramics and will involve a study of porcelain fused to metal restorations. The students will construct porcelain veneers and full coverage single unit crowns. Prerequisite: DENT 254.

DENT 276 Ceramics II (W) l-6-3
This unit will entail a continuation of the study of the porcelain fused to metal restoration. It will also include the study of the Maryland bridge and the porcelain jacket crown and other multiple unit appliances. Prerequisite: DENT 275.

DENT 285 Othodontics (A) l-3-2
This course will entail a basic introduction to the laboratory skills necessary to provide services in the areas of orthodontics.

DENT 296 Applied Laboratory I (W) l-6-3
This course consists of laboratory and is intended to simulate a working laboratory. The student will fabricate fixed and removable appliances. Prerequisites: DENT 224 and DENT **255.**

DENT 297 Applied Laboratory II (SP) 1-18-7
This course consists entirely of laboratory and is intended to stimulate a working laboratory situation with regard to work schedules, case flow, and coping with real problems. Lab fee: $55.00. Prerequisite: DENT 296.

Developmental Education Department (DEV)

DEV 006 Writing Skills/Grammar/Sentence Structure (A,W,SP,SU) 2-0-2
This course is designed to build proficiency in basic writing skills, grammar, and sentence structure. It is opened to students enrolled in DEV 040, 041, 042 or the ENGL 100 series whose diagnostic test indicates specific deficiencies in language skills. Lab fee: $2.00.

DEV 007 Basic Punctuation Skills (A,W,SP,SU) 2-0-2
This course in basic punctuation skills is structured to build students' proficiency in using punctuation correctly. It is opened to students enrolled in DEV 040, 041, 042, or ENGL 100 series whose placement or diagnostic test indicates specific deficiencies in punctuation skills. Lab fee: $2.00.

DEV 015 Spelling and Vocabulary (A,W,SP,SU) 3-0-3
For development of vocabulary and spelling skills through the use of phonics, personal word lists and basic spelling roles. Lab fee: $2.00.

DEV 029 Math Foundations (A,W,SP,SU) 3-0-3
This course is designed for students who need special assistance with basic math in order to reenter DEV 030, Basic Mathematics. This course includes whole number operations, problem-solving strategies, estimation and number sense, Order of Operations, an introduction fractions and math study skills. DEV 029 is taught through lectures, group activities, computer instruction, tutorial exercises, and small group instruction. This course is not open to students with credit for DEV 030 or higher.

DEV 030 Basic Mathematics (A,W,SP,SU) 5-0-5
Basic Mathematics offers a review of arithmetic concepts including whole numbers, fractions, decimals, percents, simple equations, formulas, and data interpretation. The course is structured to develop students' critical thinking, problem solving, math and study skills through collaborative activities, writing assignments, real-life applications and the use of modem technology in the classroom. This mastery learning course is not open to students with credit for DEV 031, MATH 101 or MATH 102. Lab fee: $6.00.

DEV 031 Pre-Algebra (A,W,SP,SU) 5-0-5
Pre-Algebra is designed for students who have no experience with algebra and for those who need to strengthen their abilities to work with algebraic mathematics. Focus on topics in DEV 03 1 will include simplifying algebraic expressions, working with exponents, formulas, signed number operations, polynomial operations and application problems. This course will help to develop students' algebra and thinking skills and help them to perform successfully in MATH 101, MATH 102, and in the workplace. This mastery learning course is not open to students with credit for MATH 101 or MATH 102. Lab fee: $6.00. Prerequisite: By placement or, minimum of "C" or above in DEV 030.

DEV 040 Reading and Writing Skills (A,W,SP,SU) 5-0-5
This course develops students' skills for academic success in college by focusing on developing students' basic reading, writing, and study skills. Students will practice exercises that emphasize basic reading and writing skills by reading essays, writing and responding to short questions, keeping a journal, and doing workbook activities. Lab fee: $4.00.

DEV 041 Basic Communication Skills (A,W,SP,SU) 4-2-5
This course combines elements of the writing process with the basic principles of writing clear, coherent, and well-developed paragraphs. Students will review rules of grammar usage and punctuation. Critical thinking skills will be developed through reading, class discussion, and journal writing. This course is open to students who place by Writing Test into DEV 041. It is not open to students with credit for any of the ENGL 100 series. Lab fee: $5.00.

DEV 042 Principles of Writing (A,W,SP,SU) 5-0-5
In this writing-intensive course, students will build on the composing, revising and editing strategies introduced in DEV041. Through are view of individual DEV 041 writing portfolios, students' needs will be determined and instruction will address these needs. Students in this course will develop critical thinking skills through analyses of student and professional writings and through journal and response to reading assignments. Prerequisite: DEV 041 and permission of instructor. Lab fee: $5.00.

DEV 044 Critical Reading and Thinking (A,W) 3-0-3
Critical Reading and Thinking is designed to help students develop higher-order thinking skills needed for academic study and career success. In this course, students will develop thinking and language abilities through discussion topics, reading and writing assignments that allow them to critique their self-knowledge, evaluate ideas, and recognize errors in thinking. The course is open to all Columbus State students. Lab fee: $2.00. Prerequisite: DEV 040.

DEV 050 Career Life Planning (A,W,SP) 3-0-3
A course designed to help the individual student to identify and examine his/her abilities, interests, values, personality and financial means relative to education and career choices. Lab fee: $11.00.

DEV 090 College Success Skills (A,W,SP,SU) 2-0-2
College Success provides students with skills necessary to be successful in their personal, academic, and career-related pursuits. The course focuses on an orientation to the College, study skills, note-taking, test-taking, time management, and career preparation. This course is required of students who place in two Developmental Education courses. Lab fee: $6.00.

Dietary Manager Certificate (DMGR)

Dietetic Technician Major (DIET)
(See Hospitality Management Technology)

EDP Auditing Major
(See Accounting Technology)

EMT-Paramedic Major
(See Multi-Competency Health Tech.)

Early Childhood Development Technology (ECD)

ECD 103 Cognitive Curriculum (W,SP) 3-0-3
Theoretical foundations for the child's cognitive development. Techniques for promoting concept development as well as focus on science, math and readiness skills in both indoor and outdoor program. Emphasis on planning activities which encourage questioning, probing, and problem-solving skills appropriate to individual developmental level and learning style. Also includes effects and use of T.V., microcomputers and audio-visual equipment in settings for young children. Lab fee: $12.00. Prerequisites: PSY 261, ECD 105, ECD 107, and ECD 203.

ECD 105 Self-Concept (A,W,SP,SU) 3-0-3
Focuses on individualizing an early childhood program to meet the needs of children in a manner which develops a positive self-image and individual strength. Explores impact of teacher's self-image, values and attitudes on preschool classroom. Includes dimensions of self, antecedents of self-concept, relationship of feelings to self-concept, and teaching to foster self-esteem. Includes observation and recording of behavior. Examines variety of crises in lives of children and offers suggestions that teachers/families might use to cope in given situations. Lab fee: $12.00. Prerequisite: Placement into ENGL 101.

ECD 107 Curriculum Planning (A,W,SP,SU) 3-0-3
Focuses on basic guidance techniques to facilitate classroom management and limit-setting. Emphasizes developing goals and objectives as basis for program. Includes preschool curriculum planning and developmentally appropriate practice. Deals with the organization of time and space as it impacts on group living. Lab fee: $12.00. Prerequisite: ECD 105.

ECD 109 Language Experiences in Early Childhood Programs (W,SU) 3-0-3
Theories and sequence of speech/language development; differentiating between normal and atypical language. Focus is on teacher as facilitator of communication skill development; planning and implementing language arts activities; selecting and using literature to enhance language development, providing emotional support and stimulating interest in books. Includes reading readiness in terms of the play curriculum. Lab fee: $12.00. Prerequisites: ECD 105, ECD 107, ECD 203, and PSY 261.

ECD 110 Infant - Toddler Curriculum (A,SP) 3-0-3
Presents an overview of caregiving for infants and toddlers. Emphasizes programming for infants and toddlers across curriculum areas through appropriate experiences, the design of supportive environment, the use of various methods of developmental stimulation, and optimizing the growth potential of daily routines. The role of the caregiver in relation to parent and child is examined. Special issues of parent participation in infant and toddler care, and advocacy are included. Lab fee: $12.00. Prerequisites: ECD 105, ECD, 107, ECD 203 and PSY 261.

ECD 112 Physical Development Curriculum (A,SP) 3-0-3
Theoretical foundations for the child's physical and motor development. Includes assessing individual child's motor skills, sequence for the development of motor skills, perceptual-motor development, as well as implementing small and large motor activities in both the indoor and the outdoor setting. Health and safety education activities are also included. Lab fee: $12.00. Prerequisites: ECD 105, ECD 107, ECD 203, and PSY 261.

ECD 115 School Age Child Care (W) 3-0-3
This course will present principles that are important for developing and administering child care program for children in Kindergarten through Grade 5. Developmental characteristics of school aged children will be reviewed and appropriate care and education practices identified. Information regarding licensing regulations for school age child care programs in Ohio will he disseminated. Lab fee: $12.00. Prerequisites: ECD 105 and ECD 107.

ECD 151 ECD Media Resource I (A,W,SP,SU) **1-0-l**
This course will provide and overview and orientation to resources, equipment and materials available for creating learning activities for children. Students will have opportunities to practice safe, economical and appropriate skills in creative ways. Lab fee: $12.00. Prerequisites: ECD 105 or permission of ECD Coordinator.

ECD 152 ECD Media Resources II (A,W,SP,SU) **1-0-l**
This course will expand students' opportunities to learn, implement, and evaluate appropriate materials and methods for creating learning activities for children. Emphasis will be on extensions of appropriate classroom activities and environments through the use of media materials. Lab fee: $12.00. Prerequisite: ECD 151.

ECD 161- 265 ECD Seminars I-V (A,W,SP,SU) **l-0-1**
Group discussion of experience arising during ECD field placement; integration of theory and practice. These run concurrently with ECD Field Experience I-V. Seminars focus on observing and recording, the basic principles of guidance, and application of classroom studies in field. Prerequisites: ECD 105, ECD 107, ECD 203, and PSY 261. Concurrent: ECD 171-275.

ECD 171-275 ECD Field Experiences I-V (A,W,SP,SU) **0-7-1**
These. courses are a vital part of the ECD program, providing students with the opportunity to apply theory and practice under the guidance of early childhood professionals. These professionals guide and assist in the evaluation of student performance. Lab fee: $20.00. Prerequisite: Admission to Technology. Concurrents: ECD 161-265.

ECD 200 First Aid (A,W,SP) **1-0-l**
This course provides the student with training and practice in first aid. Meets requirement of Ohio Child Day Care Licensing Rules and Regulations for staff in early childhood settings. Lab fee: $12.00. Prerequisite: ENGL 100 placement.

ECD 201 Health and Safety (A,W,SP) **1-3**
Course gives training and practice in first aid, in the recognition and management of communicable diseases, and in child abuse recognition and prevention. Meets requirements of Ohio Child Day Care Licensing Rules and Regulations for staffs in early childhood settings. Lab fee: $12.00. Prerequisite: Placement into ENGL 100.

ECD 202 Communicable Disease Management (A,W,SP) **1-0-l**
A course designed to provide students with the knowledge and skills in recognition and management of communicable diseases. Meets requirements for Ohio Child Day Care Licensing Rules and Regulations for staffs in early childhood settings. Lab fee: $12.00. Prerequisite: ENGL 100 placement.

ECD 203 Creative Curriculum (A,W,SP) 3-0-3
Course deals with the principles of creativity and its importance in the life of the young child. Focus is on the sequence of development in child's use of creative materials. Techniques for creative arts and music will be explored, demonstrated and implemented. Students will developmaterials, objectives and activitiesin these areas. Lab fee: $20.00. Prerequisites: ECD 105 and ECD 107.

ECD 204 Recognition of Child Abuse & Neglect (A,W,SP) **1-0-l**
A course designed to provide students with the knowledge and skills in child abuse recognition and prevention. Meets requirements for Ohio Child Day Care Licensing Rules and Regulations for staffs in early childhood settings. Lab fee: $12.00. Prerequisite: ENGL 100 placement.

ECD 205 Parent Involvement - Early Childhood Programs (W,SU) 3-0-3
Instruction, training and experience in working effectively with parents of young children. Proficiency in involving parents in the child care center according to how they view their parenting role, their cultural heritage and skills they have from their workplace. Emphasis is on active participation of parent in the early childhood program Lab fee: $12.00. Prerequisite: ECD 206.

ECD 206 Social Development Curriculum (A,SU) 3-0-3
This course will include the following components of social development: recognition of family patterns and traditions, gender identity and sexroles, moral reasoning of young children, play theories and programming for classroom play, multicultural practices and diversity, and social studies for young children. The teacher's role as classroom facilitator of social development will be defined. Lab fee: $12.00. Prerequisites: ECD 112 and ECD 103.

ECD 207 Guidance and Discipline in Early Childhood Programs (SU,SP) 3-0-3
A study of guidance of young children and social learning theories. Focus is on preventing problem behaviors, and teaching desirable behavior through example, communication and setting limits. Issues of controlling child behavior, punishment and analyzing discipline problems will be discussed. Focus is on resolving problem situations, changing behavior and development of moral reasoning. Includes helping children cope with stressful situations. Lab fee: $12.00. Prerequisite: ECD 205.

ECD 208 Young Children With Special Needs (A,SP) 3-0-3
This course presents the rationale and skills in educating and caring for young children with special needs in programs with typically developing young children. It describes skills for identifying and assessing children with special needs and appropriate adoptive activities and strategies useful in an integrated classroom. This course will enable students to acknowledge the importance and necessity of collaboration with community professionals and resources. Lab fee: $12.00. Prerequisite: ECD 205.

ECD 209 Early Childhood Staff (W,SU) 3-0-3
In-depth study of the dynamics of staff interaction in a setting for young children. Focus includes personnel rights and responsibilities, ethical implications of teaching, team-functioning, problem-solving, communication skills, professional growth and development, the evaluation process, as well as traditions and trends in the field. Lab fee: $12.00. Prerequisite: ECD 206.

ECD 211 Child Care Administration (W,SU) 3-0-3
This course deals with the supervisory roles required to administer a program for young children. Focus is on planning for the child, the program, the staff, the parents and community involvement. Establishing and maintaining sound fiscal practices are given special emphasis. Includes legal requirements and responsibilities of Ohio licensing procedures. Lab fee: $12.00. Prerequisites: Minimum of one year working in ECD setting/permission of ECD advisor, placement into ENGL 101.

ECD 267 Student Teaching Seminar (A,W,SP,SU) 2-0-2
Students have opportunity to discuss their interaction with young children, staff, and parents in early childhood setting. Analyze the components in the learning environment, and their inter-relationships in programs for young children and families. Learn to promote the integration of theory and practice as it relates to topics such as quality programming, guidance, nutrition, health and safety. Lab fee: $12.00. Prerequisite: ECD 264. Concurrent: ECD 277.

ECD 277 Student Teaching Practicum (A,W,SP,SU) **0-21-3**
Provide students with opportunities to develop skills in working with young children (individually and in groups), and to integrate theories of child development with teaching practice. Students will work in assigned classrooms five days a week for a total of 21 hours weekly. Lab fee: $12.00. Prerequisite: ECD 274. Concurrent: ECD 267.

Economics (ECON)

ECON 100 Introduction to Economics (A,W,SP,SU) 5-0-5
An issues-based introduction to basic economic concepts such as scarcity, opportunity cost, supply and demand. Application issues include topics such as the minimum wage, the trade-off between jobs and the environment, and the Federal Reserve's effort to balance inflation and employment objectives. Lab fee: $6.00. Prerequisites: Placement into ENGL 101 and MATH 101, REAL 104 or equivalent.

ECON 200 Principles of Microeconomics (A,W,SP,SU) 5-0-5
A course designed to introduce students to the economic decision making of individuals and firms. Topics include scarcity, opportunity cost, supply and demand, consumer choice, elasticity, market structure, profit maximization, resource markets, and international trade. Lab fee: $6.00. Prerequisites: Placement into ENGL 101 & MATH 101, REAL 104, or the equivalent.

ECON 240 Principles of Macroeconomics (A,W,SP,SU) 5-0-5
A course designed to introduce students to economic decision making at the aggregate level. Topics include national income analysis, the business cycle, inflation, unemployment, fiscal and monetary policies and objectives. Lab fee: $6.00. Prerequisites: ECON 200, ENGL 101, MATH 101 or REAL 104, or the equivalent (successful completion of MATH 102 or its equivalent is strongly recommended).

ECON 290 Capstone Experience in Economics (On Demand) 2-2-3
This course is designed for students completing the two-year Associate of Arts or Associate of Science degree who have a special interest in continuing a baccalaureate degree program in Economics. Students will devise a research project that relates to their academic interests after reviewing research methodologies and findings in Economics; complete a portfolio that covers their academic career at Columbus State Community College; and participate in summative

testing of their academic skills. Open only to Associate of Arts or Associateof Science students preparing to graduate within two academic quarters. Lab fee: $10.00. Prerequisite: Completion of AA/AS core requirements and at least 75 hours toward the degree with five credit hours in economics.

ECON 293 Independent Study in Economics (On Demand) **1-5**
An individual student-structured course. The independent study elective permits a student to pursue his/her interests within the context of a faculty-guided program. Lab fee: $5.00. Prerequisites: Permission of the instructor and the Chairperson.

ECON 299 Special Topics in Economics (On Demand) **1-5**
Detailed examination of selected topics of interest in economics. Lab fee: $5.00. Prerequisites vary.

Electro-Mechanical Engineering Technology (EMEC)

For other related course descriptions, see Electronic Engineering Technology and Mechanical Engineering Technology.

EMEC 250 Motors and Controls (A) 2-3-3
A study of the basic elements of AC and DC motors and generators, how they arc used in industry, how to select them for different purposes, and how to control their motion. Students also learn about series and, parallel circuits, capacitors, inductors, motor speed and torque ratings, and the calculation of horsepower and efficiency. Lab fee: $12.00. Prerequisite: EET 132 or permission of instructor.

EMEC 251 Electro-Mechanical Controls I (W) 3-3-4
An introduction to the basic interface circuitry used in electro-mechanical controls. Students learn about solenoids and relays, ladder logic and ladder diagrams, and how to design control systems. Students are also exposed transducers, stepper motors, servomechanism, and programmable logic controllers (PLC's). Lab fee: $12.00. Prerequisite: EET 243 or permission of instructor.

EMEC 260 Electro-Mechanical Controls II (SP) 3-3-4
The course presents an integrative approach to the use of electro-mechanical controls and how to apply them to typical industrial situations. Students gain experience programming and industrial PLC (programmable logic controller) and designing systems to meet given criteria. Students arc also exposed to digital logic. Lab fee: $12.00. Prerequisite: EMEC 251.

Electronic Engineering Technology (EET)

EET 101 Basic Electricity (A,W,SP) 2-3-3
An introductory electrical applications course covering basic direct and alternating current concepts, measurements, circuit analysis, magnetism, electrical energy sources, and electrical energy conversion. This course is not required for students in the Electronic Engineering Technology. Lab fee: $4.00. Prerequisite: MATH 103.

EET 102 Electronics and Digital Fundamentals (W,SP,SU) 2-3-3
An introductory electronics and digital fundamentals course. Course content covers electronic basics, diodes, transistors, electronic power supplies, amplification, power control, and basic digital logic devices and systems. Circuit applications of electronic and digital devices are stressed. This course is not required for students in the Electronic Engineering Technology. Lab fee: $4.00. Prerequisite: EET 101,

EET 110 Electronic Drafting (A,W,SP,SU) **l-2-2**
An introductory drawing course incorporating the use of instments, instructions, and practice to produce quality schematics and pictorial diagrams using lettering, electronic, and electrical symbols. The student will be given an introduction to computer-aided drafting (CAD). Lab fee: $4.00.

EET 111 Direct Current Fundamentals (A,W,SP,SU) 4-0-4
An introduction to direct current fundamentals, electron physics, current and voltage, work, power, series and parallel resistances, network theorems, electrical measurement devices, circuit analysis. Microcomputers are introduced and used for problem-solving. Prerequisites: MATH 103 or placement into MATH 111. Concurrents: EET 112 and MATH 111.

EET 112 DC Laboratory (A,W,SP,SU) 0-6-2
This is an introductory course in the use of power supples and measurement equipment commonly found in laboratories and industrial situations. The student will gain hands-on experience in the use of these equipments. A lab manual is used by the students as an aid to standardization of notation, reference data, and student reporting throughout the course. Lab fee: $9.00. Concurrent: EET 111.

EET 120 Alternating Current Fundamentals (A,W,SP,SU) 4-0-4
A detailed study of the principles of time varying electrical current and voltage relationships. The course includes an intensive application of vector analysis as applied to AC circuits, power applications, and the resonance phenomenon. Computer solutions are stressed when appropriate. Prerequisites: EET 111 and EET 112. Concurrents: EET 121 and MATH 112.

EET 121 Alternating Current Laboratory (A,W,SP,SU) 0-6-2
Laboratory study of signal sources, oscilloscopes, reactance, inductance, AC networks, transformers and filter circuits. Lab fee: $9.00. Prerequisites: EET 111 and EET 112. Concurent: EET 120.

EET 122 CAD/Electronics (W,SU) **l-4-3**
A follow-up to EET 110, this technical elective course will familiarize the student with the concept of computer aided drafting (CAD) systems as used by drafters in the electronics industry. Emphasis will be placed on the Or CAD TM system. A limited number of seats are available to students from outside the technology. Lab fee: $5.00. Prerequisite: EET 110 or permission of the instructor

EET 130 Electronic Devices (A,W,SP,SU) 4-0-4
An in depth investigation of the operating characteristics of basic active devices. The course is designed to explain the approximate electrical equivalence and circuit analysis of devices to the basic AC, DC models, with sample applications of the most frequently used circuits. Prerequisites: EET 120 and EET 121. Concurrent: EET 131.

EET 131 Electronic Devices Laboratory (A,W,SP,SU) 0-6-2
The lab exercises in this course closely follow the EET 130 lecture theory for reinforcement through experimentation and theoretical verification of results. All lab exercises use modern devices, planned experiments and industrial standard equipment. Lab fee: $9.00. Prerequisites: EET 120 and EET 121. Concurrent: EET 130.

EET 132 Digital Fundamentals (A,W,SP,SU) 2-3-3
An introductory course in digital electronic fundamentals covering number systems, Boolean Algebra, truth tables, Karnaugh maps, basic gates, adders, (latches, flip-flops, and counters). Lab fee: $4.00. Prerequisite: EET 111 or permission of instructor

EET 134 Electric Power Technology (On Demand) 3-0-3
An introductory technical elective course covering three phase circuits, transformers, induction and synchronous machines, power generation, transmission lines, distribution networks and substations. Prerequisite: EET 120 or permission of the instructor.

EET 144 PC Hardware (A,W,SP,SU) 2-2-3
Course provides instruction and hands on experience in upgrading, reconfiguring and adding boards, memory, etc. Use of modems and utilities. Students will tear down and reassemble a PC. Lab fee: $12.00. Meets degree requirement for MCT students. Prerequisites: CPT 101 recommended.

EET 145 Computer Maintenance (A,SP) **l-4-3**
A hands-on laboratory course where students troubleshoot the printer, monitor, disk drive, and CPU of an IBM-PC by means of troubleshooting flowcharts. Recommended for students planning to go into field service positions. A limited number of seats are available to students from outside the technology. Lab fee: $10.00. Prerequisite: EET 130 or permission of the instructor

EET 203 National Electrical Code (On Demand) 3-3-4
This course gives a brief description of each National Electrical Code article and discusses how to reference information in the code. Changes from the previous code and sample calculations arc also covered. Not required for students in the Electronic Engineering Technology. Completion of this course does not guarantee eligibility to sit for any licensing examinations and may not meet electrical contractor or Electrical Safety Inspector refresher course requirements. Check with the College or The Ohio Department of Industrial Relations.

EET 240 Calculus for Electronics (A,W,SP,SU) 5-0-5
Practical application of differential and integral calculus to electronics. Covers rates, limits, derivatives, differentials and differentiators, higher derivatives, maxima/minima, integrals and integrators, definite integrals, trigonometric and logarithmic functions, and selected advanced topics. Graphical methods and calculators will be used for problem solutions where appropriate. Prerequisites: MATH 113 or MATH 150 and EET 120.

EET 241 Electronic Devices Circuit Analysis (A,W,SP,SU) 4-0-4
This course covers the concepts of large signal power amplification, small signal voltage amplification of both low and high frequencies, the concepts of negative and positive feedback, integrated circuit (IC) differential and operational amplifiers, and IC voltage regulation with emphasis on circuit analysis techniques. Computer solution of problems is stressed where practical. Prerequisites: EET 130 and EET 131. Concurrent: EET 242.

EET 242 Electronic Devices Circuit Analysis Lab (A,W,SP,SU) 0-6-2
This course is designed to compliment EET 241 by providing physical involvement with the various circuits studied therein. The student will construct the circuits presented in lecture, measure their parameters and compare experimental results with those computed from theory. Lab fee: $9.00. Prerequisites: EET 130 and EET 131. Concurrent: EET 241.

EET 243 Digital Devices (A,W,SP,SU) 4-0-4
A continuation of the study of digital electronics covering waveforms, the generation of pulses and study of the related circuitry such as multivibrators and one shots. More complex and widely used digital devices such as counters, shift registers, memories, and multiplexers arc also presented. The basic units of a computer (bus, ALU) are studied. Prerequisites: EET 132 and EET 130. Concurrent: EET 244.

EET 244 Digital Devices Laboratory (A,W,SP,SU) 0-6-2
This lab course, **concurrent** with the lecture course EET 243, gives the student an opportunity to learn and design complex and widely used digital devices. Switching and wave shaping circuits are built using IC chips. Different devices which arc used in building a computer are introduced and used in experiments. Lab fee: $9.00. Prerequisite: EET 132. Concurrent: EET 243.

EET 250 Electronic Communications I (A,W,SP,SU) 4-0-4
The electronics communication course is an introductory systems course utilizing conventional modulation and demodulation theories. Particular emphasis is made on AM, FM, and video circuits. A survey of current trends in digital communication concepts, microwave principles, and fiber optics will be presented. Prerequisite: EET 130. Concurrent: EET 251.

EET 251 Communications I Laboratory (A,W,SP,SU) 0-6-2
Laboratory study of modem discrete, integrated circuit and modular circuit configurations to fabricate systems in AM, SSB, FM, video circuits and phase lock loop and pulse modulation. Lab fee: $9.00. Prerequisite: EET 131. Concurrent: EET 250.

EET 252 Microprocessors (A,W,SP,SU) 4-0-4
Different building blocks of a microprocessor and their functions are introduced. Methods of data storage and programming of a microprocessor are studied. Use of a microprocessor as a controller and interfacing it to other devices are also studied. A Motorola 68HCII microprocessor is used throughout the course. Prerequisite: EET 243. Concurrent: EET 253.

EET 253 Microprocessor Lab (A,W,SP,SU) 0-6-2
This lab course is the practical version of the concurrent lecture course EET 252. Different blocks of a microprocessor studied in lecture are used and experimented on in the lab course. Along with each lab, programming methods for different blocks of the microprocessor are introduced. The practical aspects of using the microprocessor as a controller for other devices are also explored. A 68HCII microprocessor is used. Lab fee: $9.00. Prerequisite: EET 243. Concurrent: EET 252.

EET 254 Electronic Fabrication (A,W,SP,SU) **l-3-2**
An introduction to the fabrication of electronic circuits from assembly through testing, to include soldering/desoldering, use of heat sinks, surface mount device technology testing, documentation and repair/replacement of parts. Credit can be earned by taking the course, life experience or proficiency testing. See your technology faculty advisor for details. Lab fee: $12.00. Prerequisite: EET 120.

EET 255 Instrumentation and Controls (A,SP) 2-3-3
This course presents the basic theories and specific methods of measurement of temperatures, pressure, liquid level, and other parameters which may be measured in industrial and scientific applications. The laboratory part of this course enables the student to gain experience with transducers. Major process control schemes as used in industry are covered along with conditions affecting response and stability of control systems. Lab fee: $10.00. Prerequisites: MATH 113, EET 130, EET 132. Concurrents: PHYS 185.

EET 260 Industrial Electronics (A,W,SP,SU) 4-0-4
A study of measurement and control circuits used in industry. A capstone course which explores the use of microprocessors and programmable logic controllers (PLCs) in control and measurement functions. Prerequisites: EET 241 and EET 252. Concurrent: EET 261.

EET 261 Industrial Laboratory (A,W,SP,SU) 0-6-2
Paralleling the development of topics in EET 260, this course permits student evaluation of theoretical predictions pertaining to industrial systems and their control. Lab fee: $9.00. Prerequisite: EET 253. Concurrent: EET 260.

EET 262 Digital Communications and Telecommunications (W,SU) 2-3-3
A study of the techniques, theory and devices used for communication in computer systems, networks and telecommunications. Modulation methods including PCM, MFM, NRZ, NRZI, and synchronous and asynchronous protocols are presented. Network standards such as token ring, ALOHA, Ethernet and LAN protocols are examined. This course also includes study of devices such as UARTS, MODEMS and CODECS as applied to the subject. Lab fee: $4.00. Prerequisites: EET 250 and EET 243.

EET 264 Fiber Optic Communications (SP,SU) 2-3-3
This is an introductory course on fiber optics. In it, various types of light sources, connectors, optics, fiber wave guides, detectors and distribution systems will be investigated, and the student will learn by laboratory experiment of the problems created by misalignment, attenuation, and lossy connectorization. Practical testing of fiber optic links using light sources and power meters will also be emphasized. Eye safety when working with dangerous power levels will be stressed. Lab fee: $5.00. Prerequisite: EET 250.

Emergency Medical Services Technology (EMS)

EMS 100 Crash Injury Management, First Responder (SU,SP) **l-3-2**
This course is designed to teach the person (public safety officer or other), who arrives first at the scene of an accident, proper life saving procedures, in terms of emergency victim care, the first responder will provide what is needed until qualified emergency medical technicians arrive. Lab fee: $5.00.

EMS 110 EMT- Basic (A,W,SP,SU) 4-8-8
This course provides a first phase of training in the career structure of the Emergency Medical Technician (EMT); the course covers all the knowledge and skills required for the state certification examination. This course includes 18 clock hours of clerical experience. Lab fee: $50.00. Prerequisite: Placement into ENGL 100 and permission of instructor.

EMS 111 EMT - Intermediate (A,W,SP,SU) 4-4-6
In depth study of patient assessment, shock physiology, fluid and intravenous therapy is the direction of this course, and covers the knowledge and skills required to take the state certification exam. Lab fee: $75.00. Prerequisite: State Certified EMT-Basic.

EMS 121 E.M.S. Systems (A) 3-0-3
This course deals with the history, development, organization, funding, and control of EMS. It will involve the student in current trends in EMS. Lab fee: $12.00.

EMS 122 Legal Principles for E.M.T. (A) 2-0-2
This course encompasses the laws and regulations which govern EMTs and their actions. The course also deals with the rights of the patient and professionalism of the EMT. Lab fee: $8.00. Prerequisite: Permission of instructor.

EMS 123 Emergency Psychiatric Intervention(w) 3-0-3
This course deals with the EMT's approach to victims exhibiting abnormal behavior and provides an in-depth look into methods of evaluation and management of these people. Lab fee: $10.00. Prerequisite: Permission of instructor.

EMS 124 Public Health Education (W) 3-0-3
This course will involve the paramedic in the role of public health educator from needs assessment, organizations involved to implementation; the student will be required to do some practical public health education. Lab fee: $5.00. Prerequisite: Must be CPR Certified.

EMS 125 Disaster Aid (SP) 3-0-3
This course will familiarize the EMT with disaster planning, community needs assessment, organization and control of a community disaster plan, and in developing testing procedures for this plan. Lab fee: $5.00. Prerequisite: Permission of instructor.

EMS 126 Advanced Rescue (SU 2nd Term) 3-2-4
This course deals with getting the EMT to an entrapped victim and removing the victim from the entrapment. Special rescue techniques will be covered in the areas of: vehicle, fire, building, farm, water, wilderness and electrical. Lab fee: $25.00. Prerequisite: Permission of instructor.

EMS 127 Handling Hazardous Materials Situations (SU) 2-0-2
This course encompasses the safety factors and care the paramedic must consider when dealing with victims exposed to hazardous materials, (i.e., toxic fumes, radioactive materials, electrical, explosive and flammable materials). Lab fee: $3.00. Prerequisite: Permission of instructor.

EMS 130 River Rescue (SU 1st Term) 2-2-3
This course deals with rescuing victims from the water. It will include, but not be limited to, self-rescue, rescue from shore, boat assisted rescues, rescue from boats and repelling. Lab fee: $8.00. Prerequisite: State of Ohio Certified Intermediate Swimmer

EMS 131 Special Topics for Paramedics (NJ) 3-0-3
In this course, the paramedic will be required to develop and present an in-depth study in an area of their individual interest. Lab fee: $3.00. Prerequisite: Permission of instructor.

EMS 132 Emergency Medical Services Dispatcher (SP) **l-2-2**
The EMS dispatcher course is designed to prepare EMS dispatcher personnel to receive requests for emergency medical services and allocatecommunity resources in response to such request and give pre-arrival instruction. Lab fee: $150.00 (includes book and certification fee). Prerequisite: Permission of instructor.

EMS 133 Ice & Cold Water Rescue (A) 2-0-2
This course deals with rescuing victims from ice covered and cold water, hypothermia and other related medical concerns. Lab fee: $25.00. Prerequisite: Permission of instructor.

EMS 134 EMS Administration I (A) 4-0-4
The first in a two course sequence designed to introduce the concepts of EMS Administration and its effect on patients, employees and themselves. Lab fee: $5.00. Prerequisites: EMS 121, EMS 122, BMGT 218 and HRM 121.

EMS 135 EMS Administration II (W) 2-2-3
The second in a two course sequence designed to introduce the concepts of EMS Administration and its effect on patients, employees and themselves. Lab fee: $5.00. Prerequisite: EMS 134.

EMS 140 Construction/Collapse for Fire/Rescue (W) 2-2-3
This course is an introduction to the present and past practices of building construction. Tells of important standard elements of buildings, the hidden dangers of old and new buildings, what influences structural stability of walls in fires and collapse, and how to look for and judge structural dangers. Relationships between construction materials and damage of a building. Lab fee: $5.00. Prerequisites: CMGT 121 and CIVL 120.

EMS 141 Hazardous Material (Technician Level) (SU) **l-2-2**
This course provides a foundation for working at a hazardous materials incident including the developing and implementing a site safety plan and implementing decontamination procedures. It will also cover the use of difference reference materials, and the identification, verification, and control of hazardous materials. Lab fee: $10.00.

EMS 142 Vertical Rescue (SP) **l-3-2**
This course is designed to present the fundamentals of rope rescue, using up-to-date equipment and techniques with a major emphasis on safety. Terminology, selection of proper equipment, essential knots, and current standards will be presented, as well as rope rescue systems and litter packaging. Practical application evolutions will include solving rescue problems and evaluating rope rescue systems and/or techniques. Includes rescue of the injured and/or stranded from ledges, cliffs, elevator shafts, etc. Lab fee: $20.00.

EMS 143 Search and Rescue (A) **l-3-2**
This course includes the introduction to job responsibilities, philosophy and concepts of effective search and rescue management. It describes preplanning, resources, investigation, interviewing, determining urgency, subject behaviors, search strategy, area probability, base camp set up and management, briefing and debriefing. The course also introduces map and compass reading, Lab fee: $20.00. Prerequisite: Permission of instructor.

EMS 144 Confined Space Rescue (SP) **l-3-2**
This course is designed to present the learner with OSHA regulations, and requirements. Also confined space entry procedures to safely and properly perform a rescue from tanks, pipelines, manholes, cave-ins, etc. The course will address necessary rescue shoring and tunneling equipment required for a confined space rescue. Lab fee: $15.00. Prerequisite: EMS 142.

EMS 145 Vehicle Extraction (A) **l-3-2**
This course is designed to prepare the learner for situations involving auto's, school buses, commercial buses, and trucks. Participants will be presented information on how to respond to incidents involving these types of vehicles, the methods used to construct the vehicles and how they are operated. Learner will be expected to apply classroom theory and hands-on application dealing with vehicle stabilization, patient handling and removal, extrication incident. Lab fee: $20.00. Prerequisite: EMS 110.

EMS 147 Farm/Agricultural Rescue (A) **l-2-2**
This course will familiarize the learner with different types of farm/agricultural accidents, including machinery upsets/rollovers, grain bin entrapments, patients caught within large machinery, exposure to toxic chemistry/pesticide. Lab fee: $5.00. Prerequisite: EMS 110.

EMS 211 EMT-Paramedic I (W,SU) 5-4-7
This course encompasses the training of the paramedic in the areas of their role, triage and assessment of victims, care of the victim in the areas of shock, respiratory system, intravenous therapy and trauma as well as principles of communications. Lab fee: $80.00. Prerequisite: EMS 110. Concurrent: EMS 281 and EMS 291.

EMS 212 EMT-Paramedic II (A,SP) 5-3-6
This course encompasses the training of the paramedic in the areas of: cardiovascular, anaphylaxis, and the endocrine and nervous systems. Lab fee: $70.00. Prerequisite: EMS 211. Concurrents: EMS 232, EMS 282 and EMS 292.

EMS 213 EMT-P III (W,SU) 4-2-5
This course encompasses the training of the paramedic in the areas of: central nervous system, musculoskeletal system, soft tissue injuries, obstetric and gynecologic emergencies, neonatal and pediatric emergencies, and rescue. Lab fee: $65.00. Prerequisite: EMS 212. Concurrents: EMS 283 and EMS 293.

EMS 214 EMT-P IV (SP,A) **1-0-l**
This course encompasses the training of the paramedic in the areas of: trauma life support and major incident response, and the continuation of training in ob/gyn/neonatal, behavioral emergencies and rescue. Lab fee: $30.00. Prerequisite: EMS 213. Concurrents: EMS 234, EMS 284 and EMS 294.

EMS 232 Advanced Cardiac Life Support (ACLS) **1-0-l**
Advanced cardiac life support. Lab fee: $10.00. Prerequisite: Permission of instructor.

EMS 234 Basic Trauma Life Support (BTLS) **1-0-l**
Basic trauma life support. Lab fee: $50.00. Prerequisite: Permission of instructor.

EMS 281 Hospital Clinical I (W,SU) 0-6-2
Hospital clinical, observation and experience, encompassing the didactic areas covered in EMS 211. Lab fee: $3.00. Concurrents: EMS 211 and EMS 291.

EMS 282 Hospital Clinical II (A,SP) 0-6-2
Hospital clinical, observation and experience, encompassing the didactic areas covered in 8306. Lab fee: $3.00. Prerequisite: EMS 281. Concurrents: EMS 212 and EMS 292.

EMS 283 Hospital Clinical III (W,SU) 0-6-2
Hospital clinical, observation and experience, encompassing the didactic areas covered in 8307. Lab fee: $3.00. Prerequisite: EMS 282. Concurrents: EMS 213 and EMS 293.

EMS 284 Hospital Clinical IV (A,SP) 0-6-2
Hospital clinical, observation and supervised experience, encompassing the didactic areas covered in EMS 214. Lab fee: $3.00. Prerequisite: EMS 283. Concurrents: EMS 214 and EMS 294.

EMS 291 Field Clinical I (W,SU) **0-5-1**
Vehicle clinical, observation and experience. Lab fee: $3.00. Prerequisite or concurrent: EMS 281 Concurrents: EMS 211.

EMS 292 Field Clinical II (A,SP) **0-5-1**
Vehicle clinical, observation and experience. Lab fee: $3.00. Prerequisites: EMS 211, EMS 281 and EMS 291. Concurrents: EMS 212 and EMS 282.

EMS 293 Field Clinical III (W,SU) **0-5-1**
Vehicle clinical, observation and experience. Lab fee: $3.00. Prerequisites: EMS 292. Concurrents: EMS 213 and EMS 283.

EMS 294 Field Clinical IV (A,SP) **0-10-2**
Vehicle clinical, observation and experience. Lab fee: $3.00. Prerequisite: EMS 293. Concurrents: EMS 214 and EMS 284.

English (ENGL)
(Also see Communication Skills and Technical Communications)

ENGL 100 Language Development (A,W,SP,SU) 5-0-5
Students develop skills in reading and writing in preparation for ENGL 101 by analyzing the writing of students and professionals and by developing paragraphs and short essays using narration, description, and examplification and/or illustration. Lab fee: $3.00. Prerequisite: DEV 041 with a grade of "C" or higher plus successful completion of the DEV 041 exit examination, or DEV 042 with a grade of "C" or higher, placement by test. Credit will not count toward graduation in any degree program.

ENGL 101 Beginning Composition (A,W,SP,SU) 3-0-3
Students compose clear, concise expository essays using various modes such as definition, exemplification, process, analysis, cause and effect, comparison and contrast. This course or its equivalent is required for all degrees. Lab fee: $3.00. Prerequisite: ENGL 100 with a grade of "C" or higher or placement by test.

ENGL 102 Essay and Research (A,W,SP,SU) 3-0-3
This course is a continuation of ENGL 101 expanded to include argumentation, logic, and research techniques. Research papers using MLA documentation are written. Lab fee: $3.00. Prerequisite: ENGL 101 with a grade of "C" or higher

ENGL 111 English Composition (A,W,SP,SU) 5-0-5
This course is an accelerated combination of ENGL 101 and ENGL 102 Students receive training in the fundamentals of exposition and argumentation through 'using the writing process. The course stresses critical reading of the students' own and professional writing. It includes units on library research and documentation. Lab fee: $3.00. Prerequisite: Placement test score.

ENGL 190 Freshman Experience in English (A,W,SP,SU) 2-0-2
The Freshman Experience Seminar is designed to familiarize first time Arts and Sciences students at Columbus State Community College with the academic environment. Students will use various on site support systems, set personal academic goals, and map their course of study at Columbus State to meet those goals. Open to all students. Optional for students having completed ESL 100, required for all Associate of Arts or Associate of Science degree seeking students. Concurrent: ENGL 101 or 111. Lab fee: $4.00.

ENGL 200 Business Communications (A,W,SP,SU) 3-0-3
Emphasis is placed on principles of effective business writing. Students practice writing business letters and memos. A problem-solving or technical report related to the student's area of concentration is required. Resume preparation and job search techniques are covered. Lab fee: $7.00. Prerequisite: ENGL 102 or ENGL 111 with a grade of "C" or higher and at least two quarters or equivalent work experience in a technology

ENGL 202 Writing for Health and Human Services (A,W,SP,SU) 3-0-3
Students specializing in human services and health care fields practice the kinds of writing essential to recordkeeping and research in their professions. Legal and ethical interdisciplinary communication is emphasized. Using practice and real-life cases, students write desriptions, summaries, and evaluations. Job search techniques and letter, memo and report formats are covered. A short research paper using APA documentation is required. This course may substitute for ENGL 200 or ENGL 204 in certain technologies; check with your academic advisor. Lab fee: $7.00. Prerequisites: ENGL 102 or ENGL 111 with a grade of "C" or higher, admittance to a technical program, and current clinical/field placement.

ENGL 204 Technical Writing (A,W,SP,SU) 3-0-3
Students learn the principles of technical writing and practice those types of writing required of technicians, including letters, memos, and reports as required in a student's technology. A problem-solving report is written. Resume preparation and job search techniques are covered. Oral reports using visual aids are required. Lab fee: $7.00. Prerequisite: ENGL 102 or ENGL 111 with a grade of "C" or higher and at least two quarters or equivalent in the student's technology.

ENGL 206 Governmental Communications (W,SU) 3-0-3
The course emphasizes the principles of effective writing done in government settings. The student learns to write various types of correspondence in a variety of formats in addition to researching and writing a report adhering to formatting guidelines. The student will also prepare selected components of a job application package. Lab fee: $7.00. Prerequisite: ENGL 102 or ENGL 111 with a grade of "C" or better.

ENGL 208 Communication for the Mass Media (W,SP) 3-0-3
This course prepares students to communicate effectively with the mass media including newspapers, magazines, radio, and television through press conferences, news releases, feature stories, research reports, and statements. Students will prepare and present a portfolio that may include news and feature stories, brochures, flyers, research and other assignments completed for the course. Lab fee: $7.00. Prerequisite: ENGL 102 or ENGL 111. Concurrent: COMM 105 or equivalent is recommended.

ENGL 210 Creative Writing (A,SP) 3-0-3
Students are introduced to the fundamental techniques of creative writing. Using peer group analysis and workshop techniques, students will develop short pieces in a variety of genres. Lab fee: $3.00. Prerequisite: ENGL 101 or ENGL 111.

ENGL 215 Magazine Publication: Literary Criticism, Editing, and Design (W) 1-4-3
Through hands-on practice with ***Springstreet,*** students learn the processes and techniques involved in the production of a literary magazine. Lab fee: $3.00. Prerequisite: ENGL 101 or ENGL 111 with a grade of "C" or higher and instructor's permission.

ENGL 220 Introduction to Literature (A,W,SP,SU) 3-0-3
Students are introduced to the major forms of literature by reading and discussing poetry, drama, and short stories. Practical experience in the critical analysis of literature is acquired through the writing of essays and journals and through the presentation of short oral reports. This course, or its equivalent in the ENGL 250-253 series, is required for all Associate of Arts and Associate of Science degrees. Lab fee: $3.00. Prerequisite: ENGL 102 or ENGL 111 with a grade of "C" or higher.

ENGL 225 Introduction to Fiction (W,SU) 5-0-5
English 225 is an intensive study of selected short stories and novels. Through critical reading, discussion, and writing, students will become familiar with important themes and methodologies of fiction. In both short stories and novels, emphasis will be placed upon identifying and analyzing authors' particular uses of the traditional elements of fiction (structure, setting, point of view, etc.) to develop plot and character. Lab fee: $1.00 Prerequisite: ENGL 102 or ENGL 111 with a grade of "C" or better.

ENGL 230 Introduction to Dramatic Literature (W,SU) 5-0-5
Students will study selected masterpieces of western drama and discuss their social, political, and cultural influences. Students will write critical analyses of drama and of plays attended. Lab fee: $1.00. Prerequisite: ENGL 102 or ENGL 111 with a grade of "C" or better.

ENGL 235 Introduction to Poetry (ASP) 5-0-5
This course will introduce students to the critical process of reading and responding to poetry from historical, cultural, and gender-based perspectives, Emphasis will be upon traditional and nontraditional forms as well as mainstream and marginalized writers. Students will become familiar with appropriate terminology; however, they will also learn to encounter the poem as a whole piece of written discourse between poet and reader. Students will, therefore, conduct an on-going oral and written dialogue with the poet (who is the speaker? who is the audience?, what is the purpose?) and the poem (what is the message?). Students will articulate orally and in writing their own ideas of interpretation based upon a close reading of the text and an informed perspective concerning the historical and cultural circumstances of its origin. Lab fee: $1.00. Prerequisite: ENGL 102 or ENGL 111 with a grade of "C" or better.

ENGL 240 Introduction to Science Fiction (A) 3-0-3
The historical roots and literary forms of science fiction are introduced. From their readings and viewing of films, students will write critiques, reports, and research papers about science fiction as a literary genre. Lab fee: $3.00. Prerequisite: ENGL 102 or ENGL 111 with a grade of "C" or higher.

ENGL 245 Introduction to Film (W,SU) 5-0-5
This course introduces students to cinema by analyzing the elements of film technique: literature, story, drama, editing, movement, acting, sound, photography, staging, and theory. Film as a cultural product is also discussed. Class activities include critical viewing, discussion, and writing assignments. Lab fee: $10.00. Prerequisite: ENGL 102 or ENGL 111 with a grade of "C" or higher.

ENGL 250 Writing About the American Experience (A,W,SP,SU) 5-0-5
Students will read selected pieces of American literature and writings about the American experience in order to explore the variety of conflicts within individuals and within society as values, principles, and beliefs are defined, established, challenged, and defended. Student writing assignments include response journals, documented critical papers, and essay examinations. The course may substitute for ENGL 220 or meet elective requirements in the Associate of Arts or Associate of Science degree programs and transfer requirements in composition or literature. Lab fee: $3.00. Prerequisite: ENGL 102 or ENGL 111 with a grade of "C" or higher. Not open to students who have credit for ENGL 251, ENGL 252, or ENGL 253.

ENGL 251 The American Identity (A,W,SP,SU) 5-0-s
Students will read selected American writings to explore the multicultural experiences that define the American nation. Discussion will focus on how individual experience shapes the national character. Student writing assignments include response journals, documented critical papers, and essay examinations. The course may substitute for ENGL 220 or meet elective requirements in the Associate of Arts or Associate of Science degree programs and transfer requirements in composition or literature. Lab fee: $3.00. Prerequisite: ENGL 102 or ENGL 111 with a grade of "C" or higher. Not open to students who have credit for ENGL 250, ENGL 252, or ENGL 253.

