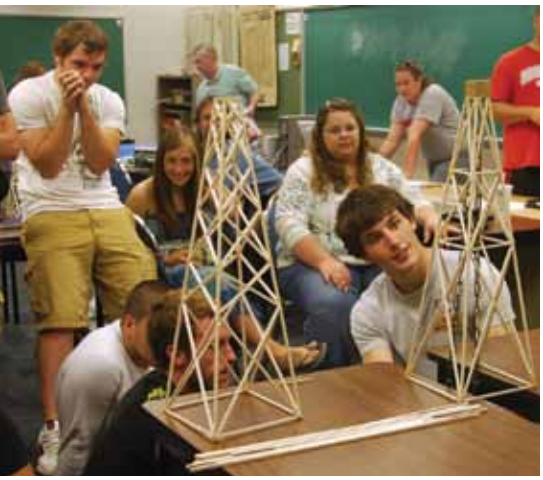
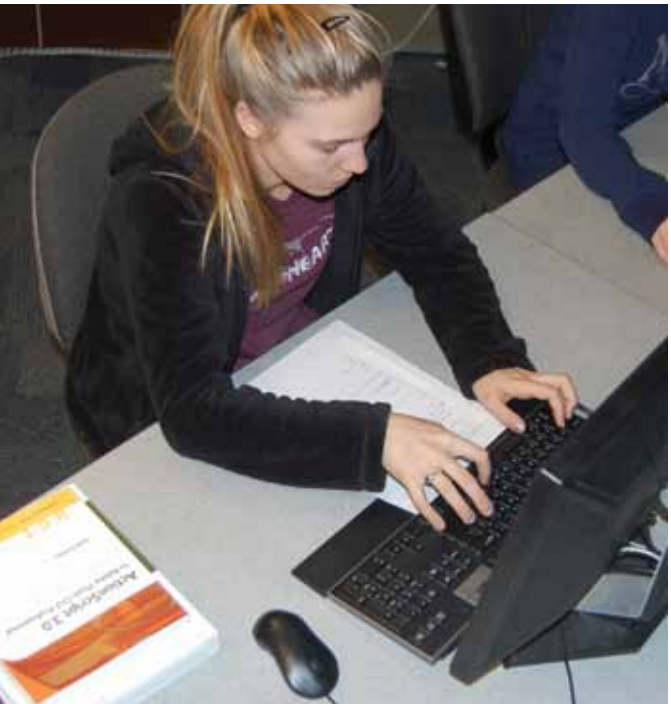


ZANE STATE COLLEGE

2011-2012 Catalog



VISION
Empowering People ~ Enriching Lives ~ Advancing the Region

MISSION
Every learner puts knowledge to work through
experience-based learning provided with a personal touch.

TABLE OF CONTENTS

2011-2012 Catalog

College Mission and Vision Statement 1
Specialized Accreditation 2
The College 4
Core Values and Practices 5
Institutional Goals 5
Assessment of Institutional Effectiveness 6
Degrees and Certificates 7
Academic Calendar 8
Disclaimers 10
Academic Policies & Procedures 11
Alternative Credit 14
Transfer Policies & Procedures 15
Grading System 19
Graduation Procedures 24
Replacement Diploma Policy 25
Recognition Programs 25
Student Rights & Responsibilities 26
Programs & Curricula 28
Short Term Certificates 32
One-Year Certificates 36
Associate of Arts Degree 40
Associate of Science Degree 42
Associate of Technical Study 44
Program Descriptions 47
Course Descriptions 112
Workforce Development 195
Advisory Committees 197
Index 203

ZANE STATE COLLEGE
1555 Newark Road • Zanesville, Ohio 43701
740-454-2501 or 800-686-8324
www.zanestate.edu

ZANE STATE COLLEGE
A Comprehensive Community-Based Technical College
Catalog & Student Handbook
Volume XXXVIII June 2011

Chartered by	The Ohio Board of Regents, 1969
Accredited by	North Central Association of Colleges and Schools The Higher Learning Commission 30 N. LaSalle Street, Suite 2400 Chicago, Illinois 60602-2504 1-800-621-7440
Member	American Association of Community Colleges Council of North Central Community Junior Colleges National Institute for Staff and Organizational Development Ohio Association of Community Colleges

Specialized Accreditation
Culinary Arts is accredited by:
American Culinary Federation, Inc.
Accrediting Commission
10 San Bartola Drive
St. Augustine, FL 32086
(800) 624-9458

Electrical/Electronics Engineering Technology is accredited by:
Technology Accreditation Commission of the Accreditation Board for Engineering and Technology, Inc.
111 Market Place, Suite 1050
Baltimore, MD 21202-4012
(410) 347-7700
www.abet.org

Medical Assisting Program is accredited by:
Commission on Accreditation of Allied Health Education Programs
1361 Park Street
Clearwater, FL 33756
(727) 210-2350
www.caahep.org

Medical Laboratory Technology is accredited by:
National Accrediting Agency for Clinical Laboratory Sciences
8410 West Bryn Mawr, Suite 670
Chicago, IL 60631-3415
(773) 714-8880
www.naacls.org

Phlebotomy Technician program is approved by:
National Accrediting Agency for Clinical Laboratory Sciences
8410 West Bryn Mawr, Suite 670
Chicago, IL 60631-3415
(773) 714-8880
www.naacls.org

Occupational Therapy Assistant is accredited by:
Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA)
4720 Montgomery Lane, P.O. Box 31220
Bethesda, MD 20824-1220
(301) 652-2682
www.aota.org

Parks, Recreation, & Wildlife is accredited by:
North American Wildlife Technology Association
Dean Snow, Executive Director
College of the North Atlantic
Corner Brook Campus
P.O. Box 822
Corner Brook NL A2H6H6

Physical Therapist Assistant is accredited by:
Commission on Accreditation in Physical Therapy Education
American Physical Therapy Association
1111 N. Fairfax Street
Alexandria, VA 22314
(703) 684-2782

Radiologic Technology is accredited by:
Joint Review Committee on Education in Radiologic Technology (JRCERT)
20 N. Wacker Drive, Suite 2850
Chicago, IL 60606-3182
(312) 704-5300
Fax: (312) 704-5304
www.jrcert.org

THE COLLEGE

Zane State College is a two-year technical college that offers students the opportunity to earn an associate degree while participating in experienced-based learning in their chosen field. Programs offered in this setting are designed to provide a broad-based competency in a field of applied business or science and include an approved distribution of general, basic, and technical courses. Although the primary objective of these programs is employment rather than transferability of credits to a baccalaureate or advanced degree, program credits are accepted by many colleges and universities.

Graduates of Zane State College programs are often referred to as technicians and paraprofessionals. These are terms used to describe employees whose special knowledge and skills qualify them to serve in mid-level positions that support engineers, scientists, doctors, high-level managers, and executives in specialized fields. The Zane State College programs, and thus the graduates, are generally application-oriented. Employment opportunities for Zane State College graduates are personally challenging and rewarding and often include a high level of responsibility.

Each of the associate degree programs at Zane State College can be completed in a two-year period (seven or eight quarters); however, many students attend on a part-time basis and complete the programs at their own pace. In fact, the national average length of time students take to complete an associate degree is ten quarters or three years.

EDUCATIONAL FACILITIES

Zane State College moved to its current educational facilities in September 1975. The College shares a 179-acre campus with Ohio University-Zanesville and houses the following educational facilities:

The Campus Center - This facility is shared with Ohio University-Zanesville. It is a 65,000 square-foot building of modern design with classrooms, health laboratories, culinary arts laboratory, campus bookstore, student lounge, food service and dining area, and a conference center with seating for 300.

College Hall - This complex provides classrooms, laboratories, and office space for the faculty and administration. Among other departments, College Hall houses Student Services (including Admissions, Student Financial Aid, and Student Success Center), The Learning Center, Business Office, Human Resources, Evening Programs Office, and the Academic Computer Lab.

Health Science Hall - A facility that includes laboratories for the health technologies in addition to classroom space for other technologies and a 126-seat lecture hall.

Herrold Hall - A learning resource center shared by Zane State College and Ohio University-Zanesville that includes a 75,000 volume library, student lounges, and study areas.
Law Enforcement Laboratory - A 1,000 square-foot laboratory used for the Criminal Justice Technologies that contains a classroom/laboratory and a seven-lane pistol range.

Littick Hall - A physical education building shared by Zane State College and Ohio University-Zanesville that includes a gymnasium, multi-purpose room, classrooms, exercise room, locker rooms, and offices.

Natural Resources Center - This classroom and laboratory facility was dedicated in October 1985, after its construction on the College Land Laboratory, five miles west of the campus. The Land Laboratory is a 125 acre facility near Dillon Lake that is leased from the Muskingum Valley Fisherman's Association and the Ohio Department of Natural Resources. It is used by students and faculty members of outdoor-related technologies. The Natural Resources Center is a modern, rustic-looking building overlooking the lake.

Zane State College Willett-Pratt Training Center - Opened in the fall of 2001, the 35,000 square foot complex is devoted to serving the business and industrial education needs of Southeastern and Central Ohio. The Zane State College Willett-Pratt Training Center offers flexible and convenient educational opportunities through short-term, self-paced, modular welding training. In addition, traditional and distance learning courses are offered. The facility houses training space, traditional classrooms, an ITV classroom, and the Learning Resource Center. Space also is provided for local business and organizations which have partnered with Zane State College to provide services to the community.

CORE VALUES AND PRACTICES

Core Values

Personal Touch: **R**espect, **R**esponsiveness, and **R**esponsibility in all professional relationships, specifically, employee to student, employee to employee, and employee to community. College employees acknowledge their obligation to model and teach the three **R**'s to influence student development of behaviors that will lead to academic, professional, and personal success.

Learner Centered: We value learners as active participants in events and activities leading to the accumulation of knowledge, skills, and values in settings in and beyond the classroom. We are dedicated to careful design, evaluation, and improvement of programs, courses, and learning environments to enhance learner achievement. We recognize that every employee contributes to helping students learn and develop.

Collaboration: We strive to build synergistic relationships with our students, our community, business and industry, and other institutions.

Innovation: We believe forward thinking and informed risk-taking creates opportunities for success.

Core Practices

- Be a dynamic, responsive, and progressive organization that continually assesses and improves its academic programs.
- Provide and continually expand experiential learning opportunities for students.
- Integrate general education and technical skills in the learning experience, resulting in persons wholly prepared for the workplace and the world.
- Inspire learners to assume social responsibilities, engage in service learning, and become life-long learners.
- Focus on accessible and diverse learning opportunities.
- Foster the ethical and meaningful use of technology.
- Establish, maintain, and expand partnerships and strategic alliances with community-based organizations, educational institutions, business, industry, labor, and government agencies.
- Maintain and obtain, where appropriate, institutional and/or programmatic accreditation.
- Provide comprehensive educational services necessary for learners' successful educational experiences.
- Prepare learners for employment throughout the educational experience.
- Ensure skills sets training meets employment needs for workers and regional employers.
- Make relevant volunteer contributions to economic development, community service, and professional organizations.
- Promote choices for learners who wish to continue their education beyond Zane State College.

INSTITUTIONAL GOALS

Supporting our College vision, mission, core values and core practices, are our institutional goals:

Financing: Ensuring we are good stewards of our finances and have the ability to support our programs and services; obtaining additional funding through grants and expansion of the Zane State College Foundation to facilitate access to education and expand our programs and services.

Learning: Providing quality learning experiences for our students as reflected in our mission and assessing outcomes to continuously improve the learning experiences of our students.
Access: Growing our program and course offerings; diversifying our delivery methods; expanding times and locations of program and course offerings to better meet the needs of our students.

People: Valuing all people through living our personal touch philosophy in all of our interactions.

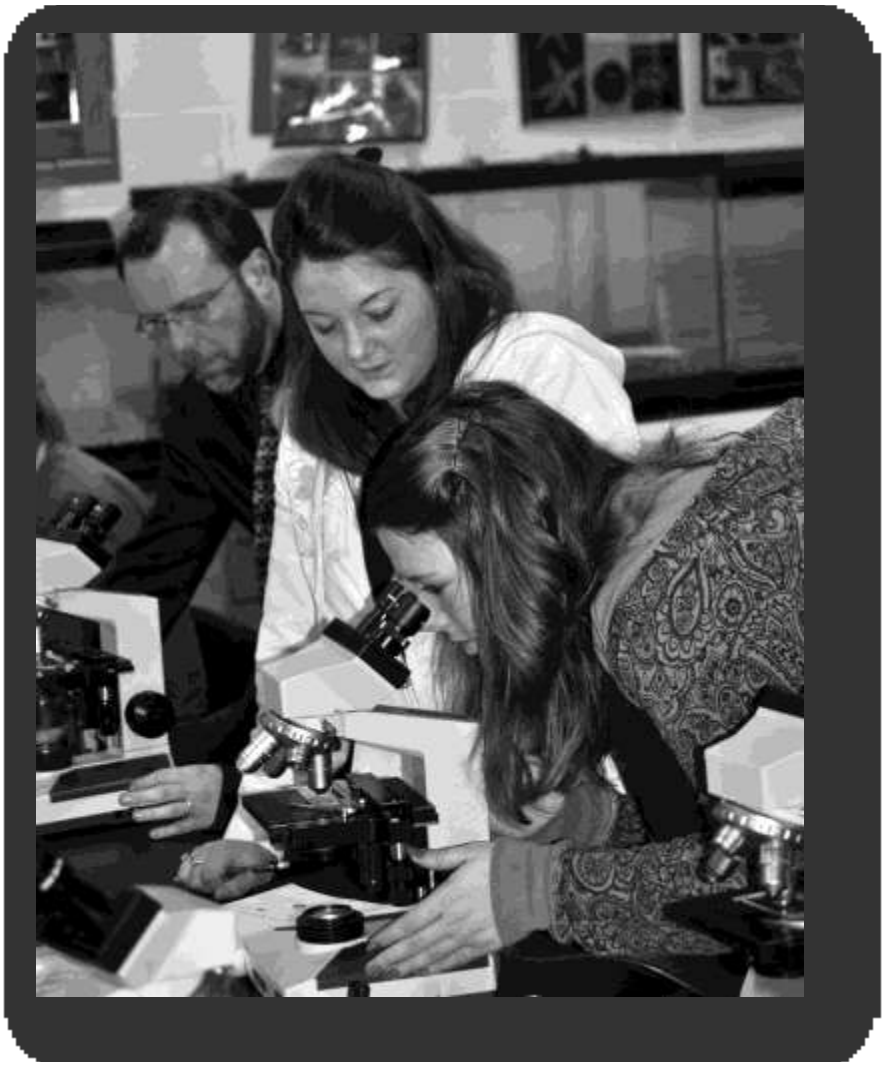
Partnerships: Strengthening and growing our partnerships with K-12 schools, other colleges, business and industry, and the community at large.

ASSESSMENT OF INSTITUTIONAL EFFECTIVENESS

It is the goal of Zane State College to enable individuals to develop to their fullest potential and prepare them to work as paraprofessionals or technicians in their chosen field. To this end, an assessment program is conducted College-wide to measure student progress toward educational goals, to determine academic progress, to improve teaching and learning, and to evaluate institutional effectiveness. Student assessment is part of the College's educational program. What Zane State College discovers through the assessment program is used in making decisions about everything the College does from curriculum planning to student activities to support services.

From the time students apply to the College until the time they leave, students are expected to participate in a series of evaluations, projects, surveys and other assessment activities intended to:

- Assess students' backgrounds, academic skills, and interests for accurate advisement and program placement at entry;
- Obtain information about students' satisfaction with College courses, programs and services;
- Measure gains and competencies students have achieved academically while at the College; and
- Demonstrate mastery of skills. These evaluations, projects, surveys, and other assessment activities are used to help students achieve their individual goals and to improve College services and programs for all students. Students' earnest and sincere participation in surveys, tests, learning tasks, exit exams, capstone experiences, and portfolio development provides the College with accurate information to plan increasingly effective programs and services. In this effort, students become partners in the assessment and learning process.



DEGREES AND CERTIFICATES

ASSOCIATE OF APPLIED SCIENCE DEGREE (2 YEARS)
Engineering Technology Programs
Alternative Energy Technology 52
Computer Aided Drafting & Design (CAD)
Architectural Drafting major 64
Mechanical Design major 66
Electrical/Electronics Engineering Technology (EET) 78
Natural Gas Engineering Technology (NGT) 98
Health Programs
Health Information Management (HIM) 78
Medical Assisting (MAT) 94
Medical Laboratory (MLT) 96
Occupational Therapy Assistant (OTA) 100
Physical Therapist Assistant (PTA) 106
Radiologic Technology (RAD) 108
Sport and Fitness Management (SFM) 110
Natural Science Programs
Environmental Science, Safety, and Health (ENV) 82
Parks, Recreation, & Wildlife (PRW) 104
Public Service Programs
Criminal Justice (Police Science/Corrections) (LAW) 68
Early Childhood Education (ECE) 74
Education Paraprofessional (EDP) 76
Human Services Assistant (HSV) 86

ASSOCIATE OF APPLIED BUSINESS DEGREE (2 YEARS)
Business Programs
Accounting (ACC) 48
Administrative Office Assistant (AOA) 50
Business Management (BMT) 54
Human Resources Management major (BMH) 57
Marketing Management major (BMM) 59
(Business) Microcomputer Applications (BMC) 62
Culinary Arts (CUL) 72
Information Technology (ITC) 88
Paralegal (PAR) 102

ASSOCIATE OF ARTS DEGREE (2 YEARS) 40

ASSOCIATE OF SCIENCE DEGREE (2 YEARS) 42

ASSOCIATE OF TECHNICAL STUDY DEGREE (2 YEARS) 44
Pathways to Engineering 45

SHORT TERM CERTIFICATES 32

CERTIFICATE IN APPLIED SCIENCE (1 YEAR)
Medical Assisting – Administrative and Clinical
Welding

CERTIFICATE IN APPLIED BUSINESS (1 YEAR)
Accounting and Bookkeeping
Digital Animation
General Business
General Office Specialist
Graphic Design
Retail Sales

ACADEMIC CALENDAR

SUMMER QUARTER 2011

June 20	Classes Begin/Registration (Full Term & First Term)	Monday
June 24	Last Day to Drop Summer Quarter First Term Classes	Friday
June 27	Last Day to Register/Add Classes (Full Term)	Monday
June 27	Returning Student Priority Code Registration for Fall Quarter Begins	Monday
July 1	Last Day to Drop Classes/Remove Spring Quarter Incompletes	Friday
July 4	Holiday (Independence Day) No Classes/Offices Closed	Monday
July 27	Classes End (First Term)	Wednesday
July 28	Classes Begin/Registration (Second Term)	Thursday
August 1	New Student Registration for Fall Quarter Begins	Monday
August 3	Last Day to Drop Summer Quarter Second Term Classes	Wednesday
August 5	Last Day to Withdraw (Full Term)/Petition for Fall Quarter Readmission	Friday
September 3	Classes End (Second Term & Full Term)	Saturday
September 5	Holiday (Labor Day) Offices Closed	Monday

FALL QUARTER 2011

September 12-15	Registration/Orientation/Employee Development	Monday-Thursday
September 19	Classes Begin/Registration	Monday
September 26	Last Day to Register or Add Classes	Monday
September 30	Last Day to Drop Classes/Remove Summer Quarter Incompletes/Petition for Fall Quarter Graduation	Friday
October 3	Returning Student Priority Code Registration for Winter & Spring Quarters Begins	Monday
October 26	Classes End (First Term)	Wednesday
October 27	Classes Begin/Registration (Second Term)	Thursday
November 4	Last Day to Withdraw (Full Term)/Petition for Winter Quarter Readmission	Friday
November 7	New Student Registration for Winter Quarters Begins	Monday
November 10	Last Day to Petition for Winter Quarter Readmission	Thursday
November 11	Holiday (Veteran's Day) No Classes/Offices Closed	Friday
November 22	Last Day to Petition for Winter Quarter Graduation	Tuesday
November 24-26	Holiday (Thanksgiving) No Classes/Offices Closed	Thursday-Saturday
December 10	Classes End	Saturday
December 12-14	Employee Development	Monday-Wednesday
December 23-26	Holiday (Christmas) Offices Closed	Friday-Monday
December 30	Holiday (New Year's Eve) Offices Closed	Friday

WINTER QUARTER 2012

January 2	Holiday (New Year's) Offices Closed	Monday
January 3	Classes Begin/Registration	Tuesday
January 9	Last Day to Register or Add Classes	Monday
January 9	Returning Student Priority Code Registration for Spring & Summer Quarters Begins	Monday
January 13	Last Day to Drop Classes/Remove Fall Quarter Incompletes	Friday
January 16	Holiday (Martin Luther King Day) No Classes/Offices Closed	Monday
February 8	Classes End (First Term)	Wednesday
February 9	Classes Begin/Registration (Second Term)	Thursday
February 13	New Student Registration for Spring Quarter Begins	Monday
February 17	Last Day to Withdraw (Full Term)/Petition for Spring Quarter Readmission	Friday
March 6	Last Day to Petition for Spring and Summer Quarter Graduation	Tuesday
March 17	Classes End	Saturday

SPRING QUARTER 2012

March 26	Classes Begin/Registration	Monday
April 2	Last Day to Register/Add Classes	Monday
April 2	Returning Student Priority Code Registration for Summer Quarter and Fall Semester Begins	Monday
April 6	Last Day to Drop Classes/Remove Winter Quarter Incompletes	Friday
May 2	Classes End (First Term)	Wednesday
May 3	Classes Begin/Registration (Second Term)	Thursday
May 11	Last Day to Withdraw (Full Term)/Petition for Summer Quarter Readmission	Friday
May 14	New Student Registration for Summer Term & Fall Semester Begins	Monday
May 28	Holiday (Memorial Day) No Classes/Offices Closed	Monday
June 7	Commencement Practice	Thursday
June 8	Classes End	Friday
June 9	Commencement	Saturday

SUMMER TRANSITION QUARTER 2012

June 18	Classes Begin/Registration	Monday
June 22	Last Day to Register/Add Classes	Thursday
June 25	Returning Student Priority Code Registration for Fall Semester Begins	Monday
June 29	Last Day to Drop Classes/Remove Spring Quarter Incompletes	Friday
July 4	Holiday (Independence Day) No Classes/Offices Closed	Wednesday
July 16	New Student Open Registration Begins	Monday
July 27	Last Day to Withdraw/Petition for Fall Semester Readmission	Friday
August 11	Classes End	Saturday

FALL SEMESTER 2012

August 20-21	Employee Development	Monday-Tuesday
August 22	Classes Begin/Registration	Tuesday
August 25	Last Day to Register or Add Classes	Saturday
August 27	Returning Student Priority Code Registration for Spring Semester Begins	Monday
August 31	Last Day to Drop Classes/Remove Summer Incompletes	Friday
September 3	Holiday (Labor Day) Offices Closed	Monday
September 7	Last Day to Petition for Fall Semester Graduation	Friday
October 8	Fall Break – No Classes	Monday
October 10	Classes End (First Term)	Wednesday
October 11	Classes Begin/Registration (Second Term)	Thursday
October 15	New Student Registration for Spring Semester Begins	Monday
October 26	Last Day to Withdraw (Full Term)	Friday
November 12	Holiday (Veteran's Day) No Classes/Offices Closed	Monday
November 22-24	Holiday (Thanksgiving) No Classes/Offices Closed	Thursday-Saturday
December 7	Last Day to Petition for Spring Graduation	Friday
December 14	Last Day to Petition for Spring Semester Readmission	Friday
December 15	Classes End	Saturday

DISCLAIMERS

Subject to Change
This catalog furnishes prospective students and interested persons with pertinent information about Zane State College. In order to facilitate the advancement of the College, the material contained herein is subject to change without notice and should not be regarded as binding on the College.

Student Responsibility
Students enrolled at Zane State College are responsible for all regulations contained in this catalog. Students also are responsible for changes or additions to regulations as they are posted and appear in various College publications.

Equal Opportunity
Zane State College is committed to equal opportunity for all and does not discriminate in admission or access to, or treatment or employment in, its programs or activities on the basis of race, sex, sexual orientation, color, national origin, ancestry, religion, age, marital status, disability, or veteran status. The College's policies and practices concerning the admission and treatment of students follow federal guidelines set forth in Title VI, Title IX, and Section 504. Inquiries or concerns should be directed to Zane State College Human Resources Office, Room 158 College Hall, or call (740) 454-2501.

Harassment Policy
The College adheres to all federal and state laws and regulations concerning harassment encountered by students or employees. A complete copy of the Harassment Policy may be obtained by contacting the Vice President of Student Services or the Human Resources Office.

ACADEMIC POLICIES & PROCEDURES

Academic Assessment for Course Placement
Several levels of communications and math courses are offered to meet the needs of students. The ACCUPLACER will measure current abilities in reading, writing, math, and Algebra so that students can begin their work in these subjects at the appropriate level. All new full-time students and part-time students planning to register for an ENG or a MTH course must take the test prior to registration. Selective programs may have college level ENG/MTH requirements for admission to technology courses. Contact the Student Success Center in College Hall, Room 148 or the Willett-Pratt Training Center to arrange an appointment. Test exemptions are granted to students who have:

- Credit for a college-level ENG or MTH course with a grade of D or better within the last five years; or have
- An associate's degree or a higher degree. College transcripts must be submitted to the Zane State College Registrar's Office prior to the planned quarter of enrollment.

Potential students must demonstrate minimum competency levels in reading, writing, and math for placement into the first level of basic skills courses. After enrollment in basic skills courses, a student must demonstrate progress toward college-level work.

Catalog in Force
Requirements to earn a degree or certificate are based on the catalog which is in force at the time of the student's initial enrollment. Students have five years to complete their degree program from initial enrollment under the catalog in force at the time of initial enrollment. However, the College reserves the right to change course offerings and academic requirements without notice. In this regard, the following guidelines determine which catalog a student must follow in meeting program requirements:

- Students may elect to complete their coursework under the most recent catalog and must comply with all of the new requirements for their program.
- Students who change majors or are admitted to selective programs must meet requirements of the catalog which is in force at time they make said change.
- Students who transfer to another college or university and return to Zane State College will be readmitted under the catalog which is in force at the time of readmission.
- Students who do not earn any credit hours toward their degree requirements in two calendar years must satisfy requirements of the catalog in force at the time of re-enrollment.
- Dismissed students are readmitted under the catalog which is in force at the time of readmission.

Exceptions to the above may be necessary when changes in certification, accreditation, or licensure standards and changing technology mandate changes in academic requirements or in College programs.

Students who take longer than five years should meet the requirements of the most recent college catalog.

Questions concerning this policy should be directed to the Registrar's Office.

Health Studies Core
The Health Studies Core is designed for the student who is interested in pursuing studies in the health field but whose level of academic preparation needs to be raised to meet admission criteria in specific health technologies. The Health Studies Core is also designed for those students interested in exploring health career options. The student and his/her advisor will identify those courses necessary to meet individual student needs. Students in health core will enroll for 12-14 credit hours per quarter in general, basic, and technical courses. Students preparing to enter a particular health technology must meet specific program admission criteria.

Pre-Engineering Technology Studies Core
The Pre-Engineering Technology Studies Core program is designed for the student who is interested in pursuing studies in the engineering technologies area but whose level of preparation needs to be raised to be able to enroll in entry-level courses.

The student will follow a curriculum of 12-14 credit hours per quarter in the initial year of enrollment in basic, general, and technical courses to lay a foundation on which to build the technical program. The following two

years the student may complete the associate degree requirements while enrolling for approximately 14-17 credit hours per quarter. This enables the student to elect other non-required courses without having too heavy a load if that choice is desired. Recommendation for enrollment in this program is based on preregistration testing information plus an academic advising session with the program advisor or College counselor in which an outline of the quarter-by-quarter schedule of courses is reviewed.

Academic Course Load & Student Credit Hour Overload
The minimum load for a full-time student is 12 credit hours. The average load of a full-time student is 16-18 credit hours which consists of 4 or 5 courses. Information concerning class loads for students on probation is found on page 20 of this catalog.

Students wanting to take more than 19 credit hours during any given quarter are required to obtain appropriate Department Chair approval.

Prerequisites
Certain courses assume that all students enrolled have completed another course or courses upon which the content of the course is planned. The term "prerequisite" designates courses, experiences or permission which must be satisfied before a student may enroll in that course. The Programs and Curricula section of this catalog lists prerequisites at the end of each course description. Students who enroll without having satisfied all prerequisites will be administratively removed from course work.

Course Substitution
A student may receive permission from his/her respective Department Chair to substitute up to 16 credit hours or 5 courses, whichever is greater. Students whose transcripts show course credit at higher levels than program requirements may have those courses applied without counting toward substitution limits, including prerequisite math courses credited to his or her transcript as credit by examination. Determination of such credit awarded and applied toward program requirements is at the discretion of the Department Chair responsible for the degree program in question.

Adding Courses
Students may add courses to their schedules during the first week of classes by properly completing the Class Drop/Add Authorization Form. In situations where students wish to add a first or second term course, this addition must be made within two days from the beginning of the term.

During the second week of classes, courses may be added with the approval of the faculty member teaching the course.

Dropping Courses
During the first two weeks of a quarter, or first week of a summer term, classes may be dropped by properly completing the Class Drop/Add Authorization Form in the Student Success Center, and no entry will be made on a student's transcript. From the third week of classes through the seventh week of classes, a "W" (withdrawn) will be shown on the student's transcript for each course properly dropped. If a student ceases to attend a course or courses without completing the Class Drop/Add Authorization Form, the grade of "FN" is recorded for each of these courses. Students who have already earned a grade for a course are ineligible to withdraw from that course.

Withdrawal from the College
Students who elect to withdraw from the College are required to complete an Exit Questionnaire Form available in the Student Success Center. Official withdraw status is dependent upon completion of this form by the final date of withdrawal according to the academic calendar on page 8 of this publication. Failure to follow this procedure will result in the grade of "F" for each course being entered on the student's transcript and forfeiture of any tuition refund.

Credit/No-Credit Courses
A student may take one course per quarter, up to a maximum of 12 credit hours of classes on a credit/no-credit basis. These limits do not apply to courses graded only on credit/no-credit basis. During the first two weeks a course is offered, a student may petition to take a course on a credit/no-credit basis by completing the appropriate form and obtaining permission of his/her faculty advisor.

The grade of "P" will be recorded when a grade of "D" or higher is earned on a credit/no-credit basis. Credit hours earned will count toward graduation requirements and the cumulative point average will not be affected. The grade "NP" will be recorded to indicate no credit. Hours of "NP" will not count toward graduation and the cumulative grade point average will not be affected. A student registering for a class on a credit/no-credit basis cannot later change to a regular grading basis. Properly completed and signed (approved) credit/no-credit applications must be submitted to the Registrar's Office by the end of the second week of classes.

No grade other than "P" or "NP" will be kept on file, and students may encounter difficulty in receiving transfer credit from other institutions for courses taken on a credit/no-credit basis.

Credit Hour/Course Waiver
In exceptional circumstances, credit hours and/or courses may be waived. The waiver process should begin at the discretion of a student's advisor or Department Chair and requires the signature of the Division Dean and Vice President of Academic Services and Workforce Development. However, all students must still meet the 90 quarter credit hour minimum as established by the Ohio Board of Regents for graduation.

Credit by Proficiency Examination
A student may, upon submission of a petition to The Learning Center, take a proficiency examination in order to receive credit for selected courses. A $20 fee will be charged for each proficiency examination taken. Upon successful completion of an examination, a $40 documentation fee will be charged to enter credit on an official College transcript.

Students are advised that credits earned by examination which are acceptable at Zane State College may not necessarily be accepted for transfer credit by other collegiate institutions. A credit by examination for any course may be taken only one time. The exam must be taken prior to the completion of the first full week of the quarter in which the student desires to test out of a course in which he/she is presently enrolled. Students may apply for and take the test prior to enrollment. Students who fail a course will not be permitted to gain credit by completing a proficiency exam.

Credit for Prerequisite Math Courses
A student who places into and completes MTH 115 or MTH 124 with a minimum grade of "C" for the course will be awarded credit by examination on the transcript for MTH 113.

Transfer students who receive transfer credit from another accredited institution for an upper-level math course with a grade of "C" or higher may have prerequisite math courses credited to his/her transcript as credit by exam with approval from the appropriate Division Dean. There will be no charge to the student for this service.

Students are encouraged to move beyond the minimum math requirements.

Special Problems Courses
The Special Problems courses are designed to provide credit for special projects, workshops, and unique programs which are not listed as credit courses but which contribute substantially to a student's background or skills in his/her program. A total of 12 credit hours may be taken in special problems courses toward degree requirements.

ALTERNATIVE CREDIT

Advanced Placement Credit Award Catalog Statement
The State of Ohio, working through the University System of Ohio, has initiated policies to facilitate the ease of transition from high school to college as well as between and among Ohio's Public colleges and universities.

Beginning in the Fall term 2009:

1. Students obtaining an Advanced Placement (AP) exam score of **3** or above will be awarded the aligned course(s) and credits for the AP exam areas(s) successfully completed.
2. General Education courses and credits received will be applied towards graduation and will satisfy a general requirement if the course(s) to which the AP area is equivalent fulfill a requirement.
3. If an equivalent course is not available for the AP exam area completed, elective or area credit will be awarded in the appropriate academic discipline and will be applied towards graduation where such elective credit options exist within the academic major.
4. Additional courses or credits may be available when a score of 4 or 5 is obtained. Award of credit for higher score values varies depending on the institution and academic discipline.
5. In academic disciplines containing highly dependent sequences (Mathematics Science, etc.) students are strongly advised to confer with the college/university advising staff to ensure they have the appropriate foundation to be successful in advanced coursework within the sequence.

A complete listing of credit awarded for an AP score of 3 or above for all University System of Ohio Colleges and Universities can be found at http://uso.edu/.

College Level Examination Program (CLEP)
The College Level Examination Program offers those who have acquired knowledge outside the traditional classroom setting an opportunity to earn college credit. Zane State College awards transfer credit for CLEP examinations successfully passed where the subject matter is equal to one of the College's current classes. Information concerning testing centers may be obtained by contacting the Student Success Center.

Military Training-Academic Credit
Some training courses provided by the Armed Forces may be the equivalent of college courses and transfer credit may be obtained by forwarding an official military transcript to the Veterans Office for evaluation. A Guide to the Evaluation of Educational Experiences in the Armed Services provided by the American Council on Education and the recommendation of the appropriate Division Dean are used to determine the amount of credit to be awarded.

Life Experience/Non-Traditional Credit
Students may apply for life experience credit as substitution for academic program/course curricula requirements. In general, the non-traditional credits awarded should not exceed two thirds of the technical courses required to complete a program. Students receiving non-traditional credit must meet the residency requirement for their degree.

A portfolio of work-related materials must be submitted for evaluation to the appropriate Division Dean. Guidelines for developing the portfolio may be obtained from the Student Success Center and/or from the office of any academic dean. If students are uncertain about how past work experience may relate to their course of study, an appointment with a program advisor is recommended.

Students will be assessed a minimum of $60 fee for evaluation of a portfolio. This fee is charged regardless of credit or no credit status after evaluation. Additional cost will be incurred when evaluating more than one course. Please refer to the on-line published fee schedule.

Vocational Education Experience
Students who have satisfactorily completed an approved secondary or post-secondary program in vocational education may receive up to a total of 12 credit hours of credit in similar programs at Zane State College. Credit will be evaluated by the student's advisor and approved by the appropriate Division Dean. Articulation agreements exist with several career centers in specific subject areas. There is no charge for an evaluation in these cases.

TRANSFER POLICIES & PROCEDURES

Transfer Issues
Students transferring from other institutions of higher education must complete the application procedures outlined previously in the Admission Procedures section. In addition, official transcripts of all previous work must be submitted to the Office of the Registrar. Official evaluation for transfer credit is made after the application for admission is completed.

Transfer to/from an Ohio Public College or University
The Ohio Board of Regents, following the directive of the Ohio General Assembly, developed a statewide policy to facilitate students' ability to transfer credits from one Ohio public college or university to another in order to avoid duplication of course requirements.

The Ohio Board of Regents' Transfer and Articulation Policy established the Transfer Module, which is a subset or entire set of a college's or university's general education program. The Transfer Module consists of 54 to 60 quarter hours (or 36 to 40 semester hours) of courses in the following areas: English, mathematics, arts and humanities, social and behavioral sciences, natural and physical sciences, and interdisciplinary study.

A Transfer Module completed at one college or university will automatically meet the requirements of the Transfer Module at another college or university once the student is admitted. Students may be required, however, to meet additional general education requirements at the institution to which they transfer. For example, a student who completes the Transfer Module at Institution S (sending institution) and then transfers to Institution R (receiving institution) is said to have completed the Transfer Module portion of Institution R's general education program. Institution R, however, may require additional general education courses beyond the Transfer Module.

Since many degree programs require specific courses that may be taken as a part of the general education or Transfer Module program at an institution, students are encouraged to meet with an academic advisor at the institution to which they plan to transfer early in their academic career. Because of specific major requirements, early identification of a student's intended major is encouraged. Advisors at the institution to which a student wishes to transfer should be consulted regarding Transfer Module and general education courses and any specific program requirements that can be completed before transfer.

2011 Transfer Module
(visit regents.ohio.gov/transfer/modules/index.php for most current issue)

English/Oral Communication (Minimum of 13 credit hours)
ENG 150 – Freshman Composition ..... 5 credits
ENG 180 – Technical Writing ..... 4 credits
COM 261 – Public Speaking ..... 4 credits

Mathematics (Minimum of 5 credit hours)
MTH 115 – College Algebra ..... 5 credits
MTH 125 – Algebra & Trigonometry II ..... 4 credits
MTH 134 – Pre-Calculus I ..... 4 credits
MTH 135 – Pre-Calculus II ..... 4 credits
MTH 225 – Introductory Calculus ..... 4 credits
MTH 227 – Statistics ..... 4 credits
MTH 251 – Calculus I ..... 5 credits
MTH 252 – Calculus II ..... 5 credits
MTH 253 – Calculus III ..... 5 credits

Natural Science (Minimum of 12 credit hours)
BIO 101 – Principles of Biology ..... 4 credits
BIO 107 – Biology and the Environment ..... 4 credits
BIO 201 – General Microbiology ..... 4 credits
BIO 240 – Anatomy & Physiology I ..... 4 credits
BIO 242 – Anatomy & Physiology II ..... 4 credits
CHM 101 – Chemistry ..... 4 credits
CHM 102 – Introduction to Organic and Biochemistry ..... 4 credits
CHM 121 – General Chemistry I ..... 5 credits
CHM 122 – General Chemistry II ..... 5 credits
CHM 123 – General Chemistry III ..... 5 credits
GLY 135 – Earth Science ..... 4 credits
PHY 110 – Physical Science ..... 4 credits
PHY 201 – Physics I ..... 4 credits
PHY 202 – Physics II ..... 4 credits

Arts and Humanities (Minimum of 12 credit hours)
Courses must be taken in at least two different subject areas
ART 101 – Art History I ..... 4 credits
ART 102 – Art History II ..... 4 credits
ENG 242 – The Literature of Work ..... 4 credits
ENG 245 – The Literature of Crime ..... 5 credits
ENG 247 – The Literature of Sustainability ..... 4 credits
ENG 252 – British Literature: Industrialism to Present ..... 4 credits
HUM 102 – Critical Thinking ..... 4 credits
HUM 203 – Introduction to Ethics ..... 4 credits
PHL 101 – Introduction to Philosophy ..... 4 credits
PHL 201 – Contemporary Philosophy ..... 4 credits
THR 101 – Introduction to Theater ..... 4 credits

Social and Behavioral Sciences (Minimum of 12 credit hours)
Courses must be taken in at least two different subject areas

BUS 151 – Microeconomics ..... 4 credits
BUS 152 – Macroeconomics ..... 4 credits
GEO 161 – U.S. Geography ..... 4 credits
GEO 171 – World Regional Geography ..... 4 credits
HST 101 – Western Civilization I ..... 4 credits
HST 121 – U.S. History I ..... 4 credits
POL 101 – American National Government ..... 4 credits
PSY 101 – Introduction to Psychology ..... 4 credits
PSY 201 – Abnormal Psychology ..... 4 credits
PSY 203 – Child & Adolescent Psychology ..... 4 credits
PSY 217 – Social Psychology ..... 4 credits
PSY 231 – Educational Psychology ..... 4 credits
SOC 101 – Introduction to Sociology ..... 4 credits
SOC 206 – Cultural Diversity ..... 4 credits
SOC 218 – Social Problems ..... 4 credits

Total Transfer Module hours: 54-61. Transfer Module features are subject to change as dictated by the Ohio Board of Regents.

Computer Accessible Transfer Information
The Ohio Board of Regents also has established a Transfer Assurance Guide (TAG) system in conjunction with a nationwide computerized Course Applicability System (CAS). This combined system enables college and university advisors and individual students to access via computer course transfer potential information at virtually all public (and a few private) institutions of higher education in the State of Ohio and even more participants throughout the nation. Within Ohio, higher education institutions have matched standard courses for transfer potential. Initially, approximately 175 courses have been linked to all public institutions. As the system grows, more courses will be linked. All public institutions are mandated to investigate transfer potential with institutions from which they receive a set minimum number of transfer students annually.

All this Ohio data is available at www.transfer.org. Students, parents, advisors, and counselors are encouraged to access, learn, and utilize this system.

Transfer to/from an Independent College or University
Because independent and proprietary colleges may or may not be participating in the Ohio transfer module, transferring credit to/from independent institutions will vary. Students endeavoring to transfer to Zane State College from an independent or proprietary college should schedule an appointment with the Admissions Office and/or the program director of the desired program to determine if credit will transfer. During the process, students will be required to provide transcript information and supporting documentation describing, in detail, the contents of courses taken at the independent college. Students may also be required to take a proficiency test(s). Based on a thorough review of the provided material and proficiency test scores, credit may or may not be awarded. Students transferring to an independent or proprietary college from Zane State College are encouraged to check with that college's admissions office to verify ability to transfer credit.

Transfer Credit
Prior to official determination of whether previous college work will be accepted, an official transcript must be on file in the Registrar's Office. Generally, when course content is similar to a course offered at Zane State College with a recorded grade of D or better, credit will be awarded if taken at a regionally accredited institution. Transfer credit appears as TR, TA, TB, TC, TD on Zane State College transcripts and is not used in computing cumulative grade point average. Admission to Zane State College does not guarantee that a transfer student will be automatically admitted to all majors, minors, or fields of concentration at the College. Once admitted, transfer students shall be subject to the same regulations governing applicability of catalog requirements as all other students. Furthermore, transfer students shall be accorded the same class standing and other privileges as all other students on the basis of the number of credits earned. All residency requirements must be successfully completed prior to the granting of a degree.

A student submitting a transcript demonstrating completion of an associate degree or higher from a regionally accredited institution will be deemed to have completed Zane State College's general education requirements. The student may; however, be required to complete additional general education courses in order to satisfy a program's curriculum.

Transfer Credit Appeals Process
A student disagreeing with the application of transfer credit by the College may appeal the decision by contacting the Registrar's Office. If a transfer student's appeal is denied by the institution after all appeal levels within the institution have been exhausted, the institution shall advise the student in writing of the availability and process of appeal to the state-level Articulation and Transfer Appeals Review Committee.

The Appeals Review Committee shall review and recommend to institutions the resolutions of individual cases of appeal from transfer students who have exhausted all local appeal mechanisms concerning applicability of transfer credits at receiving institutions.

Responsibilities of Students
In order to facilitate transfer with maximum applicability of transfer credit, prospective transfer students should plan a course of study that will meet the requirements of a degree program at the receiving institution. Specifically, students should identify early in their collegiate studies an institution and major to which they desire to transfer. Furthermore, students should determine if there are language requirements or any special course requirements that can be met during the freshman or sophomore year. This will enable students to plan and pursue a course of study that will articulate with the receiving institution's major. Students are encouraged to seek further information regarding transfer from both their advisor and the college or university to which they plan to transfer.

Transfer of Zane State College Credits to Another Institution
Students who decide to transfer to another college before or after completing a two-year program at Zane State College should check carefully with the receiving institution to determine what transfer credit will be awarded. The exact amount of transfer credit students can expect to receive depends upon the program pursued at Zane State College and the type of program entered at another college. Normally, a student can expect the greatest number of credits to transfer into a bachelor of technology program. When a student transfers from a technical program into a professional program, he/she can expect to have credits that will not transfer. Transcripts can be requested from the Registrar's Office online at www.zanestate.edu. Transcript(s) will not be released if there is a financial obligation to Zane State College.

GRADING SYSTEM

A grade will be given in each course and that grade will reflect the student's progress and achievement in knowledge of the subject, ability to apply this knowledge, and work habits and practices. Grades will be awarded on the four-point system, and translate basically as follows:

Grade	Quality Grade	Numerical Grade	Grade Point
A	Superior	90-100	4.0 per credit hour
B	Excellent	80-89	3.0 per credit hour
C	Average	70-79	2.0 per credit hour
D	Below Average	60-69	1.0 per credit hour
F	Failure	below 60	no credit hour
FN	Failure-Non Attendance		no credit hour

The cumulative grade ranges above indicate levels of achievement normally required to achieve the corresponding grade. In all cases, decisions concerning final grades for courses are the responsibility of the individual instructor.

Certain programs and courses may require a slightly different grading scale.

The following grades are not included in grade point averages:

NP	No Credit (Failing)
I	Incomplete
TR	Transfer Credit
TA	Transfer Credit with an A
TB	Transfer Credit with a B
TC	Transfer Credit with a C
TD	Transfer Credit with a D
LL	Non-Traditional Credit
P	Passing in Credit/No Credit Course
P	Credit by Examination
S	Satisfactory
AU	Audit
U	Unsatisfactory
VC	Credit for Vocational Education Experience
W	Withdrawal
IP	Course in Progress
ML	Military Credit
CL	CLEP Testing
DZ	Fresh Start D Grade
FZ	Fresh Start F Grade
NR	Grade Not Received
NC	Non Credit
AP	Advanced Placement
WV	Waived Credit

Grade Point Average (GPA)
Quality points are determined by multiplying the credit hours for a course by the points earned as shown above for each mark. A student's grade point average is obtained by dividing the total number of quality points by number of hours excluding courses for which the marks of NP, IP, TR, TA, TB, TC, TD, LL, P, S, AU, W, or U are recorded. Example:

	HOURS	X	(letter grade) POINTS	=	QUALITY POINTS
MTH 111	4	X	(A) 4	=	16
BUS 102	3	X	(C) 2	=	6
Total credits	7				Total points 22

Grade Point Average: 22 ÷ 7 = 3.14

Academic Standards for Probation, Dismissal, and Readmission
Course credit levels for probation and dismissal are based on cumulative grade point average.

	GPA	
Course Credits	Probation	Dismissal
12-29	1.5	0.8
30-44	1.6	0.9
45-59	1.7	1.2
60-74	1.8	1.4
75-94	1.9	1.6
95 +	1.9	1.8

Academic Probation
Students on academic probation may carry a maximum load of 16 course credits during their next quarter. If the student remains on probation for a second consecutive quarter, he/she may take a maximum of 12 course credits of work.

Academic Dismissal/Readmission
Students dismissed for lack of academic achievement may not enroll for a minimum of one academic quarter before consideration will be given for a readmission review. Quarterly deadlines have been established one month prior to the end of each quarter for those students wishing to be considered for a readmission review.

Students who desire a readmission review must contact the Admission's Office and complete a Request for Readmission prior to the published deadlines.

Incomplete Grades
The grade "I" (Incomplete) is given by written permission of an instructor when, for some acceptable reason, a student fails to take the final examination or to meet some other definite requirement in a course. The grade of "I" may be removed and a grade substituted by making up the deficiencies to the satisfaction of the instructor. A grade of "I" must be removed within two weeks after the beginning of the succeeding quarter. If the grade of "I" is not removed within the time limit, it becomes an "F" on the student's official transcript.

Grade Report
Students receive quarterly grades by accessing Z-Online.

Student Classification
A student is classified as a freshman until he/she has accumulated a minimum of 45 quarter hours of credit on his/her official Zane State College transcript. At that point, a student is classified as a sophomore and will remain in this status until after graduation.

Computer Literacy Requirement
Computer literacy will be determined by proficiency testing. Students not meeting proficiency standards or opting to take a computer class in lieu of testing will fulfill the computer literacy competency requirement through a variety of choices. These may include CPT 105, Introduction to Microcomputer Software Applications, or a technology-specific computer course as identified by the program faculty advisor.

Auditing Courses
Students auditing courses should understand that these are for information purposes only and that no college credit may be earned or later claimed for the course audited. Class attendance, completing assignments, and taking exams is the prerogative of the student in an audit course.

Students may register for a course on an audit basis during the first two weeks of a given quarter on a space-available basis. Students auditing a class pay regular tuition and fees.

Failed Courses
Any courses required for graduation for which the grades of "F", "FN", or "NP" (failing) are received must be repeated. Upon successfully repeating such a course, the failing grade is disregarded on the official transcript and the student's grade point average adjusted. All grades continue to be shown on the transcript. In some specific programs, grades below "C" in technical courses must be repeated to continue.

Fresh Start Policy
Fresh Start is intended to assist students who previously had academic difficulties at the College by providing them with the opportunity to have grades of "D", "F", or "FN" excluded from their grade point averages. Students must meet eligibility requirements and agree to the Fresh Start Rules in order to qualify for approval. A complete description of the Fresh Start Policy is available in the Registrar's Office.

Eligibility Requirements:
1. A minimum of two consecutive years (8 consecutive quarters) of nonattendance at the College.
2. Completion of a minimum of 18 credit hours at the College following the two-years of nonattendance with a grade of "C" or better in each course. Courses taken as pass/fail are not eligible for consideration.

Archiving of Final Exams
The final examination is often a significant part of a student's final grade. At times, students feel the necessity of questioning a final grade. In such cases, it is convenient to use the final exam papers as a basis for discussion between the faculty member and the student even though grades are also based on other work, tests, papers, quizzes, class response, etc. For this reason, each faculty member retains final exam papers for a minimum period of 30 days after the end of a given quarter.

Split Lectures and Labs
Students taking a series of coursework that represents individuals lecture and lab sections for a single content area will be expected to pass both. Students who fail lab, but pass the lecture portion will be permitted to retake only the lab course as long as it is taken in the next term the course is offered. Failure to successfully complete the lab in the subsequent quarter will necessitate repeating both the lecture and lab coursework. Students who fail the lecture portion of the course must retake both the lecture and lab courses. All students must successfully complete both the lecture and lab portions of the course before moving on to the next higher-level course.

Repeating Courses
If a course is repeated, the grade received for the most recent course enrollment will be utilized in calculating the student's grade point average. All other grades for the course will be disregarded and appropriate notation will be made on the student's transcript. All grades will show on the official transcript.

Students who earn four (4) Ws and/or Fs in any course may not register for that course again. Specific programs may have additional restrictions further reducing the number of times a course may be repeated. (See Minimum Grades for Specific Programs.)

Minimum Grades for Specific Programs
Health and Public Service Students
The Board of Trustees has adopted the following policy on minimum grades for selected Health and Public Service programs.
1. A student may not enroll in a technical course unless his or her overall grade point average is 2.0 or higher.
2. All course prerequisites must be met before admission to a course.
3. A grade of "C" or better is required in each technical course in order to continue in the course sequence.

4. A student receiving a grade of "D" or below in any technical or specified foundational course required by the Criminal Justice, Early Childhood Education, Education Paraprofessional, Health Information Management, Human Services Assistant, Medical Assisting, Medical Laboratory, Occupational Therapy Assistant, Physical Therapist Assistant, Radiologic Technology, or Sport and Fitness Management programs has these options:
   a. Assume a health/general studies core status;
   b. Withdraw from the respective program; or
   c. Remain in the technical program, taking the technical course (on advice of Advisor) for which the student has achieved a grade of "C" in the prerequisite course. General and basic courses may be taken at this time, also. The student must then repeat any course in which he or she did not achieve at least a "C" grade. (Note that the College does not offer each course every quarter.) Students may repeat the course only once to raise the grade to the "C" level. Upon successful completion of the repeated course (grade of at least a "C"), the student must then be reevaluated for continuation in the program. Due to the arrangements of the curriculum sequence, this will probably require an extra year in the program.
5. A student who earns an unsatisfactory grade in a course prior to the deadline to drop is ineligible to withdraw from that course.

Accounting Students
Accounting students must obtain a grade of "C" or better in ACC 111, ACC 112, and ACC 113 to satisfy course credit requirements in the Accounting Program.

Administrative Office Assistant Students
Administrative Office Assistant students must obtain a grade of "C" or better in all technical courses in order to satisfy course credit requirements for graduation in the Administrative Office Assistant Program.

Paralegal Students
Paralegal students must obtain a grade of "C" or better in PAR 151, PAR 152, PAR 153, and PAR 251 to satisfy course credit requirements for graduation in the Paralegal Program

Graduation Requirements
These requirements must be completed for an Associate of Applied Science (A.A.S.) or Associate of Applied Business (A.A.B.) Degree:
- Fulfill all course requirements of a particular degree;
- Earn an overall GPA of at least 2.0;
- Complete a minimum of 24 of the last 36 credit hours of technical course credit as a student of Zane State College;
- Earn a minimum of 96 credit hours of coursework and meet the specific requirements of the student's program;
- Complete the College's general education course requirements as identified in the catalog;
- Complete IDS 101 - College Success Strategies;
- Complete computer literacy requirement;
- Satisfy program accreditation standards that may have additional requirements;
- Return all library books and College material;
- Resolve all financial obligations to the College; and
- Be certified by the Registrar as having met all requirements for the degree.

These requirements must be completed for an Associate of Arts (A.A.) or Associate of Science (A.S.) Degree:
- Fulfill all course requirements of a particular degree;
- Earn an overall GPA of at least 2.0;
- Complete a minimum of 24 of the last 36 credit hours as a student of Zane State College;
- Earn a minimum of 90 credit hours of coursework and meet the specific requirements of the student's program;
- Complete the College's general education course requirements as identified in the catalog;
- Complete IDS 101 - College Success Strategies;
- Complete computer literacy requirement;
- Return all library books and College material;
- Resolve all financial obligations to the College; and
- Be certified by the Registrar as having met all requirements for the degree.

These requirements must be completed for an Associate of Technical Study (A.T.S.) Degree:

- Complete a total of 55 credits at Zane State College and complete at least 33 credits after preliminary approval of degree by the appropriate Dean;
- Earn a minimum of 96 credit hours of course work;
- Earn an overall quality point average of 2.25 (on a 4.0 scale) and no less than 2.50 average in courses identified as major technical requirements;
- Earn at least a "C" in all courses identified as major technical requirements;
- Earn the minimum credit requirements in the following distribution:
  - 45 credits in the Major Technical Requirements area with at least 24 credits in one discipline
  - 42 credits in general education and basic studies
  - 6 credits of open electives; and
- Complete IDS 101 - College Success Strategies.

These requirements must be completed for a one-year certificate:

- Fulfill all course requirements of a particular certificate;
- Earn an overall GPA of at least 2.0;
- Complete the general education certificate course requirements of the College in English (2 courses) and mathematics (1 course)
- Complete IDS 101 - College Success Strategies;
- Complete computer literacy requirement;
- Satisfy program accreditation standards that may have additional requirements;
- Return all library books and College material;
- Resolve all financial obligations to the College; and
- Be certified by the Registrar as having met all requirements for the one year certificate.

Waiver of course requirements by the Division Dean may result in a reduction of the hour requirement for graduation. In all cases, a student must meet the 90 quarter credit hour minimum, as established by the Ohio Board of Regents, to graduate.

Internship Requirement

Completion of an internship is an associate degree graduation requirement in some of the programs. The internship is normally completed during the summer between the first and second year of the program. It is designed to consist of a minimum of ten 40-hour weeks for 400 work hours, but adjustments are permitted to suit special circumstances. If a student is employed part-time, the period of time may be extended, or the student may register for fewer than the usual four credit hours of internship. If a student is permitted to register for fewer than four credit hours of internship, he/she may be allowed to enroll in additional courses to make up the balance of the four credit hours. Students are normally paid by their employer for their work; however, national accreditation requirements prohibit payment of student interns in some health technologies.

The internship affords on-the-job learning experiences during which the student may apply what has been learned during the previous year, under the dual supervision of an employer and a College instructor. The purpose of internship is to introduce the student to a real-life working situation through which he or she can more easily enter the job market with experience after completion of the second year of the program.
Please Note: The College does NOT promise to secure a job for the student's internship experience. College faculty members and Career Services staff suggest employment possibilities, but students must obtain their own jobs.

GRADUATION PROCEDURES

Petition for Graduation
Graduation is not automatic. To graduate, candidates for graduation must complete a Petition for Graduation and pay the $60 graduation fee. You are not billed for this fee. It is your responsibility to pay this when you submit your petition. The Petition to Graduation must be completed and submitted to the Registrar's Office for processing by the dates posted in the official college calendar.

Please note that a separate Petition for Graduation must be filed for each individual associate degree and/or one-year certificate of completion that you are attempting to earn.

Petitions for graduation may be obtained from the Registrar's Office, or by going to the Web at *http://www.zanestate.edu*. Formal graduation activities are held at the end of spring term. Students who complete degree or one-year certificate requirements during preceding terms are invited to participate in the spring term commencement ceremony.

Candidates for graduation must meet with their academic advisor to fill out the appropriate forms and have them signed by their Department Chairs. If your Petition for Graduation is turned in after the posted deadline you may not be eligible to graduate the quarter in which you planned.

Degree Audit
The Degree Audit is an academic advising tool. It is an automated list of all courses in a student's program of study that are needed to meet the graduation requirements at Zane State College. The Audit allows advisors to see how the students are progressing. Each student has access to their particular Degree Audit through their Z-Online account. Each student has a faculty advisor who can also provide them with a Degree Audit.

The Degree Audit includes courses taken at Zane State College and may include courses transferred from other colleges/universities. Although courses taken at Zane State College are automatically added to a student's Degree Audit, transfer courses must undergo an evaluation process and then be applied to the student's Audit. Transfer evaluations are done in the Office of the Registrar, College Hall, Room 154c.

Confirmation of Intent to Graduate
Starting in the fourth week of your quarter of graduation, you will receive email notifications with information about your graduation status, Commencement information, and any outstanding issues requiring your attention. If you do not receive this email during the fourth week of your quarter of graduation, please call the Registrar's Office at 740-588-1273.

Final Graduation Approval/Denial
Four weeks after the close of the term, updated Degree Audits are reviewed by the Registrar's Office to officially confer or deny each degree and/or one-year certificate. Students who are denied graduation must re-apply during the term in which they will complete their requirements and pay the $60 graduation fee.

Graduation Honors
Students may earn the following honors through sustained scholarly achievements during completion of an associate degree:

Cum Laude	Cumulative Point Average 3.50+
Magna Cum Laude	Cumulative Point Average 3.75+
Summa Cum Laude	Cumulative Point Average 3.90+

Commencement Policies
The College awards degrees during an annual commencement ceremony held in June. Commencement materials and student participation are governed by the following policies.

1. Students who complete all degree requirements between fall and summer terms are eligible to participate in the June commencement.
2. The June commencement program, including the listing of degree candidates and graduation honors, is based upon course enrollment at the spring term. Students who utilize credit through proficiency

examinations must have the credit-by-examination earned and posted on the Zane State College transcript by March 1 for inclusion in the commencement program.
3. The commencement program is tentative, pending completion of required work and submission of final grades.
4. The commencement program lists all degree candidates for the respective year.
5. Diploma covers are distributed during commencement. Diplomas are mailed when degree requirements are completed, when grades have been received, and financial arrangements made. Permanent address changes must be made prior to leaving campus, so that the diploma is sent to the correct address. Replacement diplomas cost $30.00.
6. Printed graduation honors are calculated using the student's current grades. Actual graduation honors are indicated on the final transcript and reflect actual final grades earned. Graduation honors are not indicated for summer term candidates

REPLACEMENT DIPLOMA POLICY

1. A replacement diploma will be issued if a **Replacement Diploma Form** is sent to the Office of the Registrar.
2. The name printed on the replacement diploma will be the same as the name printed on the original diploma unless there is a legal name change. *If there is a legal name change, the original diploma must be returned with a notarized copy of the name change documentation.*
3. The replacement diploma will carry the ***current*** signatures of all college officials.
4. The notation "Official Replacement" will appear at the bottom of the replacement diploma.