ENGL 252 Images of Men and Women (A,W,SP,SU) 5-0-5
Students will read selected American writings to explore the perceptions of men and women of various racial and ethnic backgrounds in American society. Discussion will focus on gender issues and conflicts as they arise within the individual and between the individual and society. Student writing assignments include response journals, documented critical papers, and essay examinations. The course may substitute for ENGL 220 or meet elective requirements in the Associate of Arts or Associate of Science degree programs and transfer requirements in composition or literature. Lab fee: $3.00. Prerequisite: ENGL 102 or ENGL 111 with a grade of "C" or higher. Not open to students who have credit for ENGL 250, ENGL 251, or ENGL 253.

ENGL 253 Regional American Writing (A,W,SP,SU) 5-0-5
Students will read selected American writings to explore the regional diversity that characterizes the American nation. Discussion will focus on how such regional differences as historic and ethnic backgrounds, social development, economics, politics, language and literary traditions are reflected in literature. Student writing assignments include response journals, documented critical papers, and essay examinations. The course may substitute for ENGL 220 or meet elective requirements in the Associate of Arts or Associate of Science degree programs and transfer requirements in composition or literature. Lab fee: $3.00. Prerequisite: ENGL 102 or ENGL 111 with a grade of "C" or higher. Not open to students who have credit for ENGL 250, ENGL 251, or ENGL 252.

ENGL 260 Survey of Modern U.S. Literature (SU) 5-0-5
This course examines the works of major writers in U.S. literature from 1865 to the present with attention to revision of the canon. Genres include essays, short fiction, drama, poetry, and the novel. Course activities include reading, discussion, writing assignments, and audience participation. Lab fee: $3.00. Prerequisite: ENGL 220 or equivalent.

ENGL 262 Survey of British Literature (SP) 5-0-5
Students will study selected master works of nineteenth and twentieth century British literature. The course activities will include reading, discussion, writing assignments, and audience participation. Lab fee: $3.00. Prerequisite: ENGL 220 or equivalent.

ENGL 264 Introduction to Shakespeare (W,SU) 5-0-5
This course will examine representative works selected from Shakespeare's History Plays, Comedies, Romances, and Tragedies, concentrating on a critical/analytical approach to both the plays and Elizabethan dramaturgy. Emphasis, therefore, will be placed upon Renaissance/ Elizabethan dramaturgy and conventions, upon language and style, upon the elements of History Plays, Comedies, Romances, and Tragedies, and upon analyses of fundamental human experience. Lab fee: $3.00. Prerequisite: ENGL 220 or equivalent.

ENGL 265 European Literature in Translation (A) 5-0-5
The course will examine the works of representative European writers and cultures for the purpose of developing an appreciation of the international nature of literary subjects, themes, and movements. Emphasis will be placed upon developing an understanding of the historical, philosophical, and social contexts of the various cultures within which European Romanticism, Realism, Naturalism, Existentialism, and modern movements developed. Lab fee: $3.00. Prerequisite: ENGL 220 or equivalent.

ENGL 270 African American Writers (W,SU) 5-0-5
This course is a survey of Black American literature from the eighteenth-century beginnings to the present; it includes a study of slave narratives, folklore, drama, poetry, and short fiction. Activities include reading and writing assignments, oral presentations, special performances, guest speakers, and field trips, Lab fee: $3.00. Prerequisite: ENGL 220 or equivalent.

ENGL 272 Introduction to Folklore (SU) 5-0-5
This course is a study of folklore; it looks at 1) ORAL FOLKLORE (i.e., proverbs, riddles, myths, motifs, legends, folktales), 2) CUSTOMARY FOLKLORE (i.e., superstitions, folk customs, folk festivals), 3) MATERIAL AND FOLK TRADITIONS (i.e., folk foods, architecture, costumes). Course activities include field work, reading and writing assignments, and a special project. Lab fee: $3.00. Prerequisite: ENGL 220 or equivalent.

ENGL 274 Introduction to Non-Western Literatures (A,SP) s-0-5
This course introduces students to selected classic and modern literature of the non-Western world, including Asia, Africa, the Mid-East, and Latin America. Through several literary approaches, students will gain an understanding of the authors, the periods, and the cultures they represent and the various ways they have handled literary themes Lab fee: $3.00. Prerequisite: ENGL 220 or equivalent.

ENGL 276 Women in Literature (A,SP) 5-0-5
This course will explore the history by and about women. The course uses a comparative approach to see how women have treated a variety of themes and how they have worked within the genres of fiction, poetry, and drama. Discussions will consider the literature from the perspectives of gender, history, politics, and culture. Writing assignments will include response journals, documented critical papers, and essay examinations Lab fee: $3.00. Prerequisite: ENGL 220 or equivalent.

ENGL 278 The English Bible as Literature (W) 5-0-5
This course offers a literary approach to the Bible in English. Students read, in a modern English translation, much of the Old Testament and the New, as well as parts of the Apocrypha. This is not a course in religion. The approach is literary, historical, cultural. The Bible is read as an anthology of writings composed, compiled, translated, and edited over several centuries by many individuals and as a book that has had an enormous effect on our culture, art, and civilization. Lab fee: $3.00. Prerequisite: ENGL 220 or equivalent.

ENGL 280 Publishing Practicum (SP) 0-4-2
Students who have satisfactorily completed ENGL 215 or who have comparable training and experience from another context learn magazine production techniques using Springstreet or another college publication as a production laboratory. This practicum may be repeated once and normally taken immediately after completing ENGL 215. Lab fee: $3.00 Prerequisite: ENGL 215 or instructor's permission.

ENGL 281 Writing Fiction (A) 5-0-5
This course introduces students to the art and craft of writing fiction. Emphasis is on the student's own work; however, students will also be required to study the works and writing processes of established writers, male and female, traditional and nontraditional, ancient and modern, and from diverse cultures. Students will keep a writer's journal, respond critically to the works of other students, create and revise a final long work (or combination of shorter works) of at least 4,000 words by the end of the quarter. In addition, students will be required to participate in a public reading of their work at least once during the quarter. Lab fee: $5.00. Prerequisite: ENGL 210 with a grade of "B" or better or permission of the instructor.

ENGL 282 Writing Poetry (W) 5-0-5
This course introduces students to the art and craft of writing poetry. Emphasis is on the student's own work; however, students will also be required to study the works, writing processes, critical commentary on, and oral delivery of established poets, male and female, traditional and nontraditional, ancient and modern, and from diverse cultures. Students will keep a writer's journal, respond critically to me works of other students, create and revise a

chap book of 8-10 finished poems (l2-20) pages by the end of the quarter. Students will present selected poems from the chapbook at a public reading. Lab fee: $5.00. Prerequisite: ENGL 210 with a grade of "B", or better or permission of the instructor.

ENGL 283 Writing Plays (SP) 5-0-5
This course introduces students to the art and craft of writing plays. Emphasis is on the student's own work; however, students will also be required to study the works and writing processes of established playwrights, male and female, traditional and non traditional, ancient and modern, and from diverse cultures. Students will keep a writer's journal, respond critically to the works of other students, create and revise a short play (or an Act or Acts of a longer work) complete enough to be produced by the end of the quarter. Students will present a public reading or performance of their work. Lab fee: $5.00. Prerequisite: ENGL 210 with a grade of "B" or better or permission of instructor.

ENGL 284 Writing Creative Nonfiction (SU) 5-0-5
This course introduces students to the art and craft of writing creative nonfiction (feature writing, travel writing, memoirs, personal profiles, biographies, public relations, etc.). Emphasis is on the student's own work; however, students will also be required to study the works, writing processes, critical commentary on, and oral delivery of established nonfiction writers, male and female, traditional and nontraditional, ancient and modern, and from diverse cultures. Students will keep a writer's journal, respond critically to the works of other students, create and revise a complete longer work (or a combination of shorter pieces) of at least 3,000-4,000 words by the end of the quarter. Students will present a public reading of their work during the quarter. Lab fee: $5.00. Prerequisite: ENGL 210 with a grade of "B" or better or permission of the instructor.

ENGL 285 Writing to Publish (SP) 5-0-5
This course introduces students to procedures for preparing a manuscript for marketing and publication. Students select a work or works for publication fro a genre (fiction, poetry, drama, literary nonfiction), submit manuscripts for peer review at least three times during the quarter, and revise and edit their work throughout the quarter. Students research a market for their work, write. the appropriate query or cover letter, and prepare the manuscript for submission. Since length requirements for manuscripts vary according to genre and target market, the instructor will determine the length requirement for successfol completion of the course. The final exam for the course is a completed and corrected manuscript package ready for mailing. Students will also have the opportunity to give a public performance of their work. Lab fee: $5.00. Prerequisites: ENGL 281, ENGL 282, ENGL 283, or ENGL 284 with a "B" or better or permission of the instructor.

ENGL 290 Capstone Experience in English (On Demand) 2-2-3
A capstone course focusing on English. Paradigms and their underlying assumptions will be explored. Students will work on developing research techniques and methodologies. Students will apply these techniques to a project of their own design, complete a personal portfolio covering their studies at Columbus State, and participate in a summative testing of their academic skills. Open only to Associate of Arts or Associate of Science students preparing to graduate within two academic quarters. Lab fee: $10.00. Prerequisites: 75 hours completed toward the degree including 10 credits in ENGL courses beyond ENGL 220 or equivalent.

ENGL 297 - 298 - 299 Special Topics in English (On Demand) **I-5**
Special topics in English language or literature designed to meet specific needs. Prerequisites vary.

English as a Second Language (ESL)

ESL 092 Basic Oral Communication 2-2-3
This course will introduce students to the American sound system and quickly expand their working oral vocabulary. It will also equip students to perform viral language-based functions on campus and in the community. The course will be based upon daily classroom participation and the satisfactory completion of each language function. Lab fee: $3.00. Prerequisite: ESL 097 (may be taken concurrently) or placement into ESL 097.

ESL 093 Intermediate Oral Communication 2-2-3
This course will help students to increase their effectiveness in social, academic and professional interactions in a U.S. setting. Students will expand their working oral vocabulary, master useful American idioms and improve their pronunciation. Students will examine and practice the conventions of contemporary American communication: both verbal and nonverbal. The course will be based upon daily class participation, oral presentations and also evidence of improvement found through a contrast of audiotaped readings. Lab fee: $3.00. Prerequisite: ESL 098 (may be taken concurrently) or placement into ESL 098.

ESL 094 Advanced Oral Communication 2-2-3
Students will increase their awareness of the values and beliefs that underlie cultural norms in the U.S. Readings on various aspects of contemporary American culture will provide the springboards to information gathering outside of class (through additional reading and interviews with native speakers) in-class discussions and four required oral presentations. Students will practice standard American pronunciation and intonation and will master useful vocabulary and idiomatic expressions. Lab fee: $3.00. Prerequisite: ESL 099 (may be taken concurrently) or placement into ESL 099.

ESL 095 Public Speaking for Non-Natives (A,W,SP,SU) **I-3-2**
This course will prepare students whose first language is not English to participate effectively in COMM 105, Speech. Students will study and practice public speaking techniques, with particular emphasis on native pronunciation, intonation and delivery. Students will be required to conduct interviews and research in preparation for demonstration and persuasive speeches, presented individually and in groups. Students will receive feedback on their oral production from their instructor and their classmates regularly and will be audio/video taped on occasion. Lab fee: $5.00. Prerequisite: ESL 100 (may be taken concurrently) or placement into ESL 100.

ESL 097 Basic English as a Second Language (A,W,SP,SU) **10-0-10**
Students who already have limited command of the English language build upon their vocabulary and begin to eliminate errors through the study of basic grammar, readings, guided discussions, and written and oral exercises. Lab fee: $5.00. Prerequisite: Placement test. Credit will not count toward graduation in any degree program.

ESL 098 Developmental English as a Second Language (A,W,SP,SU) **10-0-10**
Students will continue to develop their reading, writing, listening and speaking skills through the study of intermediate grammar, readings, guided discussions, and written and oral exercises. Lab fee: $5.00. Prerequisite: "C" in ESL 097 or placement. Credit will not count toward graduation in any degree program

ESL 099 ESL: Reading, Grammar, and Composition (A,W,SP,SU) **10-0-10**
Students will prepare for academic course work through the study of advanced grammar, sentence structure, paragraph organization and pre-writing techniques and will respond to college level readings in guided discussions, oral presentations and paragraph length essays. Lab fee: $5.00. Prerequisite: "C" in ESL 098 or placement. Credit will not count toward graduation in any degree program.

ESL 100 English as a Second Language: Composition (A,W,SP,SU) 5-0-5
Students will polish their writing skill through grammar reviews, written exercises and the study of sentence structure, rhetoric and essay organization. Students will respond to both the content and technique of college level readings. Students will write essays using description, narration, cause and effect and comparison/contrast. Lab fee: $5.00. Prerequisite: "C" in ESL 099 or placement. Credit will not count toward graduation in any degree program.

Environmental Technology (ENVR)

ENVR 101 Environmental Project Coordination (A,SP) 3-0-3
An introduction and overview of the environmental technology field. This includes environmental problem discovery and definition, their effects on humans and the natural environment, environmental investigation and response, the regulatory structure that guides environmental projects, and worker health and safety.

ENVR 110 Industrial Pollution Control (W,SU) 2-2-3
An overview of the treatment, disposal and management process utilized in industrial pollution control. An introduction to equipment technologies and other control technologies such as air pollution, control devices, wastewater treatment, solid and hazardous waste treatment, pollution prevention and recycling Lab fee: $8.00.

ENVR 112 Environmental Computer Applications (W,SU) 2-3-3
Introductory course for Environmental Technology students. This course will provide basic information about computer hardware, software, data communications, operating systems, and popular application packages. Hands-on laboratory experience using the IBM PC and a popular integrated software package is emphasized in the course. Lab fee: $15.00. Prerequisite: MATH 102.

ENVR 120 Environmental Aspects of Soil (A,SP) **2-2-3**
This course will include an introduction to the analysis of soils behavior and the soil classification methods used in the environmental industry. Soil characteristics will be explored by means of laboratory examination and elementary testing techniques. Lab fee: $10.00. Prerequisite: GEOL 101 or GEOL 121.

ENVR 130 Environmental Laws and Regulations (W,SU) **4-2-5**
A study of American political institutions and a brief history of the American environmental movements and the resulting environmental regulations. A study of local, state, and federal codes and regulations as they apply to the handling, treatment, storage, and disposal of hazardous materials and wastes. Emphasis on NEPA, The Clean Water and Air Acts, the Resource Conservation and Recovery Act (RCRA), and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund). Lab fee: $10.00.

ENVR 158 Environmental Analysis (A,SP) **2-2-3**
A study of environmental site assessments, including Phase I ESA's for real estate transactions and environmental assessments for environmental impact statements. Environmental regulations and guidance documents will be applied in an analysis of a specific project site. Lab fee: $12.00.

ENVR 220 Environmental Chemistry (W,SU) **2-2-3**
Effective solutions to environmental problems require an understanding of the chemical processes that occur in the environment. This course provides a basic knowledge of environmental chemistry including ground water chemistry, soil chemistry, analytical techniques, and the basics of chemical fate and transport, and quality assurance/quality control. Related laboratory work and demonstrations. Lab fee: $18.00. Prerequisite: CHEM 111 with a grade of "C" or higher.

ENVR 222 Water Treatment Techniques (W,SU) **2-2-3**
This course is designed to permit the student to attempt the State of Ohio Class One Water Operator's exam. The course will emphasize water quality criteria, reasons for water treatment, and laboratory processes. Practical experience will be emphasized. Lab fee: $20.00. Prerequisite: High school chemistry or CHEM 100, MATH 102 or equivalent, or by permission of instructor.

ENVR 223 Wastewater Treatment Techniques (W,SU) 2-2-3
This course is designed to provide the training to permit the student to apply to the State of Ohio Class One Wastewater Operator exam. The course will emphasize types of treatment, equipment, hygiene and public health aspects, sewer systems, and laboratory processes. Practical experiences will be emphasized. Lab fee: $20.00. Prerequisites: High school chemistry or CHEM 100, MATH 102 or equivalent, or by permission of instructor.

ENVR 224 Environmental Hydrology (A,SP) 2-2-3
Study of the occurrence, movement, and behavior of water in the hydrologic cycle. Introduction to the concepts of controlling the movement of surface water and ground water, and the ways in which these resources can be exploited and/or contaminated. Lab fee: $15.00. Prerequisite: MATH 102.

ENVR 250 Subsurface Investigation Techniques (A,SP) 4-3-5
An introductory course covering methods of environmental field investigations. Topics include: soil, ground water, and surface water sampling protocol, health and safety monitoring, field equipment operation and calibration, materials management, and decontamination of field equipment. Lab fee: $20.00. Prerequisite: GEOL 101 or GEOL 121.

ENVR 252 Health and Safety Training for Hazardous Waste Operations (W,SU)2-3-3 (40-Hour OSHA Training)
Satisfies CFR Part 1910.120(e) under SARA. A health and safety training course for individuals who may be involved in the investigation, remediation and operation of hazardous waste sites. Topics include hazardous materials chemistry, toxicology, air monitoring instrumentation, air purifying respirators, self-contained breathing apparatus, supplied air respirator systems, protective clothing, decontamination, simulated hazardous materials response incidents, and appropriate problem sets. Lab fee: $100.00

ENVR 253 Environmental Systems Analysis (A,SP) 2-2-3
A course introducing environmental control systems and practical applications of their operation and maintenance. Attention to piping and instumentation diagrams, flow diagrams, reading strip charts, flow measurement and process control. Lab fee: $18.00. Prerequisite: ENVR 110 with a grade of "C" or higher.

ENVR 254 Subsurface Restoration Techniques (A,SP) 4-3-5
A follow-up course to the introductory Subsurface Investigation Techniques covering specific investigatory and remediation methods for various contaminant groups. These groups will include UST contaminants, heavy metals, and volatile organic compounds. In-situ and laboratory testing and analysis will be presented. Lab fee: $20.00. Prerequisites: ENVR 250 with a grade of "C" or higher.

ENVR 255 Air Monitoring (W,SU) 3-2-4
This course focuses on EPA methods for stack sampling of various air contaminants, operation and maintenance of continuous emissions monitors, and industrial air pollution control options. An introduction to applicable permitting and reporting requirements will also be included. Lab fee: $23.00.

ENVR 256 Hazardous Materials Refresher Training (A,W,SP,SU) **1-0-l**
This course provides refresher training for site workers and emergency operators who have completed the 24 or 40-hour courses. This course complies with the 29 CFR 1910.120(q) refresher training requirements for site workers and responders. Emphasis is placed on practical exercises and review of changes in the OSHA training requirements. Students attending this course will also be updated on new OSHA regulatory changes. Successful completion of the course is based on both classroom participation and completion of an emergency response plan to be submitted at the class meeting. Lab fee: $50.00.

ENVR 290 Work Experience Seminar (SU) **1-0-l**
This class is a requirement for students working in the field co-op experience as an environmental technician. On the job experiences will be discussed. The student taking this class should have completed at least three quarters in the Environmental Technology program. Concurrent: ENVR 291

ENVR 291 Field Co-Op Experience (SU) 0-40-4
Off-campus work experience in environmental services related paid employment that augments formal education received in the technology with actual work conditions and job experience. "N" credit will not be allowed for this course. Concurrent: ENVR 290 and permission of instructor.

Executive Office Admin. Major
(See Office Administration Technology)

Financial Mgmt. Technology (FMGT)

FMGT 101 Personal Finance (A,W,SP,SU) 4-0-4
This course presents a lifetime program of money management for the individual. Such topics as: budgets, savings, job search, buying a house, insurance, mutual funds, stock market, real estate investments, taxes, and estate planning, are covered. Students will be able to write a basic personal financial plan. Lab fee: $3.00.

FMGT 105 Insurance Principles (A,SP) 3-0-3
This course covers the evaluation of the financial impact of risk exposure and how to manage the risk exposure through the intelligent use of insurance products. Topics presented include: nature of risk, insurance contracts, life and health insurance, annuities, property and liability insurance, and government regulation of insurance. Lab fee: $3.00. Prerequisite: FMGT 101.

FMGT 121 Introduction to Commercial Credit (A,SP) 3-0-3
A basic course in commercial credit and collections. Studies will be centered on the establishing of the credit department, nature and function of credit, various types of credit, sources of credit, sources of credit information, analysis of information, factors of risk. This course is offered by the National Association of Credit Management.

FMGT 201 Business Finance (A,W,SP,SU) 5-0-5
An introduction to the principles of financial management of private business firms. Topics covered include: financial analysis, financial planning, working capital management, financial leverage, sources of financing, capital budgeting and capital markets. Lab fee: $3.00. Prerequisite: ACCT 101.

FMGT 202 Money and Banking (A) 5-0-s
A study of the operation, organization, and economics of U.S. monetary and banking systems. Current trends and problems are also covered. Lab fee: $3.00.

FMGT 211 Investments (W) 3-0-3
This course examines the investments for the individual with emphasis on the securities markets. Topics presented include: risk and return trade-offs, sources of investment information, stocks, bonds, mutual funds, options, and tax considerations. Lab fee: $3.00.

FMGT 212 Advanced Credit Analysis (W) 3-0-3
This course is offered by the National Association of Credit Management and covers both commercial as well as consumer credit administration. Prerequisite: FMGT 121.

FMGT 221 Credit Administration (W) 5-0-s
Analytical study of credit control, and management of collections. Topics include; management and analysis of consumer credit, business credit, government credit, and foreign credit. Lab fee: $3.00.

FMGT 232 Principles of Banking (+) 4-0-4
Presents the fundamentals of bank functions in a descriptive fashion so that the beginning banker may acquire a broad and operational perspective. Banking is increasingly dependent upon personnel who have the broad perspective so necessary for career advancement.

FMGT 234 Trust Operations (+) 4-0-4
Presents a complete picture of the services rendered by institutions engaged in trust business as well as providing an introduction to the services and duties involved in trust operations.

FMGT 237 Law and Banking (+) 4-0-4
This course is an introduction to basic U.S. law, presenting the roles of law which impact banking. Topics include jurisprudence, the court system, civil procedure, contracts, quasi-contracts, property, torts, crimes, agencies, partnerships, corporations, sales of personal property, commercial paper, bank deposits, collections documents of title, and secured transactions. The uniform commercial code is also covered.

FMGT 241 Estate Planning (SP) 3-0-3
This course covers the procedures to transfer assets at death with the fewest complications, with the fewest taxes, and at the least cost to all parties. Topics presented include: estate taxes, avoiding probate, revocable living, trust, gifts, life insurance, annuities, short term trusts, and totten trust. Lab fee: $3.00. Prerequisite: FMGT 101 or advisor approval.

FMGT 251 Finance Research (A,W,SP,SU) 2-0-2
The student receives exposure to current developments, in finance and economics through projects and research papers. Designed to serve as a capstone course for graduating students. Lab fee: $3.00.

+These courses are offered by the American Institute of Banking and are open to Columbus State students for credit.

Food Service/Restaurant Management Major
(See Hospitality Management Technology)

French (FREN)

FREN 101 Elementary French I (A,W,SP,SU) 5-0-5
Introduction to the fundamentals of the French language with practice in listening, reading, speaking, and writing. Includes selected studies in French culture. Meets elective requirements in the Associate of Arts and Associate of Science degree programs and transfer requirements in foreign languages and literature. Lab fee: $6.00. Prerequisite: Placement into ENGL 101.

FREN 102 Elementary French II (A,W,SP,SU) 5-0-5
Continuation of FREN 101, with further development of listening, reading, speaking, and writing skills and further study of French culture. Meets elective requirements in the Associate of Arts and Associate of Science degree programs and transfer requirements in foreign languages and literature. Lab fee: $6.00. Prerequisites: FREN 101 with a grade of "C" or better or by placement exam.

FREN 103 Intermediate French I 5-0-5
Continued study of the French language and development of listening, reading, speaking, and writing skills. Readings from contemporiuy French culture and literature. Meets elective requirements in the Associate of Arts and Associate of Science degree programs and transfer requirements in foreign languages and literature. Lab fee: $6.00. Prerequisite: FREN 102 with a grade. of "C" or better or by placement exam.

FREN 104 Intermediate French II 5-0-5
Reading and discussion of French short stories, novels, plays, newspapers, and magazines, emphasizing literary appreciation and the development of French culture. Meets elective requirements in the Associate of Arts and Associate of Science degree programs and transfer requirements in foreign languages and literature. Lab fee: $6.00. Prerequisite: FREN 103 with a grade of "C" or better or by placement exam.

FREN 290 Capstone Experience in French (On Demand) 2-2-3
A capstone course focusing on French. Paradigms and their underlying assumptions will be explored. Students will work on developing research techniques and methodologies. Students will apply these techniques to a project of their own design, complete a personal portfolio covering their studies at Columbus State, and participate in summative testing of their academic skills. Open only to Associate of Arts or Associate of Science students preparing to graduate within two academic quarters. Lab fee: $5.00.

FREN 299 Special Topics in French (On Demand) **1-5**
Detailed examination of selected topics in French. Lab fee: $2.00. Prerequisites vary.

Geography (GEOG)

GEOG 200 World Regional Geography (A,W,SP,SU) 5-0-5
Geographical study of all major regions of the world. The factors of landforms, climate, population, culture, political development, and problems associated with regions in relation to geographic conditions will be examined. Lab fee: $6.00. Prerequisite: Placement into ENGL 101.

GEOG 290 Capstone Experience in Geography (On Demand) 2-2-3
This course is designed for students completing the two-year Associate of Arts or Associate of Science degree who have a special interest in continuing a baccalaureate degree program in Geography. Students will devise a research project that relates to their academic interests after reviewing research techniques and methodologies and findings in Geography; complete a portfolio that covers their academic career at Columbus State Community College, and participate in summative testing of their academic skills. Open only to Associate of Arts or Associate of Science students preparing to graduate within two academic quarters. Lab fee: $10.00. Prerequisite: Completion of AA/AS core requirements and at least 75 hours toward the degree with five credit hours in geography.

GEOG 293 Independent Study in Geography (On Demand) **1-5**
An individual student-structured course. The independent study elective permits a student to puruse his/her interests within the context of a faculty-guided program. Lab fee: $5.00. Prerequisite: Permission of the instructor and the Chairperson.

GEOG 299 Special Topics in Geography (On Demand) **1-5**
Detailed examination of selected topics of interest in geography. Lab fee: $5.00. Prerequisites vary.

Geology (GEOL)

Students must complete 60% of the laboratories to receive course credit.

GEOL 101 Earth Systems I: Geologic Environment (A,W,SP,SU) 4-3-5
A general geology course covering the materials of the Earth's crust, the processes that produce and modify them, and the development of the Earth and its life forms through time. Related laboratory and demonstrations. Lab fee: $21.00. Prerequisite: Placement into ENGL 101. Not open to students with credit for GEOL 121.

GEOL 121 Physical Geology (A,W,SP,SU) 4-3-5
This course covers geologic processes and the development of land forms. Topics include the development of the Earth, the nature and origin of minerals and rocks, land forms and the agents that produce and modify them, structural features of the Earth's crust, and the environmental effects of changes in the Earth. Related laboratory and demonstrations. Lab fee: $20.00. Prerequisite: MATH 103 and placement into ENGL 101

Gerontology Technology (GER) (Aging Studies)

GER 101 Social Gerontology (A,SP) 3-0-3
This course offers the student an overview of the social, psychological and physical aspects of aging. Visits with a senior friend provide an opportunity to establish a relationship with an older adult. Lab fee: $3.00. Concurrent or Prerequisite: ENGL 100.

GER 103 Interpersonal Communication in Human Services (W,SU) 4-0-4
This course teaches principles of interpersonal communication for individuals working in Human Services. This course is structured on the premise that the most important resource individuals bring to an helping relationship is their ability to remain self-aware and to communicate honestly and directly. Also taught are managing anger, conflict resolution, and assertive behavior. This course is participatory and interactive. Lab fee: $4.00. Prerequisite: ENGL 101.

GER 105 Human Services for the ElderIy (W) 4-0-4
This course provides the student with an in-depth knowledge of the informal and formal community resource systems. Current concepts of service delivery, planning and evaluates are covered. Available housing is analyzed from the perspective of person-environment fit. Lab fee: $3.00. Prerequisites: GER 101.

GER 109 Social Work with the Elderly (SP) 5-0-5
This course teaches a problem solving method of social work. The history of social work with the elderly is presented. Values and ethical dilemmas are explored. Principles of casework are presented and applied to the aging individual. Diversity within the aging population is emphasized. Lab fee: $3.00. Prerequisites: GER 105, GER 103 and ENGL 102.

GER 201 Social Policy and Aging (SP) 3-0-3
A study of the origins of public policy, the legislative process, insurance, financial planning/ retirement income, protective services and legal issues. Lab fee: $3.00. Prerequisites: GER 294 and GER 209. Concurrents: GER 191 and GER 192.

GER 203 Family Ecology (A,SU) 3-0-3
Family ecology views the family as an ecosystem and examines its interrelationships with the environment (biophysical, psychosocial, and technological) through processes of perceiving, valuing, spacing and deciding. Emphasis is placed on family organization, family members, and their roles. Lab fee: $2.00.

GER 204 Death and Bereavement (SP) 3-0-3
This course examines death and dying from social, cultural, and life span perspective. Medical ethics, suicide, legal issues, and the funeral industry are analyzed. The processes of bereavement and communicating with and about dying conclude the course. Lab fee: $4.00. Prerequisites: PSY 100 and ENGL 102.

GER 20.5 Activities Programming for the Elderly in Long Term Care (A,SP) **4-0-4**
This course is the first half of the ninety hour programming course accepted by the State of Ohio Health Department for activity training. This course uses the national curriculum published by the NCCAP. A certificate of completion from Columbus State Community College will be awarded only after the successful completion of both GER 205 and GER 210. Lab fee: $3.00.

GER 206 Senior Center Management (SU) 5-0-s
This course is designed to provide the information necessary to manage a Senior Center. The student will develop an overall administrative plan reflecting the broad range of seniors' needs in our complex and changing environment.

GER 207 The Older Woman (W) 3-0-3
This course presents the psychosocial, biological, and economic states of older women in our culture. Lab fee: $4.00. Prerequisites: GER 209 and GER 292.

GER 208 Adult Day Care Assistant Training (W) 3-0-3
This course covers the characteristics and care needs of the target population, and the place of day care on the continuum of care. The national curriculum for day care assistant training developed by NADSA, a section of the National Council on Aging is used.

GER 209 Aging and Mental Health (A) 3-0-3
This course provides an overview of mental health issues affecting older adults, assessment techniques and diagnostics criteria will be reviewed. Topics include functional disorders, organic disorders and substance abuse. Lab fee: $3.00. Prerequisites: GER 109, GER 192 and PSY 230.

GER 210 Activities Programming for the Elderly in Long Term Care II (A,SP) **5-0-5**
This course is the second half of the ninety hour programming course accepted by the State of Ohio Health Department for activity training. This course uses the national curriculum published by the NCCAP. A certificate of completion from Columbus State Community College will be awarded only after the successful completion of both GER 205 and GER 210. Prerequisite: GER 205.

GER 211 Counseling the Elderly(W) 3-0-3
This course provides the student with an understanding of traditional counseling theories, theories specifically for the older adult, appropriate settings for counseling older adults, and the use of self within that relationship. Lab fee: $4.00. Prerequisites: GER 209, GER 292 and PSY 230.

GER 213 Aging and Physical Health (W) 3-0-3
This course provides the student with an understanding of the interactive effects of biological and psychological aging as they occur simultaneously in the human organism. Also included are the common disease processes associated with aging, and their social and emotional ramifications. General decline in functioning, as well as prevention and wellness issues are addressed. Lab fee: $3.00. Prerequisites: BIO 101, GER 101 and GER 192.

GER 191, 291, 293, 295 Seminar I, II, III, IV (A,W,SP, SU) 1-0-l
Seminar provides students a forum for discussion of practicum experiences, integration of theory and practice, and discussion of current issues related to the elderly. Lab fee: $3.00. All Seminars are concurrent with Practicums.

GER 192 ,292, 294, 296 Practicum I, II, III, IV (A,W,SP,SU) 0-14-2
Practicum offers the student opportunities to both observe and work with the elderly in supervised agency settings. Lab fee: $20.00. Practicums are sequential. Prerequisite: GER 105. Concurrents: GER 109. All Practicums are concurrent with Seminars.

German (GERM)

GERM 101 Elementary German I (A,W,SP,SU) 5-0-5
Introduction to the fundamentals of the German language with practice in listening, reading, speaking and writing. Includes selected studies in German culture. Meets elective requirements in the Associate of Arts and Associate of Science degree programs and transfer requirements in foreign languages and literature. Lab fee: $6.00. Prerequisite: Placement into ENGL 101.

GERM 102 Elementary German II (A,W,SP,SU) 5-0-5
Continuation of GER 101 with further development of listening, reading, speaking, and writing skills and further study of German culture. Meets elective requirements in the Associate of Arts and Associate of Science degree programs and transfer requirements in foreign languages and literature. Lab fee: $6.00. Prerequisite: GERM 101 with a grade of "C" or better or by placement exam. Placement into ENGL 101,

GERM 103 Intermediate German I (On Demand) 5-0-5
Continued study of the German language and development of listening, reading, speaking, and writing skills. Readings from contemporary Germanic culture and literature. Meets elective requirements in the Associate of Arts and Associate of Science degree programs and transfer requirements in foreign languages and literature. Lab fee: $6.00. Prerequisite: GERM 102 with a grade of "C" or better or by placement exam.

GERM 104 Intermediate German II (On Demand) 5-0-5
Reading and discussion of German short stories, novels, plays, newspapers, and magazines, emphasizing literary appreciation and the development of Germanic culture. Meets elective requirements in the Associate of Arts and Associate of Science degree programs and transfer requirements in foreign languages and literature. Lab fee: $6.00. Prerequisite: GERM 103 with a grade of "C" or better or by placement exam.

GERM 290 Capstone Experience in German (On Demand) 2-2-3
A capstone focusing on German. Paradigms and their underlying assumptions will be explored. Students will work on developing research techniques and methodologies. Students will apply these techniques to a project of their own design, complete a personal portfolio covering their studies at Columbus State and participate in summative testing of their academic skills. Open only to Associate of Arts or Associate of Science students preparing to graduate within two academic quarters. Lab fee: $10.00.

GERM 299 Special Topics in German (On Demand) l-5
Detailed examination of selected topics in German. Lab fee: $2.00. Prerequisites vary.

Graphic Communications Technology (GRPH)

GRPH 110 Survey of Graphic Communications (A,W) l-6-3
A basic study of the technique of the various operations and processes of printing and duplication and their application and impact in the graphic communication industry. Lab fee: $10.00.

GRPH 111 Black and White Photography (A,W,SP,SU) l-6-3
An introduction to the principles of continuous tone photography emphasizing the manipulative functions, operative settings, shutter speed and focus control of cameras and enlargers; elements of composition and lighting and applied practice of film development and print processing. Lab fee: $28.00.

GRPH 112 Introduction to Computer Graphics (A,W,SP,SU) l-6-3
This course introduces basic hardware and software use for the Apple Macintosh computer. Software packages include Mavis Beacon and Clarisworks. Skills are developed in wordprocessing, drawing, painting, spreadsheets, and databases. Lab fee: $15.00.

GRPH 122 Electronic Publishing (W,SU) 3-4-5
This course introduces electronic publishing software "QuarkXPress" with typographical command sequences and manipulation application. This package is the chosen software of most typesetting shops and service bureaus when a high degree of accuracy is required on Macintosh hardware. In addition, XPress has certain imaging and color controls for scanned photographs and drawings. Lab fee: $20.00. Prerequisite: GRPH 112.

GRPH 125 Image Assembly (W) 2-5-4
The course acquaints students with the role of the pre-press technicians in the printing process. Through lectures and laboratory work, the student is provided with a knowledge of the skills required of the print production pre-press department. Lab fee: $43.00. Prerequisite: GRPH 110.

GRPH 130 Press Operations (SP) l-6-3
Techniques of press operation, press design, register systems, dampening systems, cylinder preparation and operational procedures. Lab fee: $23.00. Prerequisite: GRPH 110

GRPH 131 Design and Typography (SP) l-6-3
A study of the theory and practice of design for production of the printed message. The development of efficient procedures in the preparation of roughs and layouts are prepared in the laboratory. Lab fee: $10.00.

GRPH 132 Paper and Ink (SP) 3-0-3
A study of the manufacture and selection of paper used in printing operations; sizes, colors, characteristics, limitations and purchase of printing papers are covered. Prerequisite: ENGL 102.

GRPH 140 Printing Production Management (SP) 2-4-4
A comprehensive study of printing management, practices and procedures. An analysis of job components, from layout to bindery and shipping department. Lab fee: $5.00. Prerequisites: GRPH 241 and BMGT 111.

GRPH 241 Estimating (A) 2-5-4
Principles of estimating and pricing printing. Analysis of specifications, determination of material and use of production data for assigning time to personnel and machines. Theory and practice of cost, determination in the graphic arts industry. Prerequisites: GRPH 110, GRPH 121, GRPH 130, and MATH 102.

GRPH 242 Lithographic Camera (A,W) l-6-3
A study of film, film development, camera optical systems, camera calibration and exposure determination for line and halftone. Litho darkroom procedures. Lab fee: $25.00. Prerequisite: GRPH 110.

GRPH 243 Computer Graphic Illustration (A,SU) l-6-3
This course presents software applications for technical illustration and typographic manipulation which may be used to generate technical publications. These products will be imported into electronic publishing software. Specifically, software such as "Illustrator" or "Freehand" are introduced and compared for their capabilities and limitations. Lab fee: $20.00. Prerequisites: GRPH 112 and GRPH 122.

GRPH 244 Quality Control in Graphic Commuuicatious (W) 3-3-4
An introduction to the Deming Philosophy of Management and its implementation in the printing process through the use of statistical process control. Techniques used to identify, measure, and reduce variability are examined with the goal of ensuring quality in both the press and the pre-press production areas. Lab fee: $5.00. Prerequisites: MATH 102.

GRPH 251 Electronic Imaging (W,SP) l-6-3
This course combines the base skills formerly introduced in preliminary courses and brings together new technologies of desktop scanning and separation using Photoshop software. The course incorporates such ideals as color theory, color separation, color image assembly (snipping) and color proofing for print production. The course utilizes the desktop computer technology with desktop scanners, slide scanners, image manipulation software, Linotronic image setter output and color proofing techniques. Lab fee: $20.00. Prerequisites: GRPH 112 and GRPH 122.

GRPH 270 Advanced Black and White Photography (W,SU) l-6-3
Advanced applied still photography of small format (35mm) black and white, with emphasis on problem solving and visual communications. This course exposes the student to more extensive use of lighting, filter, films and printing papers. It is required that each student have a 35mm camera with variable shutter speeds, aperture and light meter. Lab fee: $28.00. Prerequisite: GRPH 111.

GRPH 271 Studio Photography (On Demand) l-6-3
Advanced and applied techniques in professional photography under studio and location conditions. Main emphasis is placed on lighting, subject treatment and camera manipulation. The student will experience black and white continuous tone photography with medium format cameras. Lab fee: $28.00. Prerequisite: GRPH 111.

GRPH 273 Design II (On Demand) l-6-3
Designed as a sequential follow-up to GRPH 131. This elective course will build upon basic principles of design and place emphasis on synthesizing solutions drawn from these principles. Lab fee: $10.00. Prerequisite: GRPH 131 or permission of instructor

GRPH 278 Photo Lab Practicum (A,W,SP,SU) 0-3-1
The photo lab practicum provides students the opportunity to enhance their film processing and printing technique skills, Lab fee: $50.00.

GRPH 279 Estimating II (On Demand) I-6-3
A continuation of the study of estimating for lithographic printing with areas including multicolor presses, signature work, prepress operations, and color separation, Provides an understanding of accurate estimating procedures and the oppottunity to apply these procedures in a laboratory situation. The use of computer-assisted software is stressed. Lab fee: $10.00. Prerequisite: GRPH 241.

GRPH 281 Color Photography (On Demand) **l-6-3**
An introduction to Color Photography with an emphasis on color printing. Students will examine color theory, color vision, light and color, filtration, color correcting and color balance. Through reading, practice and class discussion, students will learn some of the elements unique to color photography and its applications. Lab fee: $50.00. Prerequisite: GRPH 111 or permission of instructor.

GRPH 282 Electronic Publishing II (SP) **l-6-3**
In this course, students participate in the Workgroup advanced techniques production side of publications. Using Framemaker 3.0 or equivalent software, students participate in group publication exercises, incorporating the variables of publications, i.e., reformatting page layouts, updating page numbers, updating paragraph reference numbers, importing text and graphic images and multi-chapter cross-references. Typographic elements for use in such items as tables and graphic manipulation are also included in this course. Lab fee: $20.00. Prerequisites: GRPH 112 and GRPH 122.

GRPH 283 Multimedia Presentation Graphics (SP,SU) **l-6-3**
This course introduces topics of presentation and programming principles that form a structure for computer graphic communications. This course presents concepts of sound recording, animation techniques and programming logic. The applications are introduced through such software as "Hypercard" and "Macromind Director", and "Adobe Premier". Lab fee: $20.00. Prerequisites: GRPH 112 and GRPH 122.

GRPH 297, 298, 299 Special Topics in Graphic Comm. (On Demand) **1-3**
Detailed examination of selected topics in graphic communications.

Health Information Management Technology (HIMT)

HIMT 111 Introduction to Health Information Management Tech (A,SP) 2-0-2
The student will be introduced to the various roles of the health information management technician within the health care system and professional organizations in which the health information management technician is affiliated. The student will explore the various functions performed under the auspices of health information management and the technology used to perform these functions. Lab fee: $35.09. Prerequisite: Acceptance into the program.

HIMT 112 Internet Applications in Health Care (A,W,SP,SU) **l-2-2**
This course will provide the student with hands-on experience navigating on the Internet, using electronic mail, posting resumes electronically, and searching data bases and other library resources on the lnterent. The student will also use the Internet as a tool for locating information from professional associations/organizations. Lab fee: $10.00.

HIM 113 Managed Care Trends (A,W,SP,SU) 2-0-2
This course will provide students will an understanding of various issues regarding managed care that have been instrumental in the redesign and remodeling of patient care delivery. Topics discussed include: types of plans, analysis of data to determine effects of managed care, evaluation of managed care plans, rules and regulations affecting managed care, implementation of plans, and clinical outcomes management.

HIMT 121 Advanced Medical Terminology (A,W,SP,SU) 3-0-3
The student will study medical terminology with emphasis placed on anatomic, diagnostic, symptomatic, and pathologic terminology as used in the context of medical documents.

HIMT 123 Heath Data Management (A,SU) 2-2-3
The student will be introduced to manual and automated filing systems for active and inactive primary records, indexes, and secondary records as well as the computer based patient record (CPR) and the technology associated with the CPR. Emphasis will be placed on maintenance, filing, retrieval, retention, and destruction of records. The student will also be introduced to the internal and external requirements for establishing, operating, and maintaining various registries such as the following: cancer, trauma, cardiovascular, AIDS/HIV, diabetes, and birth defects. Lab fee: $35.00. Prerequisites: HIMT 111 and completed health statement.

HIMT 132 Introduction to Medical Transcription (W,SU) **l-2-2**
The student will be introduced to word processing equipment used in the transcription of medical reports. The student will begin to master medical transcription using authentic physician dictations to transcribe various medical reports. Practice in English dictation with an emphasis on accuracy. Strongly suggest typing ability of 35 words per minutes. Lab fee: $35.00. Prerequisites: MCT 106, HIMT 121, and HIMT 141.

HIMT 133 Legal Aspects of the Health Record (A,SP) 2-2-3
The student will study the policies and procedures for processing health records for legal purposes. The importance of the maintenance of confidentiality of health information (both paper and electronic records and databases), the proper handling of requests for, and the transfer of health information will be discussed. The student will create a data base for release of information purposes while considering the procedures for the reporting of health information for use by legal, licensing, certifying, and accrediting agencies. Prerequisite: MCT 106.

HIMT 134 Analysis of the Health Record (W) 2-2-3
This course will focus on the polices and procedures required to collect and process health information. Abstracting and reporting procedures for various registries and health information systems (and the technology used for such abstracting) will be discussed. The student will compile health records, follow the flow of the health record within the institution, and apply JCAHO guidelines to various case studies. The student will develop a spread sheet for monitoring incomplete/delinquent medical records. Prerequisite: MCT 106.

HIMT 141 Pharmacology for HIMT (A,W,SU) 3-0-3
This course will survey the major classifications of drugs. The indications and contraindications for use will be presented. Emphasis will be placed on the correlation between drug therapy and disease. The student will be required to use various desk references efficiently. Prerequisites: BIO 122, HIMT 121.

HIMT 243 Ancillary Health Facilities (SP,SU) 3-0-3
The student will study health information systems in non-hospital health care facilities along with the sources of data for these systems and their uses and users. The appropriate technical aspects and functions within these various systems will be discussed along with the various reporting and accrediting requirements for each of the specific health care facilities discussed. Field trips to various health care facilities will be scheduled. Prerequisites: HIMT 111, HIMT 134.

HIMT 245 ICD-9-CM Coding (SP,SU) 3-4-5
The student will be introduced to the nomenclature and major classification and indexing systems in ICD-PCM utilized in coding medical information. Laboratory experiences will emphasize the application of the related skills with accuracy and completeness. Other coding systems will be discussed. Lab fee: $35.00. Prerequisites: BIO 122, HIMT 121.

HIMT 255 CPT-4 Coding (A,SU) 3-4-5
The student will be introduced to ambulatory coding and payment systems emphasizing CPT-4 coding. Laboratory experiences will emphasize the application of the related skills with accuracy and completeness. Lab fee: $35.00. Prerequisites: BIO 122, HIMT 121.

HIMT 256 Clinical Data Analysis (W,SU) 3-0-3
The student will apply clinical knowledge as it pertains to health care data management in coding for reimbursement of health care services, the evaluation of practice patterns, the assessment of clinical outcomes, and the analysis of cost-effectiveness of services provided. Prerequisites: HIMT 245, HIMT 255.

HIMT 257 Introduction to Health Statistics (A,SU) 2-2-3
The student is introduced to procedures for property collecting, organizing, displaying, and interpreting health care data to meet the needs of various users while complying with the standards of the health care facility. The users of data can include: the patient, medical staff, nursing and allied health staff, state and federal regulatory agencies, JCAHO, and insurance companies. Prerequisites: MCT 106, HIMT 134.

HIMT 259 Quality and Resource Management (A) 3-2-4
The student will be introduced to the internal and external requirements for establishing, operating, and maintaining quality improvement and utilization management programs. Methods used in bench marking, credentialing, critical pathways, monitoring and evaluation, occurrence screening, peer review, and risk management will also be discussed. Prerequisites: MCT 106, HIMT 257.

HIMT 265 Medical Reimbursement (A,SP) 2-2-3
This course will provide students with an understanding of how coding systems used in outpatient and inpatient health care settings to obtain payment for health care services. Lab fee: $35.00. Prerequisite: HIMT 245 or HIMT 255. Concurrent: HIMT 245 or HIMT 255.

HIMT 267 Principles of Management (A,SP) 3-0-3
The student will be introduced to the functions related to planning, organizing, controlling, and evaluating human resources and health information management services. Other topics include the direction and documentation necessary for the supervision of personnel.

HIMT 270 Certified Case Manager (W,SU) 3-2-4
This course is designed to provide a review for students enrolled in the HIMT or practicing health care professionals and administrators/managers who wish to become certified as a case managers through the Commission for Case Manager Certification. The five major areas of discussion include: coordination and service delivery, physical and psychological factors, benefit systems and cost benefits analysis, case management concepts, and community resources. Concurrent HIMT 296 or permission from the instructor.

HIMT 271 Cancer Registries (W,SU) 3-2-4
This Course serves as the didactic study for students enrolled in the HIMT or credentialed Registered Record Administrators (RRAs) and Accredited Record Technicians (ARTs) seeking eligibility to write the exam for Certified Tumor Registrars. Concurrent: HIMT 296 or permission from the instructor.

HIMT 272 Advanced Medical Transcription Lab (W,SU) **l-6-4**
The student will receive extensive practice of transcribing operative reports, diagnostic procedures, surgical discharge summaries, radiology, and pathology reports along with other medical reports. Topics discussed include: equipment, home-based transcription, outsourcing, and other management issues relating to medical transcription. Lab fee: $35.00. Prerequisite: HIMT 132.

HIMT 291 Health Information Management Seminar (W,SU) 3-0-3
Group discussion of clinical experiences and analysis of the components of health information management services. Discussion of current trends, technology, and issues affecting the health information management profession, Preparation for the national certification exam. Prerequisite: HIMT 294. Concurrent: HIMT 296.

HIMT 292 Clinical Practicum I (W,SU) **0-14-2**
Students are assigned to area health are facilities to work under the supervision of facility personnel. Students will obtain exposure to actual working conditions and gain experience in various aspects of health information management services. Prerequisites: MCT 106, HIMT 123, HIMT 133, HIMT 134. Concurrent: HIMT 245 or HIMT 255.

HIMT 294 Clinical Practicum II (A,SP) **0-14-2**
Student are provided with practical applications of the knowledge and techniques needed to perform various functions in a health information environment. Prerequisites: HIMT 257, HIMT 292. Concurrent: HIMT 259 and HIMT 245 or HIMT 255.

HIMT 296 Clinical Practicum III (W,SU) **0-14-2**
Continued clinical experience in health information services. Prerequisites: HIMT 294.

Heating and Air Conditioning Technology (HAC)

HAC 112 Piping Systems (A,W,SU) 2-4-4
Selection of the proper material and valves, along with consideration of the joining method will be studied. Sizing exercises will be combined with the study of symbology used in piping diagrams, steam lines, hot and chilled water lines and refrigeration piping systems. Lab fee: $10.00.

HAC 141 Principles of Refrigeration (A,W,SU) 2-3-3
A basic refrigeration cycle theory course covering heat thermodynamics, temperature - pressure relationships, mechanical operations of refrigeration equipment and representative application and selection data for class I refrigerants. Lab fee: $10.00.

HAC 152 Instrumentation/Combustion Process (A,SP,SU) 2-4-4
A course about basic combustion processes using all the fossil fuels and psychrometric chart work to track the thermal heat transfer. The instruments used to test these processes will also be explained along with the fan laws and psychrometric chart procedures. Instruments used in energy auditing are then explained and preventative maintenance programs written. Lab fee: $15.00.

HAC 161 Hand Tools Laboratory (W,SP,SU) 2-4-4
An entry-level course building elementary skills in brazing, soldering, threading, cutting, waging, and other skills that relate to service, installation and maintenance processes in the HAC field. Basic handtools and meters will be demonstrated and used in lab exercises. Lab fee: $15.00.

HAC 183 HAC Wiring Circuits I (A,W,SP) 2-4-4
This course is designed to teach a new student how to read, draw, interpret and understand residential heating and cooling wiring diagram symbols, devices and wire size identification, basic circuit distribution concepts and schematic applications of same. Lab fee: $10.00.

HAC 222 HAC Residential Load Calculations (SP,SU) 2-4-4
A course covering residential heat loss/gain calculations, design of systems, and selection of equipment. ACCA design manuals will be used and subjects such as heat transmission factors, external static pressure, infiltration, enthalpy and ductwork sizing will be included. Lab fee $12.00. Prerequisite: MATH 102.

HAC 231 HAC Commercial Load Calculations (A,W) 2-4-4
A course covering commercial heat gain/loss calculations, design of systems, and selection of equipment. The systems used in commercial applications will be discussed and compared, along with correct balancing procedures. The factor of sound as it applies to these types of systems will also be included. This course is one of six that prepares the student to take the HAC Contractor's License Exam. Lab fee: $12.00. Prerequisite: HAC 222.

HAC 235 Field Co-Op Experience (SU) 0-40-4
Off-campus work experience in construction, consulting engineering or construction related paid employment, that augments formal education received in the technology with actual work conditions and job experience. "N" credit will not be allowed for this course. Lab fee: $15.00. Prerequisites: CMGT 290 and permission of instructor.

HAC 242 HAC Mechanical Standards/Safety (W,SP) 3-2-3
A basic introduction to HAC safety considerations, first aid, and CPR as well as emergency procedures for on-the-job accidents. An introduction to the various codes that effect the workplace and jobsite, such as OSHA, NFPA, state and local building codes. NEC, energy codes and ASHRAE standards will also be covered. Lab fee: $12.00. Prerequisites: HAC 112, HAC 141 and HAC 152.

HAC 243 Air Conditioning Systems (SP,SU) 2-6-4
A course designed for the student with a fundamental knowledge of the refrigeration cycle. Previous training in refrigeration theory, wiring diagrams, control circuits, and tools used in the trade are necessary to enroll in this course. The course is designed around hands-on training and testing of the various component parts of a vapor compression split system. Lab fee: $20.00. Prerequisites: HAC 141, HAC 161, HAC 112, HAC 183 and HAC 253.

HAC 244 Heat Pump Systems (A,W,SP) 2-6-4
A course designed for the student with a fundamental knowledge of the air conditioning and heating processes. Previous training in refrigeration cycle, wiring diagrams, control circuits, and tools used in the trade are necessary to enroll in this course. The course is structured around hands-on training on the various component parts of an air cycle heat pump system. Lab fee: $20.00. Prerequisites: HAC 112, HAC 141, HAC 161, HAC 183 and HAC 253.

HAC 253 Automatic Controls I (A,W) 2-3-3
A course introducing HAC residential and light commercial control systems and the components that make up the systems. Emphasis will be placed on operators, sensors, controllers and various pneumatic and electrical devices used in modern control systems along with the logic used to develop their control sequences. Lab fee: $20.00. Prerequisites: HAC 141, HAC 152 and HAC 183

HAC 254 Heating Systems (A,W) 2-6-4
A course designed for the student with a fundamental knowledge of heat transfer characteristics and air movement properties. The course is designed around hands-on training and testing of the various component parts and accessories that make up gas, electric and fuel oil type forced air furnaces, along with accessories such as humidifiers, air filtration systems, and set-back thermostats. Lab fee: $20.00. Prerequisites: HAC 152, HAC 161 and HAC 183.

HAC 256 Automatic Controls II (W,SP) **I-5-3**
A hands-on laboratory course designed to build practical understanding of control circuitlogic and sequence of operation theory. Representative circuits from major environmental control devices employing various forms of energy will be included in the lab exercises. Lab fee: $15.00. Prerequisite: HAC 253.

HAC 258 Pneumatic Controls I (SP) 2-4-4
This course is designed to take a senior level HAC student and teach him/her the fundamentals, installation practices and common application parameters of representative pneumatic controls systems. Lab fee: $15.00. Prerequisite: HAC 152.

HAC 263 Energy Management (W,SP) 2-3-3
An overview of the world energy supply with both renewable and nonrenewable types being investigated. Attention will be given to building energy control systems/equipment and survey/calculation techniques. Analysis and decision making of energy policy along with computer simulations, conservation measures and systems will be utilized to conserve energy. A glossary of EM terms will be assigned. Lab fee: $15.00. Prerequisites: HAC 152 and HAC 231.

HAC 266 Advanced Problems (A,W,SP,SU) 0-8-4
A simulation that will allow the student to use their educational knowledge in a problem or problems that emphasizes the design or practical service aspects of a heating and cooling system. The instructor will need to give prior approval of the project or projects to be completed by the student. A tutorial course form must be completed by the student. Lab fee: $8.00. Prerequisite: Permission of instructor.

HAC 284 HAC Wiring Circuits II (W,SP) 2-4-4
This course will concentrate on lab experiments designed to teach a student how to properly wire up typical heating and cooling devices into working circuits. Devices such as motors, controllers, contactors, compressors and safety devices will be covered. Lab fee: $15.00. Prerequisite: HAC 183.

HAC 285 HAC Electronic Controls I (A) 2-4-4
This course uses basic electronic knowledge from EET 101 and EET 102, plus electrical knowledge from HAC 183 and HAC 284 to build a basic understanding of HAC solid state computer controls. This theory course will cover controllers, sensors, relays and HAC electronic operational devices. Lab fee: $10.00. Prerequisites: EET 102 and HAC 284.

HAC 287 **Boiler Systems (W)** 3-2-4
This course uses basic combustion knowledge from HAC 152 and piping system knowledge from HAC 112, along with codes from course HAC 242 to build a basic understanding of boiler types, systems, safety procedures and codes that will prepare a person to take the High Pressure Boiler License Examination. Lab fee: $10.00. Prerequisites: HAC 112, HAC 152 and HAC 253.

HAC 288 Ammonia Systems (A) 3-2-4
This course uses basic piping knowledge from HAC 112, refrigeration cycle theory from HAC 141, codes from HAC 242 and control knowledge from HAC 253 to build a basic understanding of the operational theory and safe operating practices for an industrial Class II ammonia refrigeration system. Entering students should have HAC 161 course content or proficiency credit be fore enrolling in this class. Lab fee: $10.00. Prerequisites: HAC 112, HAC 141, HAC 242 and HAC 253.

HAC 299 Special Topics in Heating and Air Conditioning (On Demand) **I-5**
A refresher maintenance training class covering refrigeration systems, mechanical tools and methods, heating and boilers, electrical, air handling and ventilation, controls and safety. Please see your advisor before scheduling for this course.

Histology Major
(See Multi-Competency Health Tech.)

Hospitality Management Technology (HOSP)
Dietetic Technician Major (DIET)

DIET 191 Dietetic Technician Practicum I (A) **1-4-1**
Practical application of information presented in the classroom from MLT 100, HOSP 102 and HOSP 122 to related health care facilities. Skills are developed through supervised learning situations to understand the organizational structure of health care facilities and the regulations that pertain, to define the roles of the dietetic practitioners, to maintain and evaluate standards of sanitation and safety. Lab fee: $35.00. Concurrents: MLT 100, HOSP 102, and HOSP 122.

DIET 192 Dietetic Technician Practicum II (W) **l-7-2**
Practical application of information presented in the classroom from HOSP 107 and HOSP 109 in related health care facilities. Skills are developed through supervised learning situations to operate and maintain foodservice equipment, to assist in food production and service, and to maintain food quality and portion control. Lab fee: $10.00. Prerequisite: DIET 191 with a grade of "C" or higher. Concurrents: HOSP 107 and HOSP 109.

DIET 193 Dietetic Technician Practicum III (SP) **l-7-2**
Practical application of information presented in classroom from HOSP 121, HOSP 123 and HOSP 153 in related health care facilities. Skills are developed through supervised learning situations to procure and store food, supplies, and equipment, to calculate food costs, to participate in quantity food production, to develop and/or test products and to provide the nutritional needs of the customers. Lab fee: $10.00. Prerequisite: DIET 192 with a grade of "C" or higher. Concurrents: HOSP 123, HOSP 121 and HOSP 153.

DIET 26.5 Dietetic Technician Seminar (SP) **1-0-l**
An in-depth study of recent developments and areas of concern related to providing nutrition care. Each student will select a nutrition topic of current concern, write a research paper and present an oral report. A written exam to assess knowledge attained throughout the seven quarter program will be administered. Lab fee: $2.00. Prerequisite: DIET 298. Concurrents: DIET 299 and HOSP 219. A grade of "C" or higher is required for graduation.

DIET 275 Diet Therapy I (A) 4-2-5
An introduction to the study of nutritional assessment, diet modification, and nutritional care plans. The rationale for nutritional intervention and related medical conditions and terminology is presented. Calorie controlled, and consistency and nutrient modified diets for a variety of medical and/or lifecycle-related conditions are studied. The student will identify and utilize appropriate nutritional assessment tools and techniques for specific medical and/or life cycle-related conditions. The student will plan, prepare and/or evaluate menus, meal plans, meals, and nutritional supplements related to these diet modifications. Lab fee: $10.00. Prerequisites: HOSP 153 with a grade of "C" or higher and completion of BIO 101. Concurrent: BIO 169.

DIET 276 Diet Therapy II (W) 4-2-S
A continuation of the study of nutritional assessment, diet modification, and nutritional care plans. The rationale for nutritional intervention and related medical conditions and terminology is presented. Calorie and protein supplemented, and nutrient modified diets for a variety of medical conditions are studied. The student will identify and utilize appropriate nutritional assessment tools and techniques for specific medical conditions. The student will plan, prepare and/or evaluate menus, meal plans, meals, and nutritional supplements related to these diet modifications. Lab fee: $15.00. Prerequisites: DIET 275 with a grade of "C" or higher and BIO 169.

DIRT 297 Dietetic Technician Practicum IV (A) 2-7-3
Practical application of information presented in the classroom from HOSP 153 and DIET 275 in community health programs. Skills are developed through supervised learning situations to understand the services offered by community based organizations, to develop the ability to utilize their services, to meet and serve clients, to obtain and evaluate nutritional data from individuals, and to establish good working relationships with clients and other personnel. Lab fee: $35.00. Prerequisite: DIET 193 with a grade of "C" or higher. Concurrents: DIET 275 and HOSP 205.

DIET 298 Dietetic Technician Practicum V (W) **l-7-2**
Practical application of information presented in classroom from HOSP 225, DIET 275 and DIET 276 to clients in related health care facilities, Skills are developed through supervised learning situations to interview clients, to evaluate nutritional data collected, to understand the rationale for dietary modification for nutrient and consistency modification, to understand associated medical terminology and to assist in the planning, preparation and service of modified diet meals. Lab fee: $10.00. Prerequisite: DIET 297 with a grade of "C" or higher. Concurrents: HOSP 225 and DIET 276.

DIET 299 Dietetic Technician Practicum VI (SP) **l-10-3**
Practical application of information presented in the classroom from all technical courses to clients in related health care. facilities. Opportunities are provided through supervised learning situations to demonstrate proficiency in client interviewing, to evaluate nutritional data, to understanding associated medical terminology and the rationale. for dietary intervention, and to assist in the planning, preparation and service of modified diet meals. Lab fee: $10.00. Prerequisite: DIET 298 with a grade of "C" or higher. A grade of "C" or higher is required for graduation.

Dietary Manager (DMGR)

DMGR 101 Dietary Manager Seminar I (A) 4-0-4
A study of the types of health care facilities, typical health care organizational structures, and roles of the dietary team members. Regulations and how they affect food service in health care facilities are examined. Foodservice safety and sanitation principles, utilization and care of equipment, and food preparation and purchasing are studied. Concurrents: DMGR 194 and employment in a health care facility with a qualified preceptor on the staff. A grade of "C" or higher is required for graduation.

DMGR 102 Dietary Manager Seminar II (W) 4-0-4
A study of the principles for planning menus to meet the nutritional needs of people in health care operation. Nutrient requirements, functions and sources of nutrients and the digestion and absorption of food are studied. Diet modification for a variety of health conditions is studied. Methods and records used to gather data, to determine food needs and preferences, to establish care plans and to do charting are presented. Prerequisite: DMGR 101 with a grade of "C" or higher. Concurrents: DMGR 195 and employment in a health care facility with a qualified preceptor on the staff.

DMGR 103 Dietary Manager Seminar III (SP) 4-0-4
An explanation of methods and records used in procurement, receiving, and storage of food and related items. Control measures for maintaining quality, quantity, and cost of food production are discussed. Management principles, employee development and supervisory characteristics are discussed. Facility evaluation and planning for improvements is presented. Prerequisite: DMGR 102 with a grade of "C" or higher. Concurrents: DMGR 196 and employment in a health care facility with a qualified preceptor on the staff.

DMGR 194 Dietary Manager Cooperative Work Experience I (A) 0-20-2
Supervised work related learning experiences to be performed on the job following material presented in the classroom from DMGR 101. Lab fee: $20.00. Prerequisite: Employment in a health care facility with a qualified preceptor on the staff. Concurrent: DMGR 101.

DMGR 195 Dietary Manager Cooperative Work Experience II (W) 0-20-2
Supervised work related learning experiences to be performed on the job following materials presentedin the classroom from DMGR 102. Lab fee: $20.00. Prerequisite: DMGR 194 with a grade of "C" or higher, and employment in a health care facility with a qualified preceptor on the staff. Concurrent: DMGR 102.

DMGR 196 Dietary Manager Cooperative Work Experience III (SP) 0-20-2
Supervised work related learning experiences to be performed on the job following materials presentedin the classroom from DMGR 103. Lab fee: $20.00. Prerequisites: DMGR 195 with a grade of "C" or higher, and employment in a health care facility with a qualified preceptor on the staff. Concurrent: DMGR 103.

Hospitality Management (HOSP)

HOSP 101 Survey of the Hospitality/Tourism Industry (A,W,SP,SU) 2-0-2
An introduction to management of restaurants, institutional food services and lodging facilities, as well as an overview of the travel and tourism industry. Industry-related professional associations and trade publications are studied. Field trips and guest speakers provide a background of organization, operation, management and career opportunities. Lab fee: $2.00.

HOSP 102 Foodservice Equipment (A,W,SP) **l-2-2**
A laboratory course in which students will learn to operate, clean, and describe preventive maintenance of commercial foodservice equipment. Construction features required by the National Sanitation Foundation, and American Gas Association and Underwriter's Laboratories requirements will be emphasized. Appropriate uses for equipment and general principles of equipment layout for safety, sanitation, and efficiency will be discussed. Lab fee: $10.00.

HOSP 106 Food Laboratory I (SU) **l-4-3**
A laboratory course for chef apprentices. The course includes introduction to basic laboratory skills and basic preparation of vegetables, salad, breakfast items, dairy products, fruits, meats, seafood and poultry. Students will develop recipes and requisition, prepare andevaluate foods. Lab fee: $60.00. Prerequisites: HOSP 102 and HOSP 122.

HOSP 107 Food Principles (W,SP) s-0-5
A lecture. course in basic food preparation including the terminology and definitions used and the scientific principles involved in preparing food products. The course includes a detailed study of the principles of preparation and selection criteria for all categories of foods served in foodservice operations. Lab fee: $15.00.

HOSP 109 Food Production (W) **l-7-3**
A laboratory course in which students will produce and serve marketable food products according to standardized recipes using food production equipment in a commercial kitchen environment. The products will be served in a cafeteria and in a dining room setting. The principles of sanitation and safety will be applied. Lab fee: $60.00. Prerequisites: HOSP 102 and HOSP 122 Concurrent or prerequisite: HOSP 107.

HOSP 121 Computer Applications in Foodservice (A,SP) **l-2-2**
A course designed to apply the basic skills acquired in Computer Literacy 1 to foodservice operations. Hands-on lab experience expands the student's knowledge of basic business applications as they apply to foodservice operations using word processing, spreadsheet and data base management software and specialized application software packages. Lab fee: $25.00. Prerequisite: CPT 101.

HOSP 122 Sanitation and Safety (A,W,SP,SU) 3-0-3
A detailed study of the HACCP (Hazard Analysis Critical Control Points) procedures which include the control of bacteria, materials handling, and safety practices to maintain a safe and health environment for the consumer in the food and lodging industry. Examination of laws and regulations related to safety, fire, and sanitation. Upon successful completion of an examination from the Educational Foundation of the National Restaurant Association, students will receive certificates from the Educational Foundation and the Ohio Department of Health. Lab fee: $7.00.

HOSP 123 Food Purchasing (W,SP) 3-0-3
Provides a working knowledge of procurement methods and procedures and recordkeeping (manual methods and computer applications) when purchasing, receiving, and storing food, equipment and non-food supplies. Special emphasis is given to writing specifications, determining order quantities, evaluating product quality, and selecting suppliers. Field trips allow the student to see food processing operations, and wholesale food markets. Lab fee: $15.00. Prerequisites: HOSP 107 and DEV 031.

HOSP 143 Hospitality and Travel Law (A,W,SP) 3-0-3
Provides a general knowledge of the law as it applies to the hospitality and travel industry. Lab fee: $10.00.

HOSP 145 Lodging Operations 3-2-4
This course provides students with a basic understanding of the lodging industry. It covers the activities of various hotel operating departments: front office, housekeeping, food-beverage, marketing, engineering, security and accounting. Emphasis will be placed on handling guest needs. Lab fee: $25.00.

HOSP 153 Nutrition (A,W,SP,SU) 5-0-5
A study of the role of nutrition in establishing, promoting and maintaining good health. The composition and functions of foods, nutrition needs throughout the life cycle, and contemporary nutrition concerns are included in the course. Lab fee: $5.00. Prerequisites: Placement into ENGL 101 and DEV 031.

HOSP 154 Destination Geography (A) **5-0-5**
Geographical and cultural study of all major regions of the world with emphasis on the most popular destinations. Includes lodging, points of inerest, customer profile and transportation types for each destination. Lab fee: $5.00.

HOSP 155 Travel Agency Operations (W) 4-0-4
This course provides students with a basic understanding of the travel product distribution system and the role travel agencies play therein. It also covers the various agencies and organizations that affect travel agency operation. It stresses the personal selling skills and product knowledge needed to be a successful travel agent - with special emphasis on tours, lodging, cruise sales, and miscellaneous services needed mainly by international travelers. Lab fee: $10.00.

HOSP 156 Principles of Transportation (SP) 4-2-5
This course covers the principles of air transportation, rail, and rental car services. It includes use of manuals, guides, timetables, tariffs and other references used in the travel industry. Emphasis is on itinerary construction, fare calculation, reservation and ticketing procedures, and processing of other necessary travel documents. Lab fee: $25.00. Prerequisite: HOSP 154 or GEOG 200 and HOSP 1.55.

HOSP 203 Bar Management and Wine Technology (A,SU) 2-2-3
Classification, history and control of beer, wines and spirits. Covers Ohio liquor and legal regulations, inventory control, liquor dispensing systems, cash control, drink merchandising and alcohol responsibility. The art of mixology. Lab fee: $25.00.

HOSP 205 Records and Cost Control (A,W) 3-2-4
Covers the principles and procedures involved in an effective system of food, beverage, labor and sales control. Emphasizes development and use of standards and calculation of actual costs. Lab fee: $15.00.

HOSP 216 Food Laboratory II (W) **l-4-3**
A laboratory course to follow Food Production I (HOSP 109) for chef apprentices. The course includes preparation of stocks, soups, sauces, vegetables, and fruits. Also includes butchery, fish, fileting, and poultry de-boning. Students will develop recipes, plan menus, requisition food, and prepare and serve large quantity meal functions. Lab fee: $60.00. Prerequisites: HOSP 109 and HOSP 107.

HOSP 217 Garde Manger (SP) l-4-3
A laboratory course including preparation of cold food items commonly produced in a garde manger station. Students will prepare garnitures, appetizers, salads, pates, terrines, galantines and cold sauces as well as be introduced to specialty work in ice carving, tallow and salt dough. Buffet presentation and culinary show guidelines are covered. Lab fee: $40.00. Prerequisite: Registered Chef Apprentice or permission of instructor.

HOSP 218 Baking (W) **1-4-3**
Includes the fundamentals of baking and functions of ingredients with production of baked goods and dessert specialties. Proper use and care of equipment and hygenic work habits are emphasized. Lab fee: $50.00. Prerequisite: Registered Chef Apprentice or permission of instructor.

HOSP 219 Food Production Management (SP) **l-8-4**
A laboratory course in the final quarter of the student's curriculum in which application of foodservice management will occur in a simulated restaurant. Students will serve the public to gain experience in various managerial positions in the front and back of the house while supervising student work groups. Lab fee: $60.00. Prerequisite: Final quarter or permission of instructor. A grade of "C" or higher is required for graduation.

HOSP 224 Hospitality Personnel Management (W,SU) 5-0-5
Supervisory techniques applied specifically to hospitality and travel operations. A study of organizational structure, performance standards, employee application forms, and interviewing techniques used for the selection of employees. Improving communication and job performance with the development of orientation and training programs, and employee appraisal techniques. A grade of "C" or higher is required for graduation. Lab fee: $5.00. Prerequisite: BMGT 111.

HOSP 225 Menu Planning (A,W) 3-0-3
Principles of menu planning for a variety of foodservice operations. Includes merchandising techniques, layout and design, and pricing strategies. Consideration is given to food selection; nutritional requirements; food, labor, and other costs; and equipment utilization. Lab fee: $5.00. Prerequisites: HOSP 153 and HOSP 107.

HOSP 246 Marketing Hospitality and Tourism (W,SP) 3-0-3
Covers the basic knowledge and skills necessary to develop, implement and evaluate strategic marketing plans for foodservice, lodging properties, and tourism services. Lab fee: $5.00.

HOSP 257 Computer Reservations Systems (A) **l-5-3**
This course is designed to combine student reading materials with hands-on computer experience in an actual travel agency setting. Students will develop skills in the utilization of airline computer reservation systems (namely, American Airlines' SABRE CRS) to make car, lodging, and airline reservations. Lab fee: $25.00. Prerequisite: HOSP 156.

HOSP 271 Meeting Planning & Catering Services (A,W) 2-3-3
Principles of and practice experiences in meeting planning and catered functions. Students will plan, organize, execute and evaluate meeting and catering functions to meet the needs of clients and guests. Lab fee: $20.00.

HOSP 286 Apprenticeship Final Project (SU) **2-0-2**
A capstone course required for students registered in the three year American Culinary Federation Educational Institute National Apprenticeship Training Program. Preparation for and completion of national practical and written examinations. Evaluation of 6000 hours on-the-job training and documentation of completion of all required training objectives. Lab fee: $30.00. Prerequisite: HOSP 295.

HOSP 293 Hospitality Cooperative Work Experience I (A,W,SP,SU) **l-20-3**
Work experience in the hospitality/tourism industry. A minimum of 200 hours will be spent in cooperative work experience, with the equivalent of one classroom hour per week in an on-campus seminar. Lab fee: $10.00.

HOSP 294 Hospitality Cooperative Work Experience II (A,W,SP,SU) **l-20-3**
A continuation of HOSP 293. Work experience in the hospitality/tourism industry. A minimum of 200 hours will be spent in cooperative work experience, with the equivalent of one classroom hour per week in an on-campus seminar. Lab fee: $10.00. Prerequisite or concurrent: HOSP 293.

HOSP 295 Hospitality Cooperative Work Experience III (A) **l-20-3**
A continuation of HOSP 293 and HOSP 294 required for third year chef apprentices. On-the-job training in the foodservice industry following guidelines of American Culinary Federation Education Institute National Apprenticeship Training Program for Cooks. The equivalent of one classroom hour per week will be spent in an on-campus seminar. Lab fee: $10.00. Prerequisites: HOSP 294 and Chef Apprenticeship major.

Human Resources Management Technology (HRM)

HRM 121 Human Resources Management (A,W,SP,SU) **4-0-4**
An introductory course in Human Resources Management, including the philosophy, principles, and legal aspects of human resources management; and the roles of the manager and the human resources professional department in this management function. The course focuses on the laws governing policy making, recruiting, selection, training, evaluation, wage and salary administration, benefit programs, representation and safety; and the employer's obligations and the employee's rights under these laws. Lab fee: $5.00. Prerequisites: BMGT 111 or LAW 252, and ENL 102.

HRM 122 Human Resource Policy and Procedure Writing (W,SU) **l-4-3**
The course provides an in-depth study of employment law, the recruiting process, and the selection process; are view of business grammar through the use of a programmed learning text; a transition from "term paper writing" to formal policy writing; and the application of employment law, business grammar, and policy writing skills through the development of an employment policy, procedure, and an employee handbook summary of the policy. Lab fee: $5.00. Prerequisites: HRM 121, MCT 106, and ENGL 102.

HRM 124 Personnel Interviewing (A,W,SP,SU) **3-2-4**
The course provides an in-depth study of the legal aspects of interviewing, the various types of interviews conducted in business, and interviewing techniques. Students participate, as both an interviewer and an interviewee, in selection, counseling, disciplinary, exit, and performance appraisal interview simulations. Interviewing techniques and skills are evaluated using videotape playback. Lab fee: $10.00. Prerequisites: HRM 121 and COMM 105 or COMM 110.

HRM 220 Labor Relations (A,W,SP,SU) **3-4-5**
The course provides a study of labor relations including: the history of the labor movement, the legislative history, and in-depth study of the four major pieces of private sector collective bargaining legislation; a discussion of the State of Ohio collective bargaining law; and the union organizing process and management responses, the collective bargaining process, the grievance process, the arbitration process, and the differences in these processes in the public and private sectors. Students participate, as members of labor and management teams, in contract negotiations, third step grievance meeting, and grievance arbitration simulations. Lab fee: $10.00. Prerequisites: HRM 121 and MATH 101 or MATH 103.

HRM 221 Staffing Under the Law (A,SP) **5-0-5**
The course provides an in-depth study of the laws governing discrimination in employment, affirmative action, sexual harassment, discipline, termination, safety, and a drug free work environment; and the application of these laws through the development of employer policies, procedures, rules, regulations, and summary postings. Lab fee: $10.00. Prerequisites: HRM 121, HRM 122, MCT 106, and MATH 135.

HRM 222 Monetary Compensation (A,SP) **4-0-4**
The course provides an in-depth study of the history, principles and theories of a compensation package; the laws governing monetary compensation, and the application of these principles, theories and laws through the development of internal and external equity in monetary compensation, and the development of monetary compensation policies and procedures. Lab fee: $10.00. Prerequisites: HRM 121, HRM 122, MCT 106, MATH 135.' Concurrent: HRM **223.**

HRM 223 Benefits/Non-Monetary Compensation (A,SP) 4-0-4
The course provides an in-depth study of the history, principles, and theories of benefits and non-monetary compensation; the development of external equity in benefit packages, the value of benefit programs to an organization; and the laws governing benefits. Students learn the application of these principles, theories, and laws through the development of plan descriptions for benefit programs such as health, life, disability, pension/retirement, pay for time not worked, and policies and procedures for the implementation of benefits required by law. Lab fee: $10.00. Prerequisites: HRM 121, HRM 122, MCT 106 and MATH 135. Concurrent: HRM 222.

HRM 224 Human Resources Information Systems (W,SU) 2-3-3
The course provides an in-depth study of the records required by the federal and state laws governing the employment relationship, and the legal aspects of those records; the relationships between data, information, records, employees, managers, and the human resources department; approaches to developing manual and automated records and information management systems that meet the professional and industry standards. Students are required to demonstrate skills through the development and/or design of both manual and automated systems. Lab fee: $10.00. Prerequisites: HRM 121, HRM 122, and MCT 106.

HRM 240 Administration of Human Resources Management (W,SU) 0-10-5
As a course in the capstone sequence for the Human Resources Management Technology, the course provides a hands-on application laboratory wherein students serve as a "Board of Directors," developing the full range of human resources policies, procedures, and programs. To demonstrate the depth and breadth of their knowledge, understanding, and skill, students are assigned two to four individual projects, in the major topic areas (employment, compensation, benefits, performance appraisal, discipline, safety, and training), in the form of presentations, the development of policies and/or procedures as appropriate to the presentation, and the development/securing of documents as appropriate to the presentation. As a group students review, revise, and approve or reject policy, procedure, and program recommendations made by the presenter. Lab fee: $5.00. Prerequisites: HRM 124, HRM 220, HRM 221, HRM 222, HRM 223, MCT 211, and MHCR 245.

HRM 242 Human Resources Management Practicum (A,W,SP,SU) 0-28-4
As a course in the capstone sequence for the Human Resources Management Technology, the course provides a guided work experience in a human resources office or work environment providing human resources services. Exact duties are determined by the student and the employer/placement site supervisor. Students are responsible for securing their own practicum position. Lab fee; $2.00. Prerequisites: HRM 124, HRM 220, HRM 221, HRM 222, HRM 223, MCT 211, and MHCR 245.

HRM 243 Human Resources Management Practicum Seminar (A,W,SP,SU) 0-4-2
As a course in the capstone sequence for the Human Resources Management Technology, the course provides for a seminar discussion of the work experience; and demonstration of the ability to transfer program skills to a real world work environment through the development of work related projects and assignments. Lab fee: $1.00. Prerequisite: Completion of all Human Resources Management technical courses and permission of the Human Resources Management Technology Program Coordinator two (2) quarters in advance. Concurrent: HRM 242.

Humanities (HUM)

STUDENTS WHO ENROLL IN HUMANITIES COURSES MUST HAVE PLACED IN ENGL 101 AND ARE ENCOURAGED TO EITHER HAVE COMPLETED ENGL 101 OR BE ENROLLED IN THAT COURSE WHEN SCHEDULING A HUMANITIES COURSE.

HUM 111 Civilization I (A,W,SP,SU) 5-0-5
A survey of the culture, ideas, and values of human civilization from their originsin the Ancient World through the 15th Century. Emphasis is on the intellectual and artistic achievements of the ancient Middle East, Classical Greece and Rome, the Christian and Arab/Islamic Middle Ages, and Renaissance Italy showing how culture reflects and influences economic, social and political development. Students are exposed to the creative process by reading from primary works of literature and philosophy and critically reviewing works of art, music, theater and dance, both in and out of class. Classes meet three hours per week in small groups for lecture and discussion and in combined sections for two hours per week for group cultural experiences. Lab fee: $10.00. Prerequisite: Placement into ENGL 101.

HUM 112 Civilization II (A,W,SP,SU) 5-0-5
A study of the development of the culture, ideas, and values of the early modern Western World. Emphasis is on the Protestant Reformation, the rise of modern science, the Enlightenment, the American and French Revolutions, the Industrial Revolution, Baroque, Classical, and Romantic styles in art, music and literature and the revolutionary theories of Karl Marx. Students are exposed to the creative process by reading from primary works of literature and philosophy and critically reviewing works of art, music, theater and dance, both in and out of class. Classes meet three hours per week in small groups for lecture and discussion and in combined sections for two hours per week for group cultural experiences. Lab fee: $10.00. Prerequisite: Placement into ENGL 101.

HUM 113 Civilization III (A,W,SP,SU) 5-0-5
A survey of the triumphs and failures of modern culture, ideas, and values from 1850 to the present. Emphasis is on the conflicts and contradictions between the prevailing spirit of Liberalism, Capitalism, Nationalism and Imperialism from the perspective of the European and non-European worlds, the crises of western capitalism and democracy and the Fascist and Communist responses, and the major issues confronting world civilization at the turn of the 21 st Century. Students are exposed to the creative process by reading from primary works of literature and philosophy and critically reviewing works of art, music, theater and dance, both in and out of class. Classes meet three hours per week in small groups for lecture and discussion and in combined sections for two hours per week for group cultura1 experiences. Lab fee: $10.00. Prerequisite: Placement into ENGL 101.

HUM 151 American Civilization to 1877 (A,W,SP,SU) S-0-5
A survey of American History from settlement through the Civil War and Reconstruction. The course places major emphasis on the relationship between historical events and the literature, art, music, major ideas and popular culture which made up the American intellectual tradition. Students are exposed to the creative process by reading from primary works of literature and philosophy and critically reviewing works of art, music, theater and dance, both in and out of class. Lab fee: $10.00. Prerequisite: Placement into ENGL 101.

HUM 152 American Civilization Since 1877 (A,W,SP,SU) 5-0-5
A survey of the development of the United States from a frontier society to an industrial world power in the 20th century. The course places major emphasis on the relationship between historical events and the literature, art, music, major ideas and popular culture which have made up the American intellectual tradition. Students are exposed to the creative process by reading from primary works of literature and philosophy and critically reviewing works of art, music, theater and dance, both in and out of class. Lab fee: $10.00. Prerequisite: Placement into ENGL 101.

HUM 190 Freshman Experience in Humanities (A,W,SP,SU) 0-2-1
The Freshman Experience Seminar is designed to familiarize fast time Arts and Sciences students at Columbus State Community College with the academic environment. Students will use various on site support systems, set personal academic goals, and map their course of study at Columbus State to meet those goals. Open to all students. Optional for students having completed ESL 100; recommended for all other Associate of Arts or Associate of Science degree seeking students. Lab fee: $4.00.

HUM 205 Medicine and the Humanities (On Demand) 5-0-5
A survey of the treatment of medical themes in history, literature, philosophy, the fine arts and popular culture. The course covers works ranging from the drawings of Leonardo DaVinci, to the novel and film MASH. Of particular importance will be the role of the humanities in the assessment and understanding of modern health care. Meets elective requirements in Associate of Arts and Associate of Science Degree programs and distributive transfer requirements in History and Humanities. Lab fee: $4.00. Prerequisite: Placement into ENGL 101.

HUM 222 Classical Mythology (On Demand) 5-0-5
An introduction to the world of mythology, the human and the supernatural, the real and the fantastic through a study of myths from Ancient Mesopotamia, Egypt, Greece, and Rome. The course explores some of the religious ideas, traditions and values that distinguish one civilization from another, while also indicating universally shared themes. Attention will be given to cultural expressions of mythical themes in literature and art. Lab fee: $2.00. Prerequisite: Placement into ENGL 101.

HUM 224 African-American History from Emancipation to Present 5-0-5
A survey of African-American History from the Civil War to present. Emphasis will be placed on the struggle for political, social and economic freedom as well as the contributions of African-Americans to the music, art, and literature of the United States. Lab fee: $2.00. Prerequisite: Entry into ENGL 101.

HUM 245 Music and Art Since 1945 (On Demand) 5-0-5
A survey of the styles and subject matter of important contemporary works of music and visual art. Students will examine the wide spectrum of aural and visual expression that has developed since the Second World War such as aleatoric music, electronic music, abstract expressionism, performance art, pop and op art, minimalism, etc. Students will also examine the major intellectual and social issues of the day and the relationship between these issues and the styles and expressive content of contemporary music and art. Lab fee: $8.00. Prerequisite: Placement into ENGL 101.

HUM 251 Latin American Civilization (On Demand) 5-0-5
A general introduction to the history and cultures of Latin America through the study of literature, film and primary historical texts. The course will employ an interdisciplinary approach to explore the relationship between culture and the major historical, political, and socio-economic developments in Latin America from 1492 to the present. Lab fee: $2.00. Prerequisite: Placement into ENGL 101.

HUM 252 The Islamic World and the Middle East (On Demand) 5-0-5
A survey of Islamic civilization from the birth of Muhammad to the destruction of the Ottoman Empire in the 20th century. Emphasis is placed on developing an understanding of the nature and diversity of the Islamic religion, an appreciation of the great cultural achievements of medieval Islam, and an awareness of the complexities of the problems of the contemporary Middle East. Meets elective requirements in the Associate of Arts and Associate of Science degree programs and distributive transfer requirements in history, social sciences, and non-western studies. Lab fee: $2.00. Prerequisite: Placement into ENGL 101.

HUM 253 History of China and Japan (On Demand) 5-0-5
A survey of the economic, social, political, and cultural development of China and Japan from earliest times to present. Meets elective requirements in the Associate of Arts and Associate of Science degree programs and distributive transfer requirements in history, social sciences, and non-western studies. Lab fee: $2.00. Prerequisite: Placement into ENGL 101.

HUM 254 Introduction to African Literature (On Demand) 5-0-5
A general survey of sub-Saharan African literature including the oral traditions that formed its background. Students will examine traditional African artistic expressions such as dance, drama, poetry and short story as well as novels produced by European-educated writers. Students will read literary texts originally written in English or in English translation. Lab fee: $2.00. Prerequisite: Placement into ENGL 101.

HUM 270 Comparative Religions (A,SP) 5-0-5
Introduction to the study of religion through a historical overview and comparison of the major world religions of Judaism, Christianity, Islam, Buddism, and Hinduism through readings in their sacred texts in translation. Attention will be focused on the concepts, categories, theories, and methods used by the various religious disciplines and how each of them addresses basic issues of the human condition. Also included will be an examination of Sectarianism and contemporary sects in America and the World. Meets elective requirements in the Associate of Arts and Associate of Science degree programs and distributive transfer requirements in comparative studies, religion, and philosophy. Lab fee: $2.00. Prerequisite: Placement into ENGL 101.

HUM 299 Special Topics in Humanities (On Demand) **I-5**
Special topics from the Humanities discipline designed to meet specific needs. Lab fee: $2.00.

Interpreting/Transliterating Technology (ITT)

ITT 110 Introduction to Interpreting/Transliterating (A) 3-0-3
This course is designed to provide students with an overview of the field of interpreting. Topics of study include a historical over vieti, terminology, interpreter's role, ethics, and career options.

ITT 111 Introduction to the Deaf Community (A) 5-0-5
This course is designed to provide students with a" overview of the deaf community. It focuses on the following areas: social, cultural and education experiences. This course also examines employment, local services available to the d/Dead community, and majority culture's myths and misconceptions of the d/Deaf community. Lab fee: $5.00.

ITT 120 English for the Interpreter (SP) 3-0-3
This course focuses on the grammar errors made during the voicing process and ways to remedy these errors. It also focuses on English vocabulary expansion and sign vocabulary expansion. Prerequisite: ITT 110. Concurrent: ITT 143

ITT 121 Legal and Ethical Aspects of Interpreting/Transliterating (SP) 3-0-3
This course looks at applying the RID Code of Ethics to the interpreting situation. Analysis of professional ethics, confidentiality vs. privilege, legal liability, and the role of the interpreter are all covered. Lab fee: $5.00. Prerequisite: ITT 110.

ITT 123 Specialized Interpreting/Transliterating (A) 3-2-4
This course introduces the student to special vocabulary, skills, and knowledge needed to interpret in special situations. It looks at ethical considerations of these settings as well. Some of these situations include artistic interpreting, interpreting for deaf/blind persons, interpreting in medical settings, and oral interpreting Lab fee: $5.00. Prerequisite: ITT 110, 202, 211.

ITT 130 Fingerspelling (W) I-2-2
This course offers students the opportunity to work on expressive and receptive fingerspelling. The emphasis of this course is on "sing fingerspelling in context. Opportunities are provided for the students to work with videotaped materials as well as live models. Lab fee: $5.00. Prerequisite: ITT 141 with a "C" or better. Concurrent: ITT 142.

ITT 141 American Sign Language I (A,SP) 4-2-5
This course begins with a series of visual readiness activities as a way of introducing the students to and preparing them for a language in a visual modality. The course utilizes a practical approach to teaching vocabulary, grammar, and the cultural aspects through "real life" conversational experiences. The student is further acclimated to the new modality of this language via classroom experiences conducted without voice. Additional information about the Deaf Community is introduced via outside readings and class discussion. Lab fee: $10.00.

ITT 142 American Sign Language II (W,SU) 4-2-5
ASL II, as a continuation of ITT 141, further acclimates the students to the visual/gestural modality of this language. The course utilizes a practical approach to teaching vocabulary, grammar, and cultural aspects through "real life" conversational experiences. More attention is given to the student's production of the language than in ITT 141, while receptive/ comprehension skills continue to be emphasized. Additional information about the Deaf Community is introduced via outside readings and class discussions. Lab fee: $10.00 Prerequisite: ITT 141 with a "C" or better.

ITT 143 American Sign Language III (A,SP) 4-2-5
ASL III provides the students with additional opportunities to expand their ability to produce and comprehend the language as used in everyday conversational settings. Students continue to recognize the fact that communication is governed by culturally-bound rules as they continue to study the culture of the Deaf Community. Lab fee: $10.00. Prerequisite: ITT 142 with a "C" or better.

ITT 144 American Sign Language IV (WSU) 4-2-5
In ASL IV, students' production and comprehension skills continue to develop qualitatively and quantitatively as they are exposed to a greater variety of interaction activities. Whereas these activities are based on cultural values of the Deaf Community, the students' knowledge of this unique community is expanded. Lab fee: $10.00. Prerequisite: ITT 143 with a "C" or better.

ITT 145 American Sign Language V (A,SP) 4-2-5
As the final course in this five (5) course series, ITT 145 provides students with opportunities to expand their production and comprehension skills with American Sign Language. Communication activities focus on advanced functions of language "sage. Study of the cultural aspects of the Deaf Community is continued. Lab fee: $10.00. Prerequisite: ITT 144 with a "C" or better.

ITT 150 Linguistics of American Sign Language (ASL) (SP) 2-2-3
This course offers a" introductory to general linguistics, as well as providing an in-depth analysis of the major grammatical features of America" Sign Language. Comparisons are made between English and American Sign Language, noting how grammatical functions are performed differently in the two languages. Lab fee: $5.00. Concurrent: ITT 143.

ITT 201 Interpreting I (SP) 2-2-3
This course is a theoretical and practical "hands-on" approach to the process of sign language interpreting. The student will be actively learning how to render a signed message in ASL into spoken English, as well as render a spoken message in English into ASL. Lab fee: $10.00. Prerequisite: ITT 110 with a "C" or better. Concurrent: ITT 120 and 143

ITT 202 Interpreting II (SU) **I-5-3**
This course is a continuation of ITT 201. As such, the students continue the process of actively learning how to render a signed message in ASL into spoken English, as well as how to render a spoken message into ASL. This course places more emphasis on the practical "hands-on" dialogue setting; and increasing the speed, accuracy, and complexity of the interpreting process. Lab fee: $10.00. Prerequisite: ITT 201 with a "C" or better. Concurrent: ITT 144.

ITT 203 Interpreting III (W) **I-5-3**
As the final course in the three (3) course interpreting sequence, this course continues to increase students' knowledge and skills in ASL/English interpretation process. Increased focus is placed on "real life" situational experiences involving complex interpreting settings. Lab fee: $10.00. Prerequisite: ITT 202 and145 with a "C" or better.

ITT 211 Transliterating 1 (SU) 2-2-3
This course is a theoretical and practical "hands-on" approach to the process of sign language transliterating. Students will be actively learning how to render contact varieties and signed English messages into spoken English, as well as render a spoken message in English into contact varieties and signed English. Lab fee: $10.00. Prerequisite: I'M 120 and 201. Concurrent: ITT 144.

ITT 212 Transliterating II (A) **I-S-3**
This course is a continuation of ITT 211, As such, the students continue the process of actively learning how to render a signed message in a contact variety and signed English into spoken English, as well as how to render a spoke" message into a contact variety and signed English. This course places more emphasis on practical "hands-on" dialogue settings; and increasing the speed, accuracy, and complexity of the transliteration. Lab fee: $10.00. Prerequisite: ITT 2 11 with a "C" or better.

ITT 213 Transliterating III (SP) **I-1-3**
As the final course in the three (3) course transliterating sequence, this course continues to increase students' knowledge and skills in the sign language transliteration process. Increased focus is placed on the "real life" situational experiences involving complex transliteration settings, increasing speed, and decreasing process time. Lab fee: $10.00. Prerequisite: ITT 212 with a "C" or better.

ITT 220 Sign to Voice Interpreting/Transliterating (W) 4-0-4
This course provides students with additional experience with the process of sign to voice interpreting and transliterating. Students will practice with a variety of Deaf, deaf, and hard of hearing individuals to enhance team and solo voicing skills. Lab fee: $10.00. Prerequisites: ITT 202 and ITT 212. Concurrent ITT 203.

ITT 230 Introduction to Teaching American Sign Language (SP) 3-0-3
This course is a" introduction to the basic principles and practices of teaching adult learners, with a focus on teaching American Sign Language. Topics include: the adult learner, curriculum develoment, lesson planning, testing procedures, and other issues common to teaching adults. Lab fee: $10.00. Prerequisite: Acceptance into program. Concurrent: ITT 231 and ITT 150.

ITT 231 American Sign Language for Native Signers (SP) 2-0-2
This course is designed to help native and near-native signers particularly Deaf, deaf, and hard of hearing individuals, understand the linguistic and sociolinguistic structure of American Sign Language. Lab fee: $10.00. Prerequisites: Native or near-native signer, ITT approval.

ITT 232 Teaching Basic American Sign Language (SU) 3-0-3
This course will prepare native and near-native signers to teach introductory-level American Sign Language classes to adult populations. Course content from ITT 150,230, and 231 are expanded, and added to, with a focus on applying knowledge and skills to classroom teaching settings. Lab fee: $10.00. Prerequisites: ITT 150, ITT 230, and ITT 231.

ITT 233 Teaching Advanced American Sign Language (W) 3-0-3
This course will prepare native and "ear-native signers to teach advanced-level American Sign Language classes to adult populations. Course content from ITT 150, 230, 231, and 232 are expanded, and added to, with a focus on applying knowledge and skills to classroom teaching settings. Lab fee: $10.00. Prerequisites: I'M 232. Concurrent: ITT 242

ITT 241 Teaching American Sign Language Practicum I (AU) 0-25-5
This course is designed to provide learners with an opportunity to apply skills and knowledge by teaching basic ASL courses under supervision. This practicum supervisor will discuss issues regarding learners' skills and experiences, provide feedback, and suggest strategies to improve. Lab fee: $5.00. Prerequisite or concurrent: ITT 232

ITT 242 Teaching American Sign Language Practicum II (W) 0-25-5
This course is designed too provide learners with additional opportunities to apply skills and knowledge by teaching basic ASL courses under supervision. The practicum supervisor will discuss issues regarding learners' skills and experiences, provide feedback, and suggest strategies to improve. Lab fee: $5.00. Prerequisite or concurrent: ITT.241

ITT 243 Teaching American Sign Language Practicum III (SP) 0-25-5
This course is designed to provide learners with an opportunity to apply skills and knowledge by teaching advanced ASL courses under supervision. The practicum supervisor will discuss issues regarding learners' skills and experiences, provide feedback, and suggest strategies to improve. Lab fee: $5.00. Prerequisite or concurrent: ITT 233,242

ITT 244 Teaching American Sign Language Practicum IV (SU) **0-25-5**
This course is designed to provide learners with an opportunity to apply skills and knowledge by teaching advanced ASL courses under supervision. The practicum supervisor will discuss issues regarding learners' skills and experiences, provide feedback, and suggest strategies to improve. Lab fee: $5.00. Prerequisite or concurrent: ITT 243.