The cost of the replacement diploma is $30.00 Check or money order should be made payable to Zane State College. Please allow approximately four to six weeks for delivery of the replacement diploma. Individuals with additional questions concerning this policy should call 740-588-1221 for assistance or email the Registrar's Office at hrognon@zanestate.edu

RECOGNITION PROGRAMS

All Ohio Academic Team
Two Zane State College students are nominated by faculty members each year to enter the All Ohio Academic Team competition. In conjunction with Phi Theta Kappa, the entrants are judged on state and national levels. Students place on one of three state teams and are recognized in Columbus at a special awards luncheon. Recipients who place on the first or second team receive $1000 and $500 respectively.

Phi Theta Kappa
Phi Theta Kappa is the national honorary society for two-year college students. The purpose of Phi Theta Kappa is to encourage academic excellence. Students initiated into the group must have demonstrated sustained academic achievement at Zane State College. The criterion for membership is a 3.5 GPA with at least 24 college-level credit hours earned.

Presidential Scholar
The purpose of the Presidential Scholar award is to promote and recognize excellence in academic achievement while attending Zane State College. Students who earn this honor receive engraved medallions and are recognized at the annual awards banquet.

Quarterly Academic Honors
Students who demonstrate academic excellence in their studies will be named to the Dean's List. To be eligible, full-time students must achieve a 3.5 grade point average or higher during a given quarter excluding credit/no-credit courses. Part-time students must achieve a 3.5 grade point average or higher and complete a minimum of nine credit hours excluding credit/no-credit courses.

Who's Who Among Students in American Junior Colleges
Members of this organization are chosen each fall from the sophomore class by the faculty. Criteria for selection include scholarship, leadership, personal traits, and service to the College and community.

STUDENT RIGHTS AND RESPONSIBILITIES

ACADEMIC INTEGRITY POLICY

Academic Integrity is fundamental to a successful academic community. Zane State College subscribes to the Fundamental Values of Academic Integrity as defined by the Center for Academic Integrity: honesty, trust, fairness, respect, and responsibility (http://www.academicintegrity.org).

Academic integrity is expected not only in formal class and coursework situations, but in all college relationships and interactions connected to the educational process, including the use of college resources. Both students and faculty are responsible for supporting and adhering to the Fundamental Values of Academic Integrity. This policy outlines expectations for both students and faculty, and outlines consequences for infraction by students.

General Responsibilities of the Faculty Member

The faculty member:

- accepts responsibility for knowing and understanding the Academic Integrity Policy.
- promotes academic integrity by making expectations clear on syllabi concerning assignments, examinations, homework, research, and group projects.
- makes an effort to detect and prevent incidents of dishonesty and to report evidence of infractions.
- displays academic integrity.

General Responsibilities of the Student

The submission of work for academic credit indicates that the work has been done by the student. Sources for all work should be acknowledged and truthfully reported by the student.

The student:

- accepts responsibility to read and seek understanding of the Academic Integrity Policy.
- accurately represents his/her work.
- refuses to be part of another student's academic misconduct.
- does not use fraud or dishonesty to advance his or her academic position.
- cooperatively works with faculty in mutual cooperation toward the implementation of academic integrity.
- does not in any other manner violate the principle of academic integrity.

Academic Misconduct

Failure to act in accordance with the academic integrity policy will be considered academic misconduct. The following statements outline infractions that constitute academic misconduct. The Vice President for Academic Services and Workforce Development reserves the right to make final determinations of academic misconduct, especially for behaviors that are not listed here.

Academic Misconduct includes but is not limited to the following:

AIDING or ABETTING ACADEMIC MISCONDUCT: Knowingly helping, procuring, or encouraging another person to engage in academic misconduct.

CHEATING: Any dishonesty or deception in fulfilling an academic requirement such as:

1. Use and/or possession of unauthorized material or technology during any written or oral work submitted for evaluation and/or grade such as tape cassettes, notes, tests, calculators, or computer programs.
2. Obtaining assistance from another person with or without that person's knowledge on any written or oral work submitted for evaluation or a grade.
3. Furnishing another person with assistance or answers to any written or oral work submitted for evaluation or a grade.
4. Possessing, using, distributing, or selling unauthorized copies of any computer program, written or oral work submitted for evaluation or a grade.
5. Representing as one's own any written or oral work submitted for evaluation or a grade that was prepared by another person.
6. Taking an examination in place of another person.
7. Obtaining unauthorized access to the computer files of another person or agency, and/or altering or destroying those files.

FABRICATION: The falsification of any information or citation in an academic exercise.

PLAGIARISM:
1. Submitting another's published or unpublished work, in whole, in part, or in paraphrase, as one's own without fully and properly crediting the author with footnotes, citations, or bibliographical reference.
2. Submitting as one's own, original work, material obtained from an individual or agency without reference to the person or agency as the source of the material.
3. Submitting as one's own, original work, material that has been produced through unacknowledged collaboration with others without release in writing from collaborators.

Misconduct has NOT occurred when students:
- have permission to work together on written or oral work, and list all contributors.
- receive assistance from instructors, teaching assistants, or staff members involved in the course.
- share knowledge about technology specific jargon, or other language-specific information during the preparation of written or oral work.
- engage in a general discussion about an assignment, the requirements for an assignment, or general strategies for completion of an assignment.
- compare their solutions to an assignment in order to better understand the assignment overall.
- engage in discussion about course content or strategies in preparation for an assignment or examination.

Academic Integrity Procedure
1. If a faculty member suspects a student of academic misconduct, then (s)he is responsible for collecting and maintaining original documentation and materials of the alleged incident. The faculty member uses this documentation to determine if an infraction has occurred and may consult with the Academic Dean if desired.
2. If it is determined that an infraction has taken place, then the faculty member makes a consequence recommendation to the appropriate Academic Dean. If the faculty member and Dean are in agreement regarding the consequence, then the faculty member will verbally communicate the consequence to the student. The Dean will formally notify the student of the consequence via a letter delivered by regular or certified mail or by personal delivery within five (5) business days of the decision. The Dean will forward copies of the letter to the faculty member, the Vice President for Academic Services and Workforce Development (VPASWD), and the Vice President of Student Services. The communication will include a copy of the Grade Appeals and Academic Complaints procedure. In the event that the student requests a hearing, procedures will be followed as outlined under the Student Code of Conduct, "Hearings and Appeals" section.
3. If the faculty member and Dean are not in agreement regarding the consequence, then the Vice President for Academic Services and Workforce Development will be consulted collectively by the faculty member and Dean. In this case, the VPASWD will determine the consequence within five (5) business days of meeting with the faculty member and Dean, and will formally notify the student of the consequence via certified or regular mail delivery. The VPASWD will forward copies of the letter to the faculty member, Academic Dean, and the Vice President of Student Services. The communication will include a copy of the Grade Appeals and Academic Complaints procedure. In the event that the student requests a hearing, procedures will be followed as outlined under the Student Code of Conduct, "Hearings and Appeals" section.

   Possible consequences may include, but are not limited to:
   - Academic behavioral counseling
   - A failing grade in the course
   - Dismissal from the academic program
   - A failing grade on the assignment
   - Dismissal from the course
   - Dismissal from the college

4. Incidents of academic misconduct may lead to student dismissal from the College. Recommendations for dismissal must be sent by the Vice President of Educational Services and Quality Improvement to the President of the College for action. Dismissal decisions will be made within five (5) business days of receipt of the recommendation, as possible, and will be communicated to the student via a letter delivered by certified or regular mail. A copy of the dismissal letter will be forwarded to the VPASWD, Academic Dean, faculty member, and Vice President of Student Services for the student's file.

GRADE APPEALS AND ACADEMIC COMPLAINTS

Appeals and concerns regarding the validity of final grades must be initiated within 30 days after the end of the given quarter. Students must adhere to the following channels when addressing grade appeals or academic complaints:

Step 1: Contact the instructor to discuss the issue.
Step 2: If not satisfied with the results of Step 1, contact the Division Dean for the given course.
Step 3: If still dissatisfied, a letter should be addressed to the Vice President for Academic Services and Workforce Development. The letter should clearly detail the steps which have already been taken and contain the facts of the case. A request for a hearing before the Vice President for Academic Services and Workforce Development also should be included.
Step 4: Upon considering information provided at the student hearing, the Vice President for Academic Services and Workforce Development shall make a final and binding decision regarding action of the grade appeal or academic complaint.

If no grade appeal or academic complaint is initiated within 30 days, the final relevant academic decision will stand except for a case in which there has been an error in the mathematical calculation of the grade.

PROGRAMS AND CURRICULA

Credit Hours

Credit hours are awarded for course work taken at the College each quarter. A credit hour at Zane State College is based on one of the following criteria:

- One (1) hour of classroom lecture or recitation per week plus approximately two (2) hours of assigned homework.
- Three (3) hours of laboratory, practicum, or directed field experience per week with no assigned homework.
- Two (2) hours of clinical, laboratory, practicum, or directed field experience per week plus approximately one (1) hour of assigned homework.
- Credit hours for clinical laboratory practicum or directed field experience in health technologies are specific to each health program.

General Education

General Education Definition
Zane State College has adopted the definition of general education approved by the Higher Learning Commission, North Central Association of Colleges and Schools. That definition reads as follows:

> "General education is 'general' in several clearly identifiable ways: it is not directly related to a student's formal technical, vocational, or professional preparation; it is a part of every student's course of study, regardless of his or her area of emphasis, and it is intended to impart common knowledge, intellectual concepts, and attitudes that every educated person should possess."

Philosophy of General Education

The general education program is committed to enhancing the confidence, communication skills, ethical decision-making, and self-knowledge necessary for students planning careers in technical fields or further education. Students completing general education courses will possess critical thinking, writing and speaking skills, and a heightened awareness of global, local, social, and cultural issues.

Course work explores oral and written expression, psychological and socio-cultural understanding, scientific and analytic methods, mathematics, and computer literacy. Skills learned in the classroom are applied first hand in laboratory and workplace settings through individual and collaborative projects using a variety of field and library research methods.

Research has indicated that ten of the top twelve skills required by employers involve communication, self-awareness, and problem-solving abilities. The opportunities available to students completing general education include mastering their chosen technical fields, continuing their education at other institutions, meeting the needs of potential employers, and adapting better to a current job in a constantly changing world.

General Education Student Outcomes

The Zane State College student/graduate will be able to:

1. Demonstrate information literacy by effectively locating, evaluating, and utilizing acquired knowledge.
2. Communicate effectively with both written and oral formats to meet the needs of diverse audiences.
3. Think critically and solve problems by employing higher level thinking skills.
4. Demonstrate civic engagement and community awareness.

General Education Course Requirements

Zane State College takes very seriously its commitment to provide an education that not only leads to students' technical expertise but also allows them to develop the abilities needed for a lifetime of learning and adapting to evolving workplace requirements. Therefore, the following general education courses are required in each degree program.

Written and Oral Communication – three courses

ENG 150 – Freshman Composition ..... 5 credits
ENG 180 – Technical Writing ..... 4 credits
COM 261 – Public Speaking ..... 4 credits

Social and Behavioral Sciences – a minimum of **one** course*

BUS 151 – Microeconomics ..... 4 credits
BUS 152 – Macroeconomics ..... 4 credits
BUS 153 – Consumer Economics ..... 4 credits
GEO 161 – U.S. Geography ..... 4 credits
GEO 171 – World Regional Geography ..... 4 credits
HST 101 – Western Civilization I ..... 4 credits
HST 121 – U.S. History I ..... 4 credits
POL 101 – American National Government ..... 4 credits
PSY 101 – Introduction to Psychology ..... 4 credits
PSY 110 – Psychology of Gender ..... 4 credits
PSY 201 – Abnormal Psychology ..... 4 credits
PSY 203 – Child/Adolescent Psychology ..... 4 credits
PSY 217 – Social Psychology ..... 4 credits
PSY 231 – Educational Psychology ..... 4 credits
SOC 101 – Introduction to Sociology ..... 4 credits
SOC 206 – Cultural Diversity ..... 4 credits
SOC 218 – Social Problems ..... 4 credits

*An additional course must be completed from either Social and Behavioral Sciences or chosen from Arts and Humanities, depending on program requirements.

Arts and Humanities

ART 101 – Art History I ..... 4 credits
ART 102 – Art History II ..... 4 credits
ASL 101 – American Sign Language I ..... 4 credits
ASL 102 – American Sign Language II ..... 4 credits
ASL 103 – American Sign Language III ..... 4 credits
ENG 242 – The Literature of Work ..... 4 credits
ENG 245 – The Literature of Crime ..... 5 credits
ENG 247 – The Literature of Sustainability ..... 4 credits
ENG 252 – British Literature: Industrialism to Present ..... 4 credits
HUM 102 – Critical Thinking ..... 4 credits
HUM 203 – Introduction to Ethics ..... 4 credits
PHL 101 – Introduction to Philosophy ..... 4 credits
PHL 201 – Contemporary Philosophy ..... 4 credits
THR 101 – Introduction to Theater ..... 4 credits

NOTE: Courses from the Arts and Humanities list may also be used to fulfill an unspecified general elective. An Arts and Humanities course taken in place of a social science elective does not count against substitutions.

Interdisciplinary Studies
IDS 101 – College Success Strategies ..... 1 credit

Mathematics – minimum of one course
MTH 111 – Mathematics for Business ..... 4 credits
MTH 113 – Algebra ..... 4 credits
MTH 115 – College Algebra ..... 5 credits
MTH 124 – Algebra & Trigonometry I ..... 4 credits
MTH 125 – Algebra & Trigonometry II ..... 4 credits
MTH 134 – Pre-Calculus I ..... 4 credits
MTH 135 – Pre-Calculus II ..... 4 credits
MTH 225 – Introductory Calculus ..... 4 credits
MTH 227 – Statistics ..... 4 credits
MTH 251 – Calculus I ..... 5 credits
MTH 252 – Calculus II ..... 5 credits
MTH 253 – Calculus III ..... 5 credits

Natural/Physical Science - minimum of one course
BIO 101 – Principles of Biology ..... 4 credits
BIO 107 – Biology and the Environment ..... 4 credits
BIO 141 – Field Zoology and Ecology ..... 4 credits
BIO 201 – General Microbiology ..... 4 credits
BIO 240 – Anatomy & Physiology I ..... 4 credits
BIO 241 – Anatomy & Physiology I Laboratory ..... 1 credit
BIO 242 – Anatomy & Physiology II ..... 4 credits
BIO 243 – Anatomy & Physiology II Laboratory ..... 1 credit
CHM 101 – Chemistry ..... 4 credits
CHM 121 – General Chemistry I ..... 5 credits
CHM 122 – General Chemistry II ..... 5 credits
CHM 123 – General Chemistry III ..... 5 credits
GLY 135 – Earth Science ..... 4 credits
PHY 110 – Physical Science ..... 4 credits
PHY 201 – Physics I ..... 4 credits
PHY 202 – Physics II ..... 4 credits
PHY 203 – Physics III ..... 4 credits

English Requirement
Students who previously completed ENG 130 & 140, but not ENG 250 will receive credit for ENG 150, but must complete ENG 180 or take the English 180 proficiency. Students with credit for ENG 130 only, may elect to take the ENG 150 proficiency exam – literature portion only – or select a literature course. Upon successful completion of the ENG 150 proficiency, students will receive credit by examination for ENG 150 and will be eligible to register for ENG 180. In accordance with the College's Catalog in Force Policy, this applies only to students who began enrollment at Zane State College in 2002-2003 or later. This policy will automatically expire at the end of spring term, 2013.

General Education Elective Courses
Any of the following courses may be taken to fulfill a course designated as a "general elective" within an associate degree program curriculum:

COM 122 – Interpersonal Communication ..... 3 credits
ENG 240 – Creative Writing ..... 5 credits
HUM 101 – Leadership Development Studies ..... 4 credits

Additionally, any courses under Mathematics, Natural/Physical Science, Social and Behavioral Sciences, or Arts and Humanities not taken to meet general education distribution or program course requirements may be taken as a general elective.

Individual programs may require specified or additional hours in general education course work which may be designated by the program or allow students to choose among approved courses.

SHORT TERM CERTIFICATES

The objective of these programs is to prepare persons with basic occupational skills for job entry, upgrading, cross training and retraining purposes. Courses taken may also be applied to a related associate degree program. Description of courses and prerequisites begins on page 110 of this catalog.

Basic Accounting		**Credits**
ACC 111	Accounting I	4
ACC 112	Accounting II	4
ACC 113	Accounting III	4
		12
Building and Construction Estimating		
CAD 105	AutoCAD I	3
CAD 114	Architectural Graphics I	3
CAD 125	Construction Methods and Materials I	3
CAD 126	Construction Methods and Materials II	3
MTH 113	Algebra	4
		16
(Business) Microcomputer Applications		
ACC 101	Financial Accounting	4
AOA 111	Office Keyboarding Skills I	3
AOA 140	Word I	3
BMC 102	Introduction to Windows	1
BMC 120	Excel	3
BMC 125	Introduction to Internet	3
BMC 130	Access	3
BMC 140	Publisher	3
BMC 210	PowerPoint	3
		26
Clinical Assisting		
BIO 101	Principles of Biology	4
CPT 105	Introduction to Microcomputer Software Applications	3
ENG 150	Freshman Composition	5
ENG 180	Technical Writing	4
HLT 121	Medical Terminology	3
HLT 141	First Aid & CPR	2
HLT 165	Electrocardiography I	2
IDS 101	College Success Strategies	1
MAT 105	Basic Medical Laboratory Techniques	4
MAT 125	Medical Assisting Procedures I	3
MAT 151	Patient Contact and Public Relations	3
MTH 111	Mathematics for Business	4
PBT 180	Phlebotomy I	2
PBT 181	Phlebotomy II	2
PBT 182	Phlebotomy III	2
		44
Computer-Aided Drafting and Design - Architectural Drafting		
CAD 105	AutoCAD I	3
CAD 114	Architectural Graphics I	3
CAD 115	Architectural Graphics II	3
CAD 119	AutoCAD II	3
CAD 142	Introduction to Architectural Modeling	3
		15

Computer-Aided Drafting and Design - Mechanical Design

CAD 105	AutoCAD I	3
CAD 119	AutoCAD II	3
CAD 141	Introduction to Mechanical Modeling	3
EGT 109	Engineering Technology Computer Applications	3
MET 210	Computer-Aided Working Drawings	3
		15

Engineering Technology Graphics and Software Tools

CAD 105	AutoCAD I	3
CAD 119	AutoCAD II	3
EGT 109	Engineering Technology Computer Applications	3
EGT 220	Project Management	3
		12

Groundwater/Soils

ENG 253	Groundwater Hydrology	3
GLY 135	Earth Science	4
PRW 130	Soil and Water Conservation	3
		10

Hazardous Waste Management

ENV 226	Transportation of Hazardous Materials	1
ENV 230	HAZWOPER: Technician	2
ENV 241	HAZWOPER: Waste Site Worker	3
ENV 267	Solid & Hazardous Waste Management	3
		9

Land Measurement

EGT 109	Engineering Technology Computer Applications	3
NFS 215	Introduction to Geographic Information Systems	3
SUR 142	Remote Sensing and Cartography	3
SUR 219	Fundamentals of Surveying	4
		13

Medical Transcriptionist

AOA 111	Office Keyboarding Skills I	3
AOA 121	Office Keyboarding Skills II	3
AOA 125	Document Analysis & Editing	3
AOA 140	Word I	3
AOA 229	Speed Building I	2
AOA 230	Speed Building II	2
BIO 240	Anatomy & Physiology I	4
BIO 241	Anatomy & Physiology I Laboratory	1
BIO 242	Anatomy & Physiology II	4
BIO 243	Anatomy & Physiology II Laboratory	1
ENG 150	Freshman Composition	5
HLT 121	Medical Terminology	3
HLT 122	Medical Dictation & Transcription	3
HLT 130	Advanced Medical Dictation & Transcription	3
HLT 173	Diseases and the Disease Process	3
IDS 101	College Success Strategies	1
		44

Microsoft Office Certificate

AOA 111	Office Keyboarding Skills I	3
AOA 140	Word I	3
BMC 102	Introduction to Windows	1
BMC 120	Excel	3
BMC 125	Introduction to Internet	3
BMC 130	Access	3
BMC 140	Publisher	3
BMC 210	PowerPoint	3
BMC 220	Advanced Excel	3
BMC 225	Help Desk	3
BMC 230	Advanced Access	3
BMC 240	Advanced Integrated Applications	3
		34

Ohio Peace Officer Training Academy

OPT 106	Introduction to Criminal Justice	4
OPT 112	Defense Tactics	2
OPT 115	Defensive Driving	2
OPT 122	Investigations I	3
OPT 123	Investigations II	4
OPT 162	Criminal Legal Procedures	4
OPT 191	Police Operations	3
OPT 265	Firearms I	2
OPT 266	Firearms II	2
OPT 270	Community Diversity	3
		29

Phlebotomy

PBT 180	Phlebotomy I	2
PBT 181	Phlebotomy II	2
PBT 182	Phlebotomy III	2
		6

Public Water Systems

ENV 171	Water Sampling and Analysis	4
ENV 215	Wastewater Treatment	3
ENV 272	Advanced Instrumentation and Analytical Methods	3
ENV 291	Drinking Water Treatment	3
		13

Statistical Process Control

EGT 109	Engineering Technology Computer Applications	3
MET 120	Industrial Materials & Processes	3
MET 219	Statistical Process Control	3
MTH 113	Algebra	4
MTH 227	Statistics	4
		17

Structural Systems

CAD 125	Construction Methods and Materials I	3
MET 120	Industrial Materials and Processes	3
MET 221	Statics	3
MET 231	Strength of Materials	3
		12

Water/Wastewater Laboratory Skills

CHM 101	Chemistry I	4
ENV 171	Water Sampling & Analysis	4
ENV 215	Wastewater Treatment	3
ENV 267	Solid & Hazardous Waste Management	3
ENV 272	Advanced Instrumentation & Analytical Methods	3
ENV 291	Drinking Water Treatment	3
		20

Word Processing

AOA 111	Office Keyboarding Skills I	3
AOA 121	Office Keyboarding Skills II	3
AOA 125	Document Analysis and Editing	3
AOA 140	Word I	3
AOA 141	Word II	3
AOA 217	Machine Transcription/Word Processing	3
AOA 253	Word Processing Applications	3
BUS 215	Desktop Publishing	3
ENG 150	Freshman Composition	5
		29

ONE-YEAR CERTIFICATES

DIGITAL ANIMATION CERTIFICATE

The Digital Animation Certificate is a one year certificate program designed to prepare students for an entry level position in digital animation. Students complete an intensive series of courses in animation techniques and applications. Tools in basic animation such as web graphics, digital video, animation scripting, and digital photography provide a foundation to gain an entry level position in digital animation.

Certificate completers can find employment in website production, multimedia, graphic design, and video production. This exciting field would appeal to individuals with an interest in computing technology and an aptitude for creative artistic expression.

All credits earned in this certificate are applicable to the Associate of Applied Business in Information Technology – Interactive Digital Media Concentration. Students completing this certificate program can expect an additional year of full time study to complete this Associates degree.

Curriculum for Digital Animation Certificate

FALL QUARTER (1)		
IDS 101	College Success Strategies	1
ITC 102	Introduction to Multimedia Applications	3
ITC 103	Introduction to Programming Logic	3
ITC 142	Imaging and Graphics for the Web	3
ITC 204	Editing Digital Video	3
MTH 113*	Algebra	4
		17
WINTER QUARTER (2)		
ENG 150**	Freshman Composition	5
ITC 123	Client-side Scripting	3
ITC 226	Web Site & Kiosk Authoring Software	3
ITC 242	Advanced Animation Scripting	3
MKT 100	Marketing	4
		18
SPRING QUARTER (3)		
ACC 101	Financial Accounting	4
BUS 131	Business Law I	3
ENG 180	Technical Writing	4
ITC 144	Digital Photography	3
ITC 260	3D Animation	3
		17

*Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment. Students who fail MTH 113 may not register for MTH 113 again unless they also register for MTH 106 (MTH 113 Excel Lab).
**Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.

TOTAL CREDIT HOURS (52)

GRAPHIC DESIGN CERTIFICATE

The Graphic Design Certificate is a one year certificate program designed to prepare students for an entry level position in graphic design. Students complete an intensive series of courses in graphic design techniques and applications. Tools in basic graphics such as web graphics, digital video, digital photography, and print layout provide a foundation to gain an entry level position in graphic design.

Certificate completers can find employment in website production, multimedia, graphic design, and video production. This exciting field would appeal to individuals with an interest in computing technology and an aptitude for creative artistic expression.

All credits earned in this certificate are applicable to the Associate of Applied Business in Business Management - Marketing Management Major. Students completing this certificate program can expect an additional year of full time study to complete this Associates degree.

Curriculum for Graphic Design Certificate

FALL QUARTER (1)		
IDS 101	College Success Strategies	1
ITC 102	Introduction to Multimedia Applications	3
ITC 142	Imaging and Graphics for the Web	3
ITC 204	Editing Digital Video	3
MKT 100	Marketing	4
		14
WINTER QUARTER (2)		
ACC 101	Financial Accounting	4
BUS 131	Business Law I	3
ENG 150*	Freshman Composition	5
ITC 153	Advanced Graphic Design	3
MTH 111**	Mathematics for Business	4
		19
SPRING QUARTER (3)		
ENG 180	Technical Writing	4
ITC 122	Web Site Design	3
ITC 144	Digital Photography	3
ITC 160	Print Layout	3
MKT 202	Advertising	4
		17

* Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.

** Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment.

TOTAL CREDIT HOURS (50)

WELDING CERTIFICATE

Students have the opportunity to begin a career in welding technology. Openings in this field are varied and growing, especially as there are an increasing number of older welders retiring. Welding requires detail-oriented people with good vision and hand-eye co-ordination. Students learn the basics of welding, utilizing SMAW (stick-welding), GWAW (MIG), and GTAW (TIG). Also offered are oxy-fuel and plasma cutting. During the last quarter of the curriculum students have the chance to put their welding and cutting skills together with their blueprint reading knowledge to build a project of their own.

The Welding Technology Certificate Program requires four quarters of full time enrollment and students may begin at the start of any quarter. If a student decides at some point to continue their education, certificate courses may be applied to an ATS degree with a welding major.

All welding modules are taught at the Willett-Pratt Training Center in Cambridge. State Certification is offered on-site at the end of the Basic SWAW series. Welding labs are scheduled Monday from 8:00 a.m. to 7:00 p.m., Tuesday through Thursday from 8:00 a.m.– 8:00 p.m. Friday from 9:00 a.m. to 3:00 p.m. and Saturday from 9:00 a.m. to 2:00 p.m. depending on the student's schedule.

Other welding modules are also offered for the student that desires advanced skills. Internships in the welding field may also be arranged with local employers according to availability.

Curriculum for Welding Certificate

FALL QUARTER (1)		
IDS 101	College Success Strategies	1
MTH 111*	Mathematics for Business	4
WAF 101	Introduction to Welding/Cutting Safety & Processes	3
WAF 103	Basic SMAW I	5
WAF 151	Blueprint Reading I	2
		15
WINTER QUARTER (2)		
CPT 105	Introduction to Microcomputer Software Applications	3
WAF 105	Basic SMAW II	5
WAF 107	Basic SMAW III	5
WAF 153	Blueprint Reading II	2
		15
SPRING QUARTER (3)		
ENG 150**	Freshman Composition	5
WAF 121	Introduction to GMAW (MIG) /FCAW	4
WAF 123	Advanced GMAW (MIG)	4
WAF 141	Introduction to GTAW (TIG)	3
		16
SUMMER QUARTER (4)		
ENG 180	Technical Writing	4
WAF 143	Advanced GTAW (TIG)	4
WAF 161	Fabrication	4
		12

* Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment.
** Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.

TOTAL CREDIT HOURS (58)

ASSOCIATE OF ARTS DEGREE

The Associate of Arts degree prepares a student for transfer to a four year college or university. Students will take required courses in the areas of English, communications, mathematics, natural sciences, arts, humanities, and social and behavioral sciences consistent with the College's general education requirements. In addition, students working with their advisor will select elective courses to complete the degree requirement. Upon completion of 90 credit hours, the student will be awarded an Associate of Arts degree. The Associate of Arts degree fulfills the general education requirements of the first two years of a four year program.

Curriculum for Associate of Arts

Dept./Number	Course Title	
FIRST QUARTER (1)		
ENG 150*	Freshman Composition – (Required)	5
CPT 105	Introduction to Microcomputer Software Applications	3
IDS 101	College Success Strategies – (Required)	1
	Social & Behavioral Science TM Course	4
		13
SECOND QUARTER (2)		
ENG 180	Technical Writing – (Required)	4
	Arts & Humanities TM Course	4
	Natural Science TM Course	4-5
	Elective	4-5
		16-18
THIRD QUARTER (3)		
COM 261	Public Speaking – (Required)	4
	Arts & Humanities TM Course	4
	Natural Science TM Course	4-5
	Elective	4-5
		16-18
FOURTH QUARTER (4)		
	Arts & Humanities TM Course	4
	Mathematics TM Course **	4-5
	Social & Behavioral Science TM Course	4
	Elective	4-5
		16-18
FIFTH QUARTER (5)		
	Arts & Humanities TM Course	4
	Mathematics** or Natural Science TM Course	4-5
	Social & Behavioral Science TM Course	4
	Elective	4-5
		16-18
SIXTH QUARTER (6)		
	Arts & Humanities TM Course	4
	Social & Behavioral Science TM Course	4
	Elective	4-5
	Elective	4-5
		16-18

ASSOCIATE OF ARTS DEGREE (MINIMUM 90 CREDITS)

Please note – the following criteria must be met:

- **Transfer Module (TM)** – Students' course selections marked (TM) must be from the list of approved Transfer Module courses as shown on pages 16-17.
- **Mathematics and Sciences** – Students must take at least one course in mathematics and two in the natural sciences, which include biology, chemistry, physics, or astronomy. One course must be a laboratory course with at least one laboratory meeting per week. A second mathematics course or a third natural science course must be taken to meet the AA Degree requirements.
- **Arts and Humanities** – Students must take five courses in arts, humanities, literature, music, philosophy or theater. Courses must be taken in at least two subject areas.
- **Social and Behavioral Sciences** – Students must take four courses in economics, geography, history, political science, psychology, or sociology. Courses must be taken in at least two subject areas.
- **Computer Skills Proficiency** – Students must be able to pass a computer skills proficiency exam or take an approved computer course.

* Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.
** Students whose Math placement test results predict difficulty in their Math elective must first complete additional Math courses prior to enrollment.