ITT 290 Interpreting/Transliterating Practicum Seminar I (W,SU) **1-0-l**
This course supplements the practicum experience by providing opportunities for sharing experiences via recordings in journals and group discussions. Concurrent: ITT 292.

ITT 291 Interpreting/Transliterating Practicum Seminar II (A,SP) **1-0-l**
This course continues to supplement the practicum experience. Applying theory to the daily work setting, applying for jobs, and additional educational opportunities are also discussed. Prerequisite: ITT 290 with a grade of "satisfactory". Concurrent: ITT 293.

ITT 292 Interpreting/Transliterating Practicum I (W,SU) 0-20-4
Students are provided opportunities to work in interpreting situations and apply the concepts learned in the classroom to the actual setting. Students are assigned to work in a variety of settings on a part-time basis and are supervised by staff interpreters. Prerequisite: 2.0 tech. average; completion of the first five quarters of the ITT Plan of Study. Concurrent: ITT 290.

ITT 293 Interpreting/Transliterating Practicum II (A,SP) 0-20-4
Students are provided opportunities to work in different interpreting situations and apply the concepts learned in the classroom to the actual setting. Students are assigned to work in a variety of settings on a part-time basis and are supervised by staff interpreters. Prerequisite: ITT 292 with a grade of "satisfactory" and 2.0 tech average. Concurrent: ITT 291.

Italian (ITAL)

ITAL 101 Elementary Italian I (On Demand) **5-0-5**
Italian language instruction through the use of texts, audio/visual, and other selected materials to actively and proficiently communicate in the targeted language. This course also operates on developing student's historical, and cultural consciousness through the use of film, art, music and a wide range of cultural activities particular to the Italian culture. Encourages analytical thinking, individual and group participation and strengthens writing, reading and comprehension skills. Lab fee: $6.00. Prerequisite: Placement into ENGL 101.

ITAL 102 Elementary Italian II (On Demand) **5-0-5**
Continuation of ITAL 101, with further development of listening, reading, speaking, and writing skills and further study of Italian culture. Meets elective requirements in the Associate of Arts and Associate of Science degree programs and transfer requirements in foreign languages and literature. Lab fee: $6.00. Prerequisite: ITAL 101 with a grade of "C" or better.

ITAL 103 Intermediate Italian I (On Demand) **5-0-5**
Continued study of the Italian language and development of listening, reading, speaking and writing skills. Readings from contemporary Italian culture and literature. Meets elective requirements in the Associate of Arts and Associate of Science degree programs and transfer requirements in foreign languages and literature. Lab fee: $6.00. Prerequisite: ITAL 102 with a grade of "C" or better.

ITAL 104 Intermediate Italian II (On Demand) **5-0-5**
Reading and discussion of Italian short stories, novels, plays, newspapers, and magazines, emphasizing literary appreciation and the development of Italian culture. Meets elective requirements in the Associate of Arts and Associate of Science degree programs and transfer requirements in foreign languages and literature program. Lab fee: $6.00. Prerequisite: ITAL 103 with a grade of "C" or better.

ITAL 299 Special Topies in Italian (On Demand) **1-S**
Detailed examination of selected topics in Italian. Lab fee: $2.00. Prerequisites vary.

Japanese (JAPN)

JAPN 101 Elementary Japanese I (A) 5-0-5
Elements of standard modern colloquial Japanese grammar, with emphasis on oral communications and culture. Students will learn to hear and reproduce the sounds of modern Japanese accurately; handle basic interactive skills such as greetings, invitations and apologies; learn about cultural factors that are reflected in the language. Lab fee: $6.00. Prerequisite: Entry into ENGL 101.

JAPN 102 Elementary Japanese II (W) 5-0-5
Continuation of JAPN 101. Lab fee: $6.00. Prerequisite: "C" or higher in JAPN 101.

JAPN 103 Elementary Japanese III (On Demand) **5-0-5**
Continuation of JAPN 102. Lab fee: $6.00. Prerequisite: "C" or higher in JAPN 102.

JAPN 104 Elementary Japanese IV (On Demand) 5-0-5
Continuation of JAPN 103. Lab fee: $6.00. Prerequisite: "C" or higher in JAPN 103.

JAPN 299 Special Topics in Japanese (On Demand) **1-S**
Detailed examination of selected topics in Japanese. Lab fee: $2.00. Prerequisites vary.

Landscape Major
(See Architecture Technology)

Latin (LATN)

LATN 101 Elementary Latin I (On Demand) **5-0-S**
Introduction to the fundamentals of Latin with practice in reading and writing. Includes selected studies in culture. Meets elective requirements in the Associate of Arts and Associate of Sciences Degree programs and transfer requirements in foreign languages and literature. Lab fee: $6.00. Prerequisite: Placement into ENGL 101.

LATN 102 Elementary Latin II (On Demand) **5-0-5**
Continuation of LATN 101 with further development of reading and writing skills and further study of culture. Meets elective requirements in the Associate of Arts and Associate of Sciences Degree programs and transfer requirements in foreign languages and literature. Lab fee: $6.00. Prerequisite: LATN 101 with a grade of "C" or better.

LATN 103 Intermediate Latin I (On Demand) **5-0-5**
Continuation of LATN 102. Meets elective requirements in the Associate of Arts and Associate of Sciences Degree programs and transfer requirements in foreign languages and literature. Lab fee: $6.00. Prerequisite: LATN 102 with a grade of "C" or better.

LATN 104 Intermediate Latin II (On Demand) **5-0-5**
Continuation of LATN 103. Meets elective requirements in the Associate of Arts and Associate of Sciences Degree programs and transfer requirements in foreign languages and literature. Lab fee: $6.00. Prerequisite: LATN 103 with grade of "C" or better.

Law Enforcement Technology (LAW)

LAWE 101 Introduction to Criminal Justice (A,SP) 3-0-3
This course examines the development of law, and the systems and procedures developed by society for dealing with law violations. Emphasis will be placed on the three major components of the system: the police, courts, and corrections.

LAWE 102 Patrol Procedures (A,SP) 2-2-3
This course covers the basic concepts of police patrol. The purpose of patrol and various patrol strategies will be examined. Calls for service and response tactics as well as arrest techniques, vehicle stops, and prisoner booking and handling are covered.

LAWE 103 Academy Orientation (W,SU) 2-0-2
This course will serve as an orientation to the law enforcement profession and the Columbus State Police Academy.

LAWE 104 Government and the Law (A, W, SP, SU) 3-0-3
The role of local government in the community; its structure, organization, and responsibility. Local government politics **and** the community. Urban, suburban, rural and community structure will be discussed in relationship to delivery of services.

LAWE 107 Introduction to Security (W) 3-0-3
This course is designed to provide a general background in security for the beginner. It covers some of the fundamental systems used for loss prevention, tire prevention, and personnel safety. This course covers the basic idea of construction for security reasons as well as beauty and functionalism. It helps to relate security to all members of a company and the responsibility each has to the prevention of loss, both material and human.

LAWE 110 Criminal Investigation I (A,SP) 3-2-4
Principles and techniques of criminal investigation, including those techniques and skills used in the investigation of major crimes such as: homicide, burglary, robbery, auto theft, arson and sex offenses. Lab fee: $5.00.

LAWE 111 Criminalistics I (A,SP) 0-4-2
An introduction to criminalistics laboratory techniques: includes the recognition, collection, and preservation of evidence and its preparation for court presentation. An introduction to fingerprint comparison. Lab fee: $10.00.

LAWE 112 Criminal Investigation II (W,SU) 3-2-4
A continuation of LAWE 110. Emphasis will be placed on the scientific analysis of evidence and proper methods for collection and preservation of trace evidence. Lab fee: $5.00. Prerequisite: LAWE 110.

LAWE 113 Criminalistics II (W,SU) 0-4-2
Advanced study of criminalistics laboratory techniques: includes examination techniques for blood, hair and fiber, fire-arms identification, toolmark comparison, latent fingerprints, questioned document examination and trace evidence. Lab fee: $10.00.

LAWE 115 Community and Personal Relations (W,SU) 2-2-3
This course examines the complex relationship between the police and the public they serve. Areas of potential problems will be discussed and programs and procedures for enhancing the relationship will be presented. Lab fee: $5.00.

LAWE 120 Criminology (A,SP) 3-0-3
An exploration of the crime problem in the United States. Theories of the causation of crime will be analyzed and critiqued.

LAWE 121 Juvenile Delinquency (SP) 3-0-3
A study of the nature and causes of delinquent activity by juveniles. Though the development of an understanding of causative factors, appropriate criminal justice responses to such activity can be planned.

LAWE 122 Criminal Law (On Demand) 2-2-3
A study of the development of criminal law in the United States. The common law theories upon which law in this country is based will be explored. Specific topics will include: parties to crime, capacity to commit crimes; and defenses, and the laws defining specific crimes.

LAWE 124 Penology (SP) 3-0-3
An introduction to the field of corrections. The history and goals of corrections will be explored, as well as an overview of the processing of offenders from arrest through final release.

LAWE 125 Traffic Accident Investigation (A,SP) 2-2-3
An in-depth study of the procedure and objectives in accident investigations. Gathering facts from road, vehicle and witnesses, hit and run investigation, measurements and diagrams, utilization of skid mark evidence, proper methods of recording accident data, use of accident template and a practical application of the recommended method of submitting the Ohio state traffic crash report. Lab fee: $3.00.

LAWE 128 Special Category Offenders 3-0-3
This course will focus on six subject areas; treatment of sex offenders, mentally disordered offenders, mentally retarded offenders, inmates with Aids, inmates with disabilities and the substance abuse offender. Further attention will be directed to correctional personnel, impact of political influences, perceptions, training, problems and corrective actions.

LAWE 145 Self Defense for Women **l-2-2**
Students will learn to recognize threatening behavior, situations, and appropriate responses. Simple to learn, basic physical defense techniques are taught. In addition, defensive devices will be discussed and demonstrated.

LAWE 150 The Administration of Justice (A) 3-0-3
The major institutions and processes in the administration of justice will be covered. The role and function of the courts, the progress of criminal and civil cases and methods for development of cooperative arrangements with other criminal justice professionals are discussed.

LAWE 153 Civil Liability in Law Enforcement (SP) 4-0-4
Coverage of potential areas of liability such as: tort law, vicarious liability, and civil rights legislation.

LAWE 155 Managing Police Operations (W) 4-0-4
Managing police operational units such as: investigations, patrol, internal investigations and traffic

LAWE 201 Emergency Dispatching (TBA) 2-2-3
A comprehensive examination of the communication process, including interpersonal as well as technological communication. The role and function of dispatchers dealing with emergency situations will be explored.

LAWE 204 Juvenile Procedures (A,SP) 2-2-3
Organization, functions, and jurisdiction of juvenile agencies. Processing and detention of juveniles. Statutes and court procedures relating to juveniles. Police services for juveniles and neglected children. Rights and liabilities of minors and their parents.

LAWE 208 Community Based Corrections (W) 3-0-3
This course will investigate alternative models of corrections in place of institutionalizing the offender. Various alternatives, and the benefits that will derive from the placing of the offender back in the community rather than in an institution will be discussed.

LAWE 210 Crises Intervention (W) 3-0-3
This course provides the student with intervention strategies for dealing with persons in crises. The areas of domestic disputes, suicide prevention, and the special problems of crime victims will be emphasized. Lab fee: $5.00.

LAWE 211 Institutional Corrections (A) 3-0-3
An exploration of the development and the purposes of correctional institutions. Emphasis will be placed on major correctional facilities at the state and federal levels. Operation of such facilities and the care and treatment of prisoners will be examined.

LAWE 212 Ohio Criminal Code (A,SP) 3-2-4
The study of the statutes of Ohio that apply to crime and criminal procedures. With emphasis on the specific elements necessary to constitute individual crimes.

LAWE 213 Techniques of Instruction (On Demand) 3-0-3
Methods of instruction, application of audio visual equipment, testing, evaluation, and preparation of materials are introduced. Special emphasis is placed on planning an organizational training program. Lab fee: $3.00.

LAWE 218 Supervision of Public Service Personnel (A,SP) 3-0-3
Supervision techniques applied to public service personnel. The study of the need for job descriptions and job procedures, civil service requirements, reports, oral and written directions, work evaluation, and conference leadership. Methods of instruction effective in teaching and motivating personnel.

LAWE 219 Correctional Law (W) 4-0-4
This course will cover the various supreme court rulings that deal with the care and treatment of prisoners confined in institutions. It will include the use of force, the right to have visitors, receive mail, attend religious functions, and the right to treatment. The course will also cover due process of law.

LAWE 220 Constitutional Law (A,SP) 3-2-3
A study of federal and state constitutional law and the Bill of Rights with emphasis on: due process of law, equal protection of the law, jury trial, and assistance of counsel. Interpretation of the constitution by the United States Supreme Court as given in their decisions.

LAWE 221 Counseling - Probation and Parole (SP) 4-0-4
This course covers the responsibilities and duties of the correctional counselor and case worker. Emphasis is placed upon the application of professional standards of casework in the correctional setting. Emphasis is also placed on the functions of the parole and probation officers.

LAWE 223 Correctional Administration (SP) 3-0-3
This course will cover the various phases of administration as they relate to corrections. Three basic stages are covered; executive, mid-management and line operations. Each of these levels will be discussed as they relate to institutions, community-based institutions, and operation of probation and parole. The problems and possible solutions to them will be covered for each division of corrections.

LAWE 231 Criminal Justice Planning and Analysis (W) 2-2-3
Decision making and analysis, using research, police resource allocation, project management.

LAWE 232 Task Force/Major Case Management (A) 2-2-3
The management of groups of people in concentrated effort to effectively handle all facets of a major case or in dealing with emergencies.

LAWE 241 Correctional Internship I (TBA) **0-10-1**
On-the-job training in the field of corrections. The student will work in a correctional agency. The course will include the interviewing of convicted felons, verification of the information received, and various other duties connected with probation and parole. Prerequisite: LAWE 205. Concurrent: LAWE 249.

LAWE 242 Community Policing (SP) 4-0-4
Contemporary community policing issues such as crime prevention, community education, and police deployment strategies will be explored. Internal departmental changes and methods of obtaining cooperation and commitment by department personnel will also be examined.

LAWE 243 Forensic Science for Law Enforcement Managers (TBA) 2-2-3
Managing a forensic laboratory and/or crime scene search unit. Advanced forensic techniques will be explored.

LAWE 244 Budgeting and Grant Writing for Criminal Justice Admin. (TBA) **2-2-3**
This course examines the various frameworks for budgeting and budget management in criminal justice agencies. Students will learn a process for obtaining and managing state, federal, or foundation grants. A sample grant application will be developed.

LAWE 245 Media and the Police (TBA) 3-0-3
This course will examine the difficult relationship of the media to the police. The development of a departmental media policy, and the utilization of the media for departmental advantage will be explored.

LAWE 249 Corrections Seminar I (TBA) **1-0-l**
This seminar will cover the pre-sentence investigation report, the purpose and how they are compiled. Members of the internship program will be able to discuss the problems and events that they have encountered during their work at the probation office with each other and the instructor. Prerequisite: LAWE 205. Concurrent: LAWE 241.

LAWE 252 Police Administration (A) 3-0-3
The contemporary local law enforcement agency, its functions, structure, and operational techniques. Principles of organization, staffing, budgeting, controlling, coordination, planning and research. The development and maintenance of liaison between agencies.

LAWE 253 Criminal Procedure (W,SU) 2-2-3
A study of the roles of procedures as they apply to criminal cases and affect the ability of the officer to have the evidence he/she collects orprepares presented in court. Prerequisite: LAWE 220.

LAWE 254 Correctional Internship II (TBA) **0-10-1**
On-the-job training in the corrections setting. The student will work in a correctional agency. The course will consist of making background investigations for parole board, checking of inmates at various halfway houses, and interviewing persons on parole. Prerequisite: LAWE 241. Concurrent: LAWE 255.

LAWE 255 Corrections Seminar II (TBA) **1-0-l**
This course is a discussion of what has occurred during the student's internship and clarification of problems. Assignment of project and explanation of reason for the project. Prerequisite: LAWE 249. Concurrent: LAWE 254.

LAWE 256 Law Enforcement Practicum I (SP) **0-14-2**
A guided work experience in a law enforcement agency. Students will observe and participate in a variety of law enforcement functions. Exact duties will be decided on by agreement of the student and the law enforcement agency. Prerequisite: Permission of the chairperson. Concurrent: LAWE 251.

LAWE 257 Law Enforcement Practicum Seminar I (SP) **1-0-l**
Seminar discussions of work experience, and development strategies to improve work performance. Prerequisite: Permission of the chairperson. Concurrent: LAWE 256.

LAWE 258 Law Enforcement Practicum II (On Demand) **0-14-2**
A guided work experience in a law enforcement agency. Students will observe and participate in a variety of law enforcement, functions. Exact duties will be decided upon by agreement of the student and the law enforcement agency. Prerequisite: Permission of the chairperson. Concurrent: LAWE 259.

LAWE 2.59 Law Enforcement Practicum Seminar II (On Demand) **1-0-1**
Seminar discussions of work experience, and development of strategies to improve work performance. Prerequisite: Permission of the chairperson. Lab fee: $5.00. Concurrent: LAWE **258.**

LAWE 260 Criminal Evidence and Trial (A,SP) 2-2-3
In this course the student will study the rules of evidence as they relate to the introduction of evidence at trial. In addition to the study of roles, students will participate in a mock trial in which evidence they have collected, preserved and processed will be presented. Lab fee: $5.00.

LAWE 261 Defensive Driving and Emergency Response (SP) 0-4-2
Defensive driving is driving to prevent accidents from occurring in spite of the actions of others or the presence of adverse conditions. Students will learn recommended driving principles and practices through vehicle operation. The student will also learn the skills necessary to administer emergency aid until assistance can be obtained. Lab fee: $20.00.

LAWE 263 Unarmed Self Defense (SU) l-6-4
The student will learn: the basic principles and tactics of unarmed self-defense, how to defend against physical attack, and control of aggressive behavior in effecting an arrest using minimum force. Prerequisite: LAWE 102.

LAWE 264 Police Firearms (SU) 0-6-3
Students will learn to safely use police firearms including pistol and shotgun. Shooting decisions and alternatives to firearm use are covered. Successful completion of the course requires compliance with current Ohio Peace Officers Training Council qualification standards. Lab fee: $20.00.

LAWE 265 Police Physical Fitness (A) l-4-3
This course will utilize the proven methods developed by the Aerobic Institute in measuring and attaining fitness. A baseline of fitness will be established for each student and an individual exercise program will be decided upon. Class activities may include aerobics, jogging, and if needed, weight training.

LAWE 266 High Rise Safety (A) 1-2-2
Discussions of the particular problems related to the fire safety in high rise buildings. Students will research and establish life-safety plans for a building. Information gained from previous incidents in high rise buildings will be utilized. Lab fee: $5.00.

LAWE 268 Hazardous Materials I (A) 2-2-3
An introduction to the properties and behaviors of hazardous chemicals in our environment. A study of the physical and chemical characteristics of toxic, flammable, and reactive substances in the forms of solids, liquids, and gases combined with an overview of methods for safely responding to emergencies involving such materials. Emphasis will be placed on safe approach to incident scenes, positive identification of materials, and accurate analysis of the hazards presented by hazardous materials. Lab fee: $6.00.

LAWE 271 Contemporary Issues in Law Enforcement (SP, A) 2-0-2
A review of important facts in modern law enforcement along with an examination of current topics and trends. Prerequisite: Open to Academy majors only with a minimum of 70 credit hours completed.

LAWE 273 Legal Computing **2-l-2**
Course is designed to focus on legal style microcomputing for law enforcement and legal assisting personnel. Emphasis is on the legal history, copyright, computer crimes, computer security and legal computer systems. Prerequisite: CPT 101/Optional LEGL 251.

LAWE 275 Police Management Assessment (SP) 3-2-4
A capstone course in which students participate in typical assessment center evaluation techniques. These techniques include: in-basket/out-basket, written problem solving, structured oral exercise, leaderless group, and subordinate counseling.

LAWE 299 Special Topics in Law Enforcement 3-0-3
Special Topics in Law Enforcement is a course that utilizes a variety of instructional techniques to meet the needs of the constantly changing law enforcement, corrections, and legal community. The course will be designed with the advice of the particular group requesting the course and/or the Law Enforcement faculty, and Department Chairperson.

Legal Assisting Technology (LEGL)

LEGL 101 Introduction to Legal Assisting (A, W, SP, SU) 4-0-4
The role of the legal assistant, ethical responsibilities, and legal restrictions are the main focus of this course. Students will also be introduced to the function of statutes, case law, administrative regulations and constitutions within the legal system. Prerequisite: ENGL 101 or placement into ENGL 101. Lab fee: $5.00.

LEGL 102 The Legal System (A, W, SP, SU) 2-0-2
This course explores the federal and state civil law systems, federal and state criminal law systems, appellate process and such concepts as jurisdiction and venue. Prerequisite or concurrent: LEGL 101. Lab fee: $5.00

LEGL 103 Law Office Procedures and Management (A, W, SP, SU) 3-0-3
This course is an introduction to the day to day operation of a law office. Emphasis will be placed on the development of accurate records keeping skills and developing an understanding of office management procedures unique to law offices, including computerized time keeping and billing programs. Lab fee: $5.00. Prerequisite or concurrent: LEGL 101.

LEGL 111 Legal Research and Writing I (A, W, SP, SU) 3-2-4
An introduction to conducting legal research and the proper methods of preparing briefs, pleadings and memorandum of law. Locating, analyzing and checking of case law is emphasized. Students will learn proper citation methods, and legal writing style, as well as becoming familiar with the Ohio and Federal Rules of appellate procedure. Lab fee: $5.00. Prerequisite: LEGL 101.

LEGL 112 Legal Research and Writing II (A, W, SP, SU) 3-2-4
A continuation of LEGL 111, developing advanced research skills with an emphasis on preparing legal documents. Students will be familiar with primary and secondary sources, computer assisted research and a variety of legal documents. The student will also participate in a brief writing competition. Prerequisite: LEGL 111.

LEGL 113 Legal Research and Writing III (A, SP) 4-2-5
This course is an intense production-oriented research and writing course designed to prepare the student to function under the requirement of rapid completion of research and writing assignments commonly made in law offices, and other legal environments. The student will encounter a variety of opportunities including motions, pleadings and briefs the production of which will require both speed and accuracy, and incorporate both printed and computer-based research strategies. Lab fee: $5.00. Prerequisites: LEGL 112, and LEGL 2.51.

LEGL 114 Family Law (A, W, SU) 3-0-3
Domestic relations matters including: marriage, divorce, dissolution, child custody and support, visitation and adoptions. The law regulating such matters and the drafting of appropriate documents will be emphasized. Lab fee: $5.00. Prerequisite: LEGL 101.

LEGL 119 Real Estate Transactions (W, SP, SU) 3-0-3
A study of the law governing real property, its ownership, sale, lease or other conveyance. The instruments utilized in conveyance or lease of such property will be examined and drafted. Title searching and abstracts of title are included. Lab fee: $5.00. Prerequisite: LEGL 101.

LEGL 201 General Practice (A, W) 4-0-4
This course will acquaint the student with a variety of matters that may be encountered in a law practice. The basic elements of torts and contracts will be covered as well as judgments and civil collection actions. Lab fee: $5.00. Prerequisite: LEGL 101.

LEGL 205 Litigation Practice and Procedure I (A, SP, SU) 2-2-3
A study of the Ohio Rules of Civil Procedure, the Federal Rules of Civil Procedure, and Federal and State Rules of Evidence. The basic elements of a tort claim will be discussed and the initial phases of an action, the complaint pleadings and discovey and pre-trial phases will be examined. Lab fee: $5.00. Prerequisite: LEGL 101.

LEGL 210 Criminal Law and Procedure (A, W, SU) 3-0-3
The Ohio Criminal Code and Rules of Criminal Procedure will be the foundation of this examination of the pre-trial and post-trial procedures in a criminal case. Students will be exposed to the criminal justice system from the elements of offenses through post-conviction remedies. The drafting of motions and other documents associated with criminal matters will be included. Lab fee: $5.00. Prerequisite: LEGL 101.

LEGL 215 L.A. Practicum I (A, W, SP, SU) **0-14-2**
A guided work experience in an office or agency providing legal services. Exact duties are decided upon by agreement of the student and administrators of the placement site. Prerequisite: Permission of instructor.

LEGL 216 L.A. Practicum Seminar I (A, W, SP, SU) **1-0-l**
Seminar discussion of work experiences and the development of strategies to improve work performance. Prerequisite: Permission of instructor

LEGL 220 Business Organizations (A, W, SP) 3-0-3
The fundamentals of the formation of business entities including sole proprietorships, partnerships, and corporations. Students will prepare documents regarding the formation of such organizations. Lab fee: $5.00. Prerequisite: LEGL 101.

LEGL 224 Probate Law and Practice I (W, SU) 3-0-3
The law of wills, estates and estate administration including estate taxation. Testate and intestate estates, law of descent and distribution, estate planning and other probate processes will be discussed. Lab fee: $5.00. Prerequisite: LEGL 101.

LEGL 226 Administrative Law (A, SP) 3-0-3
Statutory law, case law, and administrative roles will be utilized to develop an understanding of the role and authority of administrative agencies. Particular attention will be paid to social security and workers compensation claims. Lab fee: $5.00. Prerequisite: LEGL 101.

LEGL 227 L.A. Practicum II (A, W, SP, SU) **0-14-2**
Further work experience in an office or agency providing legal services. Exact duties will be decided upon by the student and administrators of the placement site. Prerequisite: Permission of instructor

LEGL 228 L.A. Practicum Seminar II (A, W, SP, SU) **l-0-1**
Seminar discussion of current work experiences and the development of further strategies for improvement. Prerequisite: Permission of instructor

LEGL 229 Certified Legal Assistants Exam Review (A, W, SP) 2-0-2
This course is designed as are view course for the student/graduate wishing to take the Certified Legal Assistant Exam. It will examine all areas of procedural and substantive law included on the CLA exam as well as the ethics section of the test. Students taking the course. must successfully pass a mock CLA exam to complete the course. Lab fee: $10.00. Prerequisite: LEGL 228.

LEGL 230 Special Problems in Legal Assisting (on demand) 2-0-2
This course is a special topics course designed to allow the student to research and develop an understanding of legal assisting issues unique to the interests of the student and for which there is no other course available, thecontent of which will address such issues. This course is offered on an independent study basis only. Prerequisites: Permission of chairperson.

LEGL 232 Taxation (W, SP) 3-0-3
Fundamentals of state, local and federal tax laws. The agencies and tribunals involved in tax matters will be examined. Specific research strategies and document preparation relative to tax issues are explored. Lab fee: $5.00. Prerequisite: LEGL 101.

LEGL 234 Litigation II (W) 2-2-3
Building on the knowledge gained in Litigation I, students will examine the role of the attorney in the trial process, case. preparation and organization of materials for trial. Students will prepare a hypothetical case for trial. Lab fee: $5.00. Prerequisite: LEGL 205.

LEGL 236 Probate Law II 3-0-3
The law of guardianship and trusts with emphasis on guardianship administration, land sales and trust accounting. Lab fee: $5.00. Prerequisite: LEGL 224

LEGL 238 Insurance Law (SP, SU) 3-0-3
An introduction to insurance law. The course will include principles of indemnity, interests protected, the transfer of risk and claims processes. Lab fee: $5.00. Prerequisite: LEGL 101.

LEGL 240 Professional Malpractice (A, SP) 3-0-3
An examination of the law of malpractice with an emphasis on malpractice in health professions and an examination of risk management methods in health care. The course will focus on informed consent, vicarious liability of health professionals and health care facilities, negligence, the doctrine of *res ipsa loquitur*, mandatory arbitration, defenses, and medicolegal ethics. Lab fee: $5.00. Prerequisite: LEGL 201.

LEGL 243 Alternative Dispute Resolution Issues Seminar (A, SP, SU) 3-0-3
This course is designed to examine legal, ethical, and policy issues that arise in the use of mediation, arbitration, minitrials, summary jury trial and conciliation and to help you develop mediation skills. Lab fee: $5.00. Prerequisite: LEGL 205.

LEGL 244 Creditor Debtor Relations (A, W) **3-0-3**
Insure that the studentis aware of the respective rights of creditors and debtors. An introduction to the pre-legal and legal procedures of debt collection. Lab fee: $5.00. Prerequisite: LEGL **220.**

LEGL 245 Legal Aspects of Real Estate Title (A, SP) 4-0-4
This course is an in-depth examination of the development of a contract effecting the transfer of real estate, the interests and types of title and ownership, and the methods of title transfer process is emphasized. Lab fee: $5.00. Prerequisite: LEGL 228 or by permission of Chairperson.

LEGL 246 Real Estate Title Insurance (A, SP) 4-0-4
This course is designed to define and explore title insurance as a protective instrument for the purchaser of real estate. Both commercial and residential binders will be discussed along with the impact of continuations of abstracts of title, local zoning ordinances, real estate commercial and residential development on the liability of title insurers. Lab fee: $5.00. Prerequisite: LEGL 228 or by permission of Chairperson.

LEGL 247 Civil Litigation in Real Estate (W, SU) 4-0-4
This course is an examination of common types of civil litigation relating to real estate transactions. Identification of causes of action will be emphasized along with the practice and procedure to complete the cause. Defenses and ADR will also be discussed. Lab fee: $5.00. Prerequisite: LEGL 228 or by permission of Chairperson.

LEGL 248 Searching and Closing the Real Estate Title (W, SU) 4-0-4
This course is designed to examine the process of real estate title searches, and to prepare the student, in detail, to perform commercial and residential real estate title closings. Lab fee: $5.00. Prerequisite: LEGL 228 or by permission of Chairperson.

LEGL 251 Computer Assisted Legal Research (A, W, SP, SU) **2-l-2**
An elective course designed to give the Legal Assisting student exposure to the ever expanding and utilized area of computer assisted research, an alternative to traditional, manual legal research. The student will be required to complete a series of projects within the different libraries of LEXIS in which the student will become proficient with the various uses and functions of electronic legal information retrieval. Lab fee: $25.00.

LEGL 252 Survey of Advanced Legal Technology (W, SP) **2-l-2**
The course will introduce and provide the student with computer training in document management, litigation support, billing, the Internet and Advanced computer assisted legal research. The student will be acquainted with Internet user groups where questions are asked and answered via e-mail and list servs. Legal software that supports legal administration, case management and internal network applications will be emphasized. The course will use cd-rams, extensive computer lab sessions and each student will manage a complete case on an automated platform. The goals of the course will be to provide the student with certain computer competencies that go beyond the basics and allow them to be proactive in the use of technology while at the same time utilizing creative thinking skills. Lab fee: $25.00. Prerequisite: LEGL 112, LEGL 251 or by permission of Chairperson.

LEGL 253 Legal Assisting Law Journal (A, SP) 2-0-2
This course is an opportunity for selected students to participate in the publication of the Columbus State Community College Legal Assisting Law Journal. Students selected will become part of an editorial team, the responsibility of which is to write, edit and publish the Law Journal which is produced two times each year and includes scholarly articles contributed by students, faculty and members of the local legal community. Lab fee: $5.00. Prerequisite: by permission of Chairperson.

LEGL 25.5 Introduction to Workers' Compensation Law (A,SP) 4-0-4
This course is an introduction to the Bureau of Workers' Compensation. The focus of the course is the structure of the Bureau, with an emphasis on the purpose of the agency, the hierarchy, the authority under which it operates, and basic concepts of Workers' Compensation benefits. Lab fee: $5.00. Prerequisite: LEGL 228 or permission of instructor.

LEGL 256 Introduction to BWC Claims Processing (A,SP) 4-0-4
This course is designed to acquaint the student with how the Bureau of workers' Compensation process claims made including self-insured of state fund (BWC) claims, the calculation of wages and compensation, payment of medical bills, authorization of medical treatment, as well as how the Bureau addresses motions made, application to reactivate, and permanent partial disability settlements, from injury to resolution. Lab fee: $5.00. Prerequisite: LEGL 228 or permission of instructor.

LEGL 257 Workers' Compensation Adjudication (A,SP) 4-0-4
This course is designed to acquaint the student with how to deal with state agencies, in particular the Bureau of Workers' Compensation from the claimant position. The emphasis of this course is how to acquire information available through state files and computer systems. Violations of specific safety requirements, applications for permanent total disability and the hearing process will be examined. Lab fee: $5.00. Prerequisite: LEGL 228 or permission of instructor.

LEGL 258 Workers' Compensation Rating System (W,SU) 4-0-4
This course is designed to acquaint the student with the different rating plans available through the Bureau of Workers' Compensation to establish appropriate premiums. The emphasis is on the underwriting process of the Bureau. Lab fee: $5.00. Prerequisite: LEGL 228 or permission of instructor.

LEGL 259 Workers' Compensation Practice and Procedure (W,SU) 4-0-4
This course is designed to acquaint the student with the procedures to complete the hearing process in a claim against the Bureau of Workers' Compensation from both the Bureau and claimant perspective. Lab fee: $5.00. Prerequisite: LEGL 228 or permission of instructor.

LEGL 260 Debt Collection Practice and Procedure (A, SP) 4-0-4
This course is an examination of the various legal tools available to creditors to successfully collect delinquent obligations or accounts which are in default. Both formal and informal methods will be explored with an emphasis on resolution mutually beneficial to both debtor and creditor, including Consumer Credit Counseling. Development of records, pleadings, discovery, motions and entries filed in appropriate jurisdictions will be included. Lab fee: $5.00. Prerequisite: LEGL 228 or by permission of Chairperson.

LEGL 261 Business Law I (A,W,SP,SU) 3-0-3
Survey of the legal framework of business, the nature of legal systems and the law, including contracts, criminal, and the law of torts. Lab fee: $1.00.

LEGL 262 Business Law II (A,W,SP,SU) 3-0-3
A continuation of LEGL 261. Exploring the law of agency, corporation, partnerships, and property. Lab fee: $1.00. Prerequisite: LEGL 261.

LEGL 263 Business Law III (A,W,SP,SU) 3-0-3
An advanced examination of law as it pertains to business with emphasis on specialty areas of the law designed for the protection of business assets including the law of sales, commercial paper and secured transactions under the Uniform Commercial Code; debtor/creditor rights under the laws of bankruptcy; and the use of wills, trusts and estate planning techniques for the protection and transfer of business interest. Lab fee: $1.00. Prerequisite: LEGL 262.

LEGL 264 Legal Environment of Business (A, W, SP, SU) 4-0-4
An overview of the American legal system with an introduction to the legal concepts and principles that form its foundation. The course will examine the judicial system and methods of dispute resolution, while focusing on business crimes and torts, including product liability, ethics, contract formation and enforcement, consumer protection, employment law, environmental regulations, business organizations, particularly sole proprietorship, partnerships, and corporations. Students will be able to understand the legal ramifications of their business decisions. Lab fee: $2.00.

LEGL 265 Business Law for Accountants (A, W, SP, SU) 4-2-5
An in-depth examination of business law as it applies to the accounting discipline with an emphasis on those topics directly relating to the Business Law section of the Certified Public Accountants Examination, including Professional Responsibility of the C.P.A. Lab fee: $5.00.

LEGL 266 Liability Issues in Health Occupations (On Demand) 3-0-3
An examination of liability concerns in health occupations; examination of risk management methods in health care. The course will focus on informed consent, medical malpractice and vicarious liability issues. Lab fee: $5.00. Prerequisite: ENGL 101.

LEGL 267 Legal Medical Consulting Practicum 0-4-2
The practicum is a cumulative class in which the student will demonstrate proficiency and competency in the substantive medicolegal course work completed in an actual employment environment working in the field, supervised by the sponsor and the instructor. Taken with permission only. Prerequisite: LEGL 112 and LEGL 205. Concurrent: LEGL 268.

LEGL 268 Legal Medical Consulting Seminar **1-0-l**
The practicum seminar in a class in which the students participating in the practicum program will meet as a group, once per week, to discuss the experiences of the practicum and collectively explore methods and strategies of improving work performance in the practicum. Taken with permission only. Prerequisite: LEGL 112 and LEGL 205. Concurrent: LEGL 267.

LEGL 269 Consumer Law (W, SU) 4-0-4
This course is an examination of the various state and federal statutes and regulations that govern the relationship of debtor and creditor. Statutes discussed include, but are not limited to the Fair Debt Collection Act, Uniform Consumer Credit Code (UCCC) and Article 9 of the Uniform Commercial Code (UCC). Lab fee: $5.00. Prerequisite: LEGL 228 or by permission of Chairperson.

LEGL 270 Current Trends in Alternate Dispute Resolution (A, SP) 4-0-4
The coarse is designed to provide the student an in-depth examination of the origins, historical basis and statutory/judicial decisions regarding the establishment of ADR procedures and its growth and impact on American jurisprudence and everyday society. It is assumed that the student has a basic knowledge of ADR procedures. The student will complete a major research project on future trends of ADR and its impact on law, business, society and its use in the global economy. Class lecture, independent research and class debates discussing the advantages and disadvantages of the ADR process will be held. Lab fee: $5.00. Prerequisite: LEGL 228 or by permission of Chairperson.

LEGL 272 Mediation (W, SU) 4-4-4
This course is an intensive overview of the Mediation Process. Students will study, in-depth, both statutory and private mediation processes. Students will review domestic relations mediation, employment fact-finding and labor mediation processes. Additionally, the student will learn the different models of mediation with particular emphasis on the Seven Step model. Each student will be involved in preparing and conducting several mediation role playing sessions as both mediator and participants. The fundamentals of researching Arbitration decisions and legal resources in arbitration will be examined with special emphasis on INTERNET RESOURCES, Each student will conduct a mediation in class and prepare a mediation notebook as a final project. Lab fee: $5.00. Prerequisite: LEGL 228 or by permission of Chairperson.

LEGL 273 Conflict Resolution and Negotiation (W, SU) 4-0-4
This course will introduce and provide the student with the mechanics of client interviewing, nonverbal cues, descriptions of conflicts. methods of resolving conflicts, a study of various negotiation strategies with the "Getting To Yes" (Win-Win) model emphasized. Lab fee: $5.00. Prerequisite: LEGL 228 or by permission of Chairperson.

LEGL 274 Survey of Miscellaneous ADR Procedures (W, SU) 4-0-4
The course will focus on several ADR methods and procedures which are statutorily created and privately contracted in the resolution of business disputes. Hire-A-Judge, Summary Jury Trial, mini-trails and international ADR methods will be examined and compared. Each student will prepare the necessary forms and summaries needed to complete these ADR processes. The goals of this course will to be emphasize the role of the paralegal in researching, investigating, compiling, and preparing for the ADR process. Lab fee: $5.00. Prerequisite: LEGL 228 or by permission of Chairperson.

LEGL 275 Overview of Bankruptcy Law and Practice (A, SP) 4-0-4
This course is designed to acquaint the student with the statutory and regulatory structure, location and jurisdiction of bankruptcy law and bankruptcy courts and their non-judicial officers. Parties and proceedings will be discussed as well as an overview of the bankruptcy chapters. Lab fee: $5.00. Prerequisite: LEGL 228 or by permission of Chairperson.

LEGL 276 Liquidation Proceedings: Chapter 7 Bankruptcy (A, SP) 4-0-4
This course is in-depth examination of Chapter 7 of the Bankruptcy Code and the proceedings for liquidation of a debtors assets pursuant to Chapter 7. Lab fee: $5.00. Prerequisite: LEGL 228 or by permission of Chairperson.

LEGL 277 Reorganization Under Chapter 11 Bankruptcy (A, SP) 4-0-4
This course will introduce and intensively examine Chapter 11 (Reorganization Process). The course is designed to provide the student with the abilities to complete the necessary forms and an understanding of the statutory requirements of this legal action. A comparison of Chapter 11 with Chapters 7 and 13 and the advantages and disadvantageous of each. Strategies and negotiation with creditors will be explored and each student will write several plans and analyze the chances of being confirmed by the court. Research and drafting of the necessary documents and responding to motions will be emphasized. Lab fee: $5.00. Prerequisite: LEGL 228 or by permission of Chairperson.

LEGL 278 Adjustment of Debts Under Chapter 13 Bankruptcy (W, SU) 4-0-4
This course is an in-depth examination of Chapter 13 of the Bankruptcy Code and the proceedings for the reorganization of debt pursuant to Chapter 13.

LEGL 279 Alternatives to Bankruptcy (W, SU) 4-0-4
The course emphasizes workouts and other alternatives to bankruptcy from both the debtor's perspective and the creditor. Case studies in successful workouts will be analyzed. Negotiating strategies and different solutions to resolve credit problems will be highlighted. Federal and Ohio Consumer Protection Statutes are examined with an emphasis on the Fair Debt Collection Practices Act. The student will draft the necessary documents to complete a workout and research key legal issues regarding consumer rights and protection. In addition, future trends in bankruptcy law, courts, and practices are studied. Lab fee: $5.00. Prerequisite: LEGL 228 or by permission of Chairperson.

LEGL 280 Introduction to Elder Law (A, SP) 3-0-3
This course is designed to introduce the student to various social and legal issues relevant to the elder person and the methods available to such persons to resolve common legal issues confronted by the same. Lab fee: $5.00. Prerequisite: LEGL 228 or by permission of Chairperson.

LEGL 281 Social Security Practice and Procedure (A, SP) 4-0-4
This course is designed to introduce the student to the origination of Social Security, its jurisdiction and regulation, and the practice and procedure within the Social Security Administration. Lab fee: $5.00. Prerequisite: LEGL 228 or by permission of Chairperson.

LEGL 282 Medicare/Medicaid and the Elder Person (W, SU) 4-0-4
This course is designed to introduce the student to the origination of Medicare and Medicaid, the jurisdiction and regulation of the same, and appropriate practice and procedure for the resolution of Medicare and Medicaid issues. Lab fee: $5.00. Prerequisite: LEGL 228 or by permission of Chairperson.

LEGL 283 Asset Protection for the Elder Person (W, SU) 4-0-4
This course is an examination of various methods appropriate for designing protective measures for the preservation of assets of the elder person as they encounter either catastrophic or long term medical or nursing care. Lab fee: $5.00. Prerequisite: LEGL 228 or by permission of Chairperson.

LEGL 285 Estate Administration (A, SP) 4-0-4
This course id designed to familiarize the student with the various methods of estate administration including full administration of testate and intestate estates and the process of completing the same, including introduction to tax forms, and relief from administration. Lab fee: $5.00. Prerequisite: LEGL 228 or by permission of Chairperson.

LEGL 286 Guardianships (A, SP) 4-0-4
This course is &signed to introduce the student to the law of guardianship and the application of the same within the jurisdiction of probate courts. Lab fee: $5.00. Prerequisite: LEGL 228 or by permission of Chairperson.

LEGL 287 Wills, Trusts and Powers of Attorney (W, SU) s-0-5
This course is an in-depth examination of the law relating to wills, trusts, and powers of attorney, the development and execution of the same, and the application of these probate tools to development and protection of estates. Lab fee: $5.00. Prerequisite: LEGL 228 or by permission of Chairperson.

LEGL 288 Civil Issues in Probate (W, SU) 4-0-4
This course is designed to introduce the student to the variety of matters addressed by the probate court other than will, trusts and estates, including the resolution of petitions for name changes, legitimation, marriages, ancillary administration, adoptions, land sale proceedings, and the involvement of the court in wrongful death actions.

LEGL 289 Probate Taxation (W, SU) 3-0-3
This course is designed to introduce the student to the aspects of state and federal taxation as the law applies to estates. The student will examine the state and federal tax codes, conduct research and complete applicable tax forms to complete the state. Lab fee: $5.00. Prerequisite: LEGL 228 or by permission of Chairperson.

LEGL 290 Legal Aspects of Credit and Debt (A, SP) 4-0-4
This course is an overview of the creation and development of the various relationships created and developed by debtors and creditors, including but not limited to secured and unsecured debt, mortgages, credit reporting, and the rights and obligations of each under state and federal law and common law. Lab fee: $5.00. Prerequisite: LEGL 228 or by permission of Chairperson.

LEGL 291 Arbitration (A, SP) 4-0-4
The course is an intensive overview of the Arbitration Process. Students will study in-depth both court annexed arbitration and private. arbitration processes. The fundamentals of researching Arbitration decisions and legal resources in arbitration will be examined with special emphasis on Internet resources. Each student will conduct an arbitration in class and prepare an arbitration notebook as a final project. Lab fee: $5.00. Prerequisite: LEGL 228 or by permission of Chairperson.

Legal Office Administration Major

(See Office Administration Technology)

Literature
(See English)

Logistics Management Technology (LOGI)

LOGI 100 Principles of Logistics (A,W,SP) **5-0-5**
A study of the basic concepts included in the. field of logistics with particular emphasis on the economic significance of distribution to business and the US. economy. The interrelationship between logistics and other areas of business will be covered with particular emphasis on how logistics can significantly impact customer loyalty by adding value. Other topics include distribution and distribution terminology and an overview of transportation regulations, traffic management, inventory control, warehousing and global distribution issues. Lab fee: $3.00.

LOGI 110 Transportation & Traffic Management (A,SP) 3-0-3
Introduction to traffic management function including mode and carrier selection, Lab fee: $3.00. Prerequisite: LOGI 100.

LOGI 151 Purchasing Principles I (A) 3-0-3
This course is designed to teach the basics of purchasing management to the newly appointed buyer or non-purchasing personnel looking to broaden their business knowledge. Topics covered include: the challenge of purchasing and materials management, objectives and organization, function, specification, quality control and inspection, computerization, and quality considerations. Lab fee: $3.00.

LOGI 152 Purchasing Principles II (W) 3-0-3
This course is a continuation of Purchasing Principles I and focuses on how the basis of good buying can be used effectively to meet the challenges and responsibilities of the constantly changing business climate. Topics include: forward buying, international purchasing, buying capital assets and purchasing transportation services. Lab fee: $3.00. Prerequisite: LOGI 151.

LOGI 205 Freight Claims (W) 3-0-3
A study of freight loss, damage claims, and adjustment of claims in various modes of transportation including carrier and shipper liability, transportation document, and claim filing procedures. Lab fee: $3.00. Prerequisite: LOGI 100.

LOGI 208 Production and Inventory Control (A,SP) 4-0-4
A study of inventory problems as they relate to manufacturing and service firms. Lot sizing and order management techniques will be studied. Lab fee: $3.00. Prerequisites: LOCI 100, LOGI 152 or permission of instructor.

LOGI 209 Quantitative Methods for Logistics (W) **5-0-5**
A study of quantitative tools helpful to the logistics professional. This course is recommended for the advanced student or the working professional. Lab fee: $13.00. Prerequisite: LOGI 100 and permission of instructor.

LOGI 210 Warehouse Management (W,SU) 3-0-3
Analysis of warehousing functions and management. Topics covered include facility location and operation, labor relations, financial analysis and productivity improvement and measurement. Lab fee: $3.00. Prerequisite: LOGI 100.

LOGI 225 Export/Import (A) 3-0-3
A study of global logistics with emphasis on the requirements for importing and exporting. Laws, regulations, paperwork and international billing terms will be discussed. Lab fee: $3.00. Prerequisite: LOGI 100.

LOGI 235 Supplier Selection and Management (A) 3-0-3
An overview of how to determine the capabilities of individual vendors through sourcing/ certification. Case study approach to vendor selection with emphasis on negotiation strategy. Supply chain analysis and management. Lab fee: $3.00. Prerequisite: LOGI 100.

LOGI 240 Transportation Law/Regulations (W) 2-0-2
A study of transportation law and regulation, with emphasis on shipper responsibilities. Claims, undercharge avoidance, contracting, and the shipper's bill of lading are discussed. Lab fee: $3.00. Prerequisite: LOGI 100.

LOGI 241 Logistics Practicum I (A,W,SP,SU) 0-28-4
Supervised on-the-job application of knowledge and skills acquired in the classroom. Lab fee: $3.00. Prerequisite: Advisor approval required. Open to Logistics Management Technology students only. Concurrent: LOGI 242.

LOGI 242 Logistics Seminar I (A,W,SP,SU) 0-4-2
Application of logistics knowledge to specific areas of on-the-job experience. Prerequisite: Advisor approval required. Open to Logistics Management Technology students only. Lab fee: $3.00. Concurrent: LOGI 241.

LOGI 245 Transportation Rates & Pricing (SP) 2-0-2
A course of transportation rates and pricing, including carrier cost structures and in dose economics. Emphasis will be on negotiation of favorable rates from carriers and proper preparation for same. Lab fee: $3.00. Prerequisite: LOGI 100.

LOGI 256 Advanced Purchasing Seminar (SP) 3-0-3
A capstone course designed for the Purchasing Management major. A comprehensive case study approach will be used to understand purchasing as the primary materials procurement activity while integrating purchasing with other materials management activities. Topics cover include: legal consideration, public purchasing, the planning process, and control functions such as inventory control, budgeting, and production. Lab fee: $3.00. Prerequisite: LOGI 152.

LOGI 271 Advanced Logistics (SP,SU) **5-0-5**
A capstone course designed to develop an overall appreciation of the logistics function and its relationship to business strategy. Lab fee: $3.00. Prerequisites: Completion of at least 12 credit hours in logistics or advisor approval.

LOGI 297 Special Topics in Logistics (On Demand) 1-3
Detailed examination of special topics of interest in logistics. Topics vary. Lab fee: $3.00.

Marketing Technology (MKTG)

MKTG 111 Marketing Principles (A,W,SP,SU) **5-0-5**
The fundamentals of product planning, pricing, promotion and distribution of goods and services with emphasis on the impact of a global economy and technology on marketing activities. Additional attention is given to consumer behavior, market research and market strategies. Lab fee: $3.00.

MKTG 122 Business & the Internet (A,SP) 2-2-3
An overview of how to use the Internet to gather and evaluate primary and secondary sources of business information for production development, market research, sales, advertising and promotion and customer service/retention. Lab fee: $13.00.

MKTG 131 Market Research Principles (A,SU) 3-0-3
An introduction to the field of market research with particular emphasis on how to use research data to make better marketing decisions. Topics covered include the market research process, research design and data sources, data collection and the analysis of marketing research data. Lab fee: $3.00. Prerequisites: MKTG 111 and MATH 101 or instructor approval.

MKTG 140 Advertising and Promotion (A,SP) s-0-5
An introduction to the critical role that advertising and promotion play in marketing activities. Topics covered include promotional program development and analysis, the communications process and evaluating an integrated marketing communications program. Lab fee: $3.00. Prerequisite: MKTG 111 or instructor approval.

MKTG 221 Consumer Behavior (A,SU) 3-0-3
Consumer behavior is designed to assist the student in developing a fuller understanding of the influences, both internal and external, that determine consumer behavior. Lab fee: $3.00. Prerequisite: MKTG 111 or instructor approval.

MKTG 223 Sales (A,SP) 3-0-3
Practical application of selling theory in a variety of personal selling situations. Techniques of all phases of the selling process from initial contact to the close of the sale will be taught. Lab fee: $3.00. Prerequisite: MKTG 111 or instuctor approval.

MKTG 224 Public Relations (A,SP) 3-0-3
Public relations examines both the theoretical and practical factors that contribute to a firm's image among its many publics. The emphasis is on public relations as a function of management as well as an adjunct of promotion. Lab fee: $3.00. Prerequisite: MKTG 111 or instructor approval.

MKTG 226 Customer Service Principles (A,W,SP,SU) 3-0-3
A study of customer service principles used in business. Concepts and key elements will be explored. Techniques will be developed for small business applications. Topics include customer service overview, key elements of customer service, trends, industry examples, business impact and legal implications. Lab fee: $3.00. Prerequisite: MKTG 111 or instructor approval.

MKTG 227 Customer Service Management (W,SP) 3-0-3
A study of the process for achieving excellence in customer service. Key quality characteristics will be explored and techniques will be developed for measuring and delivering excellent service. The Malcolm Baldridge Awards standards are integrated into the course. Lab fee: $3.00. Prerequisite: MKTG 226 or instructor approval.

MKTG 228 Advanced Sales (SU) 3-0-3
This course is designed to help students understand the thought processes, motives and attitudes that impact the selling process. Topics covered include the 'system' used by sellers and buyers, the visual perception of behavior, the success triangle and self management. Case studies, role playing and team projects are an integral part of this course. Lab fee: $3.00. Prerequisite: MKTG 223 or instructor approval.

MKTG 229 Business-to-Business Marketing (SP) 3-0-3
A comprehensive overview of the marketing principles and practices utilized in business-to-business marketing. An empirical approach is taken to analyzing marketing strategy in business to business environments, Additional emphasis is placed on organizational marketing, future trends and the impact of technology on business-to-business marketing. Lab fee: $3.00. Prerequisite: MKTG 111 or instructor approval.

MKTG 236 Direct Marketing (A,SP) 3-0-3
A survey of the direct marketing process including the theory and practice of direct marketing, its function and organization. Topics covered include direct response television/radio, database marketing, list selection and evaluation, direct marketing media and planning. Special emphasis is placed on how to integrate direct marketing into the overall marketing mix. Lab fee; $3.00. Prerequisite: MKTG 111 or instructor approval.

MKTG 237 Database Marketing (W) 3-0-3
An overview of the use of databases in consumer and business-to-business marketing to both acquire and retain customers. Particular emphasis is placed on developing in-house databases, list purchase and managing a marketing database. Lab fee: $3.00. Prerequisite: MKTG 111 or instructor approval.

MKTG 241 Marketing Practicum (A,W,SP,SU) 0-28-4
Supervised on-the-job application of knowledge and skills acquired in the classroom. Lab fee: $2.00. Prerequisite: Advisor approval required. Open to Marketing Technology students only. Concurrent: MKTG 242.

MKTG 242 Marketing Seminar I (A,W,SP,SU) 0-2-2
Application of marketing knowledge to specific areas of on-the-job internship. Lab fee: $1.00. Prerequisite: Advisor approval required. Open to Marketing Technology students only. Concurrent: MKTG 241.

MKTG 251 Marketing Practicum (A,W,SP,SU) 0-28-4
Continuation of MKTG 241. Lab fee: $2.00. Prerequisites: MKTG 241 and advisor approval required the quarter before the student actually begins the internship. Open to Marketing Technology students only. Concurrent: MKTG 252.

MKTG 252 Marketing Seminar II (A,W,SP,SU) 0 4 2
Application of marketing knowledge to specific areas of on-the-job internship. Lab fee: $1.00. Prerequisite: Advisor approval required. Open to Marketing Technology students only. Concurrent: MKTG 251.

MKTG 260 Direct Marketing Using Electronic Media (SP) 2-2-3
An overview of electronic marketing media and how to integrate marketing strategies using these media with traditional marketing plans. Special emphasis is placed on promotional opportunities and market research that are possible using electronic media. Lab fee: $13.00. Prerequisite: MKTG 236 or permission of instructor.

MKTG 261 Financial Analysis of Direct Marketing Results (SU) 2-0-2
Overview of the bases and uses of financial and decision-making methods in consumer and business-to-business direct marketing. Particular emphasis on list database acquisition and maintenance costs, costs of creative and production, and overall assessment of program using ROI. Lab fee: $3.00. Prerequisite: MKTG 236 or permission of instructor.

MKTG 262 Telemarketing (W) 2-0-2
An overview of both outbound and inbound telemarketing activity and its role as part of a comprehensive direct marketing effort. Topics covered include developing marketing objectives, script preparation and implementation, customer list acquisition, and measuring results. Lab fee: $3.00. Prerequisite: MKTG 236 or permission of instructor.

MKTG 263 Direct Marketing Creative (SU) 2-0-2
Overview of how to create and evaluate effective direct response materials. Topics covered include: establishing a "unique selling proposition", copywriting guidelines, how to use graphic support, offer development, and the inclusion of token/stamps to increase audience interaction. Special attention is given to how to select appropriate formats including computerized letters, self-mailers, broadsides, and brochures. Lab fee: $3.00. Prerequisite: MKTG 236 or permission of instructor.

MKTG 264 Telephone Center Operations (SP) 3-0-3
Introduction to the concepts and skills needed toe an effective telephone call service center supervisor. Topics covered include call center theory, impact of technology on operations, interpersonal communications, telecommunications techniques and supervisor techniques. Lab fee: $3.00. Prerequisite: MKTG 227 or permission of instructor.

MKTG 271 Advanced Marketing (A,SP) **5-0-5**
A capstone course designed to develop a broader understanding of the marketing function and its relationship to business strategy. Students will use the case method to determine appropriate marketing strategies and plans for existing organizations. Prerequisite: Completion of at least 12 credit hours in technology or advisor approval.

MKTG 297-298 Special Topics in Marketing (On Demand) **1-3**
Detailed examination of various topics in marketing. Prerequisites vary.

Mathematics (MATH)

MATH 100 Calculations and Dosages (A,W,SP,SU) 2-0-2
A review of the fundamental operations of arithmetic with fractions and decimal fractions; ratio and proportion calculations; an introduction to the metric and apothecary systems of measures; metric-apothecary conversions; strengths of solutions; and calculating medication dosages; children's dosages; intravenous calculations. Lab fee: $1.00. Prerequisite: DEV 030 with a grade of "C" or higher, or by placement. Meets degree requirement for the Veterinary and Medical Assisting Technologies.

MATH 101 Business Mathematics (A,W,SP,SU) 5-0-5
Ratio, proportion and percents; checking accounts and gross earning; PICA and withholding; sales and property tax; discounts; mark-up and mark-down; simple and compound interest; discounting notes; present value and amortization; and depreciation schedules. An introduction to descriptive statistics: mean, median, mode, and standard deviation. Applications modules using LOTUS l-2-3. Lab fee: $4.00. Prerequisite: DEV 031 with a grade of "C" or higher, or by placement. Meets degree requirement for the AAS degree in Business Management and several other technologies.

MATH 102 Beginning Algebra I (A,W,SP,SU) 4-0-4
Review of structure and properties of real numbers; distance between two points on the number line; interval notation; numerical expressions with grouping symbols and exponents; evaluating and simplifying algebraic expressions; properties of exponents applied to monomial expressions; solving linear equation algebraically; formulas; problem solving using linear equations; introduction to the Cartesian coordinate system; graphing on the TI-82/83 calculator; linear equations in two variables; slope of a line'; writing the equation of a line. Lab fee: $1.00. Prerequisite: DEV 031 with a grade of "C" or higher, or by placement. Not open to students with credit for MATH 103 or above. A TI-82/83 graphing calculator is required.

MATH 103 Beginning Algebra II (A,W,SP,SU) 4-0-4
Review of linear equations in two variables and slope, writing the equation of a line; relations and functions; function notation and evaluation; solving linear equations algebraically and graphically; solving systems of equations in two variables, problem solving using systems of equations; operations with polynomials; factoring polynomials; solving polynomial equations using zero-factor principal; operations with rational expressions; complex fractions. The TI-82/83 graphics calculator will be used to enhance problem solving and critical thinking skills. Lab fee: $1.00. Prerequisite: MATH 102 with a grade of "C" or higher, or by placement. Not open to students with credit for MATH 104 or above. A TI-82/83 graphing calculator is required.

MATH 104 Intermediate Algebra (A,W,SP,SU) 5-0-s
Internal notation; function notation and evaluation; absolute value, rational, radical and quadratic equations; analytical and graphical approaches to solving equations; linear inequalities and systems of inequalities in two variables; double and compound inequalities in one variable; operations with rational and irrational expressions; introduction to non-real numbers; applications using inequalities, rational models, and quadratic models. Lab fee: $1.00. Prerequisite: MATH 103 with a grade of "C" or higher, or by placement. Not open to students with credit for MATH 110, 111, 112, 113, 125, MATH 130, or MATH 148 and above. A TI-82/83 graphing calculator is required.

MATH 105 Mathematics for Elementary Teachers I (A,SP) 5-0-5
Development of basic concepts of arithmetic and algebra as appropriate for elementary school teachers. Instruction will focus on the development of these concepts through the use of hands on manipulatives, calculators, computers and computer software programs. The role of technology in the teaching and learning mathematics will be demonstrated. Lab fee: $1.00. Prerequisite: MATH 104 with a grade of "C" or higher, or by placement.

MATH 106 Mathematics for Elementary Teachers II (W,SU) **5-0-5**
A continuation of MATH 105. Development of basic concepts of geometry and statistics as appropriate for elementary school teachers. Instruction will focus on the development of these concepts through the use of hands on manipulatives, calculators, computers, and computer software programs. The role of technology in the teaching and learning of mathematics will be demonstrated. Lab fee: $1.00. Prerequisite: MATH 105 with a grade of "C" or higher.

MATH 107 Intensified Algebra I (A,W,SP,SU) **5-0-5**
This course is intended for those students who need a quicker review of algebra than what is provided in MATH 102 and 103. A brief review of the Real Number System; interval notation; simplifying algebraic expressions; properties of integer exponent; the coordinate plane; function notation and evaluation; solving linear equations and inequalities; applications of linear equations and inequalities; compound inequalities; absolute value equations and inequalities and their applications; properties of linear functions: slope, ex- and y-intercepts; equations of lines: slope-intercept and point-slope; special equations of horizontal and vertical lines. Lab fee: $1.00. Prerequisite: By Compass placement or department chairperson approval. Not open to students with credit for MATH 110, 111, 112, 113, 125, 130 or 148 and above. A TI-82/83 graphing calculator is required.

MATH 110 Intensified Algebra II (A,W,SP,SU) **5-0-5**
This course is intended for those students who need a quicker review of algebra than what is provided in MATH 103 and 104. Systems of linear equations and inequalities; operations on polynomials; factoring polynomials; solving quadratic equations using the zero-factor property, completing the square method, and the quadratic formula; solving rational and radical equations; simplifying rational and radical expressions; properties of radicals and rational exponents; applications of quadratic and rational equations; complex fractions; introduction to the Complex Number System; solving equations in quadratic form; quadratic functions. Lab fee: $1.00. Prerequisite: MATH 107 with a grade of "C" or higher, or by placement, or by permission of department chairman. Not open to students with credit for MATH 111, 112, 113, 125, 130 or 148 or above. A TI-82/83 graphing calculator is required.

MATH 111 Technical Mathematics I (A,W,SP,SU) 3-2-4
A brief review of scientific notation, roots and radicals, and other algebraic concepts; solutions to linear equations and formulas; ratio-proportion, direct and inverse variation; algebraic functions and rectangular coordinates; solutions to 2 x 2 and 3 x 3 linear systems, including Cramer's Rule; and right triangle solutions. A TI-85 graphing calculator is required. Lab fee: $1.00. Prerequisite: MATH 103 or MATH 104 with a grade of "C" or higher, or by placement. Meets degree requirement for Electronic Engineering Technology, Mechanical Engineering Technology and Aviation Maintenance Technology.

MATH 112 Technical Mathematics II (A,W,SP,SU) 3-2-4
Periodic functions with emphasis on graphing the Sine and Cosine curves; exponential and logarithm functions; complex numbers, including DeMoivre's Theorem; vectors and oblique triangles using the Law of Sines and the Law of Cosines; and solutions to quadratic equations. A TI-85 graphing calculator is required. Lab fee: $1.00. Prerequisite: MATH 111 with a grade of "C" or higher. Not open to students with credit for MATH 150. Meets degree requirement for Electronic Engineering Technology and Mechanical Engineering Technology.

MATH 113 Technical Mathematics III (A,W,SP) 3-2-4
Higher-degree equations, synthetic division, remainder and factor theorems; linear, quadratic, and rational inequalities; trigonometric identities and equations; the straight line, circle, parabola, ellipse, hyperbola, and translation of axes; an introduction to descriptive statistics, including frequency distributions, measures of central tendency and dispersion, and the Normal Distribution. A TI-85 graphing calculator is required. Lab fee: $1.00. Prerequisite: MATH 112 with a grade of "C" or higher. Not open to students with credit for MATH 150. Meets degree requirement for Electronic Engineering Technology and Mechanical Engineering Technology.

MATH 121 Computer Science Math (A,W,SP,SU) **5-0-5**
A study of fixed and floating-point real numbers, significant digits, scientific and normalized notations; a look at algorithm, flowchart, and pseudocode forms; a comparison of decimal, binary, octal, and hexadecimal numeration systems, conversions, and arithmetic in those systems; definitions, symbols, and operations in set theory; logical operators with truth tables and flowcharts and Boolean Algebra. Lab fee: $1.00. Prerequisite: MATH 103 with a grade of "C" or higher, or by placement. Meets degree requirement for the Computer Programming Technology, the Computer Electronics major of the Electronic Engineering Technology, and the EDP Auditing major of the Accounting Technology.

MATH 125 Mathematics in a modern World (A,W,SP,SU) **5-0-5**
Mathematics will be used to examine real world data.. Topics will include linear, quadratic, exponential, and logarithmic functions, and their inverses, systems of equations and inequalities, matrices, and graphing solutions to linear programming. Problems from a variety of disciplines will be studied through mathematical modeling. A TI-82/83 graphing calculator is required. Lab fee: $1.00. Prerequisite: MATH 104 or MATH 111 with a grade of "C" or higher, or by placement, This course is designed for the student who does not intend to take additional courses in mathematics. Meets the general education requirement for the AA degree. Not open to students with credit for MATH 130 or 148 or above.

MATH 130 Mathematical Analysis for Business I (A,W,SP,SU) **5-0-5**
A review of algebra fundamentals including rational expressions, exponential rules, solving quadratic equations, and solving linear inequalities. A review of function notation. An introduction to modeling of linear, quadratic, exponential, and logarithmic functions. The mathematics of finance including compound interest, annuities, amortization and sinking funds. Arithmetic and geometric progressions. Business applications throughout. A TI-821 83 graphing calculator is required. Lab fee: $1.00. Prerequisite: MATH 104, MATH 125 or MATH 130 with a grade of "C" or higher, or by placement. Not open to students with credit for MATH 148 or MATH 150. Meets general education requirement for the AA degree for a student planning to transfer to a business college at a four-year university.

MATH 131 Mathematical Analysis for Business II (A,W,SP,SU) **5-0-5**
An introduction to finite mathematics; matrices; determinants; linear programming; simplex method: interpretation of graphs; applications. A TI-82/83 graphing calculator is required. Lab fee: $1.08. Prerequisite: MATH 130, MATH 131 or MATH 148 with a grade of "C" or higher, or permission of Mathematics Department. Not open to students with credit for MATH 151. Meets general education requirement for the AA degree for a student planning to transfer to a business college at a four-year university.

MATH 132 Business Calculus (A,W,SP,SU) 5-0-5
An introduction to differential and integral calculus: Limits, continuity, derivatives, curve sketching, anti-differentiation, definite integrals, the fundamental theorem of calculus, area, and calculus applications for business and economics. A TI-82/83 graphing calculator is required. Lab fee: $1.00. Prerequisite: MATH 131, MATH 132 or MATH 151 with a grade of "C" or higher. Meets general education requirement for the AA degree for a student planning to transfer to a business college at a four-year university. Not open to students with credit for MATH 152.

MATH 135 Elementary Statistics (A,W,SP,SU) **5-1-5**
Descriptive statistics; percentiles and z-scores; probability; binomial and normal distributions; Central Limit Theorem; sampling statistics; statistical inference, estimation: testing hypothesis; linear correlation and regression. Microcomputers will be used. A TI-82/83 graphing calculator is required. Lab fee: $35.00. Prerequisite: MATH 103 with a grade of "C" or higher, or by placement. Not open to students with credit for MATH 233. Meets basic related requirements for several AAS Degree technical programs.

MATH 147 Trigonometry Module (A,W,SP,SU) **1.2-0-1.2**
Right triangle and unit circle trigonometry is studied along with related trigonometric applications. A TI-82/83 graphing calculator is required. Calculators that can do symbolic manipulations are not allowed. Prerequisite: Permission from the Mathematics Department Chairperson. This module is intended to prepare students who have an adequate algebra background but lack the necessary trigonometry to succeed in Physics 117, Physics 181, or Physics 183.

MATH 148 College Algebra (A,W,SP,SU) 5-0-5
The concept of function is used to analyze quadratic, higher degree polynomial, and rational functions. The function concept is applied to solving related equations and inequalities. Right triangle and unit circle trigonometry is included, along with related triangle applications. Conic sections are defined and analyzed. ATI-82/83 graphing calculator is required. Calculators that can do symbolic manipulations are not allowed. Lab fee: $100. Prerequisite: MATH 104 or MATH 111 with a grade of "C" or higher, or by placement. Meets general education requirement for AA degree. Not open to students with credit for MATH 150 and above.

MATH 150 PreCalculus (A,W,SP,SU) 5-0-5
A continuation of the study of functions, including the exponential, logarithmic, and trigonometic functions; triangle trigonometry, analytic trigonometry; applications of trigonometry; the trigonometric form of complex numbers; vectors; parametric equations; and polar coordinates. A TI-83/83 graphing calculator is required. Calculators that can do symbolic manipulations are not allowed. Lab fee: $1.000. Prerequisite: MATH 148 with a grade of "C" or higher. Meets general education requirement for AA degree. Not open to students with credit for MATH 151 or above.

MATH 151 Calculus and Analytic Geometry I (A,W,SP,SU) **5-0-5**
An introduction to differential calculus: functions; limits, continuity, derivatives, differentiation rules, derivatives of the trigonometric functions, related rates, extrema, curve sketching, optimization, antiderivatives; applications to problems in science and engineering. Lab fee: $1.000. Prerequisite: MATH 113 or MATH 150 with a grade of "C" or higher, or permission of the Mathematics Department. Meets general education requirement for AS and AA degrees.

MATH 152 Calculus and Analytic Geometry II (A,W,SP,SU) 5-0-5
Introduction to integral calculus: definite integral, area under a curve, fundamental theorem of calculus, integration of exponential, logarithmic, trigonometric, inverse trigonometric, and volume and surface area of solids of revolution, arc-length, and methods of integration. Applications to problems in science and engineering. Lab fee: $1.00. Prerequisite: MATH 151 with a grade of "C" or higher. Meets general education requirement for AS and AA degrees.

MATH 153 Calculus and Analytic Geometry III (A,W,SP,SU) **5-0-5**
Continuation of differential and integral calculus: L'Hopital's Rule and indeterminate limits, improper integrals, infinite sequences and series, conic sections, plane curves and polar coordinates, vectors in the plane and in space, and analytic geometry in space. Applications to problems in science and engineering. Lab fee: $100.. Prerequisite: MATH 152 with a grade of "C" or higher. Meets general education requirement for AS and AA degrees.

MATH 233 Statistics for Business (A,W,SP,SU) **5-I-5**
Numerical and graphical descriptions of sample data; measures of central tendency and dispersion; probability; Bayes' Theorem; the binomial, Poisson, uniform, exponential, and normal distributions; sampling distributions, the Central Limit Theorem. Applications to the business sciences. Microcomputers will be used. Lab fee: $35.00. Prerequisite: MATH 132 or MATH 152 with a grade of "C" or higher. Meets general education requirement for AS and AA degrees.

MATH 254 Multivariable Calculus (A,W,SP,SU) 5-0-5
Introduction to multivariable calculus; vector valued functions and motion in the plane and in space, functions of several variables, partial derivatives, directional derivatives, gradients, extrema, multiple integrals, line integrals and Green's Theorem; applications to problems in science and engineering. Lab fee: $1.00. Prerequisite: MATH 153 with a grade of "C" or higher. Meets general education requirement for the AS and AA degrees.

MATH 255 Elementary Differential Equations I (A,W,SP) **5-0-5**
A study of the basic concepts and methods of solving ordinary differential equations, first and second order, higher order linear equations, Laplace transform methods, series solutions, and numerical solutions of differential equations. Applications to the physical sciences and engineering. Lab fee: $100.. Prerequisite: MATH 153 or MATH 254-with a grade of "C" or higher. Meets general education requirements for AS and AA degrees.

MATH 256 Elementary Differential Equations II (W,SP,SU) **5-0-5**
Partial differential equations; boundary value problems; Bessel Functions; orthogonality relations; Fourier series; vibrating string; steady state heat; LaPlace transforms; with applications. Lab fee: $1.00. Prerequisite: MATH 255 with a grade of "C" or higher. Meets general education requirements for the AS and AA degrees.

MATH 266 Discrete Mathematical Structures (A,W,SP,SU) **5-0-5**
Mathematical formalization and reasoning; logic; Boolean algebra: sets, relations, and functions; recursive definitions; mathematical induction; probability theory and counting principles. Lab fee: $1.00. Prerequisite: MATH 152 with a grade of "C" or higher. Meets general education requirements for the AS and AA degrees.

MATH 268 Elementary Linear Algebra (W,SP) 5-0-5
Linear systems, matrices, and determinants; vector spaces, R^N and its subspaces; Eigenvalues, Eigenvectors, and applications; orthogonal matrices; linear transformations; and complex scalars; with applications. Lab fee: $1.00. Prerequisite: MATH 254 with a grade of "C" or higher, or permission of Mathematics Department. Meets general education requirement for the AS and AA degrees.

MATH 290 Capstone Experience in Mathematics (On Demand) 2-2-3
A capstone course focusing on Mathematics. Paradigms and their underlying assumptions will be explored. Students will work on developing research techniques and methodologies. Students will apply these techniques to a project of their own design, complete a personal portfolio covering their studies at Columbus State, and participate in summative testing of their academic skills. Open only to Associate of Arts or Associate of Science students preparing to graduate within two academic quarters. Lab fee: $10.00.

Mechanical Engineering Technology (MECH)

MECH 110 Introduction to Manufacturing Technology (A,SU) 2-3-3
This course is designed to introduce the beginning student to the Engineering Technology and basic engineering practices such as drafting, engineering procedures, calculations, terminology, symbols, publications, and professional societies. Emphasis will be placed on manufacturing organizations, employment opportunities and career paths to jobs in the engineering technology professions. Prerequisites: MATH 102 and ENGL 100.

MECH 111 Manufacturing Processes (A,SU) 3-2-4
This course is designed to be an introduction to basic manufacturing processes and techniques used in American industry today. The topics to be covered fall into three general categories: 1) manufacturing materials; sources and usage; 2) metals; extraction, and refining; 3) production processes; machining, forming, molding. Lab fee: $5.00.

MECH 112 Computer Applications in Manufacturing 2-3-3
An introductory course for Mechanical Engineering Technology students. The course covers knowledge required for successful studies in CAD, CAM, and other computer programming coursework in the Mechanical program. Computer terminology relating to all computers is covered as well as a history of the development of computer hardware and operating system software. Disk operating systems past and present and significant exploration into current operating systems is presented. Lab fee: $10.00.

MECH 120 Mechanical Drafting I (W,SU) **1-5-3**
This course is designed to instruct students in the principles of orthographic, isometric, and oblique projection. Instruction is provided on linework, lettering, dimensioning, sectioning, and applied descriptive geometry. Course focus is placed on making detail drawings. Lab fee: $10.00. Prerequisite: MECH 110.

MECH 130 Statics (SP,SU) 2-3-3
This course deals with the principles of busses, frames, machines and machine components. The course will offer the student experience in dealing with coplanar load systems that are concurrent, parallel and noncoplanar. Prerequisites: MATH 112 and PHYS 181.

MECH 131 Hydraulics (SP,SU) 2-3-3
This is a course designed to instruct students in the basics of fluid flow and power transmission in hydraulically and pneumatically controlled machines. This course will emphasize the principals of system design and practical uses of hydraulic and pneumatic components for industrial applications. Much of the course is involved in practical lab exercises to demonstrate basic operating principles including piping, pumps, cylinders, and motors. Lab fee: $10.00. Prerequisite: MATH 102 or equivalent

MECH 240 Machine Tools (A,SU,) 2-6-4
This course features hands-on operation of mills, lathes, shapers, grinders, and electronic discharge machine in addition to instruction on safety practices and related theory needed for operating these tools. Additional instruction will be given on cutting tool materials and geometry, feeds and speeds, machining times, gear cutting, and associated bench practices. Lab fee: $20.00. Prerequisite: MECH 110.

MECH 241 Mechanical Drafting II (A) **1-5-3**
This course is a continuation of MECH 120, including advanced drafting practices, industrial standards, and the drawing of machine elements. Lab fee: $10.00. Prerequisite: MECH 120.

MECH 242 Strength of Materials (A,SU) 2-3-3
This course is a study of the application of external loads to rigid bodies and the analysis of the resulting stresses produced within those bodies. Study will be devoted to thermal expansion, bolted, and welded joints, thin walled pressure. vessels, beam stresses and deflection, beam design, column stresses, and column design. Prerequisite: MECH 130.

MECH 243 Robotics (A) 2-3-3
This course reviews robotic system approach principles, descriptions of robot operations, and application of robots and automation systems. Approaches to economic justification of robots and automatic production systems is presented. Students learn the application of computers to robotics and automation systems. Course provides procedures in designing, purchasing, and installation of robotic and automatic systems. Lab fee: $10.00. Prerequisites: MECH 112 and MATH 111.

MECH 244 Statistical Process Control (W,SP) 2-3-3
This course provides a broad overview of statistical process control practices in the industrial environment. This course includes presentation of the philosophy and practices of modern quality control principles, basic probability, control chart applications, acceptance sampling, frequency distributions, and process capability studies. Prerequisite: Placement into MATH 103 or higher; QUAL 240.

MECH 250 Materials Science (W) 2-3-3
This is a course that will acquaint the engineering technician with the nature, properties, performance, characteristics and practical uses of various engineering materials. Materials such as ferrous and nonferrous metals as well as concretes, plastics, and selected organic materials will be covered. Lab fee: $10.00. Prerequisite: Placement into MATH 102 or higher.

MECH 251 Computer Aided Drafting I (W,SP) **1-5-3**
Introduces students to the basic terminology and fundamental concepts of computer aided drafting. Presents commands and functions applicable to all computer aided drafting systems. Students apply this knowledge to generate orthographic and other two-dimensional mechanical drawings. Lab fee: $20.00. Prerequisites: MECH 112 and MECH 120.

MECH 252 Computer Programming for Technicians (W) **1-5-3**
A course designed to instruct students in the use of QBasic in solving engineering problems. Students will design, flowchart, code, compile, and debug programs in this course. Lab fee: $10.00. Prerequisites: MECH 112 and placement into MATH 103 or higher.

MECH 253 Numerical Control (W) **1-5-3**
This course is designed for the beginning student and covers manual numerical control programming. Each student will prepare numerical control programs in fixed block, tab sequential, and word address formats, in both absolute and incremental positioning systems. Students will program for state-of-the-art computerized numerical control equipment including mills and lathes. Each student will prepare programs utilizing punched paper tape and magnetic media on computerized equipment. Lab fee: $15.00. Prerequisite: MATH 112 and MECH 240.

MECH 260 Basic Mechanisms (SP,SU) 2-4-4
Graphical and mathematical study of displacement, acceleration, and velocity of typical mechanisms, including mechanical linkages, cams and followers, gears and gear trains. Lab fee: $6.00. Prerequisites: MATH 112 and MECH 120.

MECH 261 Machine Design (SP,SU) 2-6-4
The course integrates the principles of design applied to projects involving tooling, jigs, and fixtures, power transmission. Theory is presented with practical applications to promote understanding of mechanical systems. Emphasis is on practical industrial applications. Lab fee: $15.00. Prerequisites: MECH 131, MECH 241, MECH 242 and EET 102.

MECH 262 Computer Aided Drafting II (SP,Su) 1-5-3
This course is an extension of MECH 251. Coarse includes the study of practical applications of computer graphics with isometric and two and three dimensional drawing and solids modeling techniques to graphically solve mechanical related problems and to produce mechanical drawings. Lab fee: $20.00. Prerequisites: MECH 251 and MECH 241.

MECH 263 Computer Aided Manufacturing (SP) 2-6-4
This course provides the manual Numerical Control programmer with an understanding of the basic fundamentals of computer aided manufacturing including instruction in the APT and EZ-CAM computer aided manufacturing language and flexible manufacturing systems. Lab fee: $15.00. Prerequisites: MECH 251, MECH 252 and MECH 253.

Medical Assisting Technology (MAT)

MAT 100 Introduction to Medical Assisting (A,SP) **1-2-2**
This course provides an overview of the medical assisting profession. Topics to be presented include the roles and responsibilities of a medical assistant in different environments, medicolegal issues, and professional organizations. Lab fee: $25.00. Prerequisite: Acceptance into program. Concurrents: BIO 101 and MULT 101.

MAT 110 Clinical Procedures (W,SU) 3-3-4
This course introduces the student to common clinical procedures routinely performed in physician's offices. Lab fee: $25.00. Prerequisite: MAT 100). Concurrents: MAT 112, MULT 102 and HIMT 121.

MAT 112 Diseases of the Human Body (W,SU) 3-0-3
This course focuses on human diseases that are frequently first diagnosed or treated in the medical office or clinical setting. Consideration as to what disease is, how the physician might diagnose and treat disease, and the likely consequences of the disease for the person experiencing it are included. Specific areas discussed are disease process, infectious diseases, neoplasms, and congenital diseases, the coverage of major conditions as organized by body system. Prerequisite: BIO 101.

MAT 120 Office Procedures (A,SP) 3-3-4
This course introduces the student to the administrative aspects of the medical office through both theoretical and practical presentations. Topics to be covered include: communications, computer concepts, medical records management, screening and processing mail, scheduling and monitoring appointments, operating office equipment and managing practice finances. Also included is a medical office software package. Students will complete simulations of medical computer programs. Lab fee: $25.00. Prerequisite: MCT 106.

MAT 130 Pharmacology (A,SP) 3-3-4
This course is an introduction to the pharmacology of commonly used drugs. Topics to be covered include procedures for administering drugs, components of a prescription and drug actions and uses. The laboratory section will include demonstration, technique and theory of administration of medications in the medical office setting; included will be intradermal, subcutaneous, and intramuscular routes as well as oral, topicality, sublingual, vaginal and rectal administration. The principals of recording medications in the medical record are also covered. Concurrent: MATH 100.

MAT 140 Physician's Office Laboratory (A,SP) 3-3-4
This course is designed to provide the student with an overview of the procedures utilized to collect and process specimens in a physician's office setting. Emphasis is placed on methods of collections, processing of specimens and quality control. Additionally, the student is introduced to the microscope, minor surgery in the medical office, radiological procedures, the process of the capillary puncture, urinalysis, blood typing, microbiology procedures and understanding the normal ranges and the various laboratory reports. Lab fee: $25.00. Prerequisites: MAT 110 and MULT 116.

MAT 190 Practicum I (W,SU) **0-7-1**
Practical experience in a physician's office combining the administrative and clinical aspects of patient care. under the supervision of a licensed physician or certified medical assistant. Students will be placedinto various health care facilities. Lab fee: $25.00. Prerequisite: MULT 108. Concurrent: MAT 140.

MAT 192 Practicum II (W,SU) 0-14-2
A continuation of Practicum I with students gaining additional experience in health care facilities. Lab fee: $25.00. Prerequisite: MAT 190.

MAT 195 Seminar 2-0-2
Group discussion of topics related to practicum experiences as well as current trends and topics in the medical assisting profession. Students will also be responsible for projects and simulations of daily medical office activities. Prerequisite: MAT 192.

Medical Laboratory Technology (MLT)

MLT 100 Introduction to Health Care (A,W,SP,SU) 2-2-3
This course is designed to provide the student with an overview of the structure. and organization of the current health care system. A variety of campus and community resources will be utilized to investigate various allied health professions. The student will be exposed to actual clinical settings and have the opportunity to meet with practicing professionals in their areas of interest. Topics to be covered include: professional standards of behavior, legal and ethical issues, communication skills, and safety standards necessary in health care setting. Lab fee: $15.00. Prerequisite: Placement into ENGL 101.

MLT 120 Role and Responsibility of the MLT (W,SU) l-2-2
This course will provide an in-depth examination of the role and responsibilities of the MLT as an important professional in the delivery of quality health care. Discussions will include such topics as professionalism, the general organization and operational activities of a clinical laboratory, and career opportunities for MLT graduates. Students will be exposed to actual clinical settings and meet with practicing laboratory personnel. In addition, students will be introduced to basic laboratory equipment, specimen processing techniques, the application of laboratory math, and the techniques of phlebotomy. Prerequisites: MLT 100 and MLT 141.

MLT 130 Immunology (W,SU) **3-4-5**
A study of the immune system, the nature of immune responses, and the application of immunological reactions to a variety of laboratory procedures. Emphasis is placed on the commonly performed serological tests. Also included are discussions of the etiology and diagnosis of immunologically mediated diseases. Upon successful completion of this course the student will be able to perform the routine serological tests during clinical experience. Lab fee: $80.00. Prerequisite: MLT 141. Concurrent: MLT 120.

MLT 141 Hematology I (A,SP) **3-9-6**
An introduction to basic laboratory skills, and the origin, formation, and differentiation of blood formed elements. Included are techniques in counting red cells, white cells, platelets (by both manual and automated methods), reticulocytes, eosinophils, and the preparation and study of normal blood smears. Lab fee: $80.00. Prerequisite: Admission to the program.

MLT 180 Special Topics in Medical Laboratory (A,W,SP,SU) **1-0-1**

MLT 181 Special Topics in Medical Laboratory (A,W,SP,SU) **2-0-2**

MLT 182 Special Topics in Medical Laboratory (A,W,SP,SU) 3-0-3
These courses are independent studies of advanced topics in laboratory management, instrumentation, computerization, hematology, immunology, immunohematology, microbiology, clinical chemistry, urinalysis, coagulation or phlebotomy. Prerequisite: Permission of Coordinator.

MLT 220 Immonohematology (A,SP) **4-12-8**
This course is designed to teach students to perform, according to American Association of Blood Banks (AABB) standards, the routine serological procedures used in any transfusion service or blood bank. Stress is placed on the performance of pretransfusion testing and the recognition of the presence of serological imcompatibilities in a patient's specimen. Students will be introduced to the techniques used in the resolution of the most commonly encountered serological difficulties. Class discussions will also include donor blood collection and processing for component therapy, blood transfusion practices, adverse affects of blood transfusion, investigation of transfusion reactions, and fetal-maternal blood incompatibilities. Upon successful completion of this course, the. students will be able to perform the routine pretransfusion procedures during clinical experience. Lab fee: $80.00. Prerequisite: MLT 130 or permission of Coordinator. Open to Medical Laboratory Technology students only.

MLT 240 Hematology II (W,SU) 3-6-6
This course builds on the routine Hematology procedures covered in Hematology I. Blood smears are prepared and studied for the identification of blood cells which aid in the diagnosis of anemias, leukemias, hemoglobinopathies, and other disease states. Also included is the study of coagulation and the routine procedures used to evaluate hemostasis. Upon completion of this course. the student will be able to perform routine hematology procedures during clinical experience. Lab fee: $80.00. Prerequisites: MLT 141 and previous technical courses. Concurrent: MLT 242.

MLT 242 Body Fluids (W,SU) **l-3-2**
The physical, chemical, and microscopic evaluation of urine and other nonblood body fluids will be studied. Phlebotomy procedures will also be presented through demonstration and practice sessions. Prerequisites: Previous technical courses. Concurrent: MLT 240.

MLT 244 Medical Laboratory Case Studies **l-3-2**
This course. provides students with the opportunity to review major technical areas of the curriculum. It is a capstone course in which students demonstrate their abilities to complete work assignments and examinations in each of the major laboratory sections. Students take examinations similar to the Registry Exam and must meet minimum scores. Prerequisite: All technical courses.

MLT 250 Clinical Microbiology (W,SU) **4-12-8**
A practical introduction to the laboratory identification of microbial agents associated with disease in man. Students will be instructed in the techniques necessary to isolate, identify, and evaluate the presence of clinically significant microorganisms. The course also includes a brief introduction into medical mycology and parasitology. Students who successfully complete this course will be able to perform routine clinical microbiology procedures and evaluate test results in clinical experience. Lab fee: $80.00. Prerequisites: BIO 115 and previous technical courses.

MLT 260 Clinical Chemistry (A,SP) 3-9-6
This course is a study of the application of biochemistry to laboratory medicine and the understanding of the human in health and disease. Analytical procedures utilized to determine chemical constituents in blood, urine and other body fluids will be. presented. The chemical principles of the methods will be discussed as well as the correlation of test results as indicators of presence or absence of disease. Students who successfully complete clinical chemistry will be able to perform routine clinical chemistry procedures and evaluate test results in clinical experience. Lab fee: $80.00. Prerequisites: CHEM 113 or CHEM 111 and previous technical courses.

MLT 270 Clinical Experience 0-25-5
Practical experience in area health care. facilities in which students are given the opportunity to practice in a laboratory setting under the guidance of laboratory professionals. Students will be placed in one of several clinical affiliates within an approximate 60 mile radius of Columbus. Students will be required to provide their own transportation. Lab fee: $45.00. Prerequisite: all technical courses. Concurrent: MLT 271.

MLT 271 Clinical Seminar 2-0-2
Informal seminar course covering topics specific to working in a medical laboratory including interpersonal skills, resume writing, employer expectations and activities to prepare students for credentialling examinations. Concurrent: MLT 270.

Medical Office Admin. Major

(See Office Administration Technology)

Mental Health/Chemical Dependency/Mental Retardation Technology (MHCR)

MHCR 101 HIV/AIDS in Human Service Practice 4-0-4
This is an introductory course covering HIV/AIDS as an epidemic, its origins, disease progression, medical information, drugs and treatment, psychosocial factors affecting the patient, caregivers and professionals, ethical and legal considerations impacting the patient and others, and the role of human service professionals in helping clients and families. Students will be exposed to cultural sensitivity issues of race, ethnicity and sexual orientation. Psychosocial stages of the disease will be explored with the focus on the role of the human service worker. Lab feel $4.00. Prerequisites: SSCI 101 and MHCR 191.

MHCR 111 Introduction to Human Services: Mental Retardation/Developmental Disabilities/ Chemical Dependency and Mental Health (A,W,SP) 4-0-4
This is an introductory course covering terminology, history, assessment, legal rights, classifications, normalization, community based treatment, medical vs. a human services model and community resources in relation to mental retardation/developmental disabilities chemical dependency and mental health. Students will develop a basic understanding of the needs of those persons with MR/DD, mental health and chemical dependency issues/problems. The student will also visit community agencies serving the MR/DD/MH/CD populations. Beginning concepts related to working with families of persons with disabilities are also covered. Lab fee: $4.00. Prerequisite or concurrent: Completion of DEV 031, PSY 100 and ENGL 101.

MHCR 113 Values and Attitudes **0-2-1**
This course focuses on the values, beliefs, attitudes and ethical standards necessary in the workplace. Values clarification and self exploration are an integral part of the course. Conducted through a small group experience to facilitate interpersonal understanding. Lab fee: $4.00. Prerequisites or concurrents: Completion of DEV 031, PSY 100 and ENGL 101.

MHCR 115 Interviewing in Human Services 2-2-3
This introductory course focuses on the development of basic interviewing, rapport building and active listening skills for the beginning student. The student will gain a beginning understanding of the process and principles in establishing effective helping relationships using observation and behavioral writing. Lab fee: $10.00. Prerequisite: Completion of DEV 031. Prerequisites or concurrents: PSY 100 and ENGL 101.

MHCR 131 Principles of Behavior Management 4-0-4
This core course focuses on behavior management theory and application of positive. approaches with a varied client population. This course will reinforce data collection, behavioral analysis, and treatment planning skills. Lab fee: $4.00. Prerequisite: MHCR 191.

MHCR 133 Case/Program Management 4-0-4
This core course is designed to coordinate a clinical experience with (classroom) focus on case management services. Various treatment modalities are presented. The student will practice the skills necessary to conduct effective case management services within a community treatment model. Lab fee: $4.00. Prerequisites: MHCR 111, MHCR 113 and MHCR 115.

MHCR 191 Fundamentals in Human Service Practice **6-14-8**
This is a core course which focuses on the planning process for delivering service to clients which is studied through the steps of data collection, assessment, treatment planning, implementation, and evaluation. The student will become knowledgeable in specific methods to collect data, assess and prioritize client needs, devise treatment plans, implement the treatment plan, and evaluate the effectiveness of the plan. The student will observe and participate in the delivery of service to clients at an agency which provides a range of services. The students will also practice basic skills under close supervision. Lab fee: $30.00. Prerequisites: MHCR 111, MHCR 113 MHCR 115, PSY 100 and ENGL 101.

MHCR 241 Counseling Skills 4-0-4
This core course. focuses on the theoretical and practical aspects of effective helping through the counseling relationship. Skills which form the foundation of effective communication using a microtraining model are emphasized. Critical thought and creativity is stressed. Coarse content includes practicing skills in small study groups, and in role play/simulations, Lab fee: $4.00. Prerequisites: MHCR 191, ENGL 102 and PSY 240.

MHCR 243 Adjunctive Therapy 4-0-4
This course offered as a part of the Mental Health and Mental Retardation track, is designed to provide the student with knowledge of key concepts and specific skills using activities as the tool in helping relationships. The student is exposed to the use of a variety of adjunctive therapies as it facilitates gathering data, assessment and treatment planning for clients. Lab fee: $4.00. Prerequisites: MHCR 191, ENGL 102 and PSY 240.

MHCR 245 Chemical Dependency I 4-0-4
This is a course in the Chemical Dependency track designed to give the student skills in assessing and treating chemical dependency, co-dependency, and other addictions. The course will acquaint the student with philosophies of addiction, assessment processes, treatment planning and intervention strategies with the chemical dependent person. It provides an introduction to the effects of chemical dependency on family systems and identifies family treatment strategies. The course addresses the special issues concerning minority groups, elderly, women and youth. The student will be exposed to various community resources, discharge planning, and will be assisted in identifying their own issues and connecting with a 12 step recovery plan. Lab fee: $4.00. Prerequisites: ENGL 102, PSY 240 and MHCR 191.

MHCR 251 Social Policy and Programs 4-0-4
Social policy and its relationship to the work of the human services professional. An overview of U.S. social welfare institutions: family, church, government, and economical institutions is presented. This second level course examines social welfare policies/programs at national, state, and local levels in areas of housing, health care, and income maintenance. Agency analysis and social action for social change model is emphasized. Lab fee: $7.00. Prerequisites: MHCR 191 and ENGL 102.

MHCR 253 Therapeutic Group Work Skills 4-0-4
This course offered as a part of the Mental Health and Chemical Dependency tracks, is dual focus on knowledge and experiential leaning using group as the unit of attention. Course content includes formation, process, stages of development, leadership skills and problematic issues of inpatient and outpatient groups. The student will participate as a member in a peer group to compliment classroom theoretical constructs. Lab fee: $4.00. Prerequisite: MHCR 241 and ENGL 102. Concurrent: MHCR 295.

MHCR 255 Principles of Habilitation Programming 4-0-4
An advanced course in the Mental Retardation track designed to utilize and focus previous learning into components of habilitation programming for persons with mental retardation and developmental disabilities. The student will learn current philosophical and technical approaches to designing activities. Various implementation strategies will also be presented. The student will review and practice the skills necessary to participate in the habilitation process. Lab fee: $4.00. Concurrent: MHCR 294.

MHCR 263 Job Coaching/Principles of Work **4-0-4**
An advanced course in the Mental Health and Mental Retardation tracks designed to focus on principles of work training. The student will learn the components of vocational rehabilitation and job training approaches. The student will practice the skills necessary to provide effective job training for people with disabilities. Lab fee: $4.00. Concurrent: MHCR 297.

MHCR 265 Chemical Dependency II 4-0-4
This is an advanced course in the Chemical Dependency track designed to provide the student with the knowledge and skills to collect assessment data, develop treatment plans, do interventions with family/significant others, write discharge summaries and link chemical dependency clients to community resources. Course content will also emphasize issues related to the dual diagnosed chemical dependent client. The student will become a member of a chemical dependency unit/agency treatment team. Lab fee: $4.00. Prerequisites: MHCR 241, MHCR 245 and MHCR 253. Concurrent: MHCR 296.

MHCR 274 and 284 Special Studies in MH/CD/MR (On Demand) 4-0-4
These two courses are designed to meet specific needs of students who wish to pursue in-depth training in the MH/CD/MR/DD field. Typical subject areas may include theory and skills in helping chemically dependent, severely mentally disabled, 'dual diagnosed', or persons with mental retardation/developmental disabilities. Instructional methods may include clinical experience, seminar format, field placement, lecture, research, videotape and role play. Lab fee: $10.00.

MHCR 292 Field Practicum in Adjunctive Therapy **2-14-4**
This is one of several clinical experiences designed to give the trainee a broad overview of modalities of delivery of MH/MR services using activity as the tool in assessment and treatment planning. This experience gives the trainee an opportunity to observe all components of a facility which provides a range of services, and to practice basic skills under supervision. Lab fee: $30.00. Prerequisites: MHCR 191 and ENGL 102. Concurrents: MHCR 243.

MHCR 293 Field Practicum in Chemical Dependency I **2-14-4**
This is a required clinical experience for the student specializing in Alcohol/Drug Dependency. The training needs of the student are matched to the community agency. The student has had training in the fundamental skills requisite to being an effective helper. The student plans an extended placement of two consecutive quarters in a primary treatment setting to become involved in on-going work with chemically dependent clients. Lab fee: $30.00. Prerequisites: MHCR 191 and ENGL 102. Concurrent: MHCR 245.

MHCR 294 Field Practicum in Habitation Programming **2-14-4**
A clinical experience for the student, specializing in the Mental Retardation/Developmental Disabilities track, which takes place in a community agency matching the student's interest and training needs. The student will use basic skills of habilitation programming. The student will work in the capacity of a habilitation specialist and is responsible for professional conduct and regular work hours. Lab fee: $30.00. Concurrent: MHCR 255.