ASSOCIATE OF SCIENCE DEGREE

The Associate of Science degree prepares a student for transfer to a four year college or university. Students will take required courses in the areas of English, communications, mathematics, natural sciences, arts, humanities, and social and behavioral sciences consistent with the College's general education requirements. In addition, students working with their advisor will select elective courses to complete the degree requirement. Upon completion of 90 credit hours, the student will be awarded an Associate of Science degree. The Associate of Science degree fulfills the general education requirements of the first two years of a four year program.

Curriculum for Associate of Science

Dept./Number	Course Title	
FIRST QUARTER (1)		
ENG 150*	Freshman Composition – (Required)	5
CPT 105	Introduction to Microcomputer Software Applications	3
IDS 101	College Success Strategies – (Required)	1
	Social & Behavioral Science TM Course	4
		13
SECOND QUARTER (2)		
ENG 180	Technical Writing – (Required)	4
	Arts & Humanities TM Course	4
	Natural Science TM Course	4-5
	Elective	4-5
		16-18
THIRD QUARTER (3)		
COM 261	Public Speaking – (Required)	4
	Arts & Humanities TM Course	4
	Mathematics** TM Course	4-5
	Elective	4-5
		16-18
FOURTH QUARTER (4)		
	Arts & Humanities TM Course	4
	Natural Science TM Course	4-5
	Social & Behavioral Science TM Course	4
	Elective	4-5
		16-18
FIFTH QUARTER (5)		
	Natural Science TM Course	4-5
	Mathematics** TM Course	4-5
	Social & Behavioral Science TM Course	4
	Elective	4-5
		16-19
SIXTH QUARTER (6)		
	Arts & Humanities TM Course	4
	Social & Behavioral Science TM Course	4
	Elective	4-5
	Elective	4-5
		16-18

ASSOCIATE OF SCIENCE DEGREE (MINIMUM 90 CREDITS)

Please note – the following criteria must be met:

- **Transfer Module (TM)** – Students' course selections marked (TM) must be from the list of approved Transfer Module courses as shown on pages 16-17.
- **Mathematics** – Students must take at least two courses in mathematics.
- **Sciences** – Students must take at least three courses in the natural sciences, which include biology, chemistry, physics, or astronomy. One course must be a laboratory course with at least one laboratory meeting per week.
- **Arts and Humanities** – Students must take four courses in arts, humanities, literature, music, philosophy or theater. Courses must be taken in at least two subject areas.
- **Social and Behavioral Sciences** – Students must take four courses in economics, geography, history, political science, psychology, or sociology. Courses must be taken in at least two subject areas.
- **Computer Skills Proficiency** – Students must be able to pass a computer skills proficiency exam or take an approved computer course.

* Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.
** Students whose Math placement test results predict difficulty in their Math elective must first complete additional Math courses prior to enrollment.

ASSOCIATE OF TECHNICAL STUDY

A two-year, specially designed program leading to the Associate of Technical Study (ATS) degree is available for those needing a great deal of curriculum flexibility. This degree program utilizes courses from the College, other institutions, work experience (a maximum of 12 credits), and training conducted by industry and/or other agencies (a maximum of 24 credits). Students must enroll for a minimum of 55 credits at the College and enroll in 33 credits after step 4 below is completed.

Students must apply for admission and follow these steps to formalize the degree:

1. Meet with an advisor during the first 21 hours of Zane State College enrollment.
2. Prepare application for admission (including a 1-3 paragraph goal statement and records of previous study to be considered).
3. Advisor and student prepare curriculum recommendations and list of possible ad hoc advisory members and submit to the appropriate Dean.
4. The Dean grants preliminary approval, awards transfer, work experience, and prior training credit and collects ad hoc advisory comments.
5. Dean submits degree requirements to the Vice President for Academic Services and Workforce Development for final approval.
6. Student receives final curriculum requirements.

Students with a special career goal can combine past training and collegiate education with course work at Zane State College and other institutions. Through the Associate of Technical Study Program, a College degree is designed with the student and reviewed by an ad hoc advisory committee of practicing business professionals brought together by the College. Graduation requirements are high but students get a tailored program that has been reviewed as academically sound by the College and occupationally valid by the ad hoc committee.

PATHWAYS TO ENGINEERING – ASSOCIATES OF TECHNICAL STUDY

The Pathways to Engineering program serves high school juniors and seniors excelling academically and having an interest in engineering related fields. The goals of the program are to prepare students for direct employment or to continue on with advanced studies in engineering. Students in the program earn college credits and high school credits simultaneously. Pathways to Engineering is made possible by a partnership between Zane State College, Ohio College Tech Prep, and Mid-East Career and Technology Centers. At the conclusion of their senior year, graduates of the program earn an Associate of Technical Study degree from Zane State College, a Career-Technical Certificate from Mid-East Career and Technology Centers and a High School Diploma from their home high school.

Students are taught in classes on the Zane State College campus by Zane State College faculty. Students in the program receive a solid foundation in mathematics, physical sciences, communication skills and social sciences. In the engineering technology laboratories students learn and apply computer aided design techniques and mechanical and electrical engineering principles which are fundamental to careers and advanced study in engineering. Technical courses typically incorporate computer usage as an integral engineering tool and involve "hands on" engineering lab activities appropriate to the functions performed by graduates in the industrial environment. Students tour regional businesses and industry to see firsthand the skills required and opportunities of engineering careers. Technical classes frequently have guest speakers in who are currently working in the field.

Program graduates have opportunities to directly enter the workplace with the Associate of Technical Study degree. Other options include continuing at Zane State College to earn additional associate degrees in CAD-Mechanical technology and/or Electrical/Electronics Engineering Technology. Graduates are also well prepared to pursue a bachelor's degree in a specialized engineering or engineering technology field at another college or university.

Admission to the Pathways to Engineering program is selective. Demonstrated academic readiness for college level algebra and English is required for acceptance into the program. Application must be made during the sophomore year of high school.

Curriculum for Pathways to Engineering

Dept./Number	Course Title	Credits
PRE-FALL QUARTER TERM(1)		
CMT 103	Blueprint Reading	3
EGT 109	Engineering Technology Computer Applications	3
IDS 101	College Success Strategies	1
		7
FALL QUARTER (1)		
CAD 105	AutoCAD I	3
CHM 101	Chemistry	4
ENG 150	Freshman Composition	5
MTH 113	Algebra	4
		16
WINTER QUARTER (2)		
CAD 141	Introduction to Mechanical Modeling	3
COM 122	Interpersonal Communication	3
ENG 180	Technical Writing	4
MTH 124	Algebra & Trigonometry I	4
PHY 201	Physics I	4
		18
SPRING QUARTER (3)		
BUS 151	Microeconomics	4
COM 261	Public Speaking	4
MET 210	Computer-Aided Working Drawings	3
MTH 125	Algebra & Trigonometry II	4
PHY 202	Physics II	4
		19

FALL QUARTER (4)		
EET 111	D.C. Circuit Analysis I	4
MET 201	Engineering Economy	3
MET 221	Statics	3
MTH 225	Introductory Calculus	4
		14
WINTER QUARTER (5)		
EET 112	D.C. Circuit Analysis II	4
EET 113	Electronic Devices	4
MET 231	Strength of Materials	3
MET 251	Hydraulics & Pneumatics I	3
		14
SPRING QUARTER (6)		
EET 114	Digital Circuits	4
GEO 161	U.S. Geography	4
MET 120	Industrial Materials & Processes	3
MET 243	Dynamics	3
MET 282	Robotics	3
		17

ASSOCIATE OF TECHNICAL STUDY DEGREE (105 CREDITS)

PROGRAM DESCRIPTIONS

ACCOUNTING

The Accounting program prepares students for careers in public, business, or governmental accounting. It also provides the foundation for those students who are interested in transferring to a four-year university and completing their bachelor's degree.

Students learn to perform accounting functions, record and verify transactions, prepare payrolls, monitor inventory, prepare financial statements, and analyze financial information. Emphasis is placed on both manual and computer accounting programs with the student learning accounting packages along with word processing and spreadsheet software.

The demand for accounting personnel has been great. Graduates are employed as bookkeepers, auditors, tax preparers, compilers of financial information, cost accountants, and financial analysts.

Curriculum for Accounting

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
ACC 111	Accounting I	4
BIO 107	Biology and the Environment	4
CPT 105	Introduction to Microcomputer Software Applications	3
ENG 150*	Freshman Composition	5
IDS 101	College Success Strategies	1
		17
WINTER QUARTER (2)		
ACC 112	Accounting II	4
BMC 120	Excel	3
ENG 180	Technical Writing	4
	Social & Behavioral Science Elective (see page 29)	4
		15
SPRING QUARTER (3)		
ACC 113	Accounting III	4
ACC 145	Governmental Accounting	3
COM 122	Interpersonal Communication	3
MTH 113**	Algebra	4
	Social & Behavioral Science Elective (see page 29)	4
		18
SUMMER QUARTER (4)		
BUS 200	Internship I	4
	and	
BUS 205	Seminar for Internship	1
		5
	OR	
BUS 199	Employability Principles	3
	and	
	Technical Elective (see next page)	3
		6

CERTIFICATE IN APPLIED BUSINESS:
Accounting and Bookkeeping (55-56 CREDITS)

FALL QUARTER (5)		
ACC 205	Computer-Aided Accounting	3
ACC 222	Managerial Accounting	3
ACC 241	Intermediate Accounting I	4
BUS 111	Principles of Management	4
	Technical Elective (see below)	3
		17
WINTER QUARTER (6)		
ACC 225	Cost Accounting	4
ACC 242	Intermediate Accounting II	4
BUS 131	Business Law I	3
BUS 151	Microeconomics	4
	Social & Behavioral Science Elective (see page 29)	4
		19
SPRING QUARTER (7)		
ACC 243	Intermediate Accounting III	4
BUS 132	Business Law II	3
BUS 207	Small Business Management	3
BUS 272	Financial Management	3
COM 261	Public Speaking	4
	Technical Elective (see below)	1
		18
TECHNICAL ELECTIVES		
ACC 231	Auditing	3
ACC 260	Income Tax Accounting	3
BMC 103	Introduction to Access	1
BMC 109	Introduction to Quicken	1
BMC 202	Intermediate Access	1
BMC 203	Intermediate Excel	1

ASSOCIATE OF APPLIED BUSINESS DEGREE (109-110 CREDITS)

* Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.
** Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment. Students who fail MTH 113 may not register for MTH 113 again unless they also register for MTH 106 (MTH 113 Excel Lab).

ADMINISTRATIVE OFFICE ASSISTANT

Today's administrative assistant is an indispensable member of the office team. Advances in technology have contributed to this change from that of the traditional secretary to that of the administrative assistant, trained to perform in an increasingly complex position. These factors have given rise to changes in job titles, job descriptions, salary, and prestige.

The administrative assistant must be skilled in all aspects of office operations – computer software applications, office procedures, communications, records management, transcription, data entry, human relations, and document processing. Today's professional must adapt to and understand the total office environment.

The Administrative Office Assistant program prepares students for these demanding roles in today's high-tech offices. Students are eligible to sit for the Certified Professional Secretary or Certified Administrative Professional exams prior to graduation, and many Administrative Office Assistant students are members of Business Professionals of America and the International Association of Administrative Professionals.

Employment opportunities exist in every type and size of organization and in every city across the United States.

Curriculum for Administrative Office Assistant

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
AOA 101	Records Management	3
AOA 105	Computer Theory	1
AOA 111	Office Keyboarding Skills I	3
ENG 150**	Freshman Composition	5
IDS 101	College Success Strategies	1
MTH 111*	Mathematics for Business	4
		17
WINTER QUARTER (2)		
AOA 121	Office Keyboarding Skills II	3
AOA 130	Notetaking	3
AOA 140	Word I	3
COM 122	Interpersonal Communication	3
ENG 180	Technical Writing	4
		16
SPRING QUARTER (3)		
AOA 125	Document Analysis & Editing	3
AOA 141	Word II	3
AOA 150	Electronic Office Communications	3
AOA 155	Electronic Calculator Applications	2
BIO 107	Biology & the Environment	4
		15
SUMMER QUARTER (4)		
ACC 101	Financial Accounting	4
	Social & Behavioral Science Elective (see page 29)	4
	Social & Behavioral Science Elective (see page 29)	4
		12

CERTIFICATE IN APPLIED BUSINESS:
General Office Specialist (60 Credits)

FALL QUARTER (5)		
AOA 217	Machine Transcription/Word Processing	3
AOA 229	Speed Building I	2
AOA 245	Document Formatting	3
BMC 120	Excel	3
BMC 210	PowerPoint	3
BUS 215	Desktop Publishing	3
		17
WINTER QUARTER (6)		
AOA 230	Speed Building II	2
AOA 240	Voice Recognition	3
AOA 250	Business Communications	3
AOA 259	Administrative Office Systems I	3
BMC 130	Access	3
		14
SPRING QUARTER (7)		
AOA 253	Word Processing Applications	3
AOA 255	Integrated Software Applications	3
AOA 261	Administrative Office Systems II	3
BUS 131	Business Law I	3
COM 261	Public Speaking	4
		16

ASSOCIATE OF APPLIED BUSINESS DEGREE (107 Credits)

* Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment.
** Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.

ALTERNATIVE ENERGY

Alternative/renewable energy careers are an integral part of our new and emerging economy. Southeastern Ohio is known for its vast natural resources, and today is becoming an area where alternative energy in the form of solar and geothermal energy is more apparent. The Alternative Energy Technology program provides students an opportunity to gain experience in these new careers while working in a state-of-the-art laboratory.

The Alternative Energy Technology program at Zane State College will emphasize the basic science and technology of alternative/renewable energy resources and develop the primary skills needed for entering a variety of alternative energy careers, including energy conservation and management, and the design, installation, and maintenance of alternative energy systems focusing on solar, wind, and geothermal energy. The Alternative Energy Technology program will also provide students with basic skills in computer technology, basic electrical/electricity, hydraulic/pneumatics, basic workplace safety, and related areas.

Curriculum for Alternative Energy

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
AET 101	Introduction to Energy Resources	4
EGT 109	Engineering Technology Computer Applications	3
ENG 150**	Freshman Composition	5
IDS 101	College Success Strategies	1
MTH 113*	Algebra	4
		17
WINTER QUARTER (2)		
AET 102	The Science of Energy	4
CMT 103	Blueprint Reading	3
EET 110	Industrial Electricity	3
ENG 180	Technical Writing	4
MTH 227	Statistics	4
		18
SPRING QUARTER (3)		
AET 150	Energy Management	4
AET 180	Solar Power-PV	4
AET 190	Introduction to Geothermal Energy	3
EGT 145	Industrial Mechanics	3
	Social & Behavioral Science Elective (see page 29)	4
		18
SUMMER QUARTER (4)		
EGT 200	Internship I	2-4
EGT 205	Seminar	1
MTH 124	Algebra & Trigonometry I	4
		7-9
FALL QUARTER (5)		
AET 200	Solar Power-Thermal	4
COM 261	Public Speaking	4
PHY 201	Physics I	4
	Arts and Humanities Elective (see page 29)	4
		16
WINTER QUARTER (6)		
AET 210	Energy Systems in Construction	4
AET 220	Wind Power	4
BUS 111	Principles of Management	4
MET 251	Hydraulics & Pneumatics I	3
		15
SPRING QUARTER (7)		
AET 280	Alternative Energy Capstone Experience	6
EGT 127	Industrial Health & Safety	3
EGT 220	Project Management	3
		12

ASSOCIATE OF APPLIED SCIENCE DEGREE (103-105) Credits

* Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment. Students who fail MTH 113 may not register for MTH 113 again unless they also register for MTH 106 (MTH 113 Excel Lab).

** Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150

BUSINESS MANAGEMENT

The Business Management program curriculum is designed to meet the needs of the person preparing for an entry-level management position or planning to own and operate one's own business. The important concept of interrelation of all business activities is presented and brought together in the small business management capstone course. The business courses encompass the best technical knowledge, computer software applications, economic principles, management practices, understanding of human behavior, and realization of social responsibilities and influences.

Through the Business Management program, students can select from several areas of emphasis and two independent majors: Human Resources Management or Marketing Management. Within the Marketing Management major, students may opt to take courses in the Graphic Design concentration.

Graduates of the Business Management program find employment in banking, real estate, retail, manufacturing, and warehousing. Graduates qualify for many different management and office positions including: supervisor, sales representative, office manager, human resource assistant, customer service representative, insurance agent, and many other similar positions.

Curriculum for Business Management

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
BUS 111	Principles of Management	4
CPT 105	Introduction to Microcomputer Software Applications	3
ENG 150**	Freshman Composition	5
IDS 101	College Success Strategies	1
	Mathematics Elective* (see next page)	4
		17
WINTER QUARTER (2)		
ACC 101	Financial Accounting	4
BMC 120	Excel	3
BUS 151	Microeconomics	4
ENG 180	Technical Writing	4
		15
SPRING QUARTER (3)		
ACC 222	Managerial Accounting	3
BUS 152	Macroeconomics	4
MKT 100	Marketing	4
	Technical Elective (see page 56)	3
		14
SUMMER QUARTER (4)		
	Technical Elective (see page 56)	3
	Technical Elective (see page 56)	3
		6

CERTIFICATE IN APPLIED BUSINESS:
General Business (52 Credits)

FALL QUARTER (5)		
BUS 212	Customer Relationship Management	3
BUS 262	Organizational Behavior	4
BUS 291	Government & Business	3
	Natural/Physical Science Elective (see below)	4
	Technical Elective (see page 56)	3
		17
WINTER QUARTER (6)		
BUS 131	Business Law I	3
COM 261	Public Speaking	4
HRT 225	Cultural Diversity	3
	Social & Behavioral Science Elective (see page 29)	4
	Technical Elective (see page 56)	3
		17
SPRING QUARTER (7)		
BUS 207	Small Business Management	3
BUS 213	International Business	4
BUS 265	Human Resource Management	3
BUS 272	Financial Management	3
	Technical Elective (see page 56)	3
		16

MATHEMATICS ELECTIVES

MTH 111	Mathematics for Business	4
MTH 113	Algebra	4
MTH 124	Algebra & Trigonometry I	4
MTH 125	Algebra & Trigonometry II	4
MTH 225	Introductory Calculus	4
MTH 227	Statistics	4
MTH 251	Calculus I	5
MTH 252	Calculus II	5
MTH 253	Calculus III	5

NATURAL/PHYSICAL SCIENCE ELECTIVES

BIO 101	Principles of Biology	4
BIO 107	Biology and the Environment	4
CHM 101	Chemistry	4

TECHNICAL ELECTIVES

ACC 225	Cost Accounting	4
BMC 130	Access	3
BMC 220	Advanced Excel	3
BMC 230	Advanced Access	3
BUS 199	Employability Principles	3
BUS 200	Internship I	4
BUS 205	Seminar for Internship	1
BUS 211	Office Management	4
BUS 215	Desktop Publishing	3
BUS 219	Advanced Desktop Publishing	3
BUS 260	Business Correspondence	3
BUS 269	Introduction to E-Commerce	3
HRT 120	Staffing and Employment Functions	3
HRT 133	Strategic Compensation	3
HRT 230	Labor Relations	3
ITC 225	Database Management Systems	3
MET 216	Operations Management	3
MKT 101	Retail Management	4
MKT 202	Advertising	4
MKT 207	Visual Design & Merchandising	3
MKT 215	Principles of Professional Sales	3

BANKING/FINANCE ELECTIVES***

BUS 282	Principles of Banking	4
BUS 284	Consumer Lending	4
BUS 292	Branch Bank Management	4

REAL ESTATE ELECTIVES***

BUS 273	Real Estate Principles & Practices	4
BUS 274	Real Estate Law	4
BUS 275	Real Estate Finance	4

NOTE: Twelve (12) credit hours in any technical area may be substituted as an option with approval of Advisor and Dean.

ASSOCIATE OF APPLIED BUSINESS DEGREE (102 Credits)

* Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment.
** Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.
*** May not be offered every year

BUSINESS MANAGEMENT – HUMAN RESOURCES MANAGEMENT MAJOR

The Human Resources Management major of Business Management is dedicated to preparing students for careers in human resources, one of the fastest growing and most interesting career fields in business and nonprofit institutions. Graduates qualify for various human resources entry-level positions including jobs in employee and labor relations, compensation and benefits, health and safety, and affirmative action fields. Emphasis is placed on real world applications in a broad array of practical course offerings. Graduates of the Human Resources Management program have the opportunity to transfer to bachelor degree programs.

According to the U.S. Department of Labor's Bureau of Labor Statistics, employment in human resources specialists and managers is expected to continue to grow. Upon completion of the program, graduates will be qualified for positions in a variety of business environments including manufacturing, banking, retailing, and non-profit organizations.

Curriculum for Business Management - Human Resources Management major

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
ACC 101	Financial Accounting	4
BUS 265	Human Resource Management	3
CPT 105	Introduction to Microcomputer Software Applications	3
ENG 150*	Freshman Composition	5
IDS 101	College Success Strategies	1
		16
WINTER QUARTER (2)		
BUS 131	Business Law I	3
ENG 180	Technical Writing	4
HRT 120	Staffing and Employment Functions	3
	Mathematics Elective** (see next page)	4
		14
SPRING QUARTER (3)		
ACC 222	Managerial Accounting	3
BUS 111	Principles of Management	4
BUS 132	Business Law II	3
BUS 151	Microeconomics	4
HRT 133	Strategic Compensation	3
		17
SUMMER QUARTER (4)		
	Technical Elective (see next page)	3
	Technical Elective (see next page)	3
		6
FALL QUARTER (5)		
BMC 130	Access	3
HRT 225	Cultural Diversity	3
MKT 100	Marketing	4
	Social & Behavioral Science Elective (see page 29)	4
	Technical Elective (see next page)	3
		17
WINTER QUARTER (6)		
BMC 120	Excel	3
BUS 262	Organizational Behavior	4
HRT 230	Labor Relations	3
PAR 153	Techniques of Legal Research	3
	Social & Behavioral Science Elective (see page 29)	4
		17

SPRING QUARTER (7)		
BUS 213	International Business	4
BUS 272	Financial Management	3
COM 261	Public Speaking	4
HRT 260	Issues in Human Resources Management	3
	Natural/Physical Science Elective (see below)	4
		18

MATHEMATICS ELECTIVES		
MTH 111	Mathematics for Business	4
MTH 113	Algebra	4
MTH 124	Algebra & Trigonometry I	4
MTH 125	Algebra & Trigonometry II	4
MTH 225	Introductory Calculus	4
MTH 227	Statistics	4
MTH 251	Calculus I	5
MTH 252	Calculus II	5
MTH 253	Calculus III	5

NATURAL/PHYSICAL SCIENCE ELECTIVES		
BIO 101	Principles of Biology	4
BIO 107	Biology and the Environment	4
CHM 101	Chemistry	4

TECHNICAL ELECTIVES		
ACC 225	Cost Accounting	4
BMC 220	Advanced Access	3
BMC 230	Advanced Access	3
BUS 199	Employability Principles	3
BUS 200	Internship I	4
BUS 205	Seminar for Internship	1
BUS 211	Office Management	4
BUS 212	Customer Relationship Management	3
BUS 215	Desktop Publishing	3
BUS 219	Advanced Desktop Publishing	3
BUS 260	Business Correspondence	3
BUS 269	Introduction to E-Commerce	3
ITC 225	Database Management Systems	3
MET 216	Operations Management	3
MKT 101	Retail Management	4
MKT 202	Advertising	4
MKT 207	Visual Design & Merchandising	3
MKT 215	Principles of Professional Sales	3

ASSOCIATE OF APPLIED BUSINESS DEGREE (105 Credits)

* Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.
** Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment.

BUSINESS MANAGEMENT – MARKETING MANAGEMENT MAJOR

The Marketing Management major of Business Management is dedicated to preparing students for careers in a variety of marketing and management positions. Learning opportunities, including internships, are provided which introduce and develop academic and occupational knowledge, skills, and attitudes required for success on the job. Students will study aspects of marketing including retail management, sales promotion, and advertising. During marketing classes, students will be able to design store window displays, conduct marketing research, and develop sales presentations.

Graduates qualify for careers in store management, buying, advertising, publicity, sales, and other related marketing positions. This exciting and expanding field should appeal to the individual who thrives on challenge, likes people, and relates well to others.

Curriculum for Business Management - Marketing Management major

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
BUS 151	Microeconomics	4
CPT 105	Introduction to Microcomputer Software Applications	3
ENG 150*	Freshman Composition	5
IDS 101	College Success Strategies	1
	Social & Behavioral Science Elective (see page 29)	4
		17
WINTER QUARTER (2)		
ACC 101	Financial Accounting	4
ENG 180	Technical Writing	4
MKT 100	Marketing	4
	Mathematics Elective** (see next page)	4
		16
SPRING QUARTER (3)		
ACC 222	Managerial Accounting	3
BUS 111	Principles of Management	4
BUS 212	Customer Relationship Management	3
ITC 102	Introduction to Multimedia Applications	3
MKT 101	Retail Management	4
		17
SUMMER QUARTER (4)		
	Technical Elective (see next page)	3
	Technical Elective (see next page)	3
		6

CERTIFICATE IN APPLIED BUSINESS: Retail Sales (56 Credits)

FALL QUARTER (5)		
BMC 120	Excel	3
COM 261	Public Speaking	4
MKT 202	Advertising	4
	Natural/Physical Science Elective (see next page)	4
	Technical Elective (see next page)	3
		18
WINTER QUARTER (6)		
HRT 225	Cultural Diversity	3
MKT 207	Visual Design and Merchandising	3
MKT 215	Principles of Professional Sales	3
	Technical Elective (see next page)	3
	Technical Elective (see next page)	3
		15

SPRING QUARTER (7)		
BUS 131	Business Law I	3
BUS 207	Small Business Management	3
BUS 213	International Business	4
	Social & Behavioral Science Elective (see page 29)	4
	Technical Elective (see below)	3
		17

MATHEMATICS ELECTIVES		
MTH 111	Mathematics for Business	4
MTH 113	Algebra	4
MTH 124	Algebra & Trigonometry I	4
MTH 125	Algebra & Trigonometry II	4
MTH 225	Introductory Calculus	4
MTH 227	Statistics	4
MTH 251	Calculus I	5
MTH 252	Calculus II	5
MTH 253	Calculus III	5

NATURAL/PHYSICAL SCIENCE ELECTIVES		
BIO 101	Principles of Biology	4
BIO 107	Biology and the Environment	4
CHM 101	Chemistry	4

TECHNICAL ELECTIVES		
ACC 225	Cost Accounting	4
BMC 130	Access	3
BMC 220	Advanced Excel	3
BMC 230	Advanced Access	3
BUS 199	Employability Principles	3
BUS 200	Internship I	4
BUS 205	Seminar for Internship	1
BUS 211	Office Management	4
BUS 215	Desktop Publishing	3
BUS 219	Advanced Desktop Publishing	3
BUS 260	Business Correspondence	3
BUS 262	Organizational Behavior	4
BUS 265	Human Resource Management	3
BUS 269	Introduction to E-Commerce	3
BUS 272	Financial Management	3
HRT 120	Staffing and Employment Functions	3
HRT 133	Strategic Compensation	3
HRT 230	Labor Relations	3
ITC 225	Database Management Systems	3
MET 216	Operations Management	3

GRAPHIC DESIGN CONCENTRATION

ITC 122	Web Site Design	3
ITC 142	Imaging and Graphics for the Web	3
ITC 144	Digital Photography	3
ITC 153	Advanced Graphic Design	3
ITC 160	Print Layout	3
ITC 204	Editing Digital Video	3

ASSOCIATE OF APPLIED BUSINESS DEGREE (106 Credits)

* Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.
** Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment.

(BUSINESS) MICROCOMPUTER APPLICATIONS

Personal Computers have become the gateway to the world and have permeated all facets of business and industry. In today's ever-changing workplace, the importance of specialized microcomputer and communications skills in managing and sharing information has moved to the forefront in most organizations. Software is constantly being upgraded and organizations need skilled personnel who can easily adapt to these changes. The Microcomputer Applications program provides students with the higher degree of computer expertise that is necessary to meet the increasing demands and technical challenges of all businesses, large and small. Students will receive instruction in word processing, spreadsheet, database, desktop publishing, Internet, and Web page design programs as well as the most up-to-date business practices and principles.

Students will sit for the Microsoft Office User Specialist computer certification exam in Microsoft Word, Excel, Access, and PowerPoint during their sophomore year. Students graduating with a Microcomputer Applications degree are prepared to be successful as help desk specialists, desktop publishing specialists, database administrators, assistant managers, financial managers, and computer applications specialists.

Curriculum for Microcomputer Applications

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
ACC 101	Financial Accounting	4
AOA 111	Office Keyboarding Skills I	3
BMC 102	Introduction to Windows	1
ENG 150*	Freshman Composition	5
IDS 101	College Success Strategies	1
		14
WINTER QUARTER (2)		
BMC 120	Excel	3
BMC 125	Introduction to Internet	3
ENG 180	Technical Writing	4
MTH 111**	Mathematics for Business	4
	Technical Electives (see next page)	3
		17
SPRING QUARTER (3)		
AOA 140	Word I	3
BMC 130	Access	3
BMC 140	Publisher	3
BUS 111	Principles of Management	4
BUS 131	Business Law I	3
		16
SUMMER QUARTER (4)		
BUS 200	Internship I	4
	and	
BUS 205	Seminar for Internship	1
		5
	OR	
BUS 199	Employability Principles	3
	and	
	Technical Elective (see next page)	3
		6
FALL QUARTER (5)		
BMC 210	PowerPoint	3
BMC 220	Advanced Excel	3
BUS 225	Help Desk	3
COM 122	Interpersonal Communication	3
	Social & Behavioral Science Elective (see page 29)	4
	Technical Elective (see next page)	1
		17

WINTER QUARTER (6)		
BIO 107	Biology and the Environment	4
BMC 230	Advanced Access	3
BUS 151	Microeconomics	4
	Technical Elective (see below)	3
		14

SPRING QUARTER (7)		
BMC 240	Advanced Integrated Applications	3
COM 261	Public Speaking	4
ITC 150	Microcomputer Hardware	3
	Social & Behavioral Science Elective (see page 29)	4
	Technical Elective (see below)	3
		17

TECHNICAL ELECTIVES		
AOA 141	Word II	3
BUS 215	Desktop Publishing	3
BUS 265	Human Resource Management	3
ITC 144	Digital Photography	3
MKT 100	Marketing	4

The following (1) credit hour courses can be substituted for Technical Electives in the Microcomputer Applications Specialist program: (0 LEC, 2 LAB, 2 CON, 1 CRD)

BMC 109 Introduction to Quicken
BMC 110 Introduction to Peachtree
BMC 115 Introduction to QuickBooks
BMC 132 Introduction to Dreamweaver
BMC 134 Introduction to Photoshop
BMC 238 Advanced PowerPoint
BMC 254 Advanced Photoshop

ASSOCIATE OF APPLIED BUSINESS DEGREE (100-101 Credits)

* Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.
** Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment.