MHCR 295 Field Practicum in Group Work **2-14-4**
This is a clinical experience for the student in the Mental Health and chemical Dependency tracks. The student will lead and/or co-lead a group using skills learned in the classroom. The student will assume the role of service provider and demonstrate professional conduct. Lab fee: $40.00. Concurrent: MHCR 251.

MHCR 296 Field Practicum in Chemical Dependency II **2-14-4**
This is an advanced clinical experience for the student who has chosen to work in the alcohol/drag dependency field. The student will be responsible for collecting data, making assessments and developing treatment plans, doing intervention with family/significant others of the chemical dependent client. Lab fee: $30.00. Concurrent: MHCR 265.

MHCR 297 Field Practicum in Job Coaching **2-14-4**
A clinical experience for the student specializing in mental health/mental retardation which takes place in a community agency matching the student's interests and training needs. The student has a solid grounding in the fundamental skills requisite for being a vocational trainer. The student is expected to assume the role of service provider and is responsible for professional conduct and regular work habits. Lab fee: $30.00. Concurrent: MHCR 263.

Microcomputing Technology (MCT)

For other required and elective courses in this curriculum see Computer Programming Technology and Office Administration Technology.

MCT 091 Computer Concepts **1-0-l**
This one-credit-hour course provides students with an introduction to computer technology, computer hardware and software, and how computers can be used to produce meaningful information.

MCT 094 Internet Basics **1-0-l**
This one-credit-hour course provides students with an introduction to the Internet. Students will learn how to find information and explore the World Wide Web using Netscape Navigator.

MCT 095 Introduction to Windows 95 **1-0-l**
This one-credit-hour course is an introductory course on the Windows 95 operating system. The objective of the course is to teach fundamental skills in working with the Desktop, Drives, Folders, Files, and Applications.

MCT 096 Information Presentation **1-0-l**
This one-credit-hour course is an introductory course teaching the fundamentals of creating and enhancing a presentation using Power Point.

MCT 097 Introduction to Database **l-0-1**
This one-credit-hour course introduces the student to creating, modifying, and enhancing a Database using Access.

MCT 098 Introduction to Spreadsheets **1-0-l**
This one-credit-hour course teaches the student how to create a Worksheet, modify a Worksheet and work with Charts using Excel.

MCT 099 Introduction of Word Processing **1-0-l**
This one-credit-hour course gets the student started with Word for Windows creating and editing a document, formatting a document, and arranging text and graphics.

MCT 106 Computer Literacy 2 (A,W,SP,SU) 2-2-3
A continuation of CPT 101. This course will introduce the non-computer programming majors to software application packages for word processing, spreadsheets, database management and presentation graphics for the PC. Hands-on experience in the microcomputer lab is emphasized to allow the student to acquire skills which will enable the use of the software mentioned above. Note: This course is not open to students in the Computer Programming Technology. Lab fee: $20.00. Prerequisite: CPT 101.

MCT 121 PC Operating Systems (A,W,SP,SU) 2-3-3
This course covers an overview of operating systems used with microcomputer systems. Students will learn to use MS/PC-DOS, Windows and other related operating systems. Lab fee: $25.00. Prerequisites: CPT 101 and MATH 102.

MCT 131 Advanced Spreadsheets (A,W,SP,SU) 2-3-3
A continuation of spreadsheets from MCT 106. Basic functions are reviewed and advanced features and formats are presented including the use of graphics and macros. Lab fee: $25.00. Prerequisites: MCT 106, MCT 121 and MATH 102. Not open to Computer Programming Technology students.

MCT 141 Advanced Database Systems (A,W,SP,SU) 2-3-3
This course presents an overview of Database software, including file creation, screen and report generators. Not open to students in Computer Programming Technology. Computer Programming Technology students should take CPT 221 and CPT 225 instead. Lab fee: $25.00. Prerequisite: MCT 106 and MCT 121.

MCT 205 Page Design and Electronic Publishing 2-3-3
Learn to create effective, high-impact publications and Web sites. Activities create awareness of design and layout by developing brochures, newsletters, flyers, business forms, business cards, logos, and more using Microsoft Publisher software. Lab fee: $25.00. Prerequisites: MCT 106 and MCT 23 1.

MCT 211 Information Presentation (A,SP) 2-3-3
A continuation of information presentation from MCT 106. This course presents how computer graphics are used to communicate information effectively. Computer lab assignments include chart format and data content. Students will learn how to create pie, line, area, multiple, text, and organization charts. The student will integrate these skills into a computerized slide show, working in small groups to develop a persuasive presentation. Lab fee: $25.00. Prerequisite: MCT 131.

MCT 215 Micro Fundamentals (A,SP) 2-3-3
This is the capstone course for the PC Hardware/Software Installation & Maintenance Certificate which focuses on maintaining, troubleshooting, and upgrading PCs. Discussion is focused on emphasizing the analysis and design of PC systems as well as installation of expansion cards, hard drives, video cards, memory upgrades, loading drivers, disk maintenance, and loading application and system software. Lab fee: $25.00. Prerequisite: MCT 121.

MCT 221 Local Area Networks (A,W,SP,SU) 2-3-3
An introductory course on Local Area Networks (LANs). This course will explore the current technology available for LANs including both hardware and software. Lab fee: $25.00. Prerequisite: MCT 121 for Microcomputing Technology students, CPT 105 for Computer Programming Technology students.

MCT 231 Introduction to the Internet (A,W,SP,SU) **l-4-3**
An introductory course to the Internet. Students will learn how to: use electronic mail (email), to send and receive messages, find information on the Internet, explore World Wide Web (WWW) sites, transfer files, and create a simple home page. Hands-on experience using the Internet will be emphasized. An Internet email account is required. Lab fee: $10.00. Prerequisite: CPT 101, MCT 121 is recommended.

MCT 241 Intranet for Business Applications (A,W,SP,SU) 2-3-3
This course provides students with knowledge on the automation of office functions. The student will receive practical experience in document management (word processing and document filing/retrieving); electronic transfer of data (graphs &documents); and administrative support (time management, calendars, schedules, directory management and reminders). Lab fee: $25.00. Prerequisites: MCT 121 and MCT 106.

MCT 251 Introduction to Systems Analysis (W,SP) **2-3-3**
Covers basic concepts of systems analysis and design with an emphasis on small busines systems. Not open to students in the Computer Programming Technology. Computer Programming students should take CPT 211 and CPT 212 instead. Lab fee: $25.00. Prerequisite: MCT 141.

MCT 255 Integrated PC Applications (A,W,SP,SU) 2-3-3
This advanced course presents extensive integration tasks among programs, which enables users to combine documents of different types for the purposes of printing and transporting. It also covers high-level features in each application, including styles, headers, footers, and tables and high-level integration tasks, including updating, reconnecting and breaking links between documents; and embedding a Pivot Table in an electronic application. Lab fee: $25.00. Prerequisites: MCT 131, MCT 141, MCT 221 and OADM 192.

MCT 261 Introduction to Visual BASIC (W,SU) 2-3-3
Emphasizes building graphical user interfaces (GUI) from a microcomputing aspect. Students will use macros to call objects relating to business applications and integrate Excel and Access applications with visual Basic. Lab fee: $25.00. Prerequisites: MCT 121, MCT 131 and MCT 141.

MCT 265 Multimedia Concepts for the Internet (A,W,SP,SU) 2-3-3
This course extends concepts related to document design and presentation introduced in MCT 205 and MCT 211. This course will allow students to integrate multimedia concepts using scanners, color printers, video, CD-ROM, sound and Internet resources to enhance presentation materials. Lab fee: $25.00. Prerequisites: MCT 106, MCT 211, and MCT 231.

MCT 281 Final Project (A,WSP,SU) 2-8-5
This is the capstone course for the Microcomputing Technology. Students will work in small groups or individually to design and develop a typical business system. Not open to students in Computer Programming Technology. Computer Programming students should take CPT 281. Lab fee: $40.00. Prerequisite: MCT 251.

Multi-Competency Health Technology (MULT)

MULT 101 Medical Terminology (A,W,SP,SU) 2-0-2
This course includes the presentation of 350 medical terms using the Dean Vuagin system. Students are taught to spell, pronounce and define using an audionym technique.

MULT 102 Cardiopulmonary Resuscitation (CPR) (A,W,SP,SU) **1-0-l**
Cardiopulmonary resuscitation including early warning signs of heart attacks and stroke are taught. Students completing the course will be eligible for American Heart Association Certification Coarse C. Lab fee: $8.00. Offered as flexibly scheduled in one weekend.

MULT 103 Responding to Emergencies (A,W,SP,SU) **l-2-2**
Requirements for Red Cross Certification including artificial respiration, bleeding control, treatment of shock, and care of fractures are presented. Lab fee: $10.00.

MULT 108 Twelve Lead Electrocardiography **l-2-2**
This course provides students with theory and procedure for performing a twelve lead EKG. Discussion of the instrument and review of anatomy and physiology are included. Lab fee: $10.00. Prerequisites: Admission to a health and human services technology, CPR certification.

MULT 110 Basic Electrocardiography (EKG) (A,W,SU) 5-2-6
This course is designed to provide basic entry-level skills in cardiovascular technology. The course covers an introduction to health care, anatomy and physiology of the heart, operation of the electrocardiograph and recording of EKG's, cardiac pathology and basic cardiac rhythm recognition skills. Completion of the course qualifies the student to function as an EKG technician, a skill ordinarily utilized in an acute health care setting or physician's office. Lab fee: $20.00. Prerequisite: Placement into ENGL 101.

MULT 112 Identifying Cardiac Rhythms (A,SP) 2-0-2
This course provides students with the necessary information to correctly identify cardiac dysrhythmias, recognize potentially life threatening dysrhythmias and complications which may follow, along with appropriate treatment, cardiac anatomy, physiology, electrophysiology, monitoring equipment, lead placement, and steps in analyzing a rhythm strip are all addressed. Prerequisite: Permission of instructor.

MULT 114 Phlebotomy Practicum II (A,W,SP) **0-5-1**
This course is designed to be a continuation of MULT 115 by providing an additional 50 hours clinical phlebotomy experience and requiring an additional 50 successful collections. Phlebotomy Practicum II is designed for students who intend to be a professional phlebotomist and will be arranged individually during the first five weeks of the quarter. Lab fee: $10.00. Prerequisite: Completed health record.

MULT 115 Phlebotomy (A,W,SU) 3-9-6
Blood collection by both venipunctne and capillary puncture techniques, using various equipment are performed in class and in the hospital. Professional ethics and liability, composition and appearance of blood, safety, anticoagulants and clinical relevance of laboratory tests are studied. Problems encountered in phlebotomy, in addition to special specimen collection for transfusion services, blood cultures, coagulation tests, timed tests and the nursery are also reviewed. This course includes a 60 hour clinical experience in a Central Ohio health care facility. Lab fee: $45.00. Prerequisite: Completed health record.

MULT 116 Venipuncture for Health Care Providers **l-4-2**
Basic blood collection techniques using vacuum tubes and syringes will be covered and practiced in a laboratory and clinical setting. Emphasis is on basic skills, safety and infection control. Not open to students who have credit for MULT 114 and MULT 115 Lab fee: $20.00. Prerequisite: Completed health record and be enrolled in Medical Laboratory Technology.

MULT 117 Clinical Care Assistant (A,W,SP,SU) 2-2-4
The course combines two important patient care skills. The three venipuncture techniques, including vacuum tube, syringe and winged infusion set are blended with special procedures such as blood cultures, TDM, transfusion service collections, alcohol, drug screenings, and the various time- specific glucose specimen collections. Procedural considerations to obtain a quality laboratory specimen and the identification of problems in phlebotomy while minimizing BBP exposure and providing quality patient care are emphasized. The EKG component focuses on the theoretical content necessary to accurately perform a 12 lead- EKG, to place the leads in the optimum position and to be able to identify any recording problems and sources of error. This course includes both didactic and clinical components **and** requires the completion of 50 successful venipunctures and 30 accurate EKG recordings. Prerequisite: Complete MULT 127 or permission of instruction.

MULT 120 Nurse Aide Training Program (A,W,SP,SU) 5-Q-5
The Nurse Aide Training Program (NATP) is designed to instruct prospective long-team care nurse aides in preparation for State of Ohio testing. The 76 hour NATP course includes 60 hours of classroom and 16 hours of clinical preparation, which meets the requirements for nurse aide training in Ohio. Lab fee: $30.00. Prerequisite: Completed health record.

MULT 121 Nurse Aide to Home Health Aide (A,W,SP,SU) 2-0-2
This course will prepare students who have taken the Nurse Aide Training program to transition into home care and work as home health aides. Prerequisites: State Tested Nursing Aide or eligible.

MULT 122 Home Health Aide (A,SP) **4-1-5**
This course uses the curriculum published by the National Home Caring, 1990 Edition. This course contains a generic body of knowledge including home management and personal care information are presented through lecture and lab practicum hours. Lab fee: $20.00. Prerequisite: Completed health record.

MULT 123 Waived Laboratory Tests for Health Care Providers 2-2-3
Physician's Office Urinalysis is the study of the composition of mine and its clinical significance through physical properties, routine chemical tests and microscopic evaluation. This course is not tech- restricted and not intended for Medical Laboratory Students. Lab fee: $30.00. Prerequisite: Completed health record.

MULT 125 Information Processing Assistant in Health Service Org. 5-0-5
This course is designed to create the knowledge base necessary to permit an individual to function as an information processing assistant. The focus is on knowledge, comprehension, application, analysis, synthesis, and evaluation of the role of the information processing assistant in the health service organizations. Lab fee: $25.00.

MULT 126 Patient Care Skills I (A,W,SP,SU) 2-6-4
presentation of skills commonly used by patient care technicians in an acute care setting, utilizing both lecture and laboratory. Major topics include: wound care, specimen collection, airway care, oxygen administration, enteral tubes and elimination assistance. Lab fee: $25.00. Prerequisite: MULT 120.

MULT 127 Patient Care Assistant (A,SP,SU) 3-3-5
This course provides the student with knowledge and skills to function as a patient care assistant in an acute care facility. Lab fee: $30.00.

MULT 128 Patient Care Assistant (A,W,SP,SU) 3-3-5
This course provides the student with knowledge and skills to function as a patient care assistant in the Mount Carmel Health Systems. Lab fee: $30.00. Prerequisites: Nurse aid training or permission of the instructor.

MULT 129 Patient Care Skill: Rehabilitation Technique **3-3-4**
This course provides information and skills using safe, effective techniques in the care of mobility-impaired patients. Discusses the role of the physical therapy and nursing staffs use of the rapeutic modalities, patient positioning, patient transfer techniques, exercise, ambulation, and utilization of assistive and adaptive equipment for patients with impaired mobility. Lab fee: $6.00.

MULT 130 Acute Care Skills for Patient Care Assistants (A,W,SP,SU) **1-0-l**
This course provides the student with additional knowledge and skills to function as a patient care assistant in an acute care setting. Prerequisite: MULT 120.

MULT 131 Referral Strategies for Chronically Ill Clients **2-2-3**
This course introduces the student to the theory and rationale for appropriate referral of clients experiencing chronic physical health problems. The availability and accessibility of community resources for selected health problems will be presented.

MULT 133 Success Strategies for Patient Care Assistants (A,W,SP,SU) **2-0-2**
This course updates and enhances the knowledge and skills of patient care assistants in a hospital. Lab fee: $10.00. Prerequisites: Employed full-time during the previous year as a patient care assistant in a hospital.

MULT 142 Home Care Skills for Nurses (A,W,SP,SU) **2-2-3**
This course provides the student with appropriate adaptations of the skills and concepts traditionally used in the hospital care of patients that are now used in the home care setting. Lab fee: $25.00. Prerequisite: Permission of the instructor or nursing license.

MULT 143 Advanced Skills for Home Health Aides (A,W,SP,SU) **2-2-3**
This course will prepare the student to perform procedures in the home above the basic patient care skills. Prerequisite: Certified Home Health Aide State, Tested Nurse Aide.

MULT 153 Point-of-Care Testing **0-2-1**
Point-of-care testing or bedside testing, is intended to provide more rapid test results than is routinely possible with traditional laboratory settings. Application is particularly important in ICUs, emergency rooms, bedside in hospitals, home care, hospices and physician office laboratory where rapid treatment decisions must be made or for added convenience to the patients. This course provides performance of frequently ordered analyses and an overview of regulatory considerations, instrumentation and quality assurance requirements. Lab fee: $45.00. Prerequisite: Permission of instructor or completion of MULT 123.

MULT 160 Tissue Identification (A) **l-6-3**
A modern day study of histology involves the study of cell and tissue structure in relation to function. Consequently the emphasis of this course will be twofold. The first emphasis will be on learning to recognize various cellular structures and arrangements and applying them to the identification of different tissue sources. The second emphasis will be correlating the tissue identification with function. Study will begin with the single cell then progress through the four basic tissue types, organ structure, and organ systems. Students will spend considerable time examining already prepared tissue sections. This examination will include macroscopic observation with emphasis on microscopic study using the light microscope. prepared slide examination will he supplemented with other visual aides whenever possible. Lab fee: $15.00. Prerequisite: MULT 169 or permission of program director.

MULT 161 Chemistry of Stains I (A) **3-0-3**
Fixation, processing and staining of tissue is discussed. The theory behind each process and the purpose of each process is defined with specific technical details related to the staining of each type of tissue. Prerequisite: MULT 169 or permission of program director. Concurrent: MULT 163.

MULT 162 Chemistry of Stains II (W) **2-0-2**
Continuation of MULT 161. First term. Prerequisite: MULT 161 or permission of program director. Concurrent: MULT 164.

MULT 163 Basic Histology Techniques I (A) **0-12-4**
This course provides laboratory practice in all phases of the practice of histology. Lab fee: $65,00, Prerequisite: MULT 169 or permission of program director.

MULT 164 Basic Histology Techniques II (W) **0-9-3**
Continuation of MULT 163. First term. Lab fee: $45.00. Prerequisite: MULT 163 or permission of program director. Concurrent: MULT 162.

MULT 165-166 Seminar I and Seminar II (W,SP) **1-3**
This course is concurrent with the clinical experience and includes instruction on preparation for employment, taking the registry and preparation of specimens for the registry exam. Case studies are presented and prepared by the students to demonstrate the total histological process. Prerequisites: MULT 161 and MULT 163.

MULT 167 Histology Clinical Experience I (W) **0-16-4**
The student will attend three (3) different clinical facilities 32 hours per week for 17 weeks including two weeks at Battelle Research Institute. During this time, the student will perform all functions in the clinical site as a histology technician. Lab fee: $15.00. Prerequisite: MULT 162 or permission of program director. Concurrent: MULT 165.

MULT 168 Histology Clinical Experience II (SP) **0-32-8**
Continuation of MULT 167. Lab fee: $15.00. Prerequisite: MULT 167 or permission of program director. Concurrent: MULT 166.

MULT 169 Introduction to Histology (SU) **0-6-2**
The student will he introduced into the laboratory environment and histology profession. The major areas of study will include instrumentation, laboratory safety (including state and federal regulations), and laboratory mathematics as they apply to reagent preparation in the histology laboratory. Lab fee: $55.00. Prerequisite: Completed health record.

MULT 170 Cancer Prevention, Diagnosis & Treatment (W 2nd term) **1-1-0**
The course will present an overview of the prevention, diagnosis and treatment of a variety of cancers including breast cancer, cancers associated with smoking (cancer of the mouth, throat, voice region, lung and bladder), skin cancer (including skin carcinoma and melanoma), cancers affecting men (including prostate and testicular malignancies), and cancers affecting women (including uterine, cervical, endometrial and ovarian cancers). Presentation will be provided through photomicrographs of cancer biopsies, photographs of x-rays, and clinical and histological laboratory results and will emphasize the role of various health care professionals.

MULT 171 Current Issues: HIV Infection (A,W,SP,SU) **1-0-l**
Introductory course covering the psycho social, legal, epidemiologic issues surrounding HIV infection. Offered as a term course.

MULT 172 Instructor HIV/AIDS Course **0-2-1**
In-depth study of the implications of HIV virus in society in which students complete requirements for the Red Cross HIV/AIDS Instructor Certification. Include Red Cross Instructor Candidate Training Course. Prerequisite: MULT 171.

MULT 174 Personal Health (A,W,SP,SU) **3-0-3**
The study of health issues which affect Americans today and in the future; to establish a basis for positive health and efficiency through consideration of various factors which affect health.

MULT 175 Alternative Healing/Homeopathy (A,W,SP,SU) **4-0-4**
This course is designed to introduce students to the principles and theories behind the use of homeopathic preparations to treat most disease and disorders. Lab fee: $5.00

MULT 176 Fundamentals of Herbology (A,W,SP,SU) **0-0-4**
This course outlines the uses of herbs in the healing process from ancient history to present day. Herbs will be discussed in relation to both flowers and in cooking. Emphasis will be on therapeutic self-care frst aide. Lab fee: $5.00.

MULT 178 Animals and Nature - Therapeutic Programs (SP) **2-2-3**
The Animal-Assisted Therapy and Education Certificate Program is designed to meet the Delta Society's standards for accreditation. The Delta Society is an international organization devoted to research and service in the area of human-animal relationships and is the leading resource center on the interactions of people, animals and the environment. The program will include the Delta Society's Pet Partners home-study course and its two-day course on temperament testing. Prerequisite: MULT xx2. Admission to a Health and Human Services Technology or permission of instructor.

MULT 179 Comparison Animals and Health (W) **2-0-2**
This course will review the recent scientific evidence which confirms the ancient wisdom that our living environment - our pets, gardens, parks, rural landscapes and wild and domestic animals - have important, positive effects on health and well-being of humans. Topics to be covered include the cognitive, emotional, behavioral, and physiological effects of contact with animals and nature; Biophilia, our natural affinity for life that binds us to all living species: the psychobiology of nurturing; the ecology of pets, gardens and natural places. Prerequisite: MULT 181.

MULT 180 Professionalism for Health Care Providers **2-0-2**
The Code of Ethics for each of the technologies is reviewed. Concepts of death and dying, patient as consumer, professional standards of behavior and team work are addressed. Lab fee: $2.00. Prerequisites: Admission to a Health and Human Services Technology. Concurrent: ENGL 101.

MULT 181 Introduction to the Human-Animal Interaction (A) **2-0-2**
This course will investigate the origins, nature and application of the human-animal bond. The course content is designed to promote understanding of the mutually nurturing relationship between people and animals and to explore services by animals to aid people with health difficulties and physical and emotional challenges. Prerequisite: Placement into ENGL 101.

MULT 183 Introduction to Inpatient Coding (A,W,SP,SU) **1-0-l**
Students will be introduced to the application of ICD-9-CM coding as it relates to payment of health services. This course is flexibly scheduled in 2 days.

MULT 184 Introduction to Ambulatory Coding (A,W,SP,SU) **1-0-l**
Students will be introduced to the application of CPT coding as it relates to payment of health services. This course is flexibly scheduled in 2 days.

MULT 185 Introduction to Third-Party Reimbursement (A,W,SP,SU) **1-0-l**
Students will receive an overview of how coding systems are used in outpatient and inpatient health care settings for the purpose of reimbursement to the providers of health care services. This course is flexibly scheduled in 2 days.

MULT 190 Radiation Protection for General Machine Operator (A,W,SP,SU) 2-0-2
This course is designed to prepare non-radiographers with a specific background in radiation protection and radiation biology necessary to be eligible to apply for the State of Ohio, Radiologic Technology Division, General Machine Operator examination. Areas of instruction include radiation physics, radiographic technique, darkroom processing and film handling, radiation health, safety and protection, and radiation biology. Basic radiographic positioning skills and terminology are also presented. Prerequisite: Admission to College.

MULT 203 Diagnostic and Interventional hoc. for the Mammographer 3-0-3
This course is designed to familiarize the radiographer with diagnostic imaging and interventional procedures utilized in the diagnosis and treatment of breast disease. In-depth positioning of routine and specialized mammographic projections and localization/biopsy procedures are presented, as well as the performance of other imaging procedures which may be performed in conjunction with mammography. Patient assessment skills and patient education techniques, to include the American Cancer Society's Breast Self-Examination Instruction are also discussed. Prerequisite: ARRT registered Radiologic Technologist.

MULT 205 Mammographic Physics and Quality Assessment (A,SP) 4-0-4
This course is designed to familiarize the radiographer with principles of radiation physics and radiographic exposure specific to mammography. The Mammographic Quality Standards Act is discussed and the course includes the knowledge necessary to prepare for and pass federal accreditation standards/inspections. In-depth quality assurance testing methods are presented to ensure adherence with federal standards, as well as "hands-on" performance of QC test in the clinical laboratory environment. Prerequisite: Graduate of an accredited Radiography Program.

MULT 207 Clinical Experience in Mammography (W,SU) **1-3**
This course is designed to provide clinical experience in the field of mammography. Clinical experience is gained in the performance of screening mammography, diagnostic mammography, needle localization procedures, core needle biopsy procedures and allied imaging modalities. The student begins the course by performing procedures under the direct supervision of a registered mammographer. As the course progresses, the student assumes a more independent role in the performance of mammographic procedures and must demonstrate mastery of the clinical competencies for successful completion of the course. Lab fee: $25.00. Prerequisites: Graduate of an accredited Radiography Program, MULT 203 and MULT 205.

MULT 221 Introduction to Sleep Problems (SU,A,W,SP) 2-0-2
This introductory course will provide an overview of the physiology and architecture of sleep, common sleep disorders, their prevalence in the population, causes and treatment, the factors related to risk and risk management for shift workers, and the role of the polysomnography laboratory in monitoring and recording physiologic data during sleep. Lab fee: $3.00. Prerequisite: BIO 101, CHEM 100, MATH 102, MULT 102, permission of chairperson.

MULT 223 Level I Polysomnography Technician (SU,A,W,SP) 2-0-2
This course will prepare the student for performing Level I polysonmographic technician responsibilities in the clinical area, and will provide an introduction to polysomnography. Lab fee: $3.00. Prerequisite: MULT 102 or BIO 101, CHEM 100 or permission of chairperson.

MULT 224 Level I Polysomnography Technician Clinical (SU,A,W,SP) 0-0-2
This course will prepare the student for performing Level I polysomnographic technician responsibilities in the clinical area. The student will complete a supervised clinical experience in a sleep lab under the guidance of a clinical preceptor. The course focuses on preparing the equipment and instrumentation used in the sleep lab, as well as patient preparation. Lab fee: $3.00. Prerequisites: MULT 102 or permission of chairperson.

MULT 225 Polysomnography Level II Technician (SU,A,W,SP) 2-0-2
The Level II Technician course is designed for nurses, respiratory therapists, paramedics and other health care practitioners who are interested in polysomnography. This course focuses on scoring of polysomnography tracings, applying and titrating CPAP/BiLevel therapy, and patient education. Lab fee: $3.00. Prerequisite: Permission of chairperson.

MULT 226 Level II Polysomnography Technician (SU,A,W,SP) 0-0-2
The Level II is designed to provide clinical practice for skills covered in the Level II Technician Course. Lab fee: $3.00. Prerequisite: MULT 102 or permission of chairperson, placement into ENGL 101.

MULT 228 Polysonmography Current Topics (SU,A,W,SP) 2-0-2
This course will examine current changes in the field of polysonmography. Changes may include new techniques in instrumentation, diagnosis, new approaches to disorder, new approaches to assessment. Lab fee: $3.00. Prerequisite: Permission of chairperson.

MULT 231 Maternal Child Home Care (A,SP) 2-0-2
This course is designed to provide students with an introduction to maternal child home care from home pregnancy through the postpartum period. The course provides lecture and skills practice for learning. Prerequisite: Registered Nurse.

MULT 233 Pediatric Home Health Care (A,SP) 3-0-3
The course is designed to provide students with an introduction to all facets of pediatric home health care. The course combines lecture, skills, laboratory and clinical observation in a home health setting. Prerequisite: Registered Nurse/Licensed Practical Nurse.

MULT 245 RN First Assistant Program (A,SP) 5-0-5
This is an intensive program which is designed to provide the experienced perioperative nurse with the advanced preparation and study necessary to assume the role of first assistant. The course is based on AORN's official statement of the RNFA role. Prerequisite: RN Licensure: Two years perioperative experience; CNOR certified or eligible; CPR certified; liability insurance: letters of recommendation.

MULT 246 RN First Assistant Practicum (W,SU) **0-14-2**
This course provides the student with continued practicum for completion of the RN First Assistant Program. Prerequisite: MULT 245.

MULT 2.50 N.A.T.P. Train the Trainer (A,W,SP,SU) 3-0-3
This course prepares qualified nurses to teach, coordinate, and supervise a Nurse Aid Training Program. Federal and State of Ohio requirements are met. Lab fee: $25.00. Prerequisite: RN/LPN Licensed in Ohio minimum of 2 years experience in caring for elderly or chronically ill.

MULT 270 Human Resource Management for Health Services 4-0-4
The focus of this course is the application, analysis, synthesis, and evaluation of human resource management principles and practices for health care managers. Practical application to past and current life/work experience is provided and emphasized. Case studies are used as simulations to provide future application in the real work setting.

MULT 272 Health Care Resource Management 4-0-4
This course is designed to provide management approaches to health care resources (budget, equipment, supplies, etc.). It is intended for health care managers with limited financial skills.

MULT 274 TQM/UM/Accreditation 4-0-4
This course prepares health care professionals to apply, analyze, synthesize, and evaluate principles and practices of Total Quality Management (TQM), Utilization Management (UM), and Accreditation. TQM focuses on methods and systems to identify and resolve problems that interfere with optimal care and explore continuous quality improvement processes. UM enlightens the health care manager to their essential involvement in the review process and examines the meaning of utilization review to institutional performance. Accreditation process is presented in a practical manner to approach a very complex concern of health care managers. Health care managers will be more knowledgeable of and compliant with external accreditation processes. Prerequisites: ENGL 101, COMM 110, and BMGT 218.

MULT 276 Legal Aspects and Risk Management 3-0-3
This course is designed to provide the student with an overview of the legal aspects and risk management of the health care system. It is intended for health care practitioners preparing to enter supervisory positions. Prerequisites: ENGL 101, COMM 110, and BMGT 218.

Multimedia Production Technology (MMPT)

MMPT 101 Introduction to Multimedia (A) Z-8-5
A basic course designed for student with little or no previous computer skills. This course systematically takes students through an integrated software group with presentation, discussion and laboratory exercises in the following areas: word processing, database management, spreadsheets, drawing, painting and telecommunications abilities. Discussions, presentations and projects are focused on the multimedia profession. Lab fee: $15.00.

MMPT 111 Multimedia Computer Systems (W) 2-S-5
A comprehensive approach to education on Apple Macintosh hardware, software and peripheral system options conducted via on-line presentation, discussion and simulation techniques. Students will understand various components inside the computer "box" as well as the software operating system environment and connectivity applications. Lab fee: $25.00. Prerequisite: MMPT 101.

MMPT 116 Information Logistics (SP) 2-8-5
This course concentrates on the issues of input, storage, compression and transmission of a wide variety of information media. Various methods of technologies for each focus area, i.e., input, storage, compression and transmission are discussed and laboratory projects are utilized via Internet. Lab fee: $25.00.

MMPT 131 Multimedia Project Planning (A) 2-8-5
This core technology course focuses student education in three areas of time or project management. These three areas include personal time management, group management! interaction and project management. Understanding of these concepts will help students become more organized as an individual, plus give practical communication skills for interacting with others in a project grouping system. Lab fee: $20.00.

MMPT 201 Multimedia Authoring (W) 4-10-6
The course provides an introduction to the fundamental concepts and applications of multimedia authoring. The software used as the authoring tool for multimedia applications and the Internet is Macromedia Director. Students will learn to import and integrate media elements such as 2D and 3D graphics, animation, sound, and digital video from a wide variety of sources. Lab fee: $25.00.

MMPT 206 Multimedia Authoring with Macromedia Authorware Pro **4-10-6**
Students will be introduced to all phases of the multimedia authoring software application Authorware Pro. Instruction, demonstration and analysis of this software tool set the stage for student laboratory projects in Authorware Pro. Projects i transition and completed format will be stored at Columbus State with retrieval and storage enabled through the Internet medium. Lab fee: $25.00.

MMPT 211 Multimedia Scripting Languages (SP) **4-10-6**
Scripting languages of Lingo, Hypertext, Applescript and HTML are the focus of this course. Students will be introduced to each scripting language with explanation and examples of their utilization. Complete materials will enable students to have a ready reference to all scripting alternatives. Students will perform projects with each scripting language as part of the laboratory exercise portion of the course. Lab fee: $40.00. Prerequisite: MMPT 201 and MMPT 206.

MMPT 216 Still Video Image Editing (W) **4-10-6**
Image input, storage and retrieval are the focus of this course. Each electronic photograph must be handled from digitization, through augmentation and final storage or utilization phases. Raster image software such as Adobe Photoshop will enable students to manipulate images for laboratory projects. Files will be transposed over the Internet utilizing industry-standard tile compression and transmission technologies. Lab fee: $25.00.

MMPT 217 **Digital A/V Editing (W)** **4-10-6**
The basic principles of digital video are presented. Course includes laboratory work dealing with the standards and methods for recording/editing and the interconnection of digital video. Concepts of digital conversion, video coding and processing, and digital audio with video are presented. Lab fee: $25.00.

MMPT 226 Multimedia Telecomm/Network Systems (A) 2-6-4
A study of the mechanics of connectivity for multimedia is the center of this core course. Students are introduced to the mechanics, jargon and physical attributes of network systems within a controlled environment, modern and other telecommunications systems and how to plan for the best utilization of transport systems in the multimedia presentation. Lab fee: $20.00. Prerequisite: MMPT 116.

MMPT 231 Technical Illustration (W) **4-10-6**
This course presents students with content and application for the vector graphic areas in multimedia. Specifically, instruction, demonstration and student projects will focus on such illustration software applications as Adobe Illustrator and Macromedia Freehand for creation of two dimensional vector illustrations. Lab foe: $25.00. Prerequisite: MMPT 226.

MMPT 236 **Modeling (SP)** **4-10-6**
A course following the Technical Illustration course, in which students will be able to take two-dimensional vector images and convert them to 3D and solid model formats. Further, sequencing animation techniques will be presented with students performing laboratory exercises for both static and moving animation images. Lab fee: $40.00. Prerequisite: MMPT 216 and MMPT 217.

MMPT 237 Animation Development (SP) 4-10-6
An advanced course where students apply the theory and concepts learned in earlier courses to assemble and produce a moving animation production with sound. Lab fee: $40.00. Prerequisite: MMPT 216 and MMPI 217.

MMPT 241 Multimedia Authoring for the Internet/WWW (SP) **4-10-6**
Students will be introduced to multimedia authoring for delivery on the Internet World Wide Web. Components include authoring software tools, practical applications, Internet Service Providers, Netscape Navigator page construction and related issues. Students will be able to apply their knowledge in these areas through the use of their own "homepage" assignments. Lab fee: $40.00. Prerequisite: MMPT 201 and MMPT 206.

MMFT 299 Multimedia Internship/Work Experience (SP,SU) 0-36-3
The student works 36 hours per week in an activity which relates to the students' occupational objective. The on-the-job experience is coordinated by a faculty member who aids in the students' growth and development.

Music (MUS)

MUS 101 History of Western Music (A,W,SP,SU) 5-0-5
A survey of Western music from earliest times to the present including the development of notation in music, the development and limitations of standard instruments, the role of patronage in musical developments, the relationship of changes in music to changes in society, and a consideration of the attributes of "great" music in any time or age. Meets elective requirements in the Associate of Arts and Associate of Science Degree programs and distributive transfer requirements in History, Humanities and the Arts. Lab fee: $8.00. Prerequisite: Placement into ENGL 101.

MUS 102 Introduction to Vocal Technique (A,W,SP) 0-2-1
An introduction to vocal technique intended for non-music majors. This class will develop basic skills for both solo and group singing through the use of traditional song materials. Lab fee: $2.00.

MUS 110 Basic Keyboard and Music Fundamentals I (On Demand) **l-2-2**
Basic applied keyboard combined wit the development of music reading and basic aural skills. This course is for those without prior musical experience. Lab fee: $6.00.

MUS 111 Basic Keyboard and Music Fundamentals II (On Demand) **l-2-2**
Continued development of keyboard technique and basic musical theory. Lab fee: $6.00. Prerequisite: MUS 110 or demonstrable equivalent; permission of instructor.

MUS 121 Fundamentals of Music Theory (On Demand) **5-0-5**
An introduction to the elements of music for non-music majors, including notation, composition, and the basic skills necessary for listening and performance. The class is designed to introduce the students to the elements and procedures necessary for the composition and performance of music. Lab fee: $5.00. Prerequisite: Placement into ENGL 101.

MUS 140 World Music (On Demand) 5-0-5
A survey of nonwestern musical traditions. Lab fee: $6.00. Prerequisite: Entry into ENGL 101.

MUS 180 Vocal Ensemble (A,W,SP) **1-6**
Admission by audition only. Preparation for performance in concert of a variety of music. Music reading ability helpful but not required. It is suggested that a new Ensemble member take MUS 102 concurrently. Lab fee: $2.00.

MUS 221 Musicianship I (A) 3-4-5
Elements of music and musical notation; analytical concepts and terminology; fundamentals of harmony and melody as well as development of basic aural skills: solfege, dictation, and keyboard drill. For students intending to major in music or those with strong interest in music and possessing music reading ability. Lab fee: $6.00.

MUS 222 Musicianship II (W) 3-4-5
Principles of diatonic harmony and non-chordal melodic technique; introduction to seventh cord structures; major, minor, pentatonic and blues scales. Continued development of aural skills. Lab fee: $6.00. Prerequisite: MUS 221.

MUS 223 Musicianship III (SP) 3-4-5
Continued study of diatonic modulation and secondary dominants as well as modal and pentatonic harmonic patterns with an emphasis on creative projects. Continued development of aural skills. Lab fee: $6.00. Prerequisite: MUS 222.

MUS 241 Music History I (A) 3-0-3
A survey of the development of music from earliest times to the 18th Century. Student ability to read music is assumed. Lab fee: $10.00. Prerequisite: Entry into ENGL 101.

MUS 242 Music History II (W) 3-0-3
A survey of music from the rococo through the early romantic (1850) periods. Student ability to read music is assumed. Lab fee: $10.00. Prerequisites: Entry into ENGL 101.

MUS 243 Music History III (SP) 3-0-3
A survey of music from the late romantic period to the present. Student ability to read music is assumed. Lab fee: $10.00. Prerequisite: Entry into ENGL 101.

MUS 290 Capstone Experience in Music (On Demand) 2-2-3
A capstone course focusing on Music. Students will work on developing techniques and methodologies in the field of music. Students will apply these techniques to a project of their own design, complete a personal portfolio covering their studies at Columbus State, and participate in summative testing of their academic skills. Open only to Associate of Arts or Associate of Science students preparing to graduate within two academic quarters. Lab fee: $10.00.

MUS 299 Special Topics in Music (On Demand) **l-5**
Detailed examination of selected topics in music. Lab fee: $2.00. Prerequisites vary.

Natural Science (NSCI)

A mandatory safety lesson (normally given in the laboratory) most be completed before the student is admitted to certain natural science laboratory sessions. Approved safety goggles are required for some laboratory sessions and may be purchased through the Bookstore. Attendance during the first week of class is mandatory and may affect a student's continued enrollment in these classes. Students must complete 60% of the laboratories to receive course credit.

NSCI 101 Natural Science I (A,W,SP,SU) 4-3-5
This course covers the evolution of the physical and biological sciences from antiquity to the modern era. Topics include early ideas of the physical world, the principles of mechanics and optics, microscopy and its role in the development of cell and germ theory, germ theory, the atomic nature of matter, and the classification and bonding of the elements. Related laboratory and demonstrations. Safety training and goggles are required for the laboratory. Lab fee: $19.00. Prerequisites: Placement into ENGL 101 and placement into MATH 102 or higher or completion of DEV 031.

NSCI 102 Natural Science **II (A,W,SP,SU)** 4-3-5
A continuation of NSCI 101. Topics include the laws of chemical combination, chemical reactions, evolution and natural selection, the diversity of life and ecology, the concept of energy, heat and thermodynamics, kinetic theory, electricity and magnetism, the natare of light, and quantum mechanics. Related laboratory and demonstrations. Safety training and goggles are required for the laboratory. Lab fee: $19.00. Prerequisite: NSCI 101 or equivalent.

NSCI 103 Natural Science III (A,W,SP,SU) 4-3-5
This course integrates the study of chemistry and biology with an emphasis on topics which have had an impact on the development of science in the twentieth century. Topics include the ways scientists communicate information, the modern advances of organic chemistry and biochemistry, protein synthesis, the processes of mitosis and meiosis, and genetics. Discussions cover scientific information as well as any ethical and moral implications of scientific advances. Related laboratory and demonstrations. Safety training and goggles are required for the laboratory. Lab fee: $19.00. Prerequisite: NSCI 102 or equivalent or permission of instructor.

Nursing Technology (NURS)

NUBS 109 Proficiency Student Transition (A,W,SP,SU) **1-0-l**
This course is designed to assist the student who has proficiency credit for one or more designated nursing courses with transition into the nursing sequence. The components of the course include socialization into the student role, communication skills, and nursing process. Prerequisite: Examination credit in designated nursing courses.

NURS 110 Introduction to Nursing **l-2-3**
The student will examine the historic and current role of the nurse in the health care delivery system. The nursing process is introduced as a method for planning care and self-care activities that promote, maintain, and restore health in adult and geriatric clients. Communication techniques, teaching/learning principles, and computer skills used by the nurse in delivery of care will be discussed. In the variety of subacute, extended care and community health care settings that will be utilized for the clinical experience, the student will examine the economics of and services available within the system. The student will be introduced to ethical and legal issues as they relate to the practice of nursing. Safe implementation of technical skills with a holistic approach and attention to cultural consideration is stressed. Beginning principles of critical thinking are discussed. Lab fee: $10.00. Prerequisite: Admission to Nursing Technology. Concurrents: BIO 161, PSY 100, ENGL 101 and NURS 120.

NURS 111 Health Promotion of Women and Families **l-9-4**
The student will focus on the role of the nurse as a provider of care in the promotion of health for women and families. The influence of cultural diversity and health care economics on women and families will be included. The student will use the musing process in providing care and promoting self-care activities. Emphasis will be placed on the teaching/learning process. Concepts of mental and spiritual health will be introduced. Community resources available to women and families will be examined. Clinical experiences will be provided in a variety of community settings. The student will begin application of critical thinking principles. Prerequisites: NURS 110, NURS 120, BIO 161, PSY 100 and ENGL 101. Concurrents: BIO **169,** PSY 240, NURS 121 and NURS 130.

NURS 112 Introduction to Nursing Concepts of Health Maintenance and Restoration **2-12-6**
The student will focus on the role of the nurse as a provider of care for persons in need of maintenance and/or restoration of health. The student will study the impact of developmental levels and the effect of acute, chronic or terminal conditions as they relate to the ability of the person and family to care for themselves. The physical, psychological, and spiritual well being of the person and family during the dying and death process will be emphasized. The concepts studied include perioperative nursing, pain management, infectious processes, cancer, fluid and electrolyte imbalances, and altered nutrition. A variety of community settings will be utilized for the clinical experience. Prerequisites: NURS 111, NURS 121, NURS 130, BIO 169 and PSY 240. Concurrents: BIO 170, NURS 131 and NURS 113.

NURS 113 Nursing Skills **l-3-2**
Principles and concepts underlying the performance of select nursing skills as well as the technical aspects necessary in performing those skills will be discussed. Critical thinking and communication techniques, which are integral components of the application of these skills in nursing practice, are included. As a provider of care the nurse implements nursing skills with consideration to the developmental level of the person and to the venue in which they practice. In each unit of instruction the legal, ethical and economic issues related to the skills will be presented. Lab fee: $45.00. Prerequisites: NURS 130 or permission of instructor.

NURS 120 Health Assessment in Nursing I **l-3-2**
Nursing assessment of the person is presented in two courses. In the first course the student is introduced to techniques of physical assessment. The student will be involved in holistic assessments of adults with consideration to ethnic variations. Developmental considerations in the geriatric client will be discussed. Legal ramifications of nursing assessment will be presented. Lab fee: $15.00. Prerequisites: Admission to Nursing Technology or permission of instructor. Concurrent: BIO 161.

NURS 121 Health Assessment in Nursing II **l-3-2**
This is the second of two nursing assessment courses. The focus will be on holistic assessments of the childbearing, newborn, and pediatric client. Assessment of mental health status and family relations will also be included. Consideration will be given to ethnic and developmental variations. The assessment of community resources available to promote, maintain, and restore health will be explored. Lab fee: $15.00. Prerequisite: NURS 120. Concurrents: BIO 169 and PSY 240.

NURS 130 Concepts of Pharmacology I **2-3-3**
The student is introduced to the general principles of pharmacology. This is the first of two courses where the focus will be on the nurse's role in drug administration to person's of all ages. Drug classifications and their relationship to promotion, maintenance and restoration of health will be presented. Safe administration and documentation of oral, topical, and injectable medication is presented in the laboratory component. Calculations of medications for each administration form will be taught. Lab fee: $25.00. Prerequisite: NURS 120 or permission of instructor. Concurrent: BIO 169.

NURS 131 Concepts of Pharmacology II **2-3-3**
This is the second of two courses where the focus will be on the nurse's role in drug administration to persons of all ages. Drug classifications and their relationship in promotion, maintenance and restoration of health will be presented. Safe administration of enteric, intravenous, intradermal, and inhalation mediations is presented in the laboratory component. Calculations of medications for each administration form will be taught. Lab fee: $25.00. Prerequisite: NURS 130. Concurrent: NURS 113.

NURS 190 Special Topics in Nursing **1-2**
Various current and timely topics will be offered to give students an opportunity to expand their knowledge and/or skill level in a special interest area. A minimum of one nursing elective will be required. These courses will be small group classes. They may or may not have a laboratory component based on the topic. No clinical offering accompanies these courses. Lab fee: $5.00.

NURS 205 Role and Function of the Associate Degree Nurse (A,SP) **2-2-3**
The purpose of the course is to synthesize concepts from previous courses and apply them to nursing practice. The student is introduced to concepts for managing nursing care for groups of clients. Opportunities are provided for students to demonstrate progression from student nurse role to the role of the Associate Degree Nurse. Lab fee: $35.00. Prerequisites: NURS 203, COMM 105 or COMM 110; SSCI 101, SSCI 102, SSCI 103 or SSCI 104. Concurrents: NURS 206 and ENGL 102.

NURS 206 Perspectives in Nursing (A,SP) **2-0-2**
The course will focus on contemporary trends and issues, in historical perspective, that influence the future of nurses and nursing. The student will synthesize concepts of man, society, health, and nursing in relation to the Columbus State Community College Nursing Technology philosophy and knowledge gained during the past six quarters. This synthesis will lead the student to develop a personalized philosophy of Associate Degree Nursing. Lab fee: $10.00. Prerequisite: NURS 203. Concurrents: NURS 205 and ENGL 102.

NURS 210 Nursing Concepts of Health Maintenance and Restoration **2-12-6**
The student is introduced to the concepts of care management while continuing to function as a provider of care and promoter of health for pediatric and adult clients. The focus is on meeting the holistic needs of the client. Maintenance and restoration of health are presented in relating to the integumentmy, gastrointestinal, urinary, sensory, and endocrine systems. The nursing process is the framework for continued development of critical thinking skills. Each unit of instruction will contain content on the influence of legal, ethical, cultural, and economic issues related to health care. In the clinical component of the course, which is conducted in a variety of community settings, the student is accountable for their nursing practice. Lab fee: $30.00. Prerequisites: NURS 112, NURS 113, NURS 131 and BIO 170. Concurrents: BIO 115 and ENGL 102.

NURS 211 Nursing Concepts of Health Maintenance and Restoration II **2-12-6**
The student continues to develop the role of manager of care while providing care and promoting health of pediatric and adult clients. The focus is on meeting the holistic needs of clients. Maintenance and restoration of health are presented in relation to the respiratory, cardiovascular, hematological, and reproductive systems. The nursing process is the framework for continued development of critical thinking skills. Each unit of instruction will contain content on the influence of legal, ethical, cultural, and economic issues related to health cam. In the clinical component of the course, which as conducted in a variety of community settings, the student is accountable for their nursing practice. Lab fee: $30.00. Prerequisites: NURS 210 and BIO 115.

NURS 212 Nursing Concepts of Health Maintenance and Restoration III **2-12-6**
The student continues to develop the role of manager of care while providing care and promoting health of pediatric and adult clients. The focus is on meeting the holistic needs of clients. Maintenance and restoration of health are presented in relation to mental health, and the neurological, musculoskeletal, and immunesystems. The nursing process is the framework for continued development of critical thinking skills. Each unit of instruction will contain content on the influence of legal, ethical, cultural, and economic issues related to health care. In the clinical component of the course, which OS conducted in a variety of community settings, the student is accountable for their nursing practice. Lab fee: $30.00. Prerequisite: NURS 211. Concurrent: MATH 135.