COMPUTER AIDED DRAFTING & DESIGN – ARCHITECTURAL DRAFTING MAJOR

The Architectural Drafting major of the Computer Aided Drafting & Design technology program gives students a strong foundation in architectural drafting and design concepts. By learning manual detailing, 2-D, and 3-D computer aided drafting skills, graduates will be able to visually communicate ideas in a variety of drawing styles. The program is further enhanced with the creation of physical models that reinforce concepts in the construction methods and materials used in the building industry.

Students will take architectural courses in manual drafting, 2-D and 3-D CAD drafting, construction methods and materials, and architectural working drawings. Engineering technology course work in statics and strength of materials will be taken to solidify the physical science aspects of the construction industry. General course work in communications, writing, math, and speech will enable students to become productive employees, problem solvers, and successful CAD operators in today's challenging architectural environment.

Careers for graduates of this program range from entry-level drafters and technicians to project detailers and CAD operators. Their career paths may lead them to jobs in the residential or commercial construction industry, civil engineering companies, city and/or state engineering design departments, consulting firms, or the numerous corporations that manufacture architectural materials.

Graduates may choose to continue with their education at a four-year institution and seek license as a Registered Architect or Professional Engineer.

Curriculum for Computer Aided Drafting & Design – Architectural Drafting

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
CAD 105	AutoCAD I	3
CAD 125	Construction Methods & Materials I	3
EGT 109	Engineering Technology Computer Applications	3
ENG 150*	Freshman Composition	5
IDS 101	College Success Strategies	1
		15
WINTER QUARTER (2)		
CAD 114	Architectural Graphics I	3
CAD 119	AutoCAD II	3
ENG 180	Technical Writing	4
GLY 135	Earth Science	4
MTH 113**	Algebra	4
		18
SPRING QUARTER (3)		
CAD 115	Architectural Graphics II	3
CAD 126	Construction Methods & Materials II	3
CAD 142	Introduction to Architectural Modeling	3
MTH 124	Algebra & Trigonometry I	4
PHY 110	Physical Science	4
		17
SUMMER QUARTER (4)		
PHY 201	Physics I	4
		4
FALL QUARTER (5)		
CAD 212	Architectural Working Drawings I	4
CAD 242	Intermediate Architectural Modeling	3
EGT 215	Advanced Engineering Technology Computer Applications	3
MET 221	Statics	3
	Social & Behavioral Science Elective (see page 29)	4
		17

WINTER QUARTER (6)		
CAD 213	Architectural Working Drawings II	4
CAD 216	VIZ Rendering	3
COM 261	Public Speaking	4
EGT 206	Employment Search	1
MET 231	Strength of Materials	3
	Technical Elective (see below)	3
		18

SPRING QUARTER (7)		
CAD 214	Architectural Working Drawings III	4
EGT 220	Project Management	3
SUR 219	Fundamentals of Surveying	4
	Social & Behavioral Science Elective (see page 29)	4
	Social & Behavioral Science Elective (see page 29)	4
		19

TECHNICAL ELECTIVES (3 credit hours minimum required)		
BMC 120	Excel	3
BMC 130	Access	3
BUS 215	Desktop Publishing	3
CAD 215	Estimation & Building Codes	3
EGT 200	Internship I	2-4
EGT 205	Seminar	1
ITC 150	Microcomputer Hardware	3
ITC 225	Database Management Systems	3
NFS 215	Introduction to Geographic Information Systems	3
PRW 130	Soil & Water Conservation	3
PRW 131	Recreation Area Construction	3
PRW 271	Landscaping Design & Management	3
SUR 142	Remote Sensing & Cartography	3

ASSOCIATE OF APPLIED SCIENCE DEGREE (108 Credits)

* Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.
** Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment. Students who fail MTH 113 may not register for MTH 113 again unless they also register for MTH 106 (MTH 113 Excel Lab).

COMPUTER AIDED DRAFTING & DESIGN – MECHANICAL DESIGN MAJOR

The Mechanical Design major of the Computer Aided Drafting & Design technology program allows students to discover challenges and requirements of today's modern industries. A solid foundation in the basics of computer-aided drafting and design as well as mathematics, physics, English, and advanced computer skills prepare students for utilization of applications in tool and die design, CAD/CAM, machine design, and robotics.

Other courses, including machine tools, industrial materials and processes, statistical process control, and hydraulics prepare graduates with valuable skills for a wide variety of positions within manufacturing companies. Graduates are skilled in CAD drafting, 3-D modeling, machining principles, industrial materials and processes, and analytical design techniques.

Most of the technical courses incorporate the computer as an integral engineering tool, and involve "hands-on" practical lab activities appropriate to the types of functions performed by graduates in the industrial environment. Students also have several opportunities to tour regional companies to see firsthand the type of skills required and equipment used in industry.

Placement has been excellent in our local service area; however, opportunities increase exponentially in the larger urban areas such as Columbus. Graduates have been placed with engineering firms, utility companies, and in the public sector, but the majority of graduates obtain positions within the manufacturing industry. Careers in product, tool, machine, and facilities design are prevalent. Positions such as manufacturing technician and process technician are also common.

Curriculum for Computer Aided Drafting & Design – Mechanical Design

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
CAD 105	AutoCAD I	3
CMT 105	CNC Machining Fundamentals	4
EGT 109	Engineering Technology Computer Applications	3
IDS 101	College Success Strategies	1
MTH 113*	Algebra	4
		15
WINTER QUARTER (2)		
CAD 141	Introduction to Mechanical Modeling	3
EET 110	Industrial Electricity	3
ENG 150**	Freshman Composition	5
MTH 124	Algebra & Trigonometry I	4
		15
SPRING QUARTER (3)		
CMT 207	Tool Design Fundamentals I	3
ENG 180	Technical Writing	4
MET 120	Industrial Materials & Processes	3
PHY 110	Physical Science	4
		14
SUMMER QUARTER (4)		
PHY 201	Physics I	4
		4
FALL QUARTER (5)		
EGT 215	Advanced Engineering Technology Computer Applications	3
MET 210	Computer Aided Working Drawings	3
MET 221	Statics	3
	Social & Behavioral Science Elective (see page 29)	4
	Technical Elective (see next page)	3
		16

WINTER QUARTER (6)		
CAD 119	AutoCAD II	3
COM 261	Public Speaking	4
EGT 206	Employment Search	1
MET 219	Statistical Process Control	3
MET 231	Strength of Materials	3
	Technical Elective (see below)	3
		17
SPRING QUARTER (7)		
MET 251	Hydraulics & Pneumatics I	3
MET 261	Machine Design	3
	Social & Behavioral Science Elective (see page 29)	4
	Social & Behavioral Science Elective (see page 29)	4
	Technical Elective (see below)	3
		17

TECHNICAL ELECTIVES		
CMT 135	Numerical Control Programming I	4
CMT 138	Measurement and Layout	4
CMT 201	Computer Assisted Machining I	4
CMT 211	Computer Assisted Machining II	4
CMT 235	Geometric Tolerancing	3
EET 111	D.C. Circuit Analysis I	4
EET 112	D.C. Circuit Analysis II	4
EET 113	Electronic Devices	4
EET 114	Digital Circuits	4
EET 123	A.C. Circuit Analysis	4
EGT 220	Project Management	3
ITC 150	Microcomputer Hardware	3
ITC 240	Introduction to Networking	3
MET 243	Dynamics	3
MET 282	Robotics	3
SUR 219	Fundamentals of Surveying	4

ASSOCIATE OF APPLIED SCIENCE DEGREE (98 Credits)

* Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment. Students who fail MTH 113 may not register for MTH 113 again unless they also register for MTH 106 (MTH 113 Excel Lab).
** Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.

CRIMINAL JUSTICE – Police Science Major

The associate degree program in Criminal Justice offers technical training to men and women planning careers in police and/or correctional science as well as advancing the education and training of those already in the field. Criminal Justice students participate in hands-on courses, travel off campus to observe real-life facilities, and interact with professional and correctional staff.

Police Science is considered appropriate for persons already in the field and/or preparing for employment in municipal, county, state, federal, and private law enforcement agencies. Options include certified training in the Basic Police Academy - an approved academy by the Ohio Peace Officer Training Commission, PO Box 309, London, OH 43140, (614) 852-4848.

Criminal Justice professionals play important roles in protecting the public and the administration of justice. Specific admission requirements are available from the Criminal Justice program director.

Curriculum for Criminal Justice - Police Science Major

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
IDS 101	College Success Strategies	1
LAW 101	Criminal Law	3
LAW 106	Introduction to Criminal Justice	4
LAW 122	Investigations I	3
	Mathematics Elective* (see next page)	4
		15
WINTER QUARTER (2)		
ENG 150**	Freshman Composition	5
LAW 128	Evidence	3
	Technical Elective (see next page)	2-4
	Technical Elective (see next page)	2-4
		12-16
SPRING QUARTER (3)		
ENG 180	Technical Writing	4
LAW 155	Correctional Law	3
LAW 162	Criminal Legal Procedures	4
PSY 101	Introduction to Psychology	4
		15
SUMMER QUARTER (4)		
BIO 101	Principles of Biology	4
LAW 220	Constitutional Law	3
PSV 299	Seminar	3
		10
FALL QUARTER (5)		
LAW 208	Victimology	4
LAW 226	Probation & Parole	4
LAW 265	Firearms I	2
PSY 201	Abnormal Psychology	4
	Technical Elective (see next page)	2-4
		16-18
WINTER QUARTER (6)		
COM 261	Public Speaking	4
LAW 227	Criminology	4
LAW 229	Juvenile Crime	3
LAW 270	Cultural Sensitivity	2
	Technical Elective (see next page)	2-4
		15-17

SPRING QUARTER (7)		
HSV 105	Group Dynamics	3
LAW 115	Police-Corrections Defensive Driving	2
LAW 266	Firearms II	2
LAW 277	Seminar in Administration of Criminal Justice	3
	General Elective (see page 29)	3
		13

MATHEMATICS ELECTIVES		
MTH 111	Mathematics for Business	4
MTH 113	Algebra	4
MTH 115	College Algebra	5

TECHNICAL ELECTIVES

(Must have a minimum of 12 credit hours from the following electives)

LAW 110	Civil Liabilities	3
LAW 112	Defensive Tactics	2
LAW 123	Investigations II	4
LAW 124	Community Relations & Crime Prevention	4
LAW 191	Police Operations	3

ASSOCIATE OF APPLIED SCIENCE DEGREE (100-102 Credits)

* Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment.
** Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.

CRIMINAL JUSTICE – Corrections Science Major

The associate degree program in Criminal Justice offers technical training to men and women planning careers in police and/or correctional science as well as advancing the education and training of those already in the field. Criminal Justice students participate in hands-on courses, travel off campus to observe real-life facilities, and interact with professional police and correctional staff.

Correctional Science prepares a student to work with offenders in group homes, drug centers, detention centers, probation and parole agencies, juvenile institutions, jails and prisons. This program provides a solid approach to community-based and institutional rehabilitation, with emphasis on counseling the offender.

Criminal Justice professionals play important roles in protecting the public and the administration of justice. Specific admission requirements are available from the Criminal Justice program director.

Curriculum for Criminal Justice - Corrections Science Major

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
IDS 101	College Success Strategies	1
LAW 101	Criminal Law	3
LAW 106	Introduction to Criminal Justice	4
LAW 122	Investigations I	3
	Mathematics Elective* (see next page)	4
		15
WINTER QUARTER (2)		
ENG 150**	Freshman Composition	5
LAW 109	Corrections	3
LAW 128	Evidence	3
LAW 130	Contemporary Issues in Correctional Institutions	3
		14
SPRING QUARTER (3)		
ENG 180	Technical Writing	4
LAW 135	Community Based Corrections	4
LAW 155	Correctional Law	3
LAW 162	Criminal Legal Procedures	4
PSY 101	Introduction to Psychology	4
		19
SUMMER QUARTER (4)		
BIO 101	Principles of Biology	4
LAW 220	Constitutional Law	3
PSV 299	Seminar	3
		10
FALL QUARTER (5)		
LAW 208	Victimology	4
LAW 226	Probation & Parole	4
LAW 265	Firearms I	2
PSY 201	Abnormal Psychology	4
		14
WINTER QUARTER (6)		
COM 261	Public Speaking	4
LAW 227	Criminology	4
LAW 229	Juvenile Crime	3
LAW 270	Cultural Sensitivity	2
		13

SPRING QUARTER (7)		
HSV 105	Group Dynamics	3
LAW 115	Police-Corrections Defensive Driving	2
LAW 266	Firearms II	2
LAW 277	Seminar in Administration of Criminal Justice	3
	General Elective (see page 29)	3
		13

MATHEMATICS ELECTIVES		
MTH 111	Mathematics for Business	4
MTH 113	Algebra	4
MTH 115	College Algebra	5

ASSOCIATE OF APPLIED SCIENCE DEGREE (98 Credits)

* Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment.
** Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.

CULINARY ARTS

The Culinary Arts program prepares students for employment in the food service industry at mid-management level. Graduates are able to meet the food service industry's needs for trained professionals who are knowledgeable in areas such as basic and classical food preparation, baking, menu and facility planning, nutrition, sanitation, accounting, and management techniques. Students gain valuable hands-on and practical experience in the kitchen-lab and classroom setting.

The Culinary Arts program is fully accredited by the American Culinary Federation. Zane State College's Culinary Arts program is one of only five such programs accredited in the state of Ohio.

Graduates of the Culinary Arts Technology program find employment in a variety of places in the food service industry. This includes restaurants, private clubs, hotels, schools, hospitals, cafeterias, and extended care facilities.

Curriculum for Culinary Arts

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
COM 122	Interpersonal Communication	3
CUL 102	Orientation to Culinary Arts	2
CUL 104	Safety and Sanitation	3
CUL 106	Fundamentals of Food Preparation I	4
IDS 101	College Success Strategies	1
MTH 111*	Mathematics for Business	4
		17
WINTER QUARTER (2)		
ACC 101	Financial Accounting	4
CUL 108	Introduction to Baking	3
CUL 112	Fundamentals of Food Preparation II	3
ENG 150**	Freshman Composition	5
		15
SPRING QUARTER (3)		
BUS 151	Microeconomics	4
CUL 113	Meat Technology	2
CUL 114	Nutrition & Menu Planning	3
CUL 116	Professional Baking	3
ENG 180	Technical Writing	4
		16
SUMMER QUARTER (4)		
CUL 118	Professional Table Service	2
CUL 120	Practicum in Culinary Arts I/Seminar	5
		7
FALL QUARTER (5)		
BIO 107	Biology and the Environment	4
BUS 265	Human Resource Management	3
CUL 202	Food & Beverage Cost Control	2
CUL 206	Classical Cuisine	3
CUL 208	Food Service Equipment/Facility Organization	3
		15
WINTER QUARTER (6)		
BUS 111	Principles of Management	4
COM 261	Public Speaking	4
CUL 216	Classical Desserts	3
CUL 218	Garde-Manger	3
	Social & Behavioral Science Elective (see page 29)	4
		18

SPRING QUARTER (7)		
BUS 212	Customer Relationship Management	3
CUL 220	Practicum in Culinary Arts II/Seminar	6
CUL 222	Food Service Management	4
		13

ASSOCIATE OF APPLIED BUSINESS DEGREE (101 Credits)

* Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment.
** Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.

EARLY CHILDHOOD EDUCATION

The Early Childhood Education program is approved by the Ohio Department of Education as a teacher training program for the Pre-kindergarten Associate Teaching License. The program prepares individuals to care for and educate young children in group settings such as nursery schools, day care centers, and other programs for young children. Training is also included for the operation and management of centers for young children.

Candidates gain a variety of experiences while working with children during placements in Head Start, school-based and child care programs. Candidates are required to candidate-teach before graduation.

Candidates graduating from the program may be employed as aides or lead teachers in the Pre-K classroom, home trainers, administrators/directors of preschool programs, parent coordinators, or family day care providers.

A candidate who successfully completes the program of study is eligible to apply for the Ohio Pre-kindergarten Associate License. Ohio law does not currently mandate that an individual be licensed in order to be employed in private child care programs.

Students interested in the Early Childhood Education program must be admitted to the College before admission to the program. College admission procedures are printed in this catalog. A copy of the Early Childhood Education Student Handbook, which includes the requirements for conditional and formal acceptance to the program as well as the eligibility criteria for the student teaching practicum, may be obtained from the Education Programs Director or Student Services. Criteria for conditional acceptance is based on Ohio Revised Code and regulations promulgated from the code.

Curriculum for Early Childhood Education

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
EDU 101	Introduction to Education	4
ENG 150*	Freshman Composition	5
IDS 101	College Success Strategies	1
PSY 101	Introduction to Psychology	4
		14
WINTER QUARTER (2)		
BIO 101	Principles of Biology	4
EDU 109	Effective Classroom Management	3
EDU 111	Observation Skills	3
ENG 180	Technical Writing	4
		14
SPRING QUARTER (3)		
EDU 125	Early Childhood Literacy	4
EDU 145	Introduction to Special Education	4
EDU 183	Child Development	5
PSY 231	Educational Psychology	4
		17
SUMMER QUARTER (4)		
ECE 285	School Age Child Care & Programming	2
EDU 205	Educational Technology	4
EDU 211	Family, School & Community	3
HLT 143	Health and Safety for Child Care Programs	2
MTH 111**	Mathematics for Business	4
		15

FALL QUARTER (5)		
ECE 123	Creative Activities: Art and Music	4
ECE 127	Field Practicum I	2
ECE 233	Children's Literature	3
EDU 135	Classroom Mathematics	3
SOC 101	Introduction to Sociology	4
		16
WINTER QUARTER (6)		
ECE 227	Field Practicum II	2
ECE 242	Creative Activities - Health and Science	3
ECE 277	Preschool Program Development	3
ECE 281	Child Care Supervision and Administration	3
EDU 225	Phonics	3
		14
SPRING QUARTER (7)		
COM 261	Public Speaking	4
ECE 271	Infant/Child Nutrition	3
ECE 284	Infant/Toddler Care & Programming	3
ECE 292	Student Teaching Practicum	3
ECE 293	Student Teaching Seminar	3
SOC 206	Cultural Diversity	4
		20

ASSOCIATE OF APPLIED SCIENCE DEGREE (110 Credits)

* Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.
** Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment.

EDUCATION PARAPROFESSIONAL

The Education Paraprofessional program is designed to provide students with the experiences and knowledge necessary to function as an integral part of the instructional team. Students will work under the supervision of licensed teachers in applying effective instructional and assessment strategies, as well as effective classroom management techniques. Learning experiences include didactic and laboratory activities as well as field practicum activities under the supervision of a licensed teacher.

The Education Paraprofessional graduate will be eligible to apply for an Education Paraprofessional Associate License as required by the State of Ohio. Graduates also meet the "highly qualified" criteria presented in No Child Left Behind.

Employment opportunities for education paraprofessionals may be found in primary and secondary education settings, pre-school classrooms, special education programs, and educational support roles.

Admission to the Education Paraprofessional program is selective. Students interested in the program must be admitted to the College before admission to the program. A copy of the Education Paraprofessional Student Handbook, which includes the requirements for conditional and formal acceptance to the program as well as the eligibility criteria for the comprehensive field experience may be obtained from the Education Programs Director. Criteria for conditional acceptance are based on Ohio Revised Code and regulations promulgated from the code.

Curriculum for Education Paraprofessional

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
EDU 101	Introduction to Education	4
ENG 150*	Freshman Composition	5
IDS 101	College Success Strategies	1
PSY 101	Introduction to Psychology	4
		14
WINTER QUARTER (2)		
BIO 101	Principles of Biology	4
EDU 109	Effective Classroom Management	3
EDU 111	Observation Skills	3
ENG 180	Technical Writing	4
		14
SPRING QUARTER (3)		
EDU 125	Early Childhood Literacy	4
EDU 145	Introduction to Special Education	4
EDU 183	Child Development	5
PSY 231	Educational Psychology	4
		17
SUMMER QUARTER (4)		
EDP 203	Developmentally Appropriate Social Competence	3
EDU 205	Educational Technology	4
EDU 211	Family, School & Community	3
HLT 143	Health and Safety for Child Care Programs	2
MTH 111**	Mathematics for Business	4
		16
FALL QUARTER (5)		
EDP 129	Field Practicum I	2
EDP 221	Reading to Learn	4
EDP 245	High Incidence Disabilities	4
EDU 135	Classroom Mathematics	3
HSV 111	Learning & Behavior Theory	3
		16

WINTER QUARTER (6)		
EDP 229	Field Practicum II	2
EDP 247	Low Incidence Disabilities	4
HSV 215	Service Delivery in Human Services	3
HUM 101	Leadership Development Studies	4
SOC 101	Introduction to Sociology	4
		17
SPRING QUARTER (7)		
COM 261	Public Speaking	4
EDP 231	Comprehensive Field Practicum	3
EDP 232	Comprehensive Field Practicum Seminar	3
SOC 206	Cultural Diversity	4
		14

ASSOCIATE OF APPLIED SCIENCE DEGREE (108 Credits)

* Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.
** Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment.

ELECTRICAL/ELECTRONICS ENGINEERING TECHNOLOGY

The program prepares electronic engineering technicians to design, build, troubleshoot, repair, maintain, and program electrical and electronic equipment for business, industry, and government. Students work in modern labs using measurement and diagnostic equipment manufactured by companies such as Tektronix, Agilent, and Hewlett-Packard. Students learn to use digital and analog oscilloscopes, logic analyzers, spectrum analyzers (telecommunications), network cable analyzers (networked computer systems), and programmable logic controllers (PLCs).

The curriculum builds from the basics of DC and AC circuit analysis, electronic devices, and digital signal processing through more advanced course work in electronic amplifiers, industrial instrumentation, microprocessor interfacing, PLC wiring and programming, motors and controls, designing and installing networked computer systems, and telecommunications.

Students completing the degree program can become certified engineering technicians by passing the NICET exam. Those completing the networking component of the curriculum may sit for the Cisco Certified Network Associate (CCNA) exam.

The Electrical/Electronics Engineering Technology program is nationally recognized for its quality. It is a TAC/ABET accredited program (Technology Accreditation Commission of the Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012), phone 1-410-347-7700.

The rapid growth of electronic, telecommunication, and computer industries worldwide has led to a demand for electronics technicians that has far exceeded supply. As a result, wages and benefits for electronics technicians rank among the top for two-year graduates, often exceeding those of four-year graduates in other disciplines. Graduates work for such well-known companies as American Electric Power, SBC, Canon, IBM, Boeing, Lucent Technologies, Verizon, AT&T, and Xerox.

Power Tech/Electric Utility Concentration

Over the next decade electric utilities in our region and the nation are forecasting a need for a significant number of new hires to replace a retiring workforce. Demand for degreed technicians by the utility industry is very strong. The Electrical/Electronics Engineering Technology works closely with electric utilities to identify skills needed by that industry. Students interested in careers in the electrical utility industry should work closely with the program faculty to select technical elective courses in preparation for careers in this industry.

Curriculum for Electrical/Electronics Engineering Technology

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
EET 111	D.C. Circuit Analysis I	4
EGT 109	Engineering Technology Computer Applications	3
ENG 150*	Freshman Composition	5
IDS 101	College Success Strategies	1
MTH 113**	Algebra	4
		17
WINTER QUARTER (2)		
CAD 105	AutoCAD I	3
EET 112	D.C. Circuit Analysis II	4
EET 113	Electronic Devices	4
ENG 180	Technical Writing	4
MTH 124	Algebra & Trigonometry I	4
		19
SPRING QUARTER (3)		
CHM 101	Chemistry	4
EET 114	Digital Circuits	4
EET 123	A.C. Circuit Analysis	4
MTH 125	Algebra & Trigonometry II	4
		16

SUMMER QUARTER (4)		
PHY 201	Physics I	4
	Technical Elective*** (see below)	0-4
		4-8
FALL QUARTER (5)		
EET 215	Digital Circuits & Microprocessors	4
EET 230	Electronic Communications	4
MTH 225	Introductory Calculus	4
	Technical Elective (see below)	3
		15
WINTER QUARTER (6)		
EET 245	Rotating Machinery and Controls	4
EGT 206	Employment Search	1
	Social & Behavioral Science Elective (see page 29)	4
	Technical Electives (2 or 3) – (see below)	7-10
		16-19
SPRING QUARTER (7)		
COM 261	Public Speaking	4
	Social & Behavioral Science Elective (see page 29)	4
	Technical Electives (2 or 3) – (see below)	7-10
		15-18

TECHNICAL ELECTIVES

(Choose Remaining Elective Courses to Total a Minimum of 60 Technical Hours)

BMC 120	Excel	3
BMC 125	Introduction to Internet	3
BMC 130	Access	3
CAD 119	AutoCAD II	3
EET 105	Introduction to the Electric Power Utility Industry	3
EET 151	Cisco Routers I	4
EET 153	Cisco Routers II	4
EET 155	Cisco Routers III	4
EET 157	Cisco Routers IV	4
EET 211	Power Control Electronics	4
EET 221	Industrial Instrumentation and Controls	4
EET 251	Programmable Logic Controllers	4
EET 270	Power Protection and Control	4
EGT 145	Industrial Mechanics	3
EGT 200	Internship I	4
EGT 205	Seminar	1
EGT 215	Advanced Engineering Computer Technology Applications	3
ITC 121	Visual Basic	3
ITC 141	Introduction to C++ Programming	3
ITC 144	Digital Photography	3
ITC 150	Microcomputer Hardware	3
ITC 240	Introduction to Networking	3
MET 201	Engineering Economy	3
MET 210	Computer Aided Working Drawings	3
MET 219	Statistical Process Control	3
MET 221	Statics	3
MET 231	Strength of Materials	3
MET 251	Hydraulics & Pneumatics I	3
NFS 215	Introduction to Geographic Information Systems	3
SUR 142	Remote Sensing & Cartography	3
SUR 219	Fundamentals of Surveying	4

ASSOCIATE OF APPLIED SCIENCE DEGREE (107-108 Credits)

Technical hours will vary depending on the courses selected to fulfill Technical Requirements and Technical Electives.

* Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.

** Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment. Students who fail MTH 113 may not register for MTH 113 again unless they also register for MTH 106 (MTH 113 Excel Lab).

*** Only students pursuing the computer networking concentration need to take a technical elective in the summer.

ENVIRONMENTAL SCIENCE, SAFETY & HEALTH

Environmental Science, Safety & Health technicians are trained to meet the environmental staffing needs of our region, state, and nation. Environmental laws and regulations have resulted in compliance monitoring programs that require employees who have the skills and knowledge to ensure a safe and healthy environment and balance the protection of our air, land, and water with economic development. The skills graduates possess are based on a combination of laboratory and field experience.

Three environmental labs are equipped with the latest in analytical equipment, such as spectrophotometers, ion selective analysis instruments, portable test kits, and meters. A large number of environmental sites, such as wildlife areas, state parks, wetlands, lakes and rivers are located close to campus and are used as sites for student learning experiences. Enhanced computer skills, including instruction on ArcView, GIS, and Microsoft Office are taught within the curriculum. The graduate will possess the skills to participate in laboratory and/or field work, conducting impact studies, utilizing test equipment, gathering and organizing data, and generating reports.

Environmental Science, Safety & Health technicians assist biologists, chemists, and engineers in the areas of water and wastewater treatment; surface and ground water monitoring; wetlands ecology and biomonitoring; air quality monitoring; management, transportation, disposal, and storage of solid and hazardous wastes, and domestic and industrial health and safety. Their work takes place within local, state, and federal agencies, private consulting firms, and municipalities. Technicians can expect to earn starting salaries in the mid-20s with tremendous potential for advancement.

Curriculum for Environmental Science, Safety, & Health

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
BIO 107	Biology and the Environment	4
BIO 141	Field Zoology & Ecology	4
IDS 101	College Success Strategies	1
MTH 113*	Algebra	4
PRW 130	Soil & Water Conservation	3
		16
WINTER QUARTER (2)		
CPT 105	Introduction to Microcomputer Software Applications	3
ENG 150**	Freshman Composition	5
GLY 135	Earth Science	4
NFS 106	Employment Search	1
SUR 142	Remote Sensoring and Cartography	3
		16
SPRING QUARTER (3)		
CHM 101	Chemistry	4
ENG 180	Technical Writing	4
ENV 171	Water Sampling & Analysis	4
SUR 219	Fundamentals of Surveying	4
		16
SUMMER QUARTER (4)		
NFS 200	Internship I	4
NFS 205	Seminar	1
		5
FALL QUARTER (5)		
ENV 218	Air Sampling & Analysis	4
ENV 253	Groundwater Hydrology	3
ENV 267	Solid & Hazardous Waste Management	3
ENV 291	Drinking Water Treatment	3
	Social & Behavioral Science Elective (see page 29)	4
		17

WINTER QUARTER (6)		
ENV 215	Wastewater Treatment	3
ENV 226	Transportation of Hazardous Materials	1
ENV 241	HAZWOPER: Waste Site Worker	3
ENV 272	Advanced Instrumentation and Analytical Methods	3
NFS 215	Introduction to Geographic Information Systems	3
	Social & Behavioral Science Elective (see page 29)	4
		17
SPRING QUARTER (7)		
COM 261	Public Speaking	4
EGT 127	Industrial Health and Safety	3
ENV 230	HAZWOPER: Technician	2
NFS 240	Wetlands Ecology	3
PRW 270	Fisheries Management	3
		15

ASSOCIATE OF APPLIED SCIENCE DEGREE (102 Credits)

* Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment. Students who fail MTH 113 may not register for MTH 113 again unless they also register for MTH 106 (MTH 113 Excel Lab).
** Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.

HEALTH INFORMATION MANAGEMENT

The Health Information Management program prepares students for a professional career in the fast changing field of health informatics and information management. Students will learn how to maintain and communicate sensitive medical and patient information in accordance with established medical, administrative, ethical, legal, accreditation, and regulatory requirements of the health care delivery system. In all types of health care facilities, health information management professionals possess 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.

As the health information management professional is often responsible for functional supervision of the various components of the health information system, the Zane State College Health Information Management program is grounded in the importance of applied knowledge. Through internships at local health care agencies under the direction of program faculty, students will gain hands-on, clinical experience essential to developing the skills necessary to succeed in this expanding career. According to the Ohio Department of Jobs and Family Services, health information specialists constitute one of the fastest growing occupations throughout the state. Health Information Management professionals are employed in a variety of settings including hospitals, physician's offices, urgent care centers, long-term care centers, medical billing service providers, and insurance companies.

Students who graduate from an accredited associate degree program are eligible to sit for the Registered Health Information Technician certification. With additional work experience, students who complete the HIM program may also be eligible for other certifications including the Certified Coding Associate, Certified Coding Specialist, and Certified Coding Specialist-Physician-based. Zane State College is currently pursuing accreditation of the Health Information Management program through the Commission on Accreditation of Health Informatics and Information Management Education (CAHIIM).

Curriculum for Health Information Management

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
ENG 150*	Freshman Composition	5
HIM 110	Introduction to Health Information Management	3
HLT 105	The Health Care System: Issues & Professions	3
HLT 121	Medical Terminology	3
IDS 101	College Success Strategies	1
		15
WINTER QUARTER (2)		
BIO 240	Anatomy & Physiology I	4
BIO 241	Anatomy & Physiology I Laboratory	1
ENG 180	Technical Writing	4
HIM 130	Health Information Processing and Organization	3
HIM 150	IDC-9-CM Coding for Medical Offices	3
HLT 131	Advanced Medical Terminology	2
		17
SPRING QUARTER (3)		
BIO 242	Anatomy & Physiology II	4
BIO 243	Anatomy & Physiology II Laboratory	1
BMC 120	Excel	3
HIM 155	CPT Coding for Medical Offices	3
HIM 160	Comparative Health Information Management	2
HIM 185	Health Care Data in Reimbursement	3
		16

SUMMER QUARTER (4)		
BMC 130	Access	3
HIM 170	Medico-Legal Aspect of Health Care Records	3
HIM 190	Professional Practicum I	2
HLT 173	Disease and the Disease Process	3
PSY 101	Introduction to Psychology	4
		15
FALL QUARTER (5)		
HIM 201	Health Care Quality Improvement	3
HIM 211	Pharmacology for HIM	3
HIM 215	Medical Coding: Hospitals and Ambulatory Services	3
HIM 222	Health Record Statistics	3
MTH 113**	Algebra	4
		16
WINTER QUARTER (6)		
HIM 205	Cancer Registry	1
HIM 245	Professional Practicum II	3
HIM 250	ICD-9-CM Coding II	4
HIM 265	Resource Management for Health Information	3
HIM 281	Clinical Abstracting	3
		14
SPRING QUARTER (7)		
COM 261	Public Speaking	4
HIM 207	Health Informatics	2
HIM 290	Professional Practicum III	4
HIM 291	Health Information Management Capstone	2
	Social & Behavioral Science Elective (see page 29)	4
		16

ASSOCIATE OF APPLIED SCIENCE DEGREE (109 Credits)

* Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.
** Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment. Students who fail MTH 113 may not register for MTH 113 again unless they also register for MTH 106 (MTH 113 Excel Lab).

HUMAN SERVICES ASSISTANT

The Human Services Assistant program prepares students to begin employment as direct service professionals in the field of social services. Human Service Practitioners build careers in the areas of aging, services to families and children, mental health, chemical dependency treatment and prevention, developmental disabilities, corrections, healthcare, and crisis intervention. There are employment opportunities in both public and private social service organizations.

The curriculum includes extensive exploration of the biological, psychological, and social aspects of human development. In addition, the student will develop skills in communication, problem assessment, treatment planning, documentation, case management, and group facilitation.

Graduates of the Human Services Assistant program frequently transfer to four year institutions to obtain baccalaureate degrees in Social Work or related fields.

Graduates of the Human Services Assistant program may register with the State of Ohio Counselor, Social Worker and Marriage and Family Therapist Board. Those students who complete the addictions coursework can apply to the Ohio Chemical Dependency Professionals Board to be a Chemical Dependency Counselor Assistant (CDCA) or a Registered Applicant (RA) while doing their practicum. Once they graduate they could be eligible to apply for Licensed Chemical Dependency Counselor II (LCDC II) or an Ohio Certified Prevention Specialist I (OCPSI).

Graduates of the Human Services Assistant program may register with the State of Ohio Counselor, Social Worker and Marriage and Family Board. Graduates of the addictions concentration may apply to become a Licensed Chemical Dependency Counselor (LCDC II). It is also possible for students to apply to be a Counselor Assistant or a Prevention Specialist.

Successful human service practitioners demonstrate an interest in people, a capacity for empathy, an interest in social justice, and a tolerance of intense emotional situations.

Admission to the Human Services program is nonselective. Applicants are required to have at least a high school diploma with a minimum grade point average of 2.0 and must complete the College Accuplacer test. Detailed information regarding program admission requirements may be obtained from the Human Services Assistant program director.

Curriculum for Human Services Assistant

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
ENG 150*	Freshman Composition	5
HSV 101	Introduction to Human Services	3
HSV 103	Human Development	3
IDS 101	College Success Strategies	1
PSY 101	Introduction to Psychology	4
		16
WINTER QUARTER (2)		
ENG 180	Technical Writing	4
HSV 107	Family Dynamics	3
HSV 109	Interviewing Techniques in Human Services	3
HSV 111	Learning & Behavior Theory	3
PSY 201	Abnormal Psychology	4
		17
SPRING QUARTER (3)		
HSV 105	Group Dynamics	3
HSV 106	Issues and Ethics in Human Services	3
HSV 121	Assessment in Human Services	4
HSV 123	Drug Use and Abuse	3
SOC 101	Introduction to Sociology	4
		17

SUMMER QUARTER (4)		
BIO 101	Principles of Biology	4
MTH 111**	Mathematics for Business	4
SOC 218	Social Problems	4
		12
FALL QUARTER (5)		
HSV 201	Grief Management	3
HSV 230	Practicum in Human Services I	4
SOC 206	Cultural Diversity	4
	Technical Elective (see below)	3-4
		14-15
WINTER QUARTER (6)		
COM 261	Public Speaking	4
HSV 213	Gerontology	3
HSV 231	Practicum in Human Services II	4
	Technical Elective (see below)	3-4
		14-15
SPRING QUARTER (7)		
HSV 221	Violence in the Family	3
HSV 223	Case Management	3
HSV 232	Practicum in Human Services III	5
PSY 203	Child/Adolescent Psychology	4
		15
TECHNICAL ELECTIVES		
HSV 203	Administration of Activity Therapy	4
HSV 205	Pharmacology of Chemical Dependency	3
HSV 207	Drug/Alcohol Prevention Strategies	3
HSV 211	Social Systems Theory	4
HSV 215	Service Delivery in Human Services	3
HSV 217	Mental Retardation	3

ASSOCIATE OF APPLIED SCIENCE DEGREE (105-107 Credits)

* Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.
** Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment.

INFORMATION TECHNOLOGY

The Information Technology program allows students to prepare themselves for a variety of careers in the evolving communications and information industries. Through an innovative and integrated Information Technology curriculum, students complete a series of core computer courses and then have the choice of a concentration in technical services, interactive digital media, software development, or e-commerce. Students gain valuable experience in internships and systems projects using the latest information systems and technology while continuously updating or migrating to new technology. The Information Technology program prepares students in networking, website design, database management, and project management.

Students in the program may prepare for a career in a variety of IT related areas. As part of the program students will analyze an IT related problem and select and develop an appropriate solution including appropriate consideration for security, use critical thinking and problem solving skills to address IT needs and solve IT problems, communicate clearly and concisely, and indentify and explain how changes in the IT discipline affect business, industry and their work environment.

The demand for technology-savvy individuals in the career tracks of Information Technology has never been greater. Graduates can expect employment as website designers, media and graphics designers, video producers, computer programmer/analysts, e-commerce specialists, internet marketers, webmasters, and project managers. This exciting and rapidly expanding field should appeal to the individual who desires to meet the many challenges of creating or managing computer generated media or data using the most modern computer hardware and software.

e-Commerce Concentration

Graduates of Information Technology with a concentration in e-Commerce are prepared to pursue positions in business and industry such as application developers/programmers, web developers, webmasters, internet specialists, software developers, data managers, information designers, customer support professionals and related positions that continue to emerge in the information technology field.

Curriculum for e-Commerce Concentration

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
IDS 101	College Success Strategies	1
ITC 101	Introduction to Information Technology	3
ITC 102	Introduction to Multimedia Applications	3
ITC 103	Introduction to Programming Logic	3
MTH 113*	Algebra	4
		14
WINTER QUARTER (2)		
ACC 101	Financial Accounting	4
ENG 150**	Freshman Composition	5
ITC 123	Client-side Scripting	3
MTH 124	Algebra & Trigonometry I	4
		16
SPRING QUARTER (3)		
ENG 180	Technical Writing	4
ITC 122	Web Site Design	3
ITC 124	e-Solutions Fundamentals	3
MTH 227	Statistics	4
	Social & Behavioral Science Elective (see page 29)	4
		18
SUMMER QUARTER (4)		
BUS 131	Business Law I	3
MKT 100	Marketing	4
		7

FALL QUARTER (5)		
COM 261	Public Speaking	4
ITC 121	Visual Basic	3
ITC 142	Imaging and Graphics for the Web	3
ITC 209	Systems Analysis	3
ITC 250	Database and Server Tools	3
		16
WINTER QUARTER (6)		
ITC 143	Server-side Scripting	3
ITC 211	Security	3
ITC 225	Database Management Systems	3
ITC 229	Systems Design	3
ITC 242	Advanced Animation Scripting	3
		15
SPRING QUARTER (7)		
ITC 237	e-Commerce Web Implementation	3
ITC 240	Introduction to Networking	3
ITC 249	Systems Applications	3
	Natural/Physical Science Elective (see page 30)	4
	Social & Behavioral Science Elective (see page 29)	4
		17

ASSOCIATE OF APPLIED BUSINESS DEGREE (103 credits)

Interactive Digital Media Concentration

Graduates of Information Technology with a concentration in Interactive Digital Media are prepared to pursue positions in business and industry that involve both digital and print media with a focus on design. These include positions such as graphic designers, illustrator or page layout artists, webmasters, customer support professionals and related positions that continue to emerge in the information technology field.

Curriculum for Interactive Digital Media Concentration

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
IDS 101	College Success Strategies	1
ITC 101	Introduction to Information Technology	3
ITC 102	Introduction to Multimedia Applications	3
ITC 103	Introduction to Programming Logic	3
MTH 113*	Algebra	4
		14
WINTER QUARTER (2)		
ACC 101	Financial Accounting	4
ENG 150**	Freshman Composition	5
ITC 123	Client-side Scripting	3
ITC 153	Advanced Graphic Design	3
MTH 124	Algebra & Trigonometry I	4
		19
SPRING QUARTER (3)		
ENG 180	Technical Writing	4
ITC 122	Web Site Design	3
ITC 144	Digital Photography	3
ITC 160	Print Layout	3
MTH 227	Statistics	4
		17
SUMMER QUARTER (4)		
BUS 131	Business Law I	3
MKT 100	Marketing	4
		7
FALL QUARTER (5)		
COM 261	Public Speaking	4
ITC 142	Imaging and Graphics for the Web	3
ITC 204	Editing Digital Video	3
ITC 209	Systems Analysis	3
	Social & Behavioral Science Elective (see page 29)	4
		17
WINTER QUARTER (6)		
ITC 225	Database Management Systems	3
ITC 226	Web Site and Kiosk Authoring Software	3
ITC 229	Systems Design	3
ITC 242	Advanced Animation Scripting	3
	Social & Behavioral Science Elective (see page 29)	4
		16
SPRING QUARTER (7)		
ITC 240	Introduction to Networking	3
ITC 249	Systems Applications	3
ITC 260	3D Animation	3
	Natural/Physical Science Elective (see page 30)	4
		13

ASSOCIATE OF APPLIED BUSINESS DEGREE (103 credits)

Software Development Concentration

Graduates of Information Technology with a concentration in Software Development are prepared to pursue positions in business and industry such as programmers, software developers, data managers, information designers, and related positions that continue to emerge in the information technology field.

Curriculum for Software Development Concentration

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
IDS 101	College Success Strategies	1
ITC 101	Introduction to Information Technology	3
ITC 102	Introduction to Multimedia Applications	3
ITC 103	Introduction to Programming Logic	3
MTH 113*	Algebra	4
		14
WINTER QUARTER (2)		
ACC 101	Financial Accounting	4
ENG 150**	Freshman Composition	5
ITC 121	Visual Basic	3
ITC 123	Client-side Scripting	3
MTH 124	Algebra & Trigonometry I	4
		19
SPRING QUARTER (3)		
ENG 180	Technical Writing	4
ITC 110	Basics of UNIX	3
ITC 130	COBOL I	3
ITC 211	Security	3
MTH 227	Statistics	4
		17
SUMMER QUARTER (4)		
BUS 131	Business Law I	3
MKT 100	Marketing	4
		7
FALL QUARTER (5)		
COM 261	Public Speaking	4
ITC 202	Java Programming	3
ITC 209	Systems Analysis	3
ITC 250	Database and Server Tools	3
	Social & Behavioral Science Elective (see page 29)	4
		17
WINTER QUARTER (6)		
ITC 141	Introduction to C++ Programming	3
ITC 143	Server-side Scripting	3
ITC 225	Database Management Systems	3
ITC 229	Systems Design	3
	Social & Behavioral Science Elective (see page 29)	4
		16
SPRING QUARTER (7)		
ITC 203	Advanced C++ Programming	3
ITC 237	e-Commerce Web Implementation	3
ITC 240	Introduction to Networking	3
ITC 249	Systems Applications	3
	Natural/Physical Science Elective (see page 30)	4
		16

ASSOCIATE OF APPLIED BUSINESS DEGREE (106 Credits)

Technical Services Concentration

Graduates of Information Technology with a concentration in Technical Services are prepared to pursue positions in business and industry such as network technicians, network specialists, network managers, systems administrators, Unix systems administrators, help desk technicians, technical support representatives, customer support professionals, PC support specialists, user support specialists, and related positions that continue to emerge in the information technology field.

Curriculum for Technical Services Concentration

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
IDS 101	College Success Strategies	1
ITC 101	Introduction to Information Technology	3
ITC 102	Introduction to Multimedia Applications	3
ITC 103	Introduction to Programming Logic	3
MTH 113*	Algebra	4
		14
WINTER QUARTER (2)		
ACC 101	Financial Accounting	4
ENG 150**	Freshman Composition	5
ITC 211	Security	3
MTH 124	Algebra & Trigonometry I	4
		16
SPRING QUARTER (3)		
ENG 180	Technical Writing	4
ITC 110	Basics of UNIX	3
ITC 150	Microcomputer Hardware	3
MTH 227	Statistics	4
	Technical Elective (see next page)	3
		17
SUMMER QUARTER (4)		
BUS 131	Business Law I	3
EET 151	Cisco Routers I	4
MKT 100	Marketing	4
		11
FALL QUARTER (5)		
COM 261	Public Speaking	4
EET 153	Cisco Routers II	4
ITC 112	UNIX Systems Administration	3
ITC 209	Systems Analysis	3
	Social & Behavioral Science Elective (see page 29)	4
		18
WINTER QUARTER (6)		
EET 155	Cisco Routers III	4
ITC 225	Database Management Systems	3
ITC 229	Systems Design	3
	Social & Behavioral Science Elective (see page 29)	4
	Technical Elective (see next page)	3
		17
SPRING QUARTER (7)		
EET 157	Cisco Routers IV	4
ITC 240	Introduction to Networking	3
ITC 249	Systems Applications	3
	Natural/Physical Science Elective (see next page)	4
		14

NATURAL/PHYSICAL SCIENCE ELECTIVES

BIO 101	Principles of Biology	4
BIO 107	Biology and the Environment	4
CHM 101	Chemistry	4
CHM 121	General Chemistry I	4
GLY 135	Earth Science	4
PHY 110	Physical Science	4
PHY 201	Physics I	4

TECHNICAL ELECTIVES

ACC 222	Managerial Accounting	3
BUS 200	Internship I	4
BUS 205	Seminars for Internship	1
ITC 121	Visual Basic	3
ITC 122	Web Site Design	3
ITC 123	Client-side Scripting	3
ITC 124	e-Solutions Fundamentals	3
ITC 130	COBOL I	3
ITC 132	COBOL II	3
ITC 141	Introduction to C++ Programming	3
ITC 142	Imaging and Graphics for the Web	3
ITC 143	Server-side Scripting	3
ITC 144	Digital Photography	3
ITC 151	Advanced Visual Basic	3
ITC 152	Assembler Language Programming	3
ITC 153	Advanced Graphic Design	3
ITC 160	Print Layout	3
ITC 202	Java Programming	3
ITC 203	Advanced C++ Programming	3
ITC 204	Editing Digital Video	3
ITC 226	Web Site and Kiosk Authoring Software	3
ITC 237	e-Commerce Web Implementation	3
ITC 242	Advanced Animation Scripting	3
ITC 250	Database and Server Tools	3
ITC 260	3D Animation	3

ASSOCIATE OF APPLIED BUSINESS DEGREE (107 Credits)

NOTES: Students must demonstrate proficiency in CPT 105 prior to enrolling in any technical courses. Some of the courses listed as technical electives are technical requirements for the various concentration areas. These courses may not count as an elective as well as a requirement.

* Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment. Students who fail MTH 113 may not register for MTH 113 again unless they also register for MTH 106 (MTH 113 Excel Lab).
** Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.

MEDICAL ASSISTING

The Medical Assisting program prepares students to become allied health professionals who function as members of the health care delivery team. Medical assistants are the central figures in promoting and maintaining cooperative relationships between patients and physicians. Program course work involves both administrative and clinical procedures. Students are prepared to take vital signs, medical histories, and perform basic laboratory procedures, while also engaging in the administrative duties of scheduling appointments, receiving patients, managing medical records, and handling telephone calls. Graduates are eligible to take the national board examination which qualifies students to work in all 50 states as a Certified Medical Assistant.

The Zane State College Medical Assisting program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of the Medical Assistant Educational Review Board (MAERB).

Commission on Accreditation of Allied Health Programs, 1361 Park Street, Clearwater, FL 33756, 727-210-2350.

According to the U.S. Bureau of Labor Statistics, medical assisting is the seventh fastest growing occupation through the year 2008. Job opportunities involve many employment settings such as physicians' offices, clinics, hospitals, and out-patient or ambulatory settings. Certified Medical Assistants are clinically trained to assist in out-patient medical procedures, office administration, and interaction with patients.

Admission to the Medical Assisting program is selective. Applicants are required to show evidence of satisfactory completion of high school and/or previous college work with a minimum GPA of 2.0. For detailed information on the admission procedure, contact the program director.

Curriculum for Medical Assisting

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
AOA 111	Office Keyboarding Skills I	3
ENG 150*	Freshman Composition	5
HLT 121	Medical Terminology	3
IDS 101	College Success Strategies	1
MAT 101	Introduction to Medical Assisting	3
		15
WINTER QUARTER (2)		
AOA 140	Word I	3
BIO 240	Anatomy & Physiology I	4
BIO 241	Anatomy & Physiology I Laboratory	1
ENG 180	Technical Writing	4
MAT 105	Basic Medical Laboratory Techniques	4
MAT 112	Medical Business Practices	3
		19
SPRING QUARTER (3)		
BIO 242	Anatomy & Physiology II	4
BIO 243	Anatomy & Physiology II Laboratory	1
HLT 122	Medical Dictation and Transcription	3
MAT 125	Medical Assisting Procedures I	3
MAT 151	Patient Contact and Public Relations	3
MAT 211	Pharmacology and Drug Administration	3
		17

SUMMER QUARTER (4)		
HLT 141	First Aid & CPR	2
MAT 160	Basic Venipuncture for the Medical Assistant	2
MAT 161	Clinical Practicum/Seminar I	4
MTH 111**	Mathematics for Business (for Certificate Students only)	(4)
		8

CERTIFICATE IN APPLIED SCIENCE: Medical Assisting-Administrative and Clinical (63 Credits) (Not eligible to sit for National Boards after one year)

FALL QUARTER (5)		
COM 122	Interpersonal Communication	3
MAT 201	Medical Assisting Procedures II	3
MTH 111**	Mathematics for Business	4
PSY 101	Introduction to Psychology	4
		14
WINTER QUARTER (6)		
ACC 101	Financial Accounting	4
HLT 173	Diseases and the Disease Process	3
HLT 221	Nutrition & Diet Therapy	3
	Social & Behavioral Science Elective (see page 29)	4
		14
SPRING QUARTER (7)		
BUS 211	Office Management	4
COM 261	Public Speaking	4
MAT 261	Clinical Practicum/Seminar II	4
		12

ASSOCIATE OF APPLIED SCIENCE DEGREE (99 Credits)

* Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.

** Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment.

MEDICAL LABORATORY

The Medical Laboratory program is designed to prepare students to function as members of the clinical laboratory health care team. Students study biology, chemistry, microbiology, biochemistry, and other science-related coursework. Students learn to perform routine laboratory testing such as identification of microorganisms, chemical analysis of patient specimens, identification of blood cells, and the cross-matching of blood for transfusion. The program includes student learning experiences both on campus and in the clinical laboratory. These educational experiences allow students to acquire the basic entry-level competencies necessary to function in a laboratory setting.

After successful completion of the program, the graduate may sit for the national certification exams given by National Certifying Agency (NCA) or The American Society of Clinical Pathologist (ASCP). The MLT Program is fully accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 8410 West Bryn Mawr, Suite 670, Chicago, IL 60631-3415, (773) 714-8880, www.naacls.org.

Job demand is predicted to continue to rise for the Medical Laboratory program. According to the Ohio Career Information System (2008), medical laboratory technician is considered a high demand field with a salary range of $29,630 to $40,710 in the state. One of the strengths of the profession is the strong hands-on laboratory skills that the graduate possesses. These skills can be applied to a variety of settings including hospital labs, reference labs, forensic labs, industrial labs, environmental testing, and quality control testing.

The Medical Laboratory program is a selective program limited to a maximum of 20 students per year. Applicants must have a GPA of 2.3 on previous high school and/or college work. Applicants must also test into college level English and algebra or have completed developmental courses as indicated by the Accuplacer. A complete list of admission criteria may be obtained from the program director. The application deadline is May 1 or until all available seats are filled by qualified applicants.

Curriculum for Medical Laboratory

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
BIO 240	Anatomy & Physiology I	4
BIO 241	Anatomy & Physiology II Laboratory	1
CHM 121	General Chemistry I	5
IDS 101	College Success Strategies	1
MLT 102	Introduction to Medical Laboratory Technology	3
		14
WINTER QUARTER (2)		
BIO 242	Anatomy & Physiology II	4
BIO 243	Anatomy & Physiology II Laboratory	1
CHM 122	General Chemistry II	5
MLT 200	Clinical Body Fluids	3
MLT 201	Clinical Hematology I	4
		17
SPRING QUARTER (3)		
BIO 201	General Microbiology	4
CHM 123	General Chemistry III	5
ENG 150**	Freshman Composition	5
MLT 220	Immunology	3
		17
SUMMER QUARTER (4)		
CPT 105	Introduction to Microcomputer Software Applications	3
ENG 180	Technical Writing	4
MTH 115*	College Algebra	5
	Social & Behavioral Science Elective (see page 29)	4
		16

FALL QUARTER (5)		
COM 261	Public Speaking	4
MLT 205	Clinical Hematology II	4
MLT 210	Advanced Clinical Biochemistry I	4
MLT 230	Clinical Microbiology	5
		17
WINTER QUARTER (6)		
MLT 211	Advanced Clinical Biochemistry II	3
MLT 235	Clinical Immunohematology	4
MLT 244	Directed Practice I: Clinical Chemistry	4
	Social & Behavioral Science Elective (see page 29)	4
		15
SPRING QUARTER (7)		
MLT 245	Directed Practice II: Clinical Immunohematology	3
MLT 246	Directed Practice III: Clinical Hematology and Coagulation	3
MLT 247	Directed Practice IV: Clinical Microbiology and Immunology	3
MLT 262	Role Transition	3
		12

ASSOCIATE OF APPLIED SCIENCE DEGREE (108 Credits)

* Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment.
** Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.

NATURAL GAS ENGINEERING TECHNOLOGY

The Natural Gas Engineering Technology (NGT) offers the student a comprehensive program which includes classroom, laboratory, and field experiences in natural gas exploration, drilling, well completion, production and processing, and distribution. The curriculum also includes fundamental courses in mathematics, chemistry, physics, and related engineering subject matter which will provide the NGT graduate with a strong foundation. The NGT program will focus on the development of the natural gas reserves in the Appalachian Basin including the Marcellus and Utica Shale. The graduate of the Natural Gas Engineering Technology will be prepared for a rewarding career in this vital energy sector.

Curriculum for Natural Gas Engineering Technology

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
CAD 141	Introduction to Mechanical Modeling	3
ENG 150**	Freshman Composition	5
IDS 101	College Success Strategies	1
MTH 113*	Algebra	4
NGT 101	Introduction to the Petroleum Industry	3
NGT 111	Petroleum Geology	4
		20
WINTER QUARTER (2)		
EGT 145	Industrial Mechancis	3
ENG 180	Technical Writing	4
MTH 124	Algebra and Trigonometry I	4
NGT 161	Drilling Methods	3
NGT 211	Drilling Operations	3
		17
SPRING QUARTER (3)		
CHM 121	General Chemistry I	5
COM 261	Public Speaking	4
NGT 221	Field Services	3
NGT 241	Natural Gas Production	3
		15
SUMMER QUARTER (4)		
EGT 200	Internship I	2-4
EGT 205	Seminar	1
		3-5
FALL QUARTER (5)		
CHM 122	General Chemistry II	5
GEO 171	World Regional Geography	4
NGT 151	Oil and Gas Reservoirs	4
NGT 271	Mineral Rights and Leases	3
PHY 201	Physics I	4
		20
WINTER QUARTER (6)		
NGT 251	Natural Gas Distribution and Compression	3
NGT 231	Formation Evalualtion	3
PHY 202	Physics II	4
	Arts and Humanities Elective (see page 29)	4
		14
SPRING QUARTER (7)		
MET 251	Hydraulics and Pneumatics I	3
NGT 261	Applications in Natural Gas Technology	4
NGT 281	Natural Gas Technology Capstone Experience	4
PHY 203	Physics III	4
		15

ASSOCIATE OF APPLIED SCIENCE DEGREE (104-106) Credits

* Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment. Students who fail MTH 113 may not register for MTH 113 again unless they also register for MTH 106 (MTH 113 Excel Lab).

** Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150

OCCUPATIONAL THERAPY ASSISTANT

The Occupational Therapy Assistant program prepares graduates to function as members of the health care team. Working under the supervision of a licensed occupational therapist, the occupational therapy assistant helps disabled people of all ages acquire, improve, or regain the ability to do all activities that have meaning, value or purpose. The graduate Occupational Therapy Assistant will be responsible for assisting with evaluating clients and determining treatment goals, providing treatment, evaluating treatment effectiveness, maintaining appropriate records, and assisting with department upkeep.

The Occupational Therapy Assistant program consists of eight full-time quarters of academic work and clinical experience (called fieldwork). The curriculum combines basic biological and behavioral sciences with specific courses in theories of occupational therapy and occupational therapy treatment modalities. Students will have both on campus laboratory experiences and off campus clinical laboratory experiences. Fieldwork portions of the program must be completed within 18 months of the completion of academic preparation.

The Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), 4720 Montgomery Lane, P.O. Box 31220, Bethesda, MD, 20824-1220, accredits the Occupational Therapy Assistant Program. ACOTE's phone number is 301-652-2682. Graduates of the program will be able to sit for the national certification examination for the occupational therapy assistant administered by the National Board for Certification in Occupational Therapy (NBCOT) located at 800 S. Fredrick Avenue, Suite 200, Gaithersburg, MD, 20877-4150. NBCOT's phone number is 301-990-7979. After successful completion of this exam, the individual will be a Certified Occupational Therapy Assistant (COTA). Most states require licensure in order to practice: however, state licenses are usually based on the results of the NBCOT Certification Examination. A felony conviction may limit an individual's ability to be certified or licensed. Individuals with a felony record should contact the NBCOT to determine eligibility before applying to the program.

The 2008-2009 Occupational Outlook Handbook of the Bureau of Labor Statistics of the U.S. Department of Labor stated that employment of occupational therapy assistants is expected to grow much faster than the average for all occupations through 2016. Employment can be found in medical centers, nursing and rehabilitation facilities, schools, community-based programs, vocational/industrial programs, hospitals and physician's offices. Job titles include, but are not limited to, Certified Occupational Therapy Assistant, activity director, patient advocate, rehabilitation specialist, case manager, and workshop specialist.

Admission to the Occupational Therapy Assistant program is selective. A complete list of admission criteria may be obtained from the program director.

Curriculum for Occupational Therapy Assistant

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
ENG 150*	Freshman Composition	5
HLT 121	Medical Terminology	3
HSV 103	Human Development	3
IDS 101	College Success Strategies	1
OTA 107	Fundamentals for the Occupational Therapy Assistant	4
		16
WINTER QUARTER (2)		
BIO 240***	Anatomy & Physiology I	4
BIO 241	Anatomy & Physiology I Laboratory	1
ENG 180	Technical Writing	4
OTA 113	Fundamentals of Occupational Therapy: Media I	3
PSY 101	Introduction to Psychology	4
		16
SPRING QUARTER (3)		
BIO 242	Anatomy & Physiology II	4
BIO 243	Anatomy & Physiology II Laboratory	1
OTA 130	Directed Practice I (Level I Fieldwork)	4
OTA 136	Physical Disabilities in Occupational Therapy: Media II	3
PSY 201	Abnormal Psychology	4
		16

SUMMER QUARTER (4)		
EDU 183	Child Development	5
HLT 173	Diseases and the Disease Process	3
SOC 101	Introduction to Sociology	4
		12
FALL QUARTER (5)		
COM 261	Public Speaking	4
OTA 217	Advanced Physical Disabilities in Occupational Therapy: Media III	4
OTA 220	Psychosocial Concepts and Skills for Occupational Therapy: Media IV	4
		12
WINTER QUARTER (6)		
OTA 210	Physical Agent Modalities for Occupational Therapy	1
OTA 221	Occupational Therapy in Geriatric & Alternate Practice Settings: Media V	4
OTA 225	Occupational Therapy Concepts & Media for Children: Media VI	4
	Mathematics Elective** (see below)	4
		13
SPRING QUARTER (7)		
OTA 232	Clinical Laboratory Experience I (Level II Fieldwork) (32 hours for 10 weeks)	10
OTA 233	Clinical Laboratory Related Topics I	2
		12
SUMMER QUARTER (8)		
OTA 242	Clinical Laboratory Experience II (Level II Fieldwork (32 hours for 10 weeks)	10
OTA 243	Clinical Laboratory Related Topics II	2
		12
MATHEMATICS ELECTIVES		
MTH 111	Mathematics for Business	4
MTH 113	Algebra	4
MTH 115	College Algebra	5
MTH 124	Algebra & Trigonometry I	4
MTH 227	Statistics	4

ASSOCIATE OF APPLIED SCIENCE DEGREE (109 Credits)

* Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.
** Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment.
*** A prerequisite for BIO 240 is high school biology or BIO 101. This course should be completed before enrolling in the program.