NURS 213 Concepts of Nursing Management **2 - 1 8 - 8**
The student will synthesize concepts of care management to develop leadership skills inherent in the profession of nursing. The student will assume the roles of provider of care, manager of care, and member within the discipline of nursing. Ethical, legal, political, and economic issues as they relate to professional nursing will be presented. Current trends in nursing practice are analyzed. The student will focus on holistic care of groups of clients and their families in the promotion of self-care activities. The clinical experience will be conducted in a variety of community settings. Lab fee: $35.00. Prerequisites: NURS 212 and MATH 135.

Office Administration Technology (OADM)

OADM 101 Business Grammar Usage (A,W,SP) **2-3-3**
This course is a structured program reviewing all eight parts of speech in detail. In addition, it is designed to assist the student to become skillful in sentence analysis, word choice, punctuation, vocabulary, capitalization, number expression, and spelling.

OADM 102 Editing Business Documents (W,SP) **2-3-3**
Editing Business Documents is a course which has application for anyone who writes, edits, or prepares final copy for distribution or publication. Includes basic rules regarding grammar usage and aspects of style, as well as techniques and procedures for producing many different kinds of written communications. In addition to editing and proofreading at the computer, letters, memos, reports, tables, and a wide variety of other business documents will be formatted. Lab fee: $3.00. Prerequisites: OADM 101 and OADM 132, or permission of instructor.

OADM 111 Accounting Basics (A,W,SP,SU) **3-2-4**
This course is designed to provide students with a basic understanding of accounting principles and procedures including analysis of business transactions, journalizing, posting, adjusting and closing entries, and financial statement preparation. Also included are transactions involving payroll accounting, bank accounts, and cash funds.

OADM 112 Computerized Accounting Using QuickBooks (A,W) **1-0-l**
Students will learn how to keep a set of computerized books for small businesses using QuickBooks. Lab fee: $1.00. Prerequisites: OADM 111 or permission of instructor.

OADM 121 Records Management (A,W,SP) **2-3-3**
This course is designed to provide knowledge of efficient handling of business records, ARM.4 filing methods and systems, and principles for the selection of records systems and supplies.

OADM 131 Keyboarding I (A,W,SP,SU) **2-33**
An introductory interactive system of keyboarding by touch and applications using microcomputers and software; development of basic keyboarding skills measured in words per minute and accuracy of one error per minute. To receive credit for this course, students must (a)

practice all keyboarding lessons in assigned text, and (b) be able to type at least two different three-minute timings, each demonstrating minimum speed of 25 words a minute with accuracy of three errors or less. Lab fee: $3.00.

OADM 132 Keyboarding II (A,W,SP,SU) 2-3-3
An intermediate interactive system of reinforcing keyboarding skills by touch and applications using microcomputers and software designed to teach formats for business correspondence, tabulations, and manuscripts with emphasis on correct techniques, proofreading, decision-making skills, and accuracy; further development of keyboarding speed measured in words per minute and accuracy of one error per minute on three-minute timings. To receive credit for this course, students must demonstrate assigned formatting skills and be able to type at least two different three-minute timings, each demonstrating minimum speed of 35 words a minute with accuracy of three errors or less. Lab fee: $3.00. Prerequisite: OADM 131 or permission of the department chairperson.

OADM 133 Keyboarding III (W,SP,SU) 2-3-3
An advanced interactive system of reinforcing keyboarding skills by touch and applications using microcomputers and software designed to teach business correspondence, tabulations, manuscripts, reports, and various business forms with emphasis on correct techniques, proofreading, decision-making skills, and accuracy; farther development of keyboarding speed measured in words per minute and accuracy of one error per minute on five-minute timings. To receive credit for this course, students must demonstrate assigned formatting skills and be able to type at least two different five-minute timings, each demonstrating minimum speed of words per minute with accuracy of five errors or less. Lab fee: $3.00. Prerequisite: OADM 132 or permission-of the department chairperson.

OADM 134 Keyboarding IV (SP,SU) 2-3-3
This coarse introduces the "in basket" method of keyboarding production. The student will key several integrated projects which will refine production skills, time management skills, and language arts skills using a variety of realistic business settings. Lab fee: $5.00. Prerequisite: OADM 133.

OADM 139 Keyboarding Improvement (A,W,SP,SU) **l-4-3**
This elective course is designed to provide students with increased skills in the operation of the keyboard. Greater speed and accuracy are the goals. The emphasis is on speed and accuracy using straight-copy material. Lab fee: $3.00. Prerequisite: OADM 131.

OADM 144 Notetaking Using SuperWrite (W,SP) 2-3-3
This course introduces the basics of SuperWrite, an abbreviated writing system based on the longhand alphabet and secondarily on phonetics. Practice for speed and accuracy. Lab fee: $5.00. Prerequisites: OADM 13 1.

OADM 151 Machine Transcription (SP,SU) 3-2-4
This course is designed to develop skill in the use of machine transcription equipment. Mailable copy is the goal in transcribing machine dictation of business correspondence, technical reports, drafts, and other business communications in a broad range of business formats. Emphasis is on the fundamentals of English in grammar, spelling, and vocabulary will reinforce transcription skills. Lab fee: $3.00. Prerequisite: OADM 132. Concurrent: OADM 133.

OADM 161 Data Entry Database Management (W,SU) 2-3-3
The student will create databases using a Window's computer application, enter data, retrieve records, and generate appropriate reports. Development of data entry skills are measured in key strokes per hour and percentage of accuracy. Lab fee: $4.00. Prerequisite: OADM 131.

OADM 164 WordPerfect for Windows I (A,W,SP,SU) 2-3-3
Provides a solid foundation for this word processing software. Covers basic to advanced features including the use of Button Bar, Ruler, and File Manager and featuring parallel treatment of WordPerfect's three user interfaces. Lab fee: $5.00. Requirements: 35 wpm touch typing skill.

OADM 165 WordPerfect for Windows II (A,W,SP,SU) 2-3-3
Covers such special features as using multiple windows, merging, macros, envelopes and labels, sorting and selecting, columns, tables, desktop publishing, style sheets, and manuscripts. Lab fee: $5.00. Prerequisite: OADM 164.

OADM 167 Desktop Publishing Using Pagemaker (A,W,SP,SU) 2-3-3
Principles of design and hands-on experience with PageMaker. Lab fee: $20.00. Requirements: 35 wpm typing skill and knowledge of a personal computer in general, Windows, and word processing.

OADM 172 Spreadsheet Basics Using Excel for Windows (A,W,SP,SU) 2-3-3
A foundation course in spreadsheets for office workers. Covers major spreadsheet features of the program including spreadsheet design, formulas, functions, and charts. Applications investigate Excel's powerful features in business situations. Lab fee: $5.00.

OADM 173 Spreadsheet and Word Processing for Managers (A,W,SP,SU) **l-2-2**
Students will learn and use Microsoft Word and Excel in an integrated approach that will develop software skills when solving managerial problems. Lab fee: $5.00. Prerequisites or concurrent: MKTG 111, or LOGI 100, or RETL 101.

OADM 181 Windows (A,W,SP,SU) **1-0-l**
Introduction to Windows 95, a graphic user interface (GUI), which allows users to interact with computers using icons and simple menu items instead of the command line statements required in DOS. Includes such features as the Control Panel, the Program Manager, the Explorer, the Print Manager, and Windows accessories. Lab fee: $5.00.

OADM 191 Microsoft Word for Windows I (A,W,SP,SU) 2-3-3
Provides a solid foundation for this word processing software. Covers basic to intermediate features including creating, editing, printing documents, using icons, rulers, and the file manager. Lab fee: $5.00. Prerequisites: OADM 131 or permission of instructor.

OADM 192 Microsoft Word for Windows II (A,W,SP,SU) 2-3-3
Advanced features of Microsoft Word are presented' creating charts, formatting text into columns, formatting with styles, merging documents, sorting, creating tables and indexes. Lab fee: $5.00. Prerequisites: OADM 191 or MCT 106.

OADM 201 Business Research Using the Internet (A,W,SP,SU) **1-0-l**
Students will learn to use the Internet as a communication and information retrieval tool. Students willlearn how to use browsers, listserv mailing lists, and newsgroups. Lab fee: $1.00. Prerequisites: OADM 102 or permission of instructor.

OADM 211 Office Management (A,SU) 4-0-4
This course includes an introduction to human relationships in business organizations, communication skills, motivational skills, management styles andobjectives, business ethics, and organizational challenges.

OADM 212 Medical Office Management (SP) 2-3-3
This course is designed to familiarize the student in Medical Office Administration with computerized account management, including patient account information, scheduling, chart notes, filling, insurance claim tiling, and other routine medical practice reporting. Lab fee: $5.00. Prerequisites: OADM 134 and OADM 165; BIO 111.

OADM 224 Office Field Experience I (W) 0-24-2
The student is employed for approximately 24 hours a week in an office position that will provide application of as many of the theories taught in the office administration program as is practical for each individual. The on-the-job field experience is supervised by a field experience coordinator to aid in the student's growth and development. Prerequisites: OADM 134, OADM 165 and OADM 261.

OADM 225 Office Field Experience II (SP) 0-24-2
A continuation of OADM 224. The student continues to apply what has been learned in the classroom to tasks and situations encountered at work. The on-the-job field experience is supervised by a field experience coordinator to aid in the student's growth and development. Prerequisite: OADM 224.

OADM 252 Advanced Transcription (A) 2-3-3
This course is computer interactive development of advanced skills in the use of machine transcription equipment, with greater emphasis on accuracy in grammar and spelling, the development of an acceptable rate of speed, as well as producing mailable work on the first attempt. Lab fee: $5.00. Prerequisite: OADM 15 1 with a grade of "C" or higher.

OADM 253 Legal Transcription (A) 3-2-4
Introduction to responsibilities of legal office support staff, law office correspondence, the state court system, civil litigation procedures, criminal law, and probate law, including estates, guardianships, adoptions, and paternity. Lab fee: $5.00. Prerequisites: OADM 134 and OADM 151.

OADM 254 Legal Transcription II (W) 3-2-4
Continuation of Legal Transcription covering domestic relations, contracts, corporate law, real estate, bankruptcy, appellate procedures, and the federal court system. Lab fee: $5.00. Prerequisite: OADM 253.

OADM 261 Electronic Office Procedures (A) 3-2-4
This upper-level course is designed for second-year students who are preparing to enter an Office Administration position or who are currently working in an office. The student will prepare for a job search, consider topics such as incoming and outgoing communications, reprographics, travel arrangements, meetings and conferences, preparing presentations and meeting minutes, as well as other advanced topics. Lab fee: $5.00. Prerequisite: OADM 134 and OADM 165 or permission of instructor.

OADM 297 Special Topics in Office Administration (On Demand) **1-3**
Detailed examination of selected topics of interest in office administration. Lab fee: $20.00 Prerequisites vary.

Physics (PHYS)

Students must complete 60% of the laboratories to receive course credit.

PHYS 100 Introduction to Physics (A,W,SP,SU) 3-3-4
A survey of the basic concepts of physics with emphasis on energy and its various forms. Topics include mechanics, heat , electricity, and waves. Related laboratory and demonstrations. Lab fee: $10.00. Prerequisites: MATH 102 or equivalent, and placement into ENGL 100. Not open to students with credit for PHYS 117, PHYS 118, PHYS 177, PHYS 178, PHYS 181, PHYS 182, PHYS 183, or PHYS 185.

PHYS 117 College Physics (Mechanics and Heat) (A,W,SP,SU) 4-3-5
A study of classical mechanics, including statics and kinematics, Newton's laws of motion, linear and angular momentum, work and energy, and properties of solids and fluids. Elementary concepts of heat are introduced, including temperature and thermal expansion, the ideal gas law, calorimetry, and heat transfer. Related laboratory and demonstrations. Lab fee: $11.00. Prerequisites: MATH 148 or MATH 111 or equivalent, placement into ENGL 101. Not open to students with credit for PHYS 177 or PHYS 178. This course and PHYS 118 provide a two-quarter sequence in physical science that will fulfill the elective requirement for the Associate of Science Degree.

PHYS 118 College Physics (Electricity, Magn. and Light) (A,W,SP,SU) 4-3-5
A continuation of PHYS 117. Topics in classical electricity and magnetism include electric potential, current and resistance, dc circuits, magnetic forces and fields, and electromagnetic induction. The nature of light is introduced and the principles of geometrical and physical

optics, including optical instruments, are treated. Related laboratory and demonstrations. Lab fee: $10.00. Prerequisites: PHYS 117, and MATH 150 or MATH 112 or equivalent. Not open to students with credit for PHYS 177, PHYS 178 or PHYS 179.

PHYS 119 College Physics (Modern Physics) (A,W,SP) 4-3-5
A continuation of PHYS 118. Topics include alternating current, electromagnetic waves, kinetic theory of gases, thermodynamics, and modern physics. The major emphasis of the course is on topics in modern physics, including special relativity, quantum mechanics, atomic and nuclear physics, nuclear radiation, and nuclear energy. Related laboratory and demonstrations. Lab fee: $10.00. Prerequisites: PHYS 118. Not open to students with credit for PHYS 177, PHYS 178 or PHYS 179.

PHYS 177 General Physics I (A,W,SP,SU) 4-3-5
A course in the fundamental principles of mechanics for physics majors and engineers. Topics treated include vectors, equilibrium, kinematics and dynamics of a particle, energy, momentom, rotation, elasticity, simple harmonic motion, and the behavior of fluids. Related laboratory and demonstrations. Lab fee: $11.00. Prerequisites: MATH 151, high school physics or PHYS 100 recommended and placement into ENGL 101. This course and PHYS 178 provide a two-quarter sequence in physical science that will fufill the elective requirement for the Associate of Science Degree.

PHYS 178 General Physics II (A,W,SP,SU) 4-3-s
A continuation of PHYS 177. Topics covered include Coulomb's law, electric fields and potentials, capacitors and dielectrics, current and resistance, dc circuits. Magnetic fields and forces, electromagnetic properties of matter, ac circuits. Related laboratory and demonstrations. Lab fee: $10.00. Prerequisite: PHYS 177 and MATH 152.

PHYS 179 General Physics III (A,W,SP,SU) 4-3-5
A continuation of PHYS 178. Topics include mechanical waves, sound, electromagnetic waves, light, mirrors, lenses, interference, diffraction, polarization, relativity, photons, structore of atoms, nuclei, and solids. Related laboratory and demonstrations. Lab fee: $10.00. Prerequisite: PHYS 178 and MATH 153.

PHYS 181 Technical Physics (Mechanics) (A,W,SP,SU) 3-3-4
A course in the basic principles of mechanics. Major topics include equilibrium or rigid bodies, particle motion, Newton's laws of motion, work and energy, conservation principles, and rotational motion. Related laboratory and demonstrations. Lab fee: $10.00. Prerequisite: MATH 111 or MATH 148 or equivalent, and placement into ENGL 100. Not open to students with credit for PHYS 117 or PHYS 177.

PHYS 183 Technical Physics (Properties of Matter) (W,SU) 3-3-4
A course in the basic principles associated with the mechanical and thermal properties of matter. Major topics include elasticity, fluid mechanics, heat and temperature, energy transformations, heat transfer, ideal and real gases, thermodynamics, vibrations and wave motion. Related laboratory and demonstrations. Lab fee: $10.00. Prerequisites: MATH 111 or MATH 148 or equivalent, and placement into ENGL 100. Not open to students with credit for PHYS 117 or PHYS 177.

PHYS 185 Technical Physics (Heat, Light, Sound) (A,W,SP,SU) 3-3-4
A course in the basic principles associated with heat, light, and acoustic phenomena. Major topics include temperature and heat, heat transfer, wave and particle nature of light, atomic theory, solid-state theory, electronics, and acoustics. Related laboratory and demonstrations. Lab fee: $12.00. Prerequisites: MATH 112 or equivalent, and placement into ENGL 100. Not open to students with credit for PHYS 117 or PHYS 177.

PHYS 290 Capstone Experience in Physics (On Demand) 2-2-3
An integrated science course blending elements of chemistry, physics and biology. Topics include the historical development of the sciences, ethical issues in science and how they affect the advancement of scientific thought, and the scientific method as it relates to experimental design and interpretation of scientific results. The laboratory utilizes an investigative approach taking students through the process of identifying a research problem, conducting a literature review, writing a research proposal, collecting and analyzing data, writing a scientific paper and presenting results. Lab fee: $18.00. Prerequisites: 75 hours or more of course. work completed with a minimum of 20 credit hours within the sciences. This course is required for all physics majors seeking either the Associate of Arts or Associate of Science degree.

Philosophy (PHIL)

PHIL 101 Introduction to Philosophy (A,W,SP,SU) **5-0-5**
An introduction to the problems, methods, and terminology of philosophy, the types of questions addressed by philosophers, and the pivotal thinkers and systems of Western civilization from the Greeks to the 20th century. Meets elective requirements in the Associate of Arts and Associate of Science degree programs and distributive transfer requirements in philosophy and humanities. Lab fee: $2.00. Prerequisite: Placement into ENGL 101.

PHIL 130 Ethics (A,W,SP,SU) **5-0-5**
An introduction to moral reasoning, examining theories of right and wrong, good and bad, justice and in justice as they have been viewed in the past and as they shed light on contemporary ethical issues. Meets elective requirements in the Associate of Arts and Associate of Science degree programs and distributive transfer requirements in philosophy and humanities. Lab fee: $2.00. Prerequisite: Placement into ENGL 101.

PHIL 150 Introduction to Logic (A,W,SP,SU) 5-0-5
An introduction to critical thinking and the methods of inductive, deductive and symbolic logic. Meets elective requirements in the Associate of Arts and Associate of Science degree programs and distributive transfer requirements in philosophy, humanities, and, in some instances, mathematics and science. Check with your academic advisor. Lab fee: $2.00. Prerequisite: Placement into ENGL 101.

PHIL 250 Symbolic Logic (On Demand) **5-0-5**
A presentation of deductive logic focused on propositional logic, natural deduction and predicate logic. This course develops in greater detail principles of deductive logic covered in PHIL 150. Meets elective requirements in the Associate of Arts and Associate of Science degree programs and distributive transfer requirements in philosophy, humanities, and in some cases, mathematics and sciences. Check with your academic advisor. Lab fee: $2.00. Prerequisite: Placement into ENGL 101.

PHIL 270 Philosophy of Religion (On Demand) **5-0-5**
An introduction to the major issues in the philosophy of religion including the existence of God, faith and reason, the problem of evil, miracles, death and immortality, and God and morality. Meets elective requirements in the Associate of Arts and Associate of Science programs. Lab fee: $2.00. Prerequisite: Placement into ENGL 101.

PHIL 290 Capstone Experience in Philosophy (On Demand) 2-2-3
A capstone course focusing on philosophy. Paradigms and their underlying assumptions will be explored. Students will work on developing research techniques and methodologies. Students will apply these techniques to a project of their own design, complete a personal portfolio covering their studies at Columbus State, and participate in summative testing of their academic skills. Open only to Associate of Arts or Associate of Science students preparing to graduate within two academic quarters. Lab fee: $10.00.

PHIL 299 Special Topics in Philosophy **1-5**
Detailed examination of selected topics in philosophy. Lab fee: $2.00. Prerequisites vary.

Political Science (POLS)

POLS 101 Introduction to American Government (A,W,SP,SU) **5-0-5**
An introduction to the nature, purpose and structure of the American political system. Attention will be given to the institutions and processes that create public policy. The strengths and weaknesses of the American political system will be discussed, along with the role of citizens in a democracy. Lab fee: $6.00. Prerequisite: Placement into ENGL 101.

POLS 165 Introduction to Politics (A,W,SP,SU) 5-0-5
An introduction to the basic concepts and issues in the study of politics. The course will compare various political institutions, ideologies, and economic systems; examine political socialization and culture; explore methods of resolving international conflict and explain the impact of modern bureaucracies on policy-making. Lab fee: $6.00. Prerequisite: Placement into ENGL 101.

POLS 290 Capstone Experience in Political Science (On Demand) 2-2-3
This course is designed for students completing the two-year Associate of Arts or Associate of Science degree who have special interest in continuing a baccalaureate degree program in Political Science. Students will devise a research project that relates to their academic interests after reviewing research methodologies and findings in Political Science; complete a portfolio that covers their academic career at Columbus State Community College; and participate in summative testing of their academic skills. Open only to Associate of Arts or Associate of Science students preparing to graduate within two academic quarters. Lab fee: $10.00. Prerequisite: Completion of AA/AS core requirements and at least 75 hours toward the degree with five credit hours in political science.

POLS 293 Independent Study in Political Science **1-5**
An individual student-structured course. The independent study elective permits a student to pursue his/her interests within the context of a faculty-guided program. Lab fee: $5.00. Prerequisite: Permission of the Instructor and the Chairperson.

POLS 299 Special Topics in Political Science **1-5**
Detailed examination of selected topics of interest in political science. Lab fee: $5.00. Prerequisites vary.

Psychology (PSY)

PSY 100 Introduction to Psychology (A,W,SP,SU) 5-0-5
An introductory course that provides an overview of the origins, growth, content and applications of psychology, including the application of the scientific method in treatment of the following topics: research methodology; beginning statistics and theories of physical, cognitive, moral and emotional development; sensation; perception; learning; motivation; intelligence; memory; personality; coping processes; abnormality and adjustment; and the individual in small groups and a pluralistic society. Lab fee: $6.00. Prerequisite: Placement into ENGL 101.

PSY 200 Educational Psychology (On Demand) **5-0-5**
Concepts and factors affecting application of psychological principles to the education process. Presents theories of learning, motivation, classroom management, planning, teaching, and student evaluation in relationship to developmental stages. Lab fee: $6.00. Prerequisite: PSY 100 and placement into ENGL 101.

PSY 201 Field Based Experience in Educational Psychology (On Demand) **1-5**
Designed to teach the relationship between psychological principles and the education process. The supervised field experience emphasizes appropriate teaching strategies for different age groups and settings. Practical experiences are related to classroom organization, management, and learning activities. The field based course consists of 12 hours per academic credit hour in an educational or community setting. Lab fee: $6.00, Prerequisite: PSY 100 and placement into ENGL 101. Concurrent: PSY 200.

PSY 230 Abnormal Psychology (A,W,SP,SU) 3-0-3
Abnormal Psychology presents the basic concepts of abnormalities as defined by the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). The course focuses on classification schemes of diagnoses and looks at descriptive terms and symptoms. Research, major perspectives, and myths in the field of mental health will be examined. Lab fee: $6.00. prerequisite: PSY 100 and placement into ENGL 101.

PSY 23.5 Psychology of Adjustment (On Demand) 3-0-3
Psychological factors which influence individual growth, development, and behavior will be explored. Current theoretical approaches to understanding and achieving self-awareness, application of conditioning and motivation techniques to behavior modification, group dynamics, methods of self-help, and methods of improving interpersonal communications and relationships will be investigated. Lab fee: $6.00. Prerequisite: PSY 100 and placement into ENGL 101.

PSY 240 Human Growth and Dev. Through the Life Span (A,W,SP,SU) **4-0-4**
A survey of developmental change from conception to death. The course covers the following stages of human growth and development: conception and prenatal growth, infancy, childhood, adolescence, adulthood, and death. This course focuses on physical, social, emotional and cognitive development. Lab fee: $6.00. Prerequisite: PSY 100 and placement into ENGL 101.

PSY 261 Introduction to Child Development (A,W,SP,SU) **5-0-5**
Study of the nature, nurture, and development of children from conception through eight years of age. The traditional child development approach is utilized with emphasis upon physical, cognitive, social, emotional, and language development. Observation of children is an integral part of the course. Lab fee: $6.00. Prerequisites: PSY 100 and placement into ENGL 101.

PSY 267 Social Psychology (On Demand) 5-0-5
An introductory course that provides an overview of the origins, growth, content, and application of individuals in social settings, including the application of the scientific method and cultural influence in the treatment of the following topics: attitudes and attitude change, attribution, social identity (self and gender), social perception (understanding others), social cognition (thinking about others and their social environment), prejudice and discrimination, non-verbal communication, obedience to authority, conformity, aggression, prosocial behavior, interpersonal attraction, and behavior in groups. Lab fee: $6.00. Prerequisite: PSY 100 and placement into ENGL 101.

PSY 290 Capstone Experience in Psychology (on Demand) 2-2-3
This course is designed for students completing the two-year Associate of Arts or Associate of Science degree who have a special interest in continuing a baccalaureate degree program in Psychology. Students will devise are search project that relates to their academic interests after reviewing research methodologies and findings in Psychology; complete a portfolio that covers their academic career at Columbus State Community College, and participate in summative testing of their academic skills. Open only to Associate of Arts or Associate of Science students preparing to graduate within two academic quarters. Lab fee: $10.00. Prerequisite: Completion of AA/AS core requirements and at least 75 hours toward the degree with five credit hours in psychology.

PSY 293 Independent Study in Psychology (On Demand) **1-5**
An individual student-structured course. The independent study elective permits a student to pursue his/her interests within the context of a faculty-guided program. Lab fee: $5.00. Prerequisite: Permission of the Instructor and the Chairperson.

PSY 299 Special Topics in Psychology (On Demand) **1-5**
Detailed examination of selected topics of interest in psychology. Lab fee: $5.00. Prerequisites vary.

Purchasing Major
(See Logistics Management Technology)

Quality Assurance Technology (QUAL)

For Statistical Process Control, see MECH 244 in the Mechanical Engineering Technology course descriptions. For other related course descriptions, see Electronic Engineering Technology and Mechanical Engineering Technology.

QUAL 120 Engineering Drawing Interpretation (W,SU) 2-2-3
This course is an introduction to the proper use and interpretation of lines, symbols, abbreviations, and terminology of engineering drawings. Emphasis is on reading rather than drawing. Text illustrations use multi-views of details and assemblies, including machined, cast, welded, structural, and developed sheet metal. Also included are reading symbols for fluid power and electronic circuitry.

QUAL 150 Quality Transformation (A,W,SP) 3-2-4
This course focuses on teamwork and the application of Total Quality Transformation® tools. Teams of students and employees from business and industry solve existing quality problems in their organizations with careful direction and on-site visits by faculty.

QUAL 240 Total Quality Management (A,W) 2-2-3
This course is a study and practice of the major elements and concepts of total quality management, including principles and styles of quality management, systems thinking, continuous improvement, management by data, and historic influences of leaders in quality management.

QUAL 250 Metrology (SP) 2-2-3
Making precise measurements is an important part of producing quality products for consumers, industry, and the military. The course is restricted to measurement, including measurements required to use tools and instruments for designing, building, operating and maintaining material objects. The values used in quality functions are determined by measurement. Students use a variety of instruments and systems to make precision measurements, using both English and Metric systems. Lab fee: $10.00. Prerequisite: MATH 112

QUAL 251 Value Engineering (W) 2-2-3
Value engineering is the systematic application of recognized techniques which identify the function of a product or service, establish a monetary value for that function, and provide the necessary function reliably at the lowest overall cost. Students will be introduced to value engineering concepts and applications for the practitioner, including functional aspects of part and component as well as service subsystem interactions to meet fit for end use requirements. Prerequisite: MECH 244.

QUAL 260 Reliability and Systems Maintainability (SP) 3-0-3
This course is an examination of the basic methods that companies use to ensure the reliability of their products. Students learn statistical methods used to determine reliability, the effectiveness of data analysis, use of simulations, and ways to improve system performance. Prerequisites: MATH 13.5 and MECH 244.

QUAL 261 Technical Project Management (SP) 3-0-3
Course provides an integration of the elements involved in planning, developing, and managing a successful and efficient technical project for quality control.

QUAL 262 Materials Testing and Analysis (W) 2-2-3
Course provides an integration of the nondestructive and destructive testing practices that industry uses to measure the quality level of products. Students practice basic methods of analyzing the physical and electrical properties of various materials. Students learn how to interpret standards of quality established for different industries. Lab fee: $5.00. Prerequisites: MECH 111 and QUAL 120.

Radiography Technology (RAD)

RAD 111 Introduction to Radiologic Technology 3-0-3
Basic introduction to radiologic principles and clinical radiography. Areas of emphasis include fundamentals of radiobiologic concepts, medical ethics, body mechanics, patient care skills, and clinical observation: This course is a prerequisite for all other radiologic technology courses. Prerequisite: Completed health record, acceptance into program.

RAD 113 Radiologic Science 5-0-5
The course begins with a review of basic concepts of electricity, electromagnetism, and electrical circuits. The student is then introduced to the theory of x-ray production, x-ray emissions, and x-ray interactions. Applications of equipment are discussed to include special x-ray equipment such as tomography, stereoradiography, mammography, and fluorscopy. Prerequisite: RAD 111.

RAD 118 Radiographic Exposure and Processing 4-2-5
This course consists of a study of film processing through analysis of radiographic film characteristics, film processing, film storage and handling, and silver recovery methods. Photographic and geometric properties necessary to the production of a quality radiograph are discussed, as well as technical conversions necessary to maintain film density. Lab fee: $25.00. Prerequisite: RAD 113.

RAD 123 Advanced Exposure and Processing 3-2-1
This advanced course analyzes factors which affect the diagnostic quality of the radiograph. Technique charts are developed. The importance of a quality assurance program is emphasized and quality control testing is presented. Students are required to conduct quality control testing and troubleshooting of radiographic equipment. Lab fee: $25.00. Prerequisite: RAD 118.

RAD 126 Radiation Biology and Protection 3-0-3
This advanced science course examines human responses to ionizing radiations. Early and late effects of raditation exposure are discussed, as well as an indepth analysis of radiation protection standards and practices. Lab fee: $25.00. Prerequisite: RAD 113.

RAD 141 Radiographic Procedures I 3-3-4
The student is introduced to radiologic terms specific to imaging, equipment operation, and patient positioning. Specific area of study include physician assisting, and radiographic anatomy to include gastrointestinal system, upper and lower extremities, chest, abdomen, and basic orography. Lab provides the opportunity for practice and demonstration of proficiency. Lab fee: $50.00. Prerequisite: Admission to program.

RAD 142 Radiographic Procedures II 3-3-4
This course serves as a continuation of RAD 141, with progression through the positioning categories and radiographic anatomy. Course topics include basic fluoroscopic procedures, the vertebral column, bony thorax, specialized biliary and orographic studies, and tomography. Lab fee: $50.00. Prerequisite: RAD 141.

RAD 143 Radiographic Procedures III 3-3-4
This course serves as the final of a series of three, with progression through the remaining categories of positioning and radiographic anatomy. Course topics include specialized fluoroscopic and radiographic studies, skull and facial bones, operative radiography, and trauma radiography. Lab fee: $50.00. Prerequisite: RAD 142

RAD 148 Special Radiographic Procedures 3-0-3
This course provides a detailed examination of cardiovascular, neurologic, interventional radiologic studies and common specialized procedures. The course begins with discussion of specialized equipment and materials. Emphasis is placed on pertinent anatomy, diagnostic value and/or therapeutic value of each examination. Prerequisite: RAD 143.

RAD 211 Sectional Anatomy **1-0-l**
Sectional anatomy is introduced. Emphasis on head, chest, abdomen and pelvis. Students will be required to give a presentation demonstrating correlations between different sectional imaging modalities. Prerequisite: RAD 143.

RAD 222 Computerized Imaging **1-0-l**
This course presents a survey of computerized modalities related to radiography to include an introduction to computers in medical imaging, digital radiography, computed tomography, magnetic resonance imaging, positron emission tomography and Picture Archival and Communication Systems (PACS). Prerequisite: RAD 113.

RAD 231 Radiographic Pathology 3-0-3
The course begins with a review of common terms relating to pathology. Using a survey approach, this course continues with a study of various disease processes and their effect on body systems as they relate to radiography andallied imaging modalities. Students are required to write a term paper on a specific pathologic process. Prerequisite: RAD 148.

RAD 261 Clinical I **1-16-2**
Clinical provides the opportunity for the student to become familiar with the care and positioning of the patient. Proficiency requirements are completed using a competency-based educational format over the course material presented in Radiologic Procedures I. Film Critique is incorporated to provide a correlation of all factors that comprise a finished radiograph to include an analysis of anatomic structures, patient positioning, radiation protection, and fundamental exposure techniques. Prerequisite: RAD 111.

RAD 262 Clinical II **1-16-2**
Clinical II provides the practical experience necessary to function as a radiographer and is designed to enhance and compliment didactic studies. Clinical experience is gained in the general diagnostic and fluoroscopic areas, the emergency department, and on portable radiography rotations. Film critique is continued to provide a correlation of all factors that comprise a finished radiograph. Case presentations are introduced. Prerequisite: RAD 261.

RAD 263 Clinical III **1-16-2**
A continuation of Clinical II. Clinical III provides the practical experience necessary to function as a radiographer and is designed to complement and enhance the didactic studies. Clinical experience is gained in the general diagnostic and fluoroscopic areas, the emergency department, the operating room, tomography, portable radiography, and digital imaging. Film critique and case presentations are continued. Prerequisite: RAD 262.

RAD 264 Clinical IV **l-24-3**
A continuation of Clinical III. Clinical IV provides the practical experience necessary to function as a radiographer and is designed to enhance and compliment the didactic studies. Clinical experience is gained in the general diagnostic and fluoroscopic areas, the emergency department, the operating room, tomography, portable radiography, the computed tomographic area, to include an evening rotation. In addition, each student is required to observe a radiologist during film reading and dictation. Film critique and case presentations are continued. Prerequisite: RAD 263.

RAD 265 Clinical V **l-24-3**
A continuation of Clinical IV. Clinical V provides the practical experience necessary sto function as a radiographer and is designed to enhance and compliment didactic studies. Clinical experience is gained in the general radiographic and fluoroscopic areas, emergency department, operating room, portable radiography, tomography, computed tomography, cardiovascular and interventional radiology, digital imaging and special area (one day) rotations in nuclear medicine, radiation oncology, diagnostic medical sonography, cardiac catheterization laboratory, and extra-corporeal shock wave lithotripsy. Film critique and case presentations are continued. Prerequisite: RAD 264.

RAD 266 Clinical VI **l-24-3**

A continuation of Clinical V. Clinical VI provides the practical experience necessary to function as a radiographer. Clinical experience is obtained in general radiographic and fluoroscopic areas, the emergency room, the operating room, tomography, mammography, portable radiography, digital imaging, computed tomography, and magnetic resonance imaging. Film critique and case presentations are continued. Prerequisite: RAD 265.

RAD 267 Clinical VII **l-24-3**
A continuation of Clinical VI. Students are required to complete the Final Competency Examination during this quarter. Clinical rotations are scheduled in the general radiographic and fluoroscopic areas, the operating room, the emergency room, mammography, and computed tomography. Once the Final Competency Examination has been satisfactorily completed, the student may custom design their own specific clinical rotations. Critique and case presentations are continued. Prerequisite: RAD 266.

Real Estate Technology (REAL)

REAL 101 Real Estate Principles and Practices (A,W,SP,SU) 3-0-3
An introduction to the language of real estate, the economics of the real estate business and the general practices performed in the listing and selling of real estate. Provides a basic knowledge of the real estate business. Course covers the physical, legal, locational and economic characteristics of real estate, real estate markets, regional and local economic influences on real estate values, evaluation, financing, licensing and professional ethics. Meets all state requirements for licensing. Lab fee: $3.00.

REAL 102 Real Estate Law (A,W,SP,SU) 3-0-3
Real estate law includes all of the areas of law of common concern to the typical real estate practitioner and investor-consumer. Among topics covered are the law of agency as applied to real estate brokers and salespersons, law of fixtures, estates (including leases), conveyancing of real estate, real estate managers, licensure laws of Ohio, zoning, cooperatives and condominiums. Meets state requirements for licensing. Lab fee: $3.00.

REAL 104 Real Estate Mathematics (A,W,SP,SU) 3-0-3
A review of arithmetic processes including common fractions, decimal fractions, and percentage. Topics include sale, list, net prices and commissions, unique problems in area and volume, principal, interest, and points computed on mortgages, taxes and transfer tax stamps, prorations of insurance, mortgage interest, and taxes to date of sale and preparation of closing statements. Course may meet continuing education requirement (see advisor). Lab fee: $3.00.

REAL 111 Real Estate Finance (A,W,SP,SU) 3-0-3
Covers four major concerns of real estate financing: 1) financing instruments and creative financing techniques; 2) in-depth mortgage payment patterns and concepts, economic characteristics and standards, and financing of single and income-producing properties; 3) sources and availability of mortgage money and credit and the impact of various factors on the mortgage market; and 4) special government activities having an impact on real estate financing. Meets requirements for licensing. Lab fee: $3.00. Concurrents: REAL 101, REAL 102 and REAL 112.

REAL 112 Real Estate Appraisal (A,W,SP,SU) 3-0-3
Stresses the methodology of appraising the single family residential property and the theory underlying appraisal techniques. The three basic techniques of appraising; market comparison; penalized cost of replacement; and income approach (GMRM) are covered. A term appraisal project is assigned to give the student practical experience in applying these techniques. Meets state requirements for licensing. Lab fee: $3.00. Concurrents: REAL 101, and REAL 102.

REAL 121 Residential Sales Practices (SP) 3-0-3
A "how to" course providing a step-by-step approach for success as a real estate professional based on sound principles and acceptable techniques. Course sets forth basic fundamentals which must be mastered by real estate practitioners regardless of their specialization or type of property involved. Underlying theme is communication. Course may meet continuing education requirement (see advisor). Lab fee: $3.00. Prerequisites: REAL 101 and REAL 102 or Real Estate License.

REAL 123 Real Estate Marketing (SP) 3-0-3
An in-depth study of the marketing of real property. Various techniques will be used to help the practitioner use the many resources available. Areas of exploration will include computers, telemarketing, radio, television and the print media. All types of property will be used. Course may meet continuing education requirement. (See advisor) Lab fee: $5.00. Prerequisite: Real Estate License.

REAL 202 Real Estate Commercial Investment (A) 5-0-5
The practical application of real estate investment concepts used in daily real estate practice. A step-by-step approach through a typical case study involving, a typical client beginning with investment in general, yield analysis, taxation, then continuing through property analysis, tax deferred exchange, the installment sale and alternative investments. Course may meet continuing education requirement (see advisor). Lab fee: $3.00. Prerequisite: REAL 101.

REAL 212 Income Property Appraisal (W) 3-0-3
A selective research into specific income producing property for applying appropriate analytical techniques. Studies the principles of anticipation and use of the capitalization process, and translates income projection into a present capital value indication. A term appraisal project is required. Course may meet continuing education requirement (see advisor). Lab fee: $3.00. Prerequisite: REAL 112.

REAL 213 Advanced Real Estate Investment Analysis (W) 3-0-3
An overview of the scope and nature of real estate investments. Discusses advantages and disadvantages, individual versus group forms of realty ownership, financing investments, tax ramifications and mathematical analysis. Different types of opportunities are discussed from vacant lots to land, houses, apartments, shopping centers, industrial developments and government sponsored projects. Course may meet continuing education requirement (see advisor). Lab fee: $3.00. Prerequisite or concurrent: REAL 212.

REAL 214 Marketing Investment Analysis for Real Estate (SP) 3-0-3
An analysis and guide for investigating real estate opportunities, covering the problems of residential, office and retail properties. Details of conducting market and feasibility studies, analyzing materials and data collected and evaluating the relevancy of the studies are studied. A term project is to prepare a detailed market investment analysis for a user-client. Course may meet continuing education requirement (see advisor). Lab fee: $3.00. Prerequisite: REAL 213.

REAL 221 Professional Property Management (SP) 3-0-3
A course studying decision-making as it affects management of residential, commercial and industrial property. The emphasis shall be on the practical application of theory to actual management problems. Specific topics include Ohio Tenant Landlord Act, forcible entry and detainer, typical leases, office management, hiring, merchandising, advertising, collection problems, taxes insurance and maintenance. An alternate course for licensing as a real estate broker (see advisor). Course may meet continuing education requirement (see advisor). Lab fee: $3.00. Prerequisite: REAL 101.

REAL 233 Practical Financial Analysis (On Demand) 3-0-3
Emphasis is on hand-held calculators as a tool to analyze the many financial problems that realtors encounter in the conduct of their practice. Deals with a special class of hand-held calculators, namely financial calculators, such as the HP-12c and TI financial I and II calculators. Course may meet continuing education requirement (see advisor). Lab fee: $3.00.

REAL 234 Human Resource Management (SP) 4-0-4
An introduction to human resources management as it applies to the real estate business. Provides basic knowledge for present and prospective real estate brokers. The course covers the recruiting, selection, and training of personnel; the motivation and retention of sales associates, and the management of salespeople. Lab fee: $3.00.

REAL 236 Real Estate Development (A) 3-0-3
An overview of the entire field of real estate development including its methodology, history, marketing, and specific operations of planning, analysis, feasibility studies, negotiation techniques, and property management. Lab fee: $3.00. Prerequisites: REAL 101, REAL 102, REAL 111 and REAL 112.

REAL 281 Real Estate Today Seminar I (on Demand) **1-0-1**
A specially designed course which offers to meet the needs of the constantly changing real estate community, industry and the student population. Creative seminar topics are relative to today's market, and will provide flexibility in meeting a variety of needs. Lab fee: $3.00.

REAL 282 Real Estate Today Seminar II (on Demand) 2-0-2
Continuation of REAL 281. Lab fee: $3.00.

REAL 283 Real Estate Today Seminar III (on Demand) 3-0-3
Continuation of REAL 282. Lab fee: $3.00.

REAL 284 Uniform Standards of Professional Appraisal Practice (On Demand) 2-0-2
Capstone course for the Ohio appraisal certification. Course user to apply the standards of the industry to the instruments of appraisal process. Lab fee: $3.00. Prerequisites: REAL 211, REAL 212 or equivalent experience.

REAL 290 Post Licensure Sales Course (On Demand) **1-0-1**
Mandatory 10 hour Post Licensure course for Real Estate Salepersons. Course covers the following topics: The housing market today; Future trends impacting real estate markets; License law matters; Legal matters; Environmental concerns; Real estate specialties; The image of real estate licensees; and Finance, taxes, and legislation. Lab fee: $3.00.

REAL 291 Post Licensure Brokers Course (On Demand) **1-0-1**
Mandatory 10 hour Post Licensure course for Real Estate Brokers. Course covers the following topics: The housing market today; Future trends impacting real estate markets; License law matters; Legal matters; Environmental concerns; Real estate specialties; The image of real estate licensees; and Finance, taxes, and legislation. Lab fee: $3.00.

Respiratory Care Technology (RESP)

RESP 100 Introduction to Respiratory Care (A,SP) 3-4-5
This course presents an integrated introduction to the care of pulmonary patients. Course content will focus on the skills required and the methods used to manage cardiopulmonary problems. Lab fee: $35.00. Prerequisite: Acceptance into the technology.

RESP 114 Introduction to Pulmonary Disease (SW) 3-2-4
This course provides an integrated approach to the anatomy, physiology and pathology of the cardiopulmonary system. Normal and abnormal function will be compared. Emphasis will be placed on cardiopulmonary functions that are frequently measured to monitor patient status. Prerequisite: RESP 100 or permission of instructor. Concurrent: RESP 150.

RESP 130 Patient Assessment I (SP) **1-2-2**
This course presents a holistic approach to assessment of adult and pediatric patient in the subacute homecare setting. Special emphasis will be placed on assessment of the cardiopulmonary function. Prerequisites: RESP 114, RESP 150 or permission of instructor. Concurrents: RESP 152 and RESP 190.

RESP 132 Patient Assessment II (SU) **1-2-2**
This course presents a holistic approach to assessment of adult and pediatric patients in the acute care setting. Special emphasis will be placed on assessment of the cardiopulmonary system. Prerequisite: RESP 130. Concurrents: RESP 154 and RESP 198.

RESP 150 Introduction to Pharmacology (W) 2-0-2
This course provides an introduction to the basic principles of therapeutic drug administration. Classification of drugs will be included. Special emphasis will be directed **to** safety issues, sources of drug information, and application to respiratory care practice. Prerequisites: RESP 100 or permission of instructor. Concurrent: RESP 114.

RESP 152 Case Management I (SP) **1-2-2**
This course presents a holistic approach to the management of adult and pediatric patients in the subacute and homecare settings. Special emphasis will be placed on the management of the cardiopulmonary problems. Prerequisites: RESP 114, RESP 150 or permission of instructor. Concurrents: RESP 130 and RESP 152.

RESP 154 Case Management II (SU) **1-2-2**
This course presents a holistic approach to the management of adult and pediatric patients in the acute care setting. Special emphasis will be placed on the management of the cardiopulmonary problems. Prerequisite: RESP 152 or permission of instructor. Concurrents: RESP 132 and RESP 198.

RESP 170 Mechanical Ventilators (A,W,SP,SU) **0-2-1**
Students will learn to assemble equipment used for mechanical ventilatory support, check it for proper function, identify and correct malfunctions. Prerequisite: RESP 102.

RESP 196 Clinical Practice/Therapeutic Procedures I (SP) **2-12-8**
This course is focused on conducting respiratory care procedures in the subacute and homecare setting. Lab fee; $35.00. Prerequisites: RESP 150 or permission of instructor. Concurrents: RESP 130 and RESP 152.

RESP 198 Clinical Practice/Therapeutic Procedures II (SU) **2-12-8**
This course is focused on conducting respiratory care procedures in the acute care setting. Lab fee: $35.00. Prerequisites: RESP 196 or permission of instructor. Concurrents: RESP 132 and RESP 154.

RESP 230 Patient Assessment III **1-2-2**
This course presents a holistic approach to the assessment of adult and pediatric patient in the critical care setting. Special emphasis will be placed on assessment of the cardiopulmonary system. Prerequisite: RESP 132 or permission of instructor. Concurrents: RESP 256 and RESP 290.

RESP 232 Pediatric Respiratory Care (A,W,SP,SU) 3-0-3
A study of the therapeutic procedures of respiratory care which are associated with pediatric and neonatal patients. Course content includes evaluation and care of the newborn, neonatal mechanical ventilatory support, neonatal diseases, and pediatric diseases. Lab fee: $20.00. Prerequisites: RESP 230, RESP 238 and RESP 290.

RESP 238 Pulmonary Function (A,W,SP,SU) 3-0-3
A study of the equipment and the techniques utilized in pulmonary function testing and blood gas analysis. This course examines the types of analyzers used in performing lung volume tests, lung flow tests, and gas analysis test with a discussion of the advantages and disadvantages of such systems. Procedures used in each test are discussed including patient instruction and calculation of the data. Prerequisite: Permission of instructor.

RESP 2.51 Respiratory Rehabilitation Home Care Techniques (A,W,SP,SU) 3-0-3
This course provides the student with the appropriate adaptations of skills and concepts traditionally used in the hospital to alternate care settings in order to educate the patient and care-giver to maintain the highest possible functional capacity. Included are: medication regimens, smoking cessation, breathing retraining, bronchial hygiene, and other self-care techniques. Other topics include monitoring the patient's disease and servicing the equipment needs of the patient. Lab fee: $15.00. Prerequisite: Permission of instructor.

RESP 252 Patient Management in Respiratory Rehabilitation 3-0-3
The study of the patient's adaption to chronic pulmonary disease. Emphasis will be placed on problem identification, appropriate interventions, and referral to community resources using a multidisciplinary approach in coordinating the various systems of care. Prerequisite: RN, LPN, RRT, CRTT, or permission of instructor.

RESP 253 Respiratory Rehabilitation Home Care Administration 4-0-4
This course concentrates on the management of a respiratory rehabilitation or home care organization. Topics include the development of policies and procedures for respiratory rehab home care services, the preparation of the certificate of medical necessity, and the documentation necessary for reimbursement, accreditation, regulatory requirements, and quality assurance. Other topics include marketing strategies and community health promotion. Prerequisite: RN, LPN, RRT, CRTT, or permission of instructor.

RESP 256 Case Management III (A) **l-2-2**
This course presents a holistic approach to the management of adult and pediatric patients in the critical care setting. Special emphasis will be placed on the management of the cardiopulmonary problems. Prerequisite: RESP 154 or permission of instructor. Concurrents: RESP 230 and RESP 290.

RESP 260 Organization and Administration (SP) 2-0-2
A course dealing with general management concepts as they relate to the administrative duties in a respiratory care department. Topics include policy and procedure manual, human relations, budgeting, productivity and quality control. A portion of the course is devoted to preparing for the national credentialing exams. Lab fee: $60.00. Prerequisite: Permission of instructor.

RESP 270 Current Issues in Respiratory Care (A,W,SP,SU) 2-0-2
This course is intended to be focused on current trends in the care of patient's with cardiopulmonary problems. Course content will change as current issues change. Prerequisite: RESP 256 or permission of instructor. Concurrent: RESP 292.