PARALEGAL

The Paralegal program's goal is to equip graduates with the skills necessary to assist attorneys in the performance of legal services. These skills – including the ability to reason analytically, read complex material, and to write effectively – will be developed under an experienced attorney's instruction in real-world assignments, including the preparation of wills and trusts, civil litigation motions and briefs, criminal pleadings, corporate documentation and instruments, and law office memoranda. Graduates, although not required to be state licensed, will be qualified to seek national certification as a Certified Legal Assistant.

The program, since it is in substantial compliance with American Bar Association guidelines, qualifies for institutional membership in the American Association for Paralegal Education, and has been awarded a chapter in its national honor society.

A paralegal career has been projected by the Ohio Bureau of Employment Services to be one of Ohio's ten fastest-growing occupations. These employment prospects will be greatest in Ohio's larger metropolitan areas where the state's largest law firms and corporations are located. Moreover, opportunities also exist for graduates in business and medical fields that require strong organizational skills, a careful attention to detail, and written analysis.

Curriculum for Paralegal

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
ENG 150**	Freshman Composition	5
IDS 101	College Success Strategies	1
PAR 151	Introduction to Law for the Paralegal	3
PAR 152	Computerized Legal Concepts for Paralegals	3
	Mathematics Elective* (see next page)	4
		16
WINTER QUARTER (2)		
BUS 131	Business Law I	3
ENG 180	Technical Writing	4
HUM 203	Introduction to Ethics	4
PAR 153	Techniques of Legal Research	3
PAR 159	Civil Law & Procedure for the Paralegal	3
		17
SPRING QUARTER (3)		
ACC 101	Financial Accounting	4
BUS 132	Business Law II	3
PAR 155	Family Law	3
PAR 160	Drafting Wills & Probating Estates	3
SOC 101	Introduction to Sociology	4
		17
SUMMER QUARTER (4)		
COM 122	Interpersonal Communication	3
PAR 253	Real Estate Transactions for the Paralegal	3
PSY 101	Introduction to Psychology	4
		10
FALL QUARTER (5)		
ACC 260	Income Tax Accounting	3
BUS 151	Microeconomics	4
PAR 250	Criminal Law for the Paralegal	3
PAR 251	Legal Writing I	3
PAR 259	Corporate and Partnership Law	3
		16

WINTER QUARTER (6)		
BIO 101	Principles of Biology	4
COM 261	Public Speaking	4
PAR 255	Legal Writing II	3
PAR 262	Torts & Insurance Law	3
	General Elective (see page 30)	3
		17
SPRING QUARTER (7)		
BUS 200	Internship I	2
PAR 258	Bankruptcy Law for the Paralegal	3
PAR 265	Paralegal Seminar	3
SOC 218	Social Problems	4
	General Elective (see page 30)	3
		15
MATHEMATICS ELECTIVES		
MTH 111	Mathematics for Business	4
MTH 113	Algebra	4
MTH 124	Algebra & Trigonometry I	4
MTH 125	Algebra & Trigonometry II	4
MTH 225	Introductory Calculus	4
MTH 227	Statistics	4
MTH 251	Calculus I	5
MTH 252	Calculus II	5
MTH 253	Calculus III	5

ASSOCIATE OF APPLIED BUSINESS DEGREE (108 Credits)

* Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment. Students who fail MTH 113 may not register for MTH 113 again unless they also register for MTH 106 (MTH 113 Excel Lab).
** Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.

PARKS, RECREATION, & WILDLIFE

Parks, Recreation, & Wildlife technicians are educated in the natural resources disciplines to meet the staffing needs of our region, state, and nation. Coursework includes classes from the biological sciences such as botany, ecology, and zoology. Students learn practical applications and techniques in wildlife, conservation, and outdoor recreation through courses such as equipment management, wildlife management, and remote sensing. Nature interpretation and wetlands management serve as capstone courses where material learned during the degree work is integrated.

Educational facilities include the College's 125-acre Natural Resources Center, located adjacent to Dillon State Park. The Muskingum County area provides numerous outdoor laboratory sites, having one of the highest concentrations of state parks, lakes, rivers, and wildlife and forest management areas in the state.

The Parks, Recreation, & Wildlife program is accredited by the North American Wildlife Technology Association.

Career opportunities include local, state, and federal positions with parks, wildlife, and conservation agencies. Private organizations, such as The Wilds, zoos, arboretums, campgrounds, and landscape nurseries, also employ graduates. The Ohio Peace Officer Training Academy at Zane State College is available for students seeking park or watercraft officer positions.

Curriculum for Parks, Recreation, & Wildlife
(Natural Resources Conservation)

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
BIO 141	Field Zoology & Ecology	4
IDS 101	College Success Strategies	1
MTH 113*	Algebra	4
PRW 108	Field Technician Orientation	3
PRW 130	Soil & Water Conservation	3
		15
WINTER QUARTER (2)		
CPT 105	Introduction to Microcomputer Software Applications	3
ENG 150**	Freshman Composition	5
NFS 106	Employment Search	1
PRW 120	Wildlife in Ohio	3
SUR 142	Remote Sensing and Cartography	3
	Social & Behavioral Science Elective (see page 29)	4
		19
SPRING QUARTER (3)		
BIO 151	Field Botany & Ecology	3
ENG 180	Technical Writing	4
ENV 171	Water Sampling & Analysis	4
PRW 131	Recreation Area Construction	3
PRW 270	Fisheries Management	3
		17
SUMMER QUARTER (4)		
NFS 200	Internship I	4
NFS 205	Seminar	1
		5
FALL QUARTER (5)		
COM 261	Public Speaking	4
PRW 250	Wildlife Habitat Management	3
PRW 254	Recreation Power Equipment	3
PRW 257	Forestry	3
SUR 219	Fundamentals of Surveying	4
		17

WINTER QUARTER (6)		
GLY 135	Earth Science	4
NFS 215	Introduction to Geographic Information Systems	3
PRW 260	Wildlife Population Management	3
PRW 262	Natural Resource Laws & Enforcement	3
	Social & Behavioral Science Elective (see page 29)	4
		17
SPRING QUARTER (7)		
NFS 240	Wetlands Ecology	3
PRW 261	Recreation Management	3
PRW 271	Landscaping - Design & Management	3
PRW 274	Nature Interpretation	3
	Social & Behavioral Science Elective (see page 29)	4
		16
TECHNICAL ELECTIVES		
BUS 111	Principles of Management	4
CAD 105	AutoCAD I	3
PRW 115	Forest Fire Suppression & Safety	2

ASSOCIATE OF APPLIED SCIENCE DEGREE (106 Credits)

* Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment. Students who fail MTH 113 may not register for MTH 113 again unless they also register for MTH 106 (MTH 113 Excel Lab).
** Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.

PHYSICAL THERAPIST ASSISTANT

The Physical Therapist Assistant program is designed to provide students with the experiences and knowledge necessary to function as an integral part of the rehabilitation team.

Graduates will work under the supervision of a physical therapist in treating neurological and orthopedic disorders utilizing treatments such as therapeutic exercise, hot and cold modalities, electrical stimulation, and gait training. Employment opportunities for physical therapist assistants may be found in hospitals, rehabilitation centers, nursing facilities, outpatient and sports clinics, and schools. Learning experiences include classroom and laboratory activities as well as directed clinical practice under the supervision of a clinical instructor. The Physical Therapist Assistant graduate will be eligible to take the licensure examinations required by the State of Ohio. The Physical Therapist Assistant program is fully accredited by the Commission on Accreditation in Physical Therapy Education.

Admission to the Physical Therapist Assistant program is selective. Applicants must complete observation in the field and demonstrate readiness for college algebra and English. A detailed list of admission criteria may be obtained by contacting the program coordinator.

Curriculum for Physical Therapist Assistant

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
BIO 240	Anatomy & Physiology I	4
BIO 241	Anatomy & Physiology I Laboratory	1
HLT 121	Medical Terminology	3
IDS 101	College Success Strategies	1
PTA 101	The Paraprofessional In Physical Therapy	3
PTA 107	Physical Therapy Procedures I	3
	Mathematics Elective* (see next page)	4
		19
WINTER QUARTER (2)		
BIO 242	Anatomy & Physiology II	4
BIO 243	Anatomy & Physiology II Laboratory	1
ENG 150**	Freshman Composition	5
PTA 108	Introduction to the Clinical Setting	3
PTA 112	Neurological Conditions & Physical Therapy as Treatment	3
		16
SPRING QUARTER (3)		
ENG 180	Technical Writing	4
PTA 109	Physical Therapy Procedures II	3
PTA 111	Physical Therapy & Dysfunction of the Musculoskeletal System	4
PTA 124	Kinesiology	4
		15
SUMMER QUARTER (4)		
COM 261	Public Speaking	4
HLT 173	Disease and the Disease Process	3
PTA 130	Directed Practice Orientation Seminar	2
SOC 101	Introduction to Sociology	4
		13
FALL QUARTER (5)		
HSV 103	Human Development	3
PTA 220	Physical Therapy Procedures III	3
PTA 230	Directed Practice I	3
PTA 232	Therapeutic Exercise-Concepts & Application	3
		12

WINTER QUARTER (6)		
PTA 227	The Role of the Physical Therapist Assistant in Rehabilitation	3
PTA 229	Related and Advanced Topics in Physical Therapy	3
PTA 233	Physical Therapy Concepts & the Treatment of Special Populations	3
PTA 240	Directed Practice II	3
		12
SPRING QUARTER (7)		
PSY 101	Introduction to Psychology	4
PTA 255	Advanced Directed Practice	6
PTA 265	Role Transition and Professionalism	4
		14
MATHEMATICS ELECTIVES		
MTH 113	Algebra	4
MTH 115	College Algebra	5
MTH 124	Algebra & Trigonometry I	4
MTH 227	Statistics	4

ASSOCIATE OF APPLIED SCIENCE DEGREE (101 Credits)

* Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment. Students who fail MTH 113 may not register for MTH 113 again unless they also register for MTH 106 (MTH 113 Excel Lab).
** Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.

RADIOLOGIC TECHNOLOGY

This associate degree program is a career oriented college-level technology consisting of classroom, laboratory, and clinical experience. The curriculum includes communications, sociology, mathematics, biology, physics, medical and radiography courses. Upon completion of this program graduates will be able to assist the radiologist in the detection, diagnosis, and treatment of diseases and injuries through the use of x-ray. They will also take routine and special x-rays (radiographs) while maintaining radiation protection. Additional duties may involve research, administration, and record keeping at the physician's discretion. Graduates of this program will be eligible to take the examination for certification and registration prepared by the American Registry of Radiologic Technologists.

Employment opportunities for qualified radiologic technologists exist in hospitals, clinics, physician's offices, government agencies, equipment manufacturers, research facilities, and colleges and universities.

Admission to the Radiologic Technology program is selective. For detailed information on the admission procedure and process, please contact the program director.

Curriculum for Radiologic Technology

Dept./Number	Course Title	Credits
SUMMER QUARTER (1)		
BIO 240	Anatomy & Physiology I	4
BIO 241	Anatomy & Physiology I Laboratory	1
ENG 150*	Freshman Composition	5
HLT 121	Medical Terminology	3
IDS 101	College Success Strategies	1
RAD 100	Introduction to Medical Imaging	2
		16
FALL QUARTER (2)		
BIO 242	Anatomy & Physiology II	4
BIO 243	Anatomy & Physiology II Laboratory	1
ENG 180	Technical Writing	4
RAD 121	Radiographic Procedures I	4
RAD 130	Directed Practice I	3
		16
WINTER QUARTER (3)		
MTH 115**	College Algebra	5
RAD 122	Radiographic Procedures II	4
RAD 131	Directed Practice II	3
		12
SPRING QUARTER (4)		
CPT 105	Introduction to Microcomputer Software Applications	3
RAD 105	Radiation Equipment & Production	4
RAD 124	Advanced Radiographic Procedures	4
RAD 132	Directed Practice III	3
		14
SUMMER QUARTER (5)		
COM 261	Public Speaking	4
RAD 204	Radiographic Imaging & Processing	3
RAD 230	Directed Practice IV	4
		11
FALL QUARTER (6)		
HLT 250	Cross-Sectional Imaging	2
RAD 215	Pharmacology for Medical Imaging	2
RAD 231	Directed Practice V	4
SOC 101	Introduction to Sociology	4
		12

WINTER QUARTER (7)		
RAD 202	Radiographic Pathology	2
RAD 203	Radiobiology/Radiation Protection	3
RAD 210	Radiographic Image Analysis	3
RAD 232	Directed Practice VI	4
		12
SPRING QUARTER (8)		
RAD 211	Medical Imaging Ethics & Law	2
RAD 212	Allied Imaging Modalities	2
RAD 233	Directed Practice VII	4
RAD 299	Preparation for Role Transition	3
SOC 206	Cultural Diversity	4
		15

ASSOCIATE OF APPLIED SCIENCE DEGREE (108 Credits)

* Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.
** Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment.

SPORT AND FITNESS MANAGEMENT

The Sport and Fitness Management program prepares students to enter the world of personal wellness and corporate fitness. With a background in wellness, exercise, activities management, fitness instruction, fitness therapy and business, graduates will possess the job skills and knowledge to work one-on-one with clients and to manage the day-to-day operations of a variety of fitness and recreation programs. The program is grounded in the importance of applied knowledge. Through internships, students work under the direction of program faculty and fitness professionals to interact with clients, design personal fitness programs, perform fitness assessments, and complete a variety of other tasks related to the profession.

According the Ohio Department of Jobs and Family Services, fitness trainers and instructors constitute one of the fastest growing occupations throughout the state. In addition, our aging population, along with the recognition that active, healthy living promotes an increased quality of life, means that fitness specialists with diverse backgrounds and who are equipped to work with special needs clients will continue to be in demand at an increasing rate.

Curriculum for Sport and Fitness Management

Dept./Number	Course Title	Credits
FALL QUARTER (1)		
ENG 150*	Freshman Composition	5
HLT 121	Medical Terminology	3
IDS 101	College Success Strategies	1
SFM 105	Introduction to Sport Industry	3
SFM 110	Personal Wellness	3
SFM 120	Introduction to Resistance Training	2
		17
WINTER QUARTER (2)		
BIO 240	Anatomy & Physiology I	4
BIO 241	Anatomy & Physiology I Laboratory	1
ENG 180	Technical Writing	4
SFM 107	History of Sport	4
SFM 150	Individual Activities	1
		14
SPRING QUARTER (3)		
BIO 242	Anatomy & Physiology II	4
BIO 243	Anatomy & Physiology II Laboratory	1
BUS 151	Microeconomics	4
COM 122	Interpersonal Communication	3
HLT 221	Nutrition & Diet Therapy	3
SOC 101	Introduction to Sociology	4
		19
SUMMER QUARTER (4)		
BUS 111	Principles of Management	4
HLT 141	First Aid & CPR	2
PSY 101	Introduction to Psychology	4
SFM 140	Practicum I	2
SFM 160	Dual Sport Activities	1
		13
FALL QUARTER (5)		
ACC 101	Financial Accounting	4
HLT 222	Nutrition and Supplementation	2
MTH 111**	Mathematics for Business	4
SFM 215	Practicum II	3
		13

WINTER QUARTER (6)		
SFM 180	Group Fitness Activities	2
SFM 200	Sport Management Foundations	4
SFM 220	Intermediate Resistance Training	3
SFM 230	Management of Athletic Injuries	3
SFM 240	Exercise Physiology	5
		17
SPRING QUARTER (7)		
COM 261	Public Speaking	4
SFM 265	Practicum III	4
SFM 271	Activities for Special Populations	3
SFM 275	Philosophy and Ethics in Sport Industry	3
		14

ASSOCIATE OF APPLIED SCIENCE DEGREE (107 Credits)

* Students whose English placement test results predict difficulty with ENG 150 must first complete ENG 096 before enrolling in ENG 150.
** Students whose Math placement test results predict difficulty in their required Math course or Math elective must first complete additional Math courses prior to enrollment.

COURSE DESCRIPTIONS

Key to Codes Used in Course Descriptions:

T	Technical Course	FL	Course offered during Fall quarter
B	Basic Course	WI	Course offered during Winter quarter
G	General Course	SP	Course offered during Spring quarter
E	Elective Course	SU	Course offered during Summer quarter
+	One individualized lab hour as needed	+ +	Two individualized lab hours as needed

There are five types of DEAL courses. In the course schedule, these courses are identified by a letter in the course section code.

T	Designates interactive television courses in which students attend a scheduled class and interact with the instructor and students at the local and remote site via television.	S	Designates self-study courses. Students use textbooks, handouts, and course manuals to complete assignments and exams independently with little or no interaction with other students.
M	Designates multimedia course which involve technologies such as videotape, telecourses, or computer-based learning	W	Designates web-based courses. Students use a course website to complete assignments and interact with the instructor and classmates
H	Designates hybrid courses which can be any combination of the above media as well as traditional face-to-face instruction		

Example of contact hours: 2 lecture 3 lab indicates that the course meets each week for two 50-minute lecture periods and three 50-minute laboratory periods.

Zane State College requires a minimum of 96 quarter credit hours for its Associate of Applied Science, Associate of Applied Business, and Associate of Technical Study degrees.

Within this requirement are specifications for minimum credit hour distributions in the technology area and in non-technical studies. The Ohio Board of Regents Operating Manual for Two-Year Campus Programs (last updated April, 1998) establishes these criteria as follows:

- 45 quarter credit hours minimum, in the technology area
- 42 quarter credit hours in non-technical studies to include
  -general education studies (written communication, oral communication, social and behavioral sciences, natural sciences, arts/humanities, math)
  and
  -courses basic to the technical field and closely related to the technical specialty.

In the general education curriculum, the College further defines minimum distribution requirements:

9 credits of English (2 courses)
4 credits of Speech (1 course)
8 credits of Social and Behavioral Sciences (2 courses)
4 credits of Mathematics (1 course)
4 credits of Natural or Physical Science (1 course)
1 credit of IDS 101, College Success Strategies (1 course)

The computer literacy requirement may be met through competency testing or a computer course designated in your program curriculum.

Therefore, each student graduating with a two-year degree from our institution will have a minimum of 30-33 quarter credit hours in prescribed general education course work. The remaining 10-12 credits to meet the 42 credit minimum in non-technical studies may be comprised of additional general education courses, basic courses, or a combination of the two areas.

ACC 101-Financial Accounting
(4 credit hours - 3 lecture 2 lab - B/T)
An introduction to financial accounting. Topics include the nature of business and accounting, the language of accounting, the preparation and analysis of basic corporate financial statements and the impact of simple transactions on financial statements. Accounting principles applicable to income measurement; cash and internal control; investments and receivables; inventories; current and long-term liabilities; operating assets; and stockholder's equity are covered. Time-value of money concepts are introduced. Prerequisite: COM 091, or placement in college-level English, or ENG 150. (FL, WI, SP, SU)

ACC 111-Accounting I
(4 credit hours - 4 lecture 0 lab - T/B)
An introduction to accounting, covering the basic structure of accounting; journals and ledgers; the accounting cycle for a service enterprise; sales and purchases; deferrals and accruals; accounting for merchandise activities under both periodical and perpetual inventory systems, inventory valuation, and cost of goods sold. Prerequisite: ENG 150 or COM 091 or placement in college-level English and completion of MTH 097 with a grade of "C" or higher, or placement into a math course at or above the level of MTH 113. (FL)

ACC 112-Accounting II
(4 credit hours - 4 lecture 0 lab - T/B)
A continuation of Accounting I with emphasis on the concepts and principles in accounting for information systems, internal control, cash, receivables, short-term investments, plant assets, natural resources, intangibles, current liabilities, payroll, and partnerships. Prerequisite: ACC 111. (WI)

ACC 113-Accounting III
(4 credit hours - 3 lecture 2 lab - T)
A continuation of Accounting II. It covers corporation, long-term payable, statement of cash flow, capital budgeting, and the relationships and analysis of financial statements. Prerequisite: ACC 112 and completion of MTH 097 with a grade of "C" or higher, or placement into a math course at or above the level of MTH 113. (SP)

ACC 145-Governmental Accounting
(3 credit hours - 3 lecture 0 lab - T)
An introduction to accounting for government covering the framework for accounting and financial reporting for governmental and not-for-profit organizations, general funds and special revenue funds-budgetary accounting, general funds and special revenue funds, illustrative transactions and financial statements, capital project funds, general fixed assets account group, debt service funds, general long-term debt account group, proprietary funds, fiduciary funds, and interfund transactions. Prerequisite: ACC 112. (SP)

ACC 205-Computer-Aided Accounting
(3 credit hours - 2 lecture 2 lab - T)
An introduction to computerized accounting using accounting software, covering sales and receivables, payables and purchases, general accounting and end-of-period procedures for both service business and merchandising business; computerizing a manual accounting system; and some advanced topics in Peachtree Complete and a comparison of Peachtree and QuickBooks products. Prerequisite: ACC 112. (FL)

ACC 222-Managerial Accounting
(3 credit hours - 2 lecture 3 lab - T)
A study of the gathering and application of information by accountants and managers. Introduces the elements of cost and covers how to plan, make decisions, evaluate performance, and control an organization. Prerequisites: ACC 101 or ACC 112. (FL, SP)

ACC 225-Cost Accounting
(4 credit hours - 3 lecture 3 lab - T)
A study of the accumulation and analysis of cost data. Introduces the elements of cost and the methods of accounting for these costs. It also covers cost-volume-profit relationships, budgeting, decision-making, direct costing, and inventory management. Prerequisite: ACC 112. (WI)

ACC 231-Auditing
(3 credit hour - 3 lecture 0 lab - T)
A study of auditing theory, procedures, and practices of independent examinations of financial statements and records. The course will introduce the essential principles of audit field work, to include basic auditing principles, the preparation of audit work papers and the evaluation of the internal control system. Prerequisite: ACC 113.

ACC 241-Intermediate Accounting I
(4 credit hours - 3 lecture 3 lab - T)
An advanced study and analysis of accounting theory, accounting process, the income statement, the balance sheet, cash flows, receivables, and inventories. Prerequisites: ACC 113 and MTH 113. (FL)

ACC 242-Intermediate Accounting II
(4 credit hours - 3 lecture 2 lab - T)
A continuation of Accounting 241 (Intermediate Accounting I). The advanced study of: inventory methods, plant and equipment acquisition and retirement, depreciation, intangible assets, current liabilities, long-term liabilities, stockholder's equity, stock rights, convertible securities, retained earnings, and treasury stock. Prerequisite: ACC 241. (WI)

ACC 243-Intermediate Accounting III
(4 credit hours - 3 lecture 2 lab - T)
Advanced analysis and accounting for investment, revenue recognition, income tax, accounting changes, changes in cash flows, and analysis of financial statements. Prerequisite: ACC 242. (SP)

ACC 260-Income Tax Accounting
(3 credit hours - 3 lecture 0 lab - T)
A study of current Internal Revenue Code as it relates to the individual taxpayer with practice in the preparation of individual tax returns. Prerequisite: ACC 111 or ACC 101. (FL)

AET 101-Introduction to Energy Resources
(4 credit hours - 3 lecture 3 lab - T)
This course provides an overview of traditional and alternative (renewable) energy technology, including fossil fuels, solar (photovoltaic and thermal), wind, geothermal, and transportation fuels (including biofuels and hydrogen). The basic technology of how each system works, advantages and disadvantages and design/cost issues will also be covered. Prerequisite: None. (FL)

AET 102-The Science of Energy
(4 credit hours - 3 lecture 3 lab - T)
The focus of this course will be on an introduction of the biological, chemical, and physical processes relating to the formation, development, and recovery of fossil fuels, biofuels, solar and wind energy resources. Prerequisites: AET 101. (WI)

AET 150-Energy Management
(4 credit hours - 3 lecture 3 lab - T)
Prepares students to perform basic energy efficiency audits. The US EPA's Energy Star program and the Department of Energy's ASRAE codes are evaluated. Learn how to increase a company's efficiency by 20-50 percent and save them significant money. Prerequisite: EGT 109. (SP)

AET 180-Solar Power PV
(4 credit hours - 3 lecture 3 lab - T)
This course explores the design and installation of solar voltaic systems and their applications, both off-grid and on-grid. Both centralized solar plants and distributed topologies will be considered. The methods of instruction include classroom instruction as well as hands-on training. Labs will include experiments and use of equipment with an installed solar photovoltaic system. Prerequisites: EET 110, MTH 113. (SP)

AET 190-Introducton to Geothermal Energy
(3 credit hours - 2 lecture 3 lab - T)
This course will provide an overview of geothermal energy sources. A brief introduction to the geology of geothermal energy will be included. The design and construction of geothermal systems will be discussed. Students will have the opportunity to visit local geothermal installations and meet with industry representatives. Prerequisite: AET 101. (SP)

AET 200-Solar Power – Thermal
(4 credit hours - 3 lecture 3 lab - T)
This course will apply fundamental principles of structures, fluid transfer and mechanical systems as it applies to solar thermal power systems. An overview of solar thermal systems, its historical development and its technological progress, along with maintenance and operations will also be covered. Prerequisites: MTH 113, AET 102. (FL)

AET 210-Energy Systems in Construction
(4 credit hours - 3 lecture 3 lab - T)
An introductory overview course on the mechanical systems that are incorporated into the building environment. Topics include heat-loss and gain, load calculations and sizing, human comfort and health requirements, active and passive HVAC systems, lighting, power distribution and service, plumbing and fire protection, architectural acoustics, life cycle and energy and selection/costing. Discusses the spaces required in incorporation of these systems into structures today. Prerequisite: None. (WI)

AET 220-Wind Power
(4 credit hours - 3 lecture 3 lab - T)
This course will apply fundamental principles of the thermodynamics, fluid mechanics and mechanical systems to wind turbine engineering. Fundamentals of horizontal-axis wind turbines will be emphasized: wind energy conversion to useful work, wind turbine, aerodynamics, performance and design of wind turbine components. An overview of the wind resource and historical development of wind turbines and introduction of wind turbine installation and wind farm operation will also be covered. Prerequisite: None. (WI)

AET 280-Alternative Energy Capstone Experience
(6 credit hours - 1 lecture 7 lab - T)
This course will provide the students an opportunity to interact with professionals in the alternative energy resource technologies. Students will develop authentic projects while integrating their academic and technical skills. Students will be mentored by faculty and industry professionals. The capstone experience will result in the design and implementation of a product that will have the potential to be included in an actual project's overall energy plan. Students will be expected to prepare a prototype or complete design of their project and present a written report and an oral presentation. These products will be assessed by a panel of experts. Prerequisites: Completion of all previous AET courses. (SP)

AOA 101-Records Management
(3 credit hours - 2 lecture 2 lab - T)
A study of the principles and procedures of records storage, control, retrieval, cycles, equipment, supplies, and their organization and administration including coding, microfilming, and information processing implications. Prerequisite: None. (FL)

AOA 105-Computer Theory
(1 credit hour - 0 lecture 2 lab - B)
This is an introductory course covering a variety of topics that include such areas as recognizing the need for information processing, introduction to computers, computer concepts, and terminology, as well as the impact of computers on today's society. Input, processing, output, and auxiliary storage devices will be covered. Prerequisite: None. (FL)

AOA 111-Office Keyboarding Skills I
(3 credit hours - 1 lecture 5 lab - B)
The course emphasizes basic keyboarding skill development; special time and emphasis is devoted to speed and accuracy development. Prerequisite: None. (FL)

AOA 121-Office Keyboarding Skills II
(3 credit hours - 1 lecture 5 lab - T)
A continuation of AOA 111 to increase speed and accuracy on the keyboard. Prerequisite: AOA 111(C or above) or attainment of passing scores on proficiency exam. (WI)

AOA 125-Document Analysis & Editing
(3 credit hours - 2 lecture 3 lab - T (B))
Emphasizes the importance of accurate proofreading. Improves proofreading skills, utilizing the How 11 Book as a source of standard English. Co-requisite: ENG 150. (SP)

AOA 130-Notetaking
(3 credit hours - 2 lecture 3 lab - T)
Superwrite is an alphabetic shorthand system that can be used in an occupational setting or for personal notetaking. It is designed to allow the student to take notes from dictation and transcribe them in a usable format. Co-requisite: AOA 111. (WI)

AOA 140-Word I
(3 credit hours - 1 lecture 5 lab - T)
An introduction to Microsoft Word for Windows word processing software. Course topics may include basic Windows operation, basic formatting, working with tabs and indents, page formatting, page numbering with headers and footers, changing fonts, and table production. Prerequisite: BUS 141(C or above) or AOA 111(C or above). (WI, SP)

AOA 141-Word II
(3 credit hours - 1 lecture 5 lab - T)
A continuation of Microsoft Word for Windows word processing software. Course topics may include tables, columns, styles, templates, merge, graphics, outlines, indexes, and table of contents. Prerequisite: AOA 140 (C or above). (SP)

AOA 150-Electronic Office Communications
(3 credit hours - 1 lecture 5 lab - T)
Students will have the opportunity to use Outlook for e-mail, calendar scheduling, managing contacts, creating tasks and notes, configuring and customizing, utilizing security features, and integrating components. Internet search engines will also be explored for purposes of business research. Prerequisite: AOA 111 (C or above) or BUS 141 (C or above). (SP)

AOA 155-Electronic Calculator Applications
(2 credit hours - 1 lecture 3 lab - T)
The student is introduced to desktop display and printing calculators with memory and special keys. Business applications such as discounting percentages, proration, payroll, constant functions, memory applications, and touch control for speed will be taught. Prerequisite: MTH 111. (SP)

AOA 160-Seminar
(1 credit hour - 1 lecture - T)
Course taken in conjunction with Internship. Includes discussion of students' internship experiences, principles of employment practices, and improvement of employee traits. Prerequisite: Concurrent enrollment in BUS 200.