RESP 290 Clinical Practice/Therapeutic Procedures III (A) **2-12-8**
This course is focused on conducting respiratory care procedures in the critical care setting. Lab fee: $35.00. Prerequisite: RESP 198 or permission of instructor. Concurrents: RESP 232 and RESP 256.

RESP 292 Clinical Practice/Therapeutic Procedures IV (W) **2-12-8**
This course allows students to select a specialty area for additional clinical practice. Students can select a rotation in critical care, pediatric/neonatal care, subacute care, or homecare. Lab fee: $35.00. Prerequisites: RESP 290 or permission of instructor. Concurrent: RESP 270.

RESP 295 Clinical Experience (SP) **1-24-4**
In the Clinical Practicum students apply skills that they have learned in the previous four quarters. Students spend 24 hours per week practicing respiratory care with a clinical affiliate. Lab fee: $30.00. Prerequisite: RESP 292 or permission of instructor.

Retail Management Technology (RETL)

RETL 101 Introduction to Retailing (A,W,SP,SU) 5-0-5
Principles and methods of retail management, including organization policy making, and a survey of the functions of merchandising, sales promotion, finance and control, store operations and personnel. Lab fee: $3.00.

RETL 104 Merchandising & Sales Promotion (A,SP) 5-0-5
An overview of the impact of merchandising and sales promotion on fiscal management and store operations. Other topics of interest include fashion and hard goods merchandising, branding vs. private labels and merchandise marketplaces. Special emphasis is placed on fundamentals of store design and merchandising presentation. Lab fee: $3.00. Prerequisites: RETL 101 or permission of instructor.

RETL 204 Retail Store Operations and Control (W,SU) 4-0-4
This course is designed to deal with the management and operations of the major functions of a retail establishment including location selection, distribution, customer service, merchandising, inventory control, human resource management, and financial strategies for retail success. Lab fee: $5.00. Prerequisite: RETL 101.

RETL 213 Retail Buying (A,SP) 3-0-3
An in-depth review of the many different duties of a buyer and the role the buyer plays in assuring profitability. Topics covered include the buyer's role in risk management, inventory shortage control, people management, promotion and the legal environment that impacts retailing. Lab fee: $3.00. Prerequisite: RETL 101.

RETL 223 **Textiles (SP,SU)** 3-2-4
This course covers the fundamentals of textile science with a focus on the uses of textiles in the realm of fashion merchandising. Areas of emphasis include textile labeling laws, the properties of natural and synthetic fibers, the properties and structure of yarns and fabrics and the processes used to finish and color textile products. Lab fee: $10.00. Prerequisite: RETL 101.

RETL 281 Retail Internship I (A,W,SP,SU) 0-40-4
Supervised on-the-job appreciation of knowledge and skills acquired in the classroom. Focus on internship will be on retail sales. Open to Retail Management Technology majors only. Lab fee: $2.00. Prerequisites: MATH 101, RETL 101, BMGT 111, MKTG 111 and permission of advisor two quarters in advance. Concurrent: RETL 285.

RETL 282 Retail Internship II (A,W,SP,SU) 0-40-4
Supervised on-the-job application of knowledge and skills acquired in the classroom. Focus on internship will be on store operations and management. Open to Retail Management Technology students only. Lab fee: $2.00. Prerequisites: RETL 281 and permission of advisor two quarters in advance. Concurrent: RETL 286.

RETL 283 Retail Internship III (A,W,SP,SU) 0-40-4
Supervised on-the-job application of knowledge and skills acquired in the classroom. Focus of internship will be determined by student career interests. Open to Retail Management Technology students only. Lab fee: $2.00. Prerequisites: RETL 282 and permission of instructor two quarters in advance. Concurrent: RETL 286.

RETL 285 Special Problems in Retailing I (A,W,SP,SU) 0-4-2
Application of theoretical knowledge to analyze and recommend solutions to specific problems encountered during the retail internship. Lab fee: $1.00. Prerequisites: MATH 101, RETL 101, BMGT 111, MKTG 111 and permission of advisor two quarters in advance. Concurrent: RETL 281.

RETL 286 Special Problems in Retailing II (A,W,SP,SU) 0-4-2
Application of theoretical knowledge to analyze and recommend solutions to specific problems encountered during the retail internship. Lab fee: $1.00. Prerequisites: RETL 285 or permission of advisor two quarters in advance. Concurrent: RETL 282.

RETL 287 Special Problems in Retailing III (A,W,SP,SU) 0-4-2
Application and theoretical knowledge to analyze and recommend solutions to specific problems encountered during the retail internship. Lab fee: $1.00. Prerequisites: RETL 286 or permission of advisor two quarters in advance. Concurrent: RETL 283.

RETL 297 Special Topics in Retailing (On Demand) **1-3**
Detailed examination of special topics of interest in Retail. Topics vary. Lab fee: $3.00.

Small Business Mgmt. Major
(See Business Management Technology)

Social Sciences (SSCI)

SSCI 101 Cultural Diversity (A,W,SP,SU) 5-0-5
An interdisciplinary survey of the diversity among the various groups comprising world cultures. Emphasis will center on how individual beliefs, social values, and political and economic systems affect our perspectives and lifestyles. Problems and policies generated by diverse cultural influences will be considered. A general education core course. Lab fee: $6.00. Prerequisite: Placement into ENGL 101.

SSCI 102 America in Transition (A,W,SP,SU) 5-0-5
An interdisciplinary course which focuses on the major changes (or transitions) now taking place in the social, economic, political, and international institutions in the United States. The course helps students identify the causes and consequences of these changes. Students are encouraged, through selected readings, written assignments, and group projects to identify possible ways to respond to and meet the challenges posed by this transitional era. A general education core course. Lab fee: $6.00. Prerequisite: Placement into ENGL 101.

SSCI 103 Social Problems (A,W,SP,SU) 5-0-5
An examination of how various conditions within society come to be defined as social problems. Cultural, structural, and individual causes of such problems will be presented, based on relevant sociological, psychological, economic, and political science research. The consequences of problems for both the individual and society will be discussed, along with possible intervention strategies. Problems to be covered include wealth and power; global inequality; gender inequality; family; education; health care; crime; mental disorders; and drugs. A general education core course. Lab fee: $6.00. Prerequisite: Placement into ENGL 101.

SSCI 104 World Economic Geography (A,W,SP,SU) 5-0-5
An interdisciplinary course providing a geographical examination of the world economy. Students research the factors affecting a country's economic development and present findings from a policy maker's perspective. Factors considered include location; demographic trends; resource availability and use patterns; industrialization; political and cultural forces; and global interdependence. A general education core course. Lab fee: $6.00. Prerequisite: Placement into ENGL 101.

SSCI 290 Capstone Experience in Social Sciences (On Demand) 2-2-3
This course is designed for students completing the two-year Associate of Arts or Associate of Science degree who have a special interest in continuing in a baccalaureate degree program in Social Sciences. Students will devise a research project that relates to their academic interest after reviewing research methodologies and findings in Social Science; complete a portfolio that covers their academic career at Columbus State Community College, and participate in summative testing of their academic skills. Open only to Associate of Arts or Associate of Science students preparing to graduate within two academic quarters. Lab fee: $10.00. Prerequisite: Completion of AA/AS core requirements and at least 75 hours toward the degree.

SSCI 293 Independent Study in the Social Sciences (On Demand) **I-5**
An individual student-structured course. The independent study elective permits a student to pursue his/her interests within the context of a faculty-guided program. Lab fee: $5.00. Prerequisite: Permission of the instructor and the chairperson.

SSCI 299 Special Topics in the Social Sciences (On Demand) **I-5**
Detailed examination of selected topics of interest in the social sciences. Lab fee: $5.00. Prerequisites vary.

Sociology (soc)

SOC 101 Introduction to Sociology (A,W,SP,SU) 5-0-5
A survey course designed to introduce the basic concepts, methods, and findings of sociology as a scientific discipline. The sociological perspective, emphasizing social interaction and structure, will be used to explore the following topics: culture; socialization; social groups, including organizations; deviance; various types of social inequality; major social institutions; collective behavior, social movement and social change. Lab fee: $6.00. Prerequisite: Placement into ENGL 101.

SOC 230 Marriage and Family Relations (A,W,SP,SU) 3-0-3
An introduction to the impact of modern society upon the family as it relates to courtship, size of family, member relationships, economic problems, and marital stability. This course compares alternative lifestyles, and marriage and family relations throughout the life span. Lab fee: $6.00. Prerequisite: Placement into ENGL 101.

SOC 280 Ethnic Studies (On Demand) 3-0-3
An introductory course that explores the diverse cultures and experiences of ethnic and minority groups in America. Topics include: Cultural Pluralism in America; Assimilation of European Ethnic Groups and Other Racial Minority Groups; Social Classes in America; Old World, New World, and Third World Cultural Perspectives. Lab fee: $6.00. Prerequisite: Placement into ENGL 101.

SOC 290 Capstone Experience in Sociology (On Demand) 2-2-3
This course is designed for students completing the two-year Associate of Arts or Associate of Science degree who have a special interest in continuing in a baccalaureate degree program in Sociology. Students will devise a research project that relates to their academic interest after reviewing research methodologies and findings in Sociology; complete a portfolio that covers their academic career at Columbus State Community College, and participate in summative testing of their academic skills. Open only to Associate of Arts or Associate of Science students preparing to graduate within two academic quarters. Lab fee: $10.00. Prerequisite: Completion of AA/AS core requirements and at least 75 hours toward the degree with five credit hours in sociology.

SOC 293 Independent Study in Sociology (On Demand) **1-5**
An individual student-structured course. The independent study elective permits a student to pursue his/her interests within the context of a faculty-guided program. Lab fee: $5.00. Prerequisite: Permission of the Instructor and the Chairperson.

SOC 299 Special Topics in Sociology (On Demand) **1-5**
Detailed examination of selected topics of interest in sociology. Lab fee: $5.00. Prerequisites vary.

Spanish (SPAN)

SPAN 101 Elementary Spanish I (A,W,SP,SU) 5-0-5
Introduction to the fundamentals of the Spanish language with practice in listening, reading, speaking, and writing. Includes selected studies in Hispanic culture. Meets elective requirements in the Associate of Arts and Associate of Science degree programs and transfer requirements in foreign languages and literature. Lab fee: $6.00. Prerequisite: Placement into ENGL 101.

SPAN 102 Elementary Spanish II (A,W,SP,SU) 5-0-5
Continuation of SPAN 101 with further development of listening, reading, speaking, and writing skills and further study of Hispanic culture. Meets elective requirements in the Associate of Arts and Associate of Science degree programs and transfer requirements in foreign languages and literature. Lab fee: $6.00. Prerequisite: SPAN 101 with a grade of "C" or better or by placement exam.

SPAN 103 Intermediate Spanish I (A,W,SP,SU) 5-0-5
Continued study of the Spanish language and development of listening, reading, speaking, and writing skills. Readings from contemporary Hispanic culture and literature. Meets elective requirements in the Associate of Arts and Associate of Science degree programs and transfer requirements in foreign languages and literature. Lab fee: $6.00. Prerequisite: SPAN 102 with a grade of "C" or better or by placement exam.

SPAN 104 Intermediate Spanish II (A,W,SP,SU) 5-0-5
Reading and discussion of Spanish and Latin American short stories, novels, plays, newspapers, and magazines, emphasizing literary appreciation and the development of Hispanic culture. Meets elective requirements in the Associate of Arts and Associate of Science degree programs and transfer requirements in foreign languages and literature. Lab fee: $6.00. Prerequisite: SPAN 103 with a grade of "C" or better or by placement exam.

SPAN 290 Capstone Experience in Spanish (On Demand) 2-2-3
A capstone course focusing on Spanish. Paradigms and their underlying assumptions will be explored. Students will work on developing research techniques and methodologies. Students will apply these techniques to a project of their own design, complete a personal portfolio covering their studies at Columbus State, and participate in summative testing of their academic skills. Open only to Associate of Arts or Associate of Science students preparing to graduate within two academic quarters. Lab fee: $10.00.

SPAN 299 Special Topics in Spanish (On Demand) **1-5**
Detailed examination of special topics in Spanish. Lab fee: $2.00. Prerequisites vary.

Sports & Fitness Management Technology (SFMT)

SFMT 100 Personal Fitness Concepts (A,W,SP,SU) 3-0-3
This course of study focuses on fitness issues which affect Americans today and in the future. Emphasis is placed on establishing a basis for positive fitness through consideration of the various factors which influence fitness. Personal fitness concepts will focus attention on the need for each person to arrive at informed conclusions about how to take responsibility for his or her personal fitness. Lab fee: $10.00.

SFMT 101 Introduction to Sports & Fitness Management (W) 3-0-3
A survey of the health and fitness arena both private and public, to include the study of facilities, recreational options for the client, client profiles, daily operations, legal aspects, personnel issues, and program administration. Lab fee: $2.00. Prerequisite: Acceptance into the program.

SFMT 113 Aquatics Management (SP) **l-2-2**
A survey of the recreational aquatics environment. Hands on training in the filtration systems and their general operation, an understanding of Federal and State guidelines for licensure for pool operation and maintenance. Legal aspects of the aquatics area. Staffing requirements and training of aquatics personnel for indoor and outdoor facilities. Lab fee: $15.00. Prerequisite: SFMT 101 or permission of instructor.

SFMT 114 Introduction to Dance Exercise (A,W,SP,SU) **l-2-2**
Introduction into the methods of teaching participation in the activity, to include a thorough understanding of the fundamental techniques of the sport. The history and the value of dance for the client, the basic movements of dance, and the interpretation of music and language for dance. Lab fee: $10.00. Prerequisites: SFMT 100.

SFMT 115 Introduction to Weight Training (W,SP) **l-2-2**
Analysis of the weight training field to include types of equipment used, training methods for the client, proper lifting techniques for the various equipment, assessment of the beginning client for appropriate weight program. Risk management aspects of the weight area and proper care and maintenance of equipment. Lab fee: $20.00. Prerequisite: SFMT 101 and permission of instructor.

SFMT 116 Golf Management (A,SP,SU) **l-2-2**
An in-depth analysis of the game of golf. To include the historical study of the game, the rules which apply to the playing of the gam, and a perspective of the growth and increasing significance of the game inside and out of our industry. A study of the management of the golf facility, turf and environmental issues, employment options and the instruction of the game. Lab fee: $50.00. Prerequisite: SFMT 100.

SFMT 117 Introduction to Tae Kwon Do (A,W,SP,SU) **l-2-2**
Introduction in the coaching and participating in the activity, to include a thorough understanding of the rules and sport strategy. History of the art form, self defense strategies, and concepts of tournament sparring and tournament implementation.

SFMT 214 Advanced Dance Exercise (On Demand) **l-2-2**
Instruction in the methods of teaching and participation in group fitness activities to include a thorough understanding of the skills and the fundamental techniques of fitness instruction. The value of dance exercise and variations for the client, the movements and techniques of dance exercise, and the principles and legalities that guide fitness instructors. Prerequisite: SFMT 114.

SFMT 222 Court Sports I (Tennis) (SU) 1-2-2
Instruction in the coaching and participation in the activity, to include a thorough understanding of the rules and sport strategy. History of the sport and coaching techniques for the client, tournament set up and implementation for the facility. Lab fee: $20.00. Prerequisite: SFMT 101 and permission of instructor.

SFMT 224 Sport Management Foundations (W,SU) 5-0-5
An advanced study of the facilities required for the recreational environment. An analysis of indoor and outdoor designs and utilization. An overview of the personnel process, staffing requirements, and staff development procedures. A study of activity programming for the club environment, to include class structure, tournament procedures, proper selection of activities, and equipment needed as well as proper care and storage. Lab fee: $10.00. Prerequisite: SFMT 101.

SFMT 226 Care **and Prevention of Athletic Injuries (W,SU)** 2-2-3
Recognition, treatment, management, and prevention of basic injuries sustained while participating in athletic activities. Basic taping and treatment procedures to be introduced and applied in the athletic environment. Lab fee: $10.00. Prerequisites: BIO 121 and BIO 122 or permission of instructor.

SFMT 230 Fitness Concepts for Special Populations (A,SP) **1-0-l**
A survey of the response of children, seniors, and physically challenged persons to exercise. Emphasis to be placed on choosing appropriate and challenging activities that will result in a positive physiological response while accommodating the social, developmental and physical needs of the potential clients. Lab fee: $3.00. Prerequisite: SFMT 101. Concurrent: SFMT231.

SFMT 231 Exercise Physiology (A,SP) 3-4-5
Instruction in the testing processes used for the individual evaluation to include proper techniques used for body fat, analysis, aerobic and anaerobic capabilities, muscle mass, flexibility, and program development for the athlete. Lab fee: $15.00. Prerequisites: BIO 121 and SFMT 115. Concurrent: SFMT 230.

SFMT 232 Court Sports II Raquetball, Squash, Walleyball (W) **l-2-2**
Instruction in the coaching and participation in the three activities, to include a thorough understanding of the rules and sport strategy, history of the sport and coaching techniques for the clients, tournament set up and implementation for the facility. Lab fee: $20.00. Prerequisite: SFMT 101.

SFMT 233 Outdoor Community Recreation (A,W,SP,SU) 2-2-3
A survey of the outdoor recreational market and it's application through corporate America. Review outdoor recreational opportunities, basic activities, skills, and necessary equipment. Present safety, liability, and associated programming issues. Examine the business, career, and recreational applications. Lab fee: $50.00. Prerequisites: SFMT 101.

SFMT 234 Sport Marketing (A,SP) 5-0-5
An advanced study of sports marketing strategies for the club both internal and external. Promotional guidelines and discussion of concepts of promotional activity. Study of the budgetary process, differentiations of budget styles, and implementation of the budgetary process in both the private or public sector. Lab fee: $3.00. Prerequisite: SFMT 224.

SFMT 235 Sport Law (SU) 3-0-3
Survey of the legal framework of the athletic environment. The nature of the legal system and the law pertaining to sports, to include tort law, contractual agreements, and civil law. Lab fee: $2.00. Prerequisite: SFMT 101.

SFMT 236 Medical Ethics for Message Therapists (A,SP) 3-0-3
An introduction to the professional practice of health care including the role of the practitioner, relationships with other health care providers, privacy and confidentiality, the concepts of liability, malpractice and negligence.

SFMT 261 Message Technique I (A,SP) 3-6-6
Introduction to the professional practice of message therapy including hygiene, touch, stroking, friction, kneading, vibration, and precussion. Prerequisite: Acceptance into program. Concurrent: SFMT 271.

SFMT 262 Message Technique II (W,SU) 3-6-6
Introduction to the professional practice of message therapy including the effects, indications, and contraindications of massage upon various body systems. Prerequisite: SFMT 261.

SFMT 271 Massage Anatomy & Physiology I (A,SP) 3-2-4
Investigation of the various human body systems, their structure and function as required by the Ohio State Medical Board for licensure as a Massage Therapist. Prerequisite: Acceptance into program. Concurrent: SFMT 261.

SFMT 272 Massage Anatomy & Physiology II (W,SU) 3-2-4
Investigation of the various human body systems, their structure and function as required by the Ohio State Medical Board for licensure as a Massage Therapist. Prerequisite: SFMT 271.

SFMT 292 Practicum I (A,SP) **1-14-3**
Practical training in general operation of a fitness club to include activity preparation, personnel evaluation, and budget analysis. This course also includes an on campus seminar to discuss issues relating to the profession. Summative assessment will include a combination of objective tests, performance checklists, and evaluation by the on-site supervisor. Lab fee: $3.00. Prerequisite: SFMT 224 and permission of instructor.

SFMT 294 Practicum II (W,SU) **1-14-3**
Continuation of SFMT 292. Working in conjunction with a current fitness manager to gain insight on program and facility operation, budgetary implementation, and assist in the daily operation of a fitness facility. This course also includes an on campus seminar to discuss issues relating to the profession. Summative assessment will include a combination of objective tests, performance checklists, and evaluations by the on-site supervisor. Prerequisite: SFMT 292 and permission of instructor.

Surgical Technology (SURG)

SURG 110 Surgical Technology I (A,SP) **3-6-6**
This course introduces the student to the fundamentals of surgical technology. The function and relationship of the surgical technologist to the other members of the surgical operating team is defined. Included are basic operating room techniques, principles of asepsis, roles of the surgical team members, etc. Lab fee: $50.00. Prerequisite: Acceptance into the program. Concurrent: BIO 115.

SURG 120 Surgical Technology II (W,SU) **3-6-6**
This course continues the fundamentals of surgical technology. Basic procedures studied in the previous course are brought together in chronological order as they routinely occur in the operating room. In addition, the care of the patient before, during, and after surgery are presented. $50.00. Prerequisite: SURG 110. Concurrent: BIO 161.

SURG 130 Surgical Technology III (A,SP) **4-16-7**
Fundamentals learned up to this time are applied to basic general surgical procedures such as: endoscopy, abdominal surgery, soft tissue, etc. The role of the scrub technologist is emphasized. Lab fee: $50.00. Prerequisites: SURG 120 and BIO 161.

SURG 210 Surgical Technology IV (W,SU) **4-16-7**
General and OB/GYN surgical procedures are continued. The role of the circulator in the OR is examined, and care of the patient during the postoperative recovery phase is presented. The clinical experience continues to provide the student with the practical application for the knowledge and techniques needed to perform independently as a surgical technologist. Lab fee: $50.0. Prerequisites: SURG 130 and BIO 169.

SURG 220 Surgical Technology V (A,SP) **4-20-S**
This course will focus on specialty surgery procedures such as: EENT, neurosurgery, and orthopedics. Principles of pharmacology and anesthesia will be presented. At the same time surgical technology students will be expected to the capable of scrubbing independently on general, OB/GYN, and ortho procedures. This course continues to provide clinical practice at affiliated hospitals. The surgical technology student will continue to develop surgical skills required to function independently as a surgical technologist. Lab fee: $50.00. Prerequisite: SURG 210.

SURG 230 Surgical Technology VI (W,SU) **4-20-8**
This course will focus on specialty surgical procedures such as: EENT, neurosurgery, and cardiovascular. At the same time surgical technology students will be expected to be capable of scrubbing independently on general, OB/GYN, and ortho procedures. This course continues to provide clinical practice at affiliated hospitals. The surgical technology student will continue to develop surgical skills required to function independently as a surgical technology. Additionally, a rotation through the surgical units of Children's Hospitals will be provided. Lab fee: $50.00. Prerequisite: SURG 220.

SURG 235 Adv. Surgical Specialties/Total Joint Replacement **1-2-2**
This course deals with advanced surgical service interventions, advanced orthopedics. Prerequisite: SURG 210.

SURG 236 Adv. Surgical Specialties/Laser Therapy **1-2-2**
The advanced use of lasers in surgical interventions has created such unique choices in surgery. Prerequisite: SURG 210.

SURG 237 Adv. Surgical Specialties/Endoscopic Surgery **1-2-2**
The use of video, camera, lenses, and scopes into and around the surgical services has created a unique "view" of surgical interventions. This course would focus on many surgical specialties that use microscopes, laparoscopes, hysterscopes, and endoscope. Prerequisite: SURG 210.

SURG 238 Adv. Surgical Specialties/Cancer Surgery **1-2-2**
This course deals with advanced surgical interventions. Advanced theory and clinical surgical services into the highly skilled and invasive treatment for cancer. Prerequisite: SURG 210.

SURG 240 Currents Issues in the O.R. Department **2-0-2**
This course deals with concepts of O.R. department management. Topics covered include: legal matters; organization; quality control; cost containment; infection control, etc.

Surveying (SURV)

SURV 141 Basic Surveying (A,SP,SU) **2-6-4**
A comprehensive study of the techniques and procedures utilized to locate, measure and check construction components for both new and existing buildings and related structures. Development of hands-on skills using the tools and survey equipment in construction simulated application exercises. Utilization of contract documents as sources of information for layout and measurement of projects as well as the documentation techniques used to record field activities. Lab fee: $15.00. Prerequisites MATH 104 or MATH 112.

SURV 241 Route Surveying (A,SP,SU) **2-6-4**
A comprehensive study of the techniques and procedures utilized toocate, measure and check construction components for both new and existing highways and public works structures. Development of hands-on skills by using the tools and survey equipment in construction simulated application exercises. Utilization of contract documents as sources of information for layout and measurement of projects as well as the documentation techniques used to record field activities. Lab fee: $15.00. Prerequisites: MATH 104 and CMGT 123. Concurrent or prerequisite: SURV 141.

SURV 243 Heavy Construction Standards (W,SU) **3-2-4**
Elements of route location, construction materials, methods and procedures. Relation of design standards to topography and prospective traffic, earthwork measurement, physical design standards, and financing. Lab fee: $15.00. Prerequisites: SURV 241, CMGT 121 and CMGT **105.**

SURV 245 Survey Law (W,SU) **2-3-3**
A study of the legal codes and practices as applicable within the job duties of a two year Civil Engineering technician. Municipal records research will be utilized as one learning method. Lab fee: $15.00. Prerequisites: SURV 141, SURV 241 or permission of instructor.

SURV 247 Townsite/Urban Development (A,SP) **1-5-3**
Analysis of data and related inventory methods needed to logically plan development of all land use types. Study the forces and actions by public agencies and private interests that create the urban form. Review methods of resolving conflicts and understanding the applicable land use regulations or standards that govern area development. Lab fee: $15.00. Prerequisites: ARCH 112, SURV 141 and SURV 241.

SURV 249 Land Subdivision Systems (A,SP) **2-3-3**
Advanced surveying including section and subdivision lines and residential property lines. Reestablishment of property boundaries and legal considerations for boundary descriptions, including local municipal records searching. Lab fee: $15.00. Prerequisites: SURV 241, ARCH 112, SURV 141 and SURV 245.

Technical Communication Technology (TCO)

TCO 101 Careers in Technical Communication (A,SP) **l-3-2**
In this course, students are required to interview with Technical Communications professionals, research the field of Technical Communication, and deliver an oral presentation of the findings. Discussions of career goals, including the preparation of an initial resume and employment data file will also be required. The requirements of this course must be met within the first two quarters of entering the Technical Communication degree program. Lab fee: **$20.00.**

TCO 203 Introduction to Technical Communication (A,SP) **2-3-3**
In this course, students learn the project documentation cycle used by technical communicators in business, industry, and government by selecting an authentic problem-solving project from their technical cognate fields, and writing and formatting a series of reports in support of that project. Students learn the principles of modern technical communication and time/project management and practice them individually and in small groups throughout the documentation cycle. Lab fee: $5.00. Prerequisites: CPT 101 and ENGL 102 with a grade of "C" or higher.

TCO 204 Introduction to Technical Editing (A,SP) **2-3-3**
In this coarse, students will practice editorial skills needed for revising scientific/technical writing by checking grammar, sentence structure, clarity and style in personal, peer, and professional writings. Students will practice hard copy and on line editing and proofreading and analyze editorial style books and other technical resource materials. Various editorial approaches and the editor/author relationship will be covered. Lab fee: $5.00. Prerequisite: ENGL 102 with a grade of "C" or higher and OADM 101.

TCO 214 Document Design & Delivery Methods (W,SU) **2-3-3**
This course will introduce students to learning theory as applied to the design and delivery of technical documents. It will integrate current technical communication theory in document design and delivery with the capabilities of various software packages and delivery methods. Students will develop skills in applying design theory to technical documents and in selecting appropriate delivery methods for technical documents. Lab fee: $8.00. Prerequisite: TCO203.

TCO 215 Online Documentation (A,SP) 2-3-3
This course will introduce students to all aspects of creating online documentation. Students will learn about the five phases involved in creating online documentation: planning online documentation, designing or modifying information for online presentation, testing and redesigning online documentation. Students will develop actual online documentation for a software package during the course. Lab fee: $8.00. Prerequisites: TCO 203 and TCO 214.

TCO 223 Advanced Technical Communication (W,SU) 2-3-3
In this course, students focus on current research and theory in scientific and technical writing and apply that research to practical situations. Students produce a proposal for funding, a full-length, portfolio quality manual or report, and various other writing assignments. They also lead class discussions on such topics as readability theory, writing style, documentation methods, text processing, manual formatting, and integrating graphics and text. Lab fee: $5.00. Prerequisite: TCO 203.

TCO 224 Advanced Technical Editing (W,SU) 2-3-3
In this course, students are prepared as editors to work with other publications specialists. Students will edit manuscripts, prepare style books or manuals, and perform special editorial tasks such as preparing abstracts, indexes, and bibliographies with line-by-line precision and accuracy. Lab fee: $5.00. Prerequisites: TCO 203 and TCO 204.

TCO 230 Technical Presentations (W,SU) 2-3-3
In this course, students learn to prepare and present various types of information ranging from press releases, annual reports, and statistical analyses to proposals for projects, systematic evaluations, and revisions of existing documents. Various types of audiences will be targeted, and students will be required to use computer graphics, hypermedia, desktop publishing, and multimedia approaches to supplement oral presentations. Lab fee: $5.00. Prerequisite: TCO 223.

TCO 250 Capstone in Technical Communication (A,W,SP,SU) 2-3-3
In this course, students will be required to demonstrate both the overall competency and quality workmanship expected of professionals in the technical communications field. Students will work individually and in collaboration to solve problems of technical writing, editing, and presentations, and on the study and implementation of projects normally assigned to entry-level technical communicators. The course can only be taken during the final quarter, prior to graduation. Lab fee: $5.00. Prerequisite: Permission of instructor.

TCO 260 Career Development (A,SP) **1-0-1**
In this course, students prepare a professional portfolio, including a resume developed from the student's previous academic work experience. Students are required to review their portfolios informally and through formal oral presentations. Students will learn how to carry out company research and apply that research to targeted resumes, letters of application, and interview situations. This course must be completed within the final four quarters of the student's program. Lab fee: $5.00. Prerequisite: Permission of instructor.

TCO 290 Industry Internship (A,W,SP,SU) **1-4**
In this course, students are engaged in work specifically related to the Technical Communication field as employees in business or industry. Students are responsible for arranging the internship and must submit a written proposal to the Technical Communication Program Coordinator for approval no later than two quarters prior to becoming an intern. During the internship, the student must keep a written record of job responsibilities and projects. A formal written report must be accompanied by a written evaluation of the student's performance by his/her supervisor. One credit hour is equal to one hundred (100) clock hours on the job. The four credits may be spread over more than one quarter. Lab fee: $5.00. Prerequisites: TCO 101, TCO 203, TCO 204, and permission from the Chairperson of the Technical Communication Department. A GPA of "B" or higher in TCO courses.

TCO 297, 298, 299 Special Topics in Technical Communication (On Demand) **1-5**
Special topics in technical communications designed to meet specific needs. Lab fee: $5.00.

Theater (THEA)

THEA 100 Introduction to the Theater (A,SP) 5-0-5
The course is designed to help students bring critical thinking skills into their experience as theatergoers. Students will be introduced to the theater arts - acting, directing, and design. Students will survey the history of Western theater, focusing on the art as a reflection of society's changing social and cultural values. Plays representing several genres and historical periods will be read and discussed. Writing assignments include critical reviews of plays attended. Lab fee: $5.00. Prerequisites: ENGL 101 or ENGL 111.

THEA 180 Theater Practicum 0-9-3
Supervised practical experience in two or more of the following areas - acting, lighting, set, sound, costuming, house management, stage managing, or directing. Enrollment is limited to students who have been cast in a theater production on campus or who have been selected to work on technical areas of the production. With the advanced approval of the instructor, credit can be earned by working on off-campus theater productions. Repeatable to nine credits. Lab fee: $5.00. Prerequisite: THEA 100 (COMM 130) and permission of instructor.

THEA 210 Technical Production Fundamentals: Stage Lighting (SP) **1-4-3**
An introduction to the basic principles and functions of stage lighting. Experience in creating a lighting design, hanging and focusing sighting instruments, and executing the design with the Status 24/48 control board. Brief overview of the work of other members of the production staff with whom a lighting designer collaborates. Lab fee: $3.00. Prerequisite: THEA 100 (COMM130) or permission of instructor.

THEA 231 Literature for the Theater I (W) 3-0-3
A survey of selected world drama from the classical Greek period through the mid-nineteenth century. The focus is on the plays as potential theater. Lab fee: $3.00. Prerequisite: ENGL 101 or 111; Concurrent: ENGL 101 or 111.

THEA 232 Literature for the Theater II (SP) 3-0-3
A survey of selected western drama from the eighteenth century through the mid-nineteenth century. The focus is on the plays as potential theater. Lab fee: $3.00. Prerequisites: ENGL 101 or ENGL 111; Concurrent: ENGL 101 or ENGL 111.

THEA 233 Literature for the Theater III (SU) 3-0-3
A survey of selected western drama from the mid-nineteenth century to the present. The focus is on the plays as potential theater. Lab fee: $3.00. Prerequisite: ENGL 101 or ENGL 111, THEA 100 or COMM 130; Concurrent: ENGL 101 or ENGL 111, THEA 100 or COMM 130.

THEA 280 Fundamentals of Acting (W) **l-4-3**
Introduction to the basic principles of stage acting with a focus on practical experience. Areas of emphasis include stage movement, vocal delivery, body language, concentration techniques and basic script analysis and scoring, Lab fee: $3.00. Prerequisite: THEA 100 (COMM 130) or permission of instructor.

THEA Writing Plays (SP) 5-0-5
(See ENGL 283)

THEA 290 Capstone Experience in Theater (SU) 0-6-3
Fulfills the capstone requirement for Associate of Arts and Associate of Science degree students at Columbus State. Students will carry out and present a major project in theater - in performance, technical theater, or research. Students will complete a personal portfolio covering their studies in theater and related areas. Lab fee: $10.0. Prerequisite: 75 credits toward the Associate of Arts or Associate of Science degree, including at least 12 credits in THEA beyond THEA 100 (COMM 130).

Veterinary Technology (VET)

VET 111 Veterinary Technology (A) 4-2-5
Introduction to the Veterinary Technician Technology including laws and ethics, duties and job opportunities. Medical terminology, nutrition requirements for various animals, management, restraint, sexing basic techniques and common diseases of laboratory animals are discussed. Lab fee: $70.00. Prerequisite: Admission to program.

VET 114 Client Relations (A) 2-0-2
Exploration of the procedures used in veterinary practices, in client and public relations, including standard office procedures and computerized processes. Prerequisites: Admission to program and CPT 101. Concurrent: VET 111.

VET 122 Veterinary Parasitology (W) 2-2-3
An introduction to the common internal and external parasites of domestic animals including scientific nomenclature, life cycles, common methods of identification and the treatment and/or prevention of these parasites. Lab fee: $70.00. Prerequisite: VET 111.

VET 124 Principles of Veterinary Radiology (W) 2-0-2
Study of elementary physics, atomic structure, x-ray physics in the production of x-rays, interaction of x-ray within the body, interaction of x-rays with x-ray film, radiation safety, patient measurement and positioning, preparation of a techniques chart, radiographic, development procedures, special diagnostic radiographic procedures and equipment. Prerequisites: BIO 161 and VET 136.

VET 126 Principles of Veterinary Anesthesia (SP) 3-0-3
Study of systemic and inhalation anesthetic agents, premeditation agents, ventilators, respirators and monitoring equipment, preanesthetic physical, emergency drugs and CPR. Prerequisites: BIO 161, BIO 169 and VET 136. Concurrent: VET 133.

VET 131 Veterinary Anatomy and Physiology (SP) 3-0-3
Presentation and discussion of the comparative anatomy and physiology of the canine, feline, equine and bovine species. The anatomy and physiology of these domestic species will be compared using a systems approach and clinically applied for the veterinary technician. Prerequisites: BIO 161 and BIO 169.

VET 133 Clinical Application I (SP) 0-6-3
Laboratory exercises for VET 138, VET 124 and VET 126. Students practice techniques of surgery, anesthesia, radiology, venipuncture and injection. Lab fee: $70.00. Prerequisites: VET 136 and VET 124. Concurrents: VET 126 and VET 138.

VET 135 Veterinary Hematology (SP,SU) 2-6-5
Students perform procedures required for a complete blood count. Students use hemocytometer, pipet, centrifuge, spectrophotometer, and automated cell counters. Emphasis on the differential white blood cell counts including abnormal and immature red blood cells and white blood cells. Other tests performed in a veterinary hematology clinic are presented. Prerequisite: BIO 169 and VET 136.

VET 136 Animal Health and Disease I (W) 3-0-3
A physiological systems approach to the most frequently encountered diseases of dogs and cats including: disease name, definition and history, animals at risk, causes and symptoms, diagnosis, treatment, prevention and vaccination programs. Diseases are. discussed which can be potentially transmitted from animal to man as well as emphasizing safety and prevention from them. Prerequisites: VET 111 and VET 114. Concurrents: VET 122 and BIO 169.

VET 138 Veterinary Surgical Techniques (SP) 3-0-3
Fundamentals of routine surgery, including preparation of patient, identification of instruments, preparation of surgical packs, suture materials and patterns. Use of the autoclave and other methods of sterilization. Preanesthetic laboratory tests and postoperative care of the patient are discussed. Prerequisites: VET 111, VET 136 and BIO 161.

VET 254 Clinical Seminar I (SU,A) 2-0-2
Discussion of issues relating to clinical experience including euthanasia, problem solving models and change strategies. Prerequisite: VET 126. Concurrent: VET 291.

VET 262 Veterinary Pharmacology (A,W) 3-0-3
Drugs commonly used in veterinary medicine, including brief history, terminology, source, dosage form and drug classification. Methods of administration, factors altering drug response, prescription terminology and metrology. Regulations for controlled substances. Prerequisite: MATH 100 and VET 136.

VET 263 Clinical Application II (A,W) 0-6-3
Practice skills commonly performed in veterinary clinics, such as: record keeping, administration of fluids and medications, pre-anesthetic evaluation, surgical preparation, anesthetic administration, radiology and laboratory procedures. Lab fee: $70.00. Prerequisites: VET 133 and VET 291.

VET 266 Animal Health and Disease II (A,W,SP,SU) 3-0-3
Presentation and discussion of the most common diseases of horses, food animals, and exotics; including vaccination programs, nutrition, breeding and husbandry. Prerequisite: VET 136.

VET 267 Veterinary Urinalysis and Clinical Chemistry (A,W) 2-6-4
Students perform analysis on mine, such as protein, glucose, ketones, and other diagnostic tests of a routine urinalyses. They learn physical characteristics and tests performed on transudates, exudates, and cerebrospinal fluid. Students perform blood chemistries, including glucose, BUN, creatinine, and enzymes. Prerequisite: VET 135.

VET 269 Veterinary Microbiology (A,W) **2-6-5**
Processes necessary to isolate and identify causative agents of bacterial infections. Students perform susceptibility testing to determine the effective chemical or antibiotic agents necessary for treatment. Basic bacteriological procedures include: isolation of colonies on culture plate and gram staining. Serologic procedures include: identification of brucellosis by antigen/antibody detection. Prerequisites: VET 135 and VET 136 or permission. Concurrent: VET **266.**

VET 274 Clinical Seminar II (W,SP) 2-0-2
Continuation of VET 254, seminar course, which addresses issues emanating from the students clinical experience. Strategies for job hunting are discussed, and simulation job interviews are practiced. Prerequisite: VET 291. Concurrent: VET 293.

VET 275 Seminar A **1-0-1**
Discussion relating to clinical experiences and euthanasia and problem solving models. Prerequisites: VET 133; evening program registration. Concurrent: VET 294.

VET 276 Seminar B **1-0-1**
A continuation of discussions relating to clinical experiences, Myers-Briggs evaluation, and problem solving. Prerequisites: VET 275; evening program registration. Concurrent: VET 295.

VET 277 Seminar C **1-0-l**
A continuation of VET 276 to address issues emanating from clinical experience. Strategies to enhance employment opportunities are investigated. Prerequisites: VET 276; evening program registration. Concurrent: VET 296.

VET 278 Seminar D **l-0-1**
A continuation of VET 277 to discuss issues concerning clinical experience. Strategies which enhance employment opportunities are continued to be discussed. Prerequisites: VET 277; evening program registration. Concurrent: VET 297.

VET 291 Clinical Experience I (SU,A) 0-30-6
Practical experiences in techniques used in veterinary medicine. Students are assigned to veterinary facilities: the Veterinary Teaching Hospital in the College of Veterinary Medicine at The Ohio State University, and other facilities including research, private practices and the Columbus Zoo. Lab fee: $70.00. Prerequisite: 30 technical credits

VET 293 Clinical Experience II (W,SP) 0-30-6
Continuation of VET 291. Lab fee: $70.00. Prerequisites: All VET courses.

VET 294 Clinical Experience A **0-15-3**
Observation and practical application of techniques used in veterinary medicine. Students will be assigned to various private practitioners for a period of ten weeks or the teaching hospital of the College of Veterinary Medicine for this period. Designed for the evening veterinary technology program. Lab fee: $35.00. Prerequisites: 30 technical hours completed; evening program registration.

VET 295 Clinical Experience B **0-15-3**
A continuation of clinical experience where observation and practical application of techniques used in veterinary medicine will be further performed. Students will be assigned to various private practitioners for a period of ten weeks or the teaching hospital of the College of Veterinary Medicine for this period. Designed for the evening veterinary technology program. Lab fee: $35.00. Prerequisites: VET 294; evening program registration.

VET 296 Clinical Experience C **0-15-3**
Clinical experience and observation and practical application of techniques used in veterinary medicine will be further performed. Students will be assigned to various private practitioners for a period of ten weeks or the teaching hospital of the College of Veterinary Medicine for this period in the area of large animal (equine and food animal medicine). Designed for the evening veterinary technology program. Lab fee: $35.00. Prerequisites: VET 295; evening program registration.

VET 297 Clinical Experience D **0-15-3**
Clinical observation and practical application of techniques used in veterinary medicine will be further performed. Students will be assigned to various private practitioners for a period of ten weeks or the teaching hospital of the College of Veterinary Medicine for this period in the area of emergency and intensive care animal medicine. Designed for the evening veterinary technology program. Lab fee: $35.00. Prerequisites: VET 296; evening program registration.

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Academic Calendar

AUTUMN QUARTER 1997
September 24, 1997 - December 13, 1997

Registration begins ..... (M) August 4, 1997
Labor Day - Campus Closed ..... (M) September 1, 1997
Last day for continuing students to register
without late charge (CATS) ..... (U) September 7, 1997
Last day to pay fees without penalty (7:30 p.m.). .....(T) September 23, 1997
Full-quarter classes begin ..... (W) September 24, 1997
Last day for 100% refund of full-quarter fees.. ..... (W) October 1, 1997
Last day to pay fees with penalty (7:30 p.m.) ..... (W) October 1, 1997
Last day for 50% refund of full-quarter fees.. ..... (W) October 8, 1997
Columbus Day Observed - Campus Closed ..... (M) October 13, 1997
Last day for 25% refund of full-quarter fees.. ..... (W) October 15. 1997
Faculty-and Staff In-Service -
No Day Classes - Offices Closed ..... (W) October 22, 1997
Last day to remove incompletes (I)
incurred Summer Quarter 1997 ..... (S) November 8, 1997
Veterans Day - Campus Closed ..... (T) November 11, 1997
Last day to withdraw from full-quarter classes . . . . (T) November 25, 1997
Thanksgiving - Campus Closed . . . . . (R, F, S, U) November 27-30, 1997
Petitions to graduate Winter Quarter 1998
due in Student Records Office ..... (F) December 5, 1997
Graduation ceremony ..... (F) December 12, 1997
Autumn Quarter 1997 ends ..... (S) December 13, 1997
Christmas Day - Campus Closed . . . . . (R) December 25, 1997
New Year's Day - Campus Closed. . . . . (R) January 1, 1998

WINTER QUARTER 1998
January 5, 1998 - March 21, 1998

Registration begins ..... (M) November 3, 1997
Thanksgiving - Campus Closed ..... (R, F, S, U) November 27-30, 1997
Last day for continuing students to
register without late charge (CATS). ..... (U) December 7, 1997
Christmas Day - Campus Closed ..... (R) December 25, 1997
New Year's Day - Campus Closed ..... (R) January 1, 1998
Last day to pay fees without penalty (3:00 p.m.) ..... (S) January 3, 1998
Full-quarter classes begin.. ..... (M) January 5, 1998
Last day for 100% refund of full-quarter fees ..... (M) January 12, 1998
Last day to pay fees with penalty.. ..... (M) January 12, 1998
Martin Luther King Day - Campus Closed.. ..... (M) January 19, 1998
Last day for 50% refund of full-quarter fees.. ..... (T) January 20, 1998
Last day for 25% refund of full-quarter fees.. ..... (M) January 26. 1998
Petitions to graduate Spring Quarter 1998
due in Student Records Office ..... (F) February 6, 1998
Last day to remove incompletes (I)
incurred Autumn Quarter 1997 ..... (S) February 14, 1998
Last day to pay second-term fees with penalty.. ..... (R) February 19, 1998
Presidents' Day Observed - Campus Closed ..... (F) February 20. 1998
Last day to withdraw from full-quarter classes.. ....(M) March 9, 1998
Graduation ceremony ..... (F) March 20, 1998
Winter Quarter 1998 ends ..... (S) March 21, 1998

SPRING QUARTER 1998
March 30, 1998 -June 13, 1998

Registration begins ..... (M) February 9, 1998
Last day for continuing students to
register without late charge (CATS) ..... (U) March 15, 1998
Last day to pay fees without penalty (3:00 p.m.) ..... (S) March 28, 1998
Full-quarter classes begin.. ..... (M) March 30, 1998
Last day for 100% refund of full-quarter fees.. ..... (M) April 6. 1998
Last day to pay fees with penalty ..... (M) April 6, 1998
Easter Sunday - Campus Closed ..... (U) April 12, 1998
Last day for 50% refund of full-quarter fees ..... (M) April 6, 1998
Last day for 25% refund of full-quarter fees . . . . . (M) April 20, 1998
Faculty and Staff In-Service -
No Day Classes - Offices Closed ..... (F) April 24 1998
Petitions to graduate Summer Quarter 1998
due in Student Records Office ..... (F) May 1, 1998
Last day to remove incompletes (I)
incurred Winter Quarter 1998 ..... (S) May 9, 1998
Memorial Day - Campus Closed .... (M) May-25, 1998
Last day to withdraw from full-quarter classes.. ..... (M) June 1, 1998
Graduation ceremony. ..... (F) June 12, 1998
Spring Quarter 1998 ends. ..... (S) June 13, 1998

SUMMER QUARTER 1998
June 29, 1998 - September 12, 1998

Registration begins ..... (M) May 4, 1998
Last day for continuing students to
register without late charge (CATS) ..... (U) June 7, 1998
Last day to pay fees without penalty (3:00 p.m.) ..... (S) June 27, 1998
Full-quarter classes begin.. ..... (M) June 29, 1998
First-term classes begin ..... (M) June 29, 1998
First four-week-term classes begin.. ..... (M) June 29, 1998
Eight-week-term classes begin ..... (M) June 29, 1998
Independence Day Observed - Campus Closed ..... (F) July 3, 1998
Last day for 100% refund of full-quarter fees.. ..... (M) July 6, 1998
Last day to pay full-quarter fees with penalty ..... (M) July 6, 1998
Last day to pay first-term classes with penalty.. ..... (M) July 6, 1998
Last day to pay first four-week-term with penalty.. ..... (M) July 6, 1998
Last day to pay eight-week-term with penalty. ..... (M) July 6, 1998
Last day for 50% refund of full-quarter fees.. ..... (M) July 13, 1998
Last day for 25% refund of full-quarter fees.. ..... (M) July 20, 1998
Last day to withdraw from first four-week-term classes..... (M) July 20, 1998
Last day to pay second four-week-term fees without penalty (S) July 25, 1998
First four-week-term classes end . . . . . (S) July 25, 1998
Second four-week-term classes begin..... (M) July 27, 1998
Last day to withdraw from first-term classes ..... (R) July 30, 1998
Autumn Quarter 1998 registration begins ..... (M) August 3, 1998
Last day to pay second-term fees without penalty . . . . . (W) August 5, 1998
First-term classes end ..... (W) August 5, 1998
Second-term classes begin. . . . . (R) August 6, 1998
Petitions to graduate Autumn Quarter 1998
due in Student Records Office ..... (F) August 7, 1998
Last day to remove incompletes (I)
incurred Spring Quarter 1998 ..... (S) August 8, 1998
Last day to pay second-term fees with penalty . . . . . (W) August 12, 1998
Last day to withdraw from second four-week-term classes (M) August 17, 1998
Last day to withdraw from eight-week-term classes ..... (M) August 17, 1998
Second four-week-term classes end . . . . . (S) August 22, 1998
Eight-week-term classes end ..... (S) August 22, 1998
Last day to withdraw from full-quarter classes. ..... (M) August 31, 1998
Last day to withdraw from second-term classes ..... (M) August 31, 1998
Labor Day - Campus Closed. ..... (M) September 7, 1998
Graduation ceremony. ..... (F) September 11, 1998
Summer Quarter 1998 ends. ..... (S) September 12, 1998

Please refer to the quarterly schedule of classes for a complete list of dates and deadlines.