AOA 217-Machine Transcription/Word Processing
(3 credit hours - 2 lecture 3 lab - T)
Combines word processing, machine transcription skills, and standard English to produce mailable documents, including business correspondence, reports, and tables. Prerequisites: AOA 140 (C or above) and AOA 125 (C or above). (FL)

AOA 229-Speed Building I
(2 credit hours - 1 lecture 3 lab - T)
A keyboarding course to build the student's gross speed to at least 50 words per minute with a maximum of one error per minute. Students in the Administrative Office Assistant Technology must complete this course successfully in order to graduate in the technology. Students will practice diagnostic timings and do progress checks. Prerequisite: AOA 121 (C or better). (FL)

AOA 230-Speed Building II
(2 credit hours - 1 lecture 3 lab - T)
A capstone course to build the student's gross typing speed to at least 60 words per minute with a maximum of one error per minute. Students in the Administrative Office Assistant Technology must complete this course successfully in order to graduate in the technology. Prerequisite: AOA 229. (WI)

AOA 240-Voice Recognition
(3 credit hours - 1 lecture 5 lab - T)
Students will develop familiarity with and become proficient in the use of current voice recognition software, including set up of the system, speaker profiles, dictation features, accuracy, formatting, document preparation, and talking tools. Prerequisite: AOA 245. (WI)

AOA 245-Document Formatting
(3 credit hours - 2 lecture 3 lab - T)
This course allows students to develop knowledge of and proficiency in document formatting. Students will produce documents such as letters, memos, agendas, reports, presentations, itineraries, and business forms using appropriate typography principles. This course also provides reinforcement of grammar and business English. Prerequisites: AOA 125 (C or above) and AOA 140 (C or above). (FL)

AOA 250-Business Communications
(3 credit hours - 2 lecture 2 lab - T)
A combination of grammar and business writing, this course emphasizes the importance of both content and format in business communications. Students will compose written correspondence in response to case situations. Documents covered include letters, memos, bad news messages, reports, persuasive messages, and congratulatory letters. Prerequisites: AOA 125 (C or above) and AOA 140 (C or above). (WI)

AOA 253-Word Processing Applications
(3 credit hours - 1 lecture 5 lab - T)
A capstone word processing course combining all skills learned in Word I and II in addition to basic communications, grammar, and editing skills. Students must make decisions regarding the best, most efficient word processing method or software to use when completing assignments. Prerequisites: AOA 125 (C or above) and AOA 141 (C or above). (SP)

AOA 255-Integrated Software Applications
(3 credit hours - 1 lecture 5 lab - T)
Using skills learned in database, spreadsheet, word processing, and desktop publishing, students produce documents in a simulated office environment. Emphasis is placed on the integration of computer software and standard English. Prerequisites: AOA 125 (C or above), AOA 141 (C or above), BMC 120 (C or above), BMC 210 (C or above), BMC 130 (C or above) and BUS 215 (C or above). (SP)

AOA 259-Administrative Office Systems I
(3 credit hours - 2 lecture 2 lab - T)
Designed to meet the exacting requirements of the administrative assistant/secretarial profession, this course covers the duties and responsibilities of the administrative assistant, office environment and ergonomics, public relations duties, telephone skills, office technology and its utilization, computer systems and software, information processing, office supplies, postal and shipping services, and inventory control. Prerequisites: AOA 217 (C or above) and BMC 210 (C or above). (WI)

AOA 261-Administrative Office Systems II
(3 credit hours - 2 lecture 2 lab - T)
A continuation of AOA 259, this course provides advanced training in office procedures. Areas covered include job interviewing, travel arrangements, research and organization of business data, banking responsibilities, reprographics, meeting and conference planning, business etiquette, and ethics. Prerequisite: AOA 259 (C or above). (SP)

ART 101-Art History I
(4 credit hours - 4 lecture 0 lab - G)
This course, part one of a two-part sequence, is an introduction to major works of Western art from prehistory to the Medieval period. Students will become acquainted with some of the most important monuments and images from Western history and learn key artistic and historical terms, concepts and styles. Material will focus on the historical and cultural contexts and the role of context in shaping the production and development of art in different regions. This is a writing-intensive course that will instruct students on how to view, analyze, discuss, and write about art. Students are expected to complete weekly reading and short writing assignments, as well as participate in classroom discussion. There will be two exams and one writing project. Prerequisite: Grade of "C" or better in ENG 150.

ART 102-Art History II
(4 credit hours - 4 lecture 0 lab - G)
This course, part two of a two-part sequence, is an introduction to major works of Western art from the Renaissance to the Modern/Contemporary era. Students will become acquainted with some of the most important monuments and images from European and American history and learn key artistic and historical terms, concepts and styles. Material will focus on the historical and cultural contexts and the role of context in shaping the production and development of art. This is a writing-intensive course that will instruct students on how to view, analyze, discuss, research, and write about art and visual culture. Students are expected to complete weekly reading and short writing assignments, as well as participate in classroom discussion. There will be two exams and one writing project. Prerequisite: Grade of "C" or better in ENG 150.

ASL 101-American Sign Language I
(4 credit hours - 4 lecture 0 lab - G)
American Sign Language I is an introduction into the world of deafness. This course focuses on the basics of American Sign Language, the natural language used by deaf individuals and the Deaf community. The students will focus on the grammatical structure of ASL and will begin to develop both receptive and expressive skills in ASL. Students will learn the alphabet, numbers, colors, how to introduce themselves, exchange personal information, talk about people and family members, descriptive vocabulary, and basics in giving directions. Deaf culture and its characteristics will also be discussed. Prerequisite: None.

ASL 102-American Sign Language II
(4 credit hours - 4 lecture 0 lab - G)
American Sign Language II is a continuation of ASL 101, the natural language used by deaf individuals and the deaf community. Students will deepen their understanding of the grammatical structure of ASL as well as improve both their receptive and expressive signing skills. The students will learn additional number concepts, such as time, money, fractions, and ordinal numbers, personal and possessive pronouns, giving and receiving directions, making requests, action words, and common phrases and sentences used in everyday situations. A continuation of deaf culture and its history will be covered. Prerequisite: ASL 101.

ASL 103-American Sign Language III
(4 credit hours - 4 lecture 0 lab - G)
American Sign Language III is a continuation of ASL 102, the natural language used by deaf individuals and the deaf community. Students will increase fluency and the ability to communicate as well as deepen their understanding of American Sign Language syntax. Students will learn to make complaints, requests, suggestions, exchange personal information about life events, locate things around the house, describe and identify things around us, tell stories, and continue to learn phrases and conversation used in everyday situations. Deaf culture and Deaf history will continue to be explored. Prerequisite: ASL 102.

ASL 110-Sign Language for Health Professions
(4 credit hours - 4 lecture 0 lab - G)
Sign Language for Health Professions will focus on sign language for students in medical fields who may need to communicate with deaf individuals in their jobs. This course will focus on building vocabulary, basic conversation necessary in the medical areas, as well as learning about deaf culture, technology, and different sign systems used by deaf individuals. Prerequisite: None.

ATS 295-Special Problems
(.1-8 credit hours - T)
Specialized study is a course or series of collegiate-level technical courses that provide an opportunity to study in areas not normally offered at the College. Only students enrolled in the Associate of Technical Study program are eligible to register for the course. These students may attend classes at other institutions, at approved seminars, or other quality educational experiences under the guidance and evaluation of Zane State College faculty. Prerequisite: Dean Approval.

BIO 101-Principles of Biology
(4 credit hours - 3 lecture 3 lab - G)
An introductory course in biology, with emphasis on basic biological principles and concepts, anatomy, cellular morphology and function, metabolism and energy flow, reproduction, and genetics. A broad-based perspective of living organisms is important in each of our daily lives. Prerequisite: None. (WI, SU)

BIO 107-Biology & the Environment
(4 credit hours - 3 lecture 3 lab - G)
A laboratory science course for non-science majors. Provides an introduction to science, the scientific method, basic biological and ecological concepts and applies these to current environmental issues. Prerequisite: None. (FL, WI, SP)

BIO 141-Field Zoology & Ecology
(4 credit hours - 3 lecture 3 lab - G)
A study of the animals common to this area, stressing their identification and the environmental aspects which affect distribution. The basic principles of ecology are covered with emphasis on the interrelationships between an animal and his physical and biological surroundings. Prerequisite: None. (FL)

BIO 151-Field Botany & Ecology
(3 credit hours - 2 lecture 3 lab - G)
A study of the structure and life processes of plants, the classification and identification of plants and the basic principles of plant ecology stressing the environmental effects on the morphology, physiology, and distribution of plants. Prerequisite: BIO 141 or permission of instructor. (SP)

BIO 201-General Microbiology
(4 credit hours - 3 lecture 3 lab - G)
Introduction to the study of general microbiology. Emphasis is on the structure, metabolism, growth, and isolation of pathogenic microorganisms. Introduction to plating, isolation, and staining techniques used to identify microorganisms. Prerequisite: BIO 240 and BIO 242 with a grade of "C" or better. (SP)

BIO 240-Anatomy & Physiology I
(4 credit hours - 4 lecture 0 lab - G)
An introduction to the study of the structure and function of the human body stressing the chemical basis of life, molecular biology, human tissues, and the interrelation of the skeletal, muscular, and nervous systems. Prerequisite: BIO 101 with a grade of "C" or better, or advanced high school biology within the last three years with a grade of "C" or better as evidenced by high school transcript. (FL, WI, SU)

BIO 241-Anatomy and Physiology I Laboratory
(1 credit hour - 0 lecture 3 lab - G)
An introduction to the study of the structure and function of the human body stressing the anatomical terminology, cellular and tissue structure and function and the interrelation of the skeletal, muscular, and nervous systems. Prerequisite: BIO 101 with a grade of "C" or better, or advanced high school biology within the last three years with a grade of "C" or better as evidenced by high school transcript. Co-requisite: BIO 240. (FL, WI, SU)

BIO 242-Anatomy & Physiology II
(4 credit hours - 4 lecture 0 lab - G)
A continuation of the study of the structure and function of the human body stressing the interrelation of the circulatory, respiratory, urinary, digestive, endocrine, and reproductive systems. Prerequisite: Grade of "C" or better in BIO 240 and BIO 241. (FL, WI, SP)

BIO 243-Anatomy and Physiology II Laboratory
(1 credit hour - 0 lecture 3 lab - G)
An introduction to the study of the structure and function of the human body stressing the interrelation of the cardiovascular, lymphatic, immune, endocrine, respiratory, digestive, urinary and reproductive systems. Prerequisite: Grade of "C" or better in BIO 240 and BIO 241. Co-requisite: BIO 242. (FL, WI, SP)

BMC 090-Never Touched a Computer Before
(1 credit hour 0 lecture 2 lab - T)
Designed for the computer novice. Topics include what a computer does, how to turn it on, what the different keys on the keyboard do, how to use a mouse, how to create a file and save it to a disk, and brief introduction to word processing, spreadsheet and database use. Prerequisite: None.

BMC 101-Introduction to Computer/DOS Commands
(1 credit hour - 0 lecture 2 lab - T)
Gives the beginning computer user information regarding hardware components, software usage, and basic DOS commands. Topics include formatting a disk, using the copy, delete, rename commands, running a directory and working with subdirectories and wildcards. Prerequisite: None.

BMC 102-Introduction to Windows
(1 credit hour - 0 lecture 2 lab - T)
Gives the beginning computer user experience using the Windows operating system. Includes use of a mouse and menus, modify default settings, manage files and folders, and work with diskettes. Prerequisite: None. (FL)

BMC 103-Introduction to Access
(1 credit hour - 0 lecture 2 lab - T)
Provides an overview of the database software program and its extensive use in business today. File creation, inputting data, modifying tables, and creating forms and reports are covered. Prerequisite: None.

BMC 104-Introduction to Excel
(1 credit hour - 0 lecture 2 lab - T)
An overview of the spreadsheet software program and how it is used in business today. Topics include creation of worksheets, entering formulas, inserting and deleting rows and columns, saving, printing, and retrieving files. Prerequisite: None.

BMC 105-Introduction to Word
(1 credit hour - 0 lecture 2 lab - T)
Word processing concepts are explored through the creation of letters, memos, and reports. Using Microsoft Word, topics covered include setting margins, line spacing, tabs, running spell check, saving, printing, and retrieving documents. Prerequisite: None.

BMC 106-Introduction to the Internet
(1 credit hour - 0 lecture 2 lab - T)
Provides an overview of the purpose of the Internet, its history, going on-line, and moving around on the web. The most popular search engines will be used to explore how to do research as well as participate in e-commerce transactions. Prerequisite: None.

BMC 107-Introduction to Publisher
(1 credit hour - 0 lecture 2 lab - T)
The basics of page layout and design, fonts, styles, and graphics are explored through the creation of business cards, flyers, brochures, and greeting cards. Prerequisite: None.

BMC 108-Introduction to PageMaker
(1 credit hour - 0 lecture 2 lab - T)
Covers the application of basic design principles through the creation of a variety of documents. Concepts such as page layout, fonts, styles, importing text and graphics, and formatting features are explored. Prerequisite: None.

BMC 109-Introduction to Quicken
(1 credit hour - 0 lecture 2 lab - T)
Topics include setting up accounts, using categories, entering register and check information, memorizing checks, deleting and recalling transactions, reconciling a checking account, printing checks, creating basic reports, search and replace commands, backing up files, using the calculator and calendar utility, creating graphs, and using billminder. Prerequisite: Accounting experience.

BMC 110-Introduction to Peachtree
(1 credit hour - 0 lecture 2 lab - T)
Covers basic features including graphs and reports. Data will be entered into a general ledger. Batch and real-time processing, inventory items and sales tax will be presented for meaningful reports. Prerequisite: ACC 111 or Accounting experience.

BMC 114-Introduction to PowerPoint
(1 credit hour - 0 lecture 2 lab - T)
Presentation programs provide an effective way to create visual aids for a professional looking presentation. Onscreen presentations, handouts, speaker notes, outlines and transparencies will be created. Prerequisite: None.

BMC 115-Introduction to QuickBooks
(1 credit hour - 0 lecture 2 lab - T)
Keeping track of daily transactions and producing meaningful reports is essential. The basic features of a computerized accounting system through hands-on practice are covered. Information will be entered into lists, forms, and registers and then presented in a variety of reports and graphs. Prerequisites: ACC 101, ACC 111, or accounting experience.

BMC 116-Introduction to FrontPage
(1 credit hour - 0 lecture 2 lab - T)
Topics include creating, organizing, editing, and simulating web pages to provide an effective way to create professional looking presentations. Layout of web pages to varying complexity is covered using menu commands, toolbar buttons, and other options.
Prerequisite: None

BMC 120-Excel
(3 credit hours - 2 lecture 3 lab - T)
Introduction to electronic spreadsheet functions utilizing a microcomputer and Microsoft Excel. Common spreadsheet commands are explored including creating graphs, charts and using macros. Prerequisite: CPT 105 or computer experience. (FL, WI, SP, SU)

BMC 125-Introduction to Internet
(3 credit hours - 2 lecture 3 lab - T)
Covers the basic concepts and capabilities of the internet. Students will browse, use e-mail, perform searches, chat, post to news groups, create a home page and perform other related activities. Prerequisite: CPT 105, or EGT 109, or permission of instructor. (FL, WI, SP, SU)

BMC 130-Access
(3 credit hours - 1 lecture 4 lab - T)
Covers the use of a database management program utilizing Microsoft Access. Topics include terminology, the creation process, the generation of forms and reports, and how to run simple queries. Prerequisite: CPT 105, or EGT 109, or permission of instructor. (FL, WI, SP, SU)

BMC 132-Introduction to Dreamweaver
(1 credit hour - 0 lecture 2 lab - T)
Covers macromedia Dreamweaver software and web design fundamentals. Provides hands-on experience in working with defining the Internet and HTML basics, creating and enhancing documents, text elements, site creation, links, images, and tables. Prerequisite: None.

BMC 134-Introduction to Photoshop
(1 credit hour - 0 lecture 2 lab - T)
A hands-on workshop using Adobe Photoshop. Photoshop is an imaging software program that allows photo retouching, image editing and color painting. The most essential functions available will be presented to the novice, while the incredible depth and variety of its features make it well suited to the graphics professional. Prerequisite: None.

BMC 140-Publisher
(3 credit hours - 2 lecture 2 lab - T)
Publisher is a powerful desktop publishing program that gives you the ability to design and produce professional quality documents that combine text, graphics, illustrations, and photographs. Prerequisite: CPT 105 or computer experience. (FL, WI, SP, SU)

BMC 201-Intermediate Word
(1 credit hour - 0 lecture 2 lab - T)
A continuation of BMC 105. Basic word processing skills will be explained by exploring business application concepts such as mail merge, form creation, headers and footers, and multiple column documents. Prerequisite: BMC 105 or prior Word experience.

BMC 202-Intermediate Access
(1 credit hour - 0 lecture 2 lab - T)
Continuation of BMC 103 with expanded capabilities of the database software as used within a business setting. The focus is on the use of complex search functions and procedures. Topics such as on-screen forms, importing OLE objects, and generating reports are covered. Prerequisite: BMC 103 or prior Access experience.

BMC 203-Intermediate Excel
(1 credit hour - 0 lecture 2 lab - T)
This course is a continuation of BMC 104. Concepts such as entering formulas, exploring what-if scenarios, extracting information, setting ranges, and graphing charts are covered. Prerequisite: BMC 104 or prior Excel experience.

BMC 205-Web Page Design
(1 credit hour - 0 lecture 2 lab - T)
Topics include designing, authoring, and modifying web pages that are of professional quality. Site management including publishing to the web, testing and repairing hyperlinks, importing and exporting files, and managing files will also be covered. Prerequisite: BMC 106 or prior Web page experience.

BMC 206-Integrating Office Software
(1 credit hour - 0 lecture 2 lab - T)
Translates the individual features of Microsoft Office into making the different programs work together. Instruction will focus on integrating word processing, spreadsheet, database, and presentation documents into various formats. Prerequisites: BMC 103, BMC 104, BMC 105 and BMC 107.

BMC 207-Intermediate Desktop Publishing
(1 credit hour - 0 lecture 2 lab - T)
This course provides a more in-depth look at design, layout principles, and visual response. Specialized documents such as newsletters, brochures, and posters, and the advanced functions needed to create these documents will be covered. Prerequisite: BMC 108.

BMC 208-Intermediate WordPerfect
(1 credit hour - 0 lecture 2 lab - T)
A continuation of BMC 105. Instruction will expand upon basic word processing skills by exploring business application concepts such as mail merge, form creation, headers and footers, and multiple column documents. Prerequisite: BMC 105 or prior WordPerfect experience.

BMC 210-PowerPoint
(3 credit hours - 2 lecture 2 lab - T)
Designed to provide several methods of creating professional presentations. Audience handouts, speaker notes, transparencies, outlines, and on-screen presentations will be covered as well as guidelines to follow when giving a presentation. Prerequisite: CPT 105 or computer experience. (FL, WI, SP, SU)

BMC 220-Advanced Excel
(3 credit hours - 2 lecture 3 lab - T)
A continuation of BMC 120 - Excel. Covers advanced functions and topics of spreadsheet software. Concepts include using ranges in formulas, extracting information, importing and exporting data files, and designing advanced formulas. Prerequisite: BMC 120. (FL, WI, SP, SU)

BMC 225-Help Desk
(3 credit hours - 2 lecture 3 lab - T)
Introduces students to help desks - what they are, what people who work at one do, and why they are an essential part of every organization. Students will learn how help desks are structured and what kind of support they provide. Students will also learn the use problem solving to tackle challenging computer problems, as well as tools and techniques that are used to determine the cause of many computer problems. Prerequisite: CPT 105 or computer experience. (FL)

BMC 230-Advanced Access
(3 credit hours - 2 lecture 3 lab - T)
A continuation of BMC 130 - Access. Advanced forms with subforms, reports, and queries will be covered. Switchboards with macros will be created allowing quick access to the most frequently used data. Prerequisite: BMC 130. (FL, WI, SP, SU)

BMC 232-Networking
(1 credit hour - 0 lecture 2 lab - T)
The basic uses and benefits of a networked system from an experienced user's point of view will be explored. Topics include hardware and software components, user security profiles, rights, and limitations, logging in and out, virus protection, printing and printer sharing, electronic mail and helpful network commands. Prerequisite: BMC 101 and BMC 102.

BMC 233-Advanced Windows
(1 credit hour - 0 lecture 2 lab - T)
Customizing Windows setup, specific application programs, and performing advanced Windows commands for the experienced user will be covered. Provides information on how to improve the overall efficiency and performance of a computer. Prerequisite: BMC 102 or prior experience.

BMC 234-Advanced Internet
(1 credit hour - 0 lecture 2 lab - T)
A continuation of BMC 106. Explores the advanced Internet and browser topics. Creating and managing bookmarks, changing options and preferences, downloading applications, attaching files and newsgroups and Chat are covered extensively. Prerequisite: BMC 106 or prior experience.

BMC 235-Advanced Word
(1 credit hour - 0 lecture 2 lab - T)
For the experienced user. Covers working with macros, tracking changes, creating and protecting forms, generating master documents and adding comments and highlights to a variety of documents. Prerequisites: BMC 105 and BMC 201 or prior experience.

BMC 236-Advanced Access
(1 credit hour - 0 lecture 2 lab - T)
For the experienced user. Covers generating reports that contain sub-reports, manage database objects, create switchboards and modules. Troubleshooting database errors and problems will also be explored. Prerequisites: BMC 103 and BMC 202, or prior experience.

BMC 237-Advanced Excel
(1 credit hour - 0 lecture 2 lab - T)
For the experienced user. Covers advanced functions and formulas. Importing and exporting data, creating PivotTables and data forms, and using Goal Seek and Solver will also be covered. Prerequisites: BMC 104, BMC 203 or prior experience.

BMC 238-Advanced PowerPoint
(1 credit hour - 0 lecture 2 lab - T)
For the experienced user. Covers advanced multimedia and graphics into a presentation while still maintaining that look of professionalism. Working with charts, interactive slide shows, and integration will also be covered. Prerequisites: BMC 114 or prior experience.

BMC 240-Advanced Integrated Applications
(3 credit hours - 2 lecture 3 lab - T)
Hardware and software knowledge will be integrated in a project-oriented business application using a pc-based platform. The projects initiated in previous courses are developed and tested with a final advanced project suitable for use in a business setting. Prerequisites: AOA 140, BMC 120, BMC 130, BMC 140, BMC 210. (FL, WI, SP, SU)

BMC 254-Advanced Photoshop
(1 credit hour - 0 lecture 2 lab - T)
Covers advanced Photoshop functions. This workshop provides hands-on experience in working with selections and images, colors, and layers. Provides hands-on experience in using channels, masks, filters, and using ImageReady for the web. Prerequisite: BMC 134.

BMC 295-Special Problems
(0.1-8 credit hours - T)
Provides the opportunity to apply selected and current courses, seminars, directed individual study, and other quality educational experiences that contribute substantially to Business student's program of study. Prerequisite: Dean approval.

BUS 102-Business Organization
(3 credit hours - 2 lecture 2 lab - B)
An introductory course dealing with the major functional areas of and the career opportunities in business. Business organizations, personnel, purchasing, marketing, and governmental regulation are all surveyed. A broad background in management principles suitable to other situations and organizations is also provided. Prerequisite: None.

BUS 111-Principles of Management
(4 credit hours - 4 lecture 0 lab – T/B)
A study of managerial functions include planning, organizing, leading, and controlling; and their implementation by objectives, policies, decision making, authority, executive development, communication, and attitude. Prerequisite: None. (FL, WI, SP, SU)

BUS 118-WordPerfect
(3 credit hours - 2 lecture 3 lab - T)
A course designed to teach the use of the WordPerfect word processing software program. Students will learn to produce documents, tables, and reports. Functions covered will include but are not limited to: delete, insert, save, print, spell check, setting margins and tabs, page numbering, block operations, indents, line drawing, and merge functions. Prerequisite: BUS 141 or AOA 111.

BUS 131-Business Law I
(3 credit hours - 3 lecture 0 lab - B)
This survey course presents the legal framework of business, including the forms and classifications of law and the court system, as well as social forces of the law, and torts and crimes that relate to business. The course concludes with a study of the law of contracts. Prerequisite: None. (WI, SP, SU)

BUS 132-Business Law II
(3 credit hours - 3 lecture 0 lab - B)
A continuation of BUS 131 (Business Law I) to include a study of the law governing sales, commercial paper, partnerships, corporations, personal property, and bankruptcy. Prerequisite: BUS 131. (SP)

BUS 133-Law and Banking
(4 credit hours - 4 lecture 0 lab - T)
A study of the laws which govern and affect banking with emphasis on the Uniform Commercial Code. Includes bankruptcy, consumer lending, commercial paper, exemptions holder in due course, liability, bank collections, check losses and frauds, letters of credit, and secured transactions. Prerequisite: None.

BUS 141-Keyboarding
(2 credit hours - 1 lecture 3 lab - B)
Students will learn the alphabetic, numeric, and symbol keys using the touch system. The course concentrates on keyboarding drills and timings to increase students speed and accuracy. Students will also learn the numeric keypad. Prerequisite: None.

BUS 151-Microeconomics
(4 credit hours - 4 lecture 0 lab - G)
Fundamentals of microeconomics: a study of the individual firm and how it allocates resources, prices goods and services, and organizes itself to meet competition. Focuses on the behavior of customers and supplies in the marketplace which affects the kinds of goods and services produced and consumed through an understanding of demand and supply schedules, elasticity and subdivision, fixed, variable, and marginal revenue and total revenue, and profit maximization. Prerequisite: None. (FL, WI, SP)

BUS 152-Macroeconomics
(4 credit hours - 4 lecture 0 lab - G)
A study of the overall performance of an economy of a society as an entity. Alternative economic systems are explored and macroeconomics studies the various mechanisms a society can use to allocate scarce resources. Prerequisite: None. (SP)

BUS 153-Consumer Economics
(4 credit hours - 4 lecture 0 lab - G)
A course designed to assist the student in making intelligent consumer decisions using cost/benefit analysis. This course has a strong focus on personal enrichment/involvement and includes: economics and the American family, budgeting, consumer problems, consumer durables, housing/debt, insurance, savings and investments, and current issues. Prerequisite:. None

BUS 183-Introduction to Commercial Lending
(4 credit hours 4 lecture 0 lab T)
The course explains the role of the commercial lending function within the banking industry and the total economy. Also provided is the understanding of the technical skills necessary to be a successful commercial lender. Emphasis is placed on the commercial lending customer, products, pricing, support, documentation, and analysis with special attention focused on funding risks. Prerequisite: None.

BUS 184-Financial Customer Services
(2 credit hours - 2 lecture 0 lab - T)
This course is designed to provide customer contact personnel with opportunities to develop communication skills with their customers. The content includes identifying and responding to customer's needs and handling difficult situations found in financial institutions. Prerequisite: None.

BUS 195-Microcomputer Literacy
(3 credit hours - 1 lecture, 5 lab - B)
Self-paced course designed to familiarize students with a variety of microcomputers and common business, personal, and educational software. Students learn the keyboard and basic operating commands of personal computers. They also learn to use a common word processing and spreadsheet program and are familiarized with a variety of business applications and educational software. Prerequisite: Attendance at an Access Orientation or permission of the Access Coordinator.

BUS 199-Employability Principles
(3 credit hours - 3 lecture 0 lab - T)
Course includes principles of employment practices, and improvement of employee traits. Prerequisite: Special approval by technology coordinator. (SU)

BUS 200-Internship I
(2-4 credit hours - 0 lecture 20-40 lab - T)
Supervised work experience required for business technology students. Includes student applying for a job in a related area, on-the-job supervision, scheduled visits by coordinators, and periodic evaluations. Co-requisite: BUS 205 or PAR 265. Internship positions must be approved by the Dean. (SP, SU)

BUS 201-Community Service
(2-4 credit hours - 0 lecture 20-40 lab - T)
Supervised work experience by students performed gratuitously for a public agency or non-profit entity. Qualifying agencies and entities include, but are not limited to, those providing health or child care, legal assistance, consumer services, corrections, civic affairs, neighborhood improvement, rural development, environmental quality, gerontology and other fields of human betterment and community improvement. This course is available only to students in the prison education program. Prerequisite: Special approval.

BUS 205-Seminar for Internship
(1 credit hour - 1 lecture 0 lab - T)
A seminar course accompanying Co-Op or Internship, including group discussion on applying learned concepts to the employment experience, and Internship or Co-Op critique. Co-requisite: BUS 200, BUS 201, or BUS 210. (SU)

BUS 207-Small Business Management
(3 credit hours - 3 lecture 0 lab - B)
This course is designed to give the student fundamentals of managing a small business. A study of starting, managing, and financing a company, with emphasis on problems and risks unique to operating a small business. Prerequisites: ACC 101, BUS 111, and sophomore status or ACC 111 and BUS 111. (SP)

BUS 210-Internship II
(2-4 credit hours - 0 lecture 20-40 lab - T)
A continuation of Internship I. Prerequisite: BUS 200.

BUS 211-Office Management
(4 credit hours - 4 lecture 0 lab - T)
A study of the fundamental principles and practices used to expedite office work including office organization and management, office location, layout and equipment, records management and retention, and design and control procedures. Prerequisite: None. (SP)

BUS 212-Customer Relationship Management
(3 credit hours - 2 lecture 2 lab - T)
Provides knowledge of the full range of customer service principles. Topics include customer service overview, trends, merchandise handling, industry examples, business impact, and legal implications. Prerequisite: BUS 111. (FL, SP)

BUS 213-International Business
(4 credit hours - 4 lecture 0 lab - G)
A study of the economic, social, legal, cultural and political considerations of doing business internationally. The role international monetary systems, investment theory, financial markets and exchange rates are explored. Prerequisite: Sophomore standing. (SP)

BUS 215-Desktop Publishing
(3 credit hours - 2 lecture 3 lab - T)
Includes an analysis of the desktop publishing process. Prepares students to design publications, use typesetting fundamentals, and work with text and graphics in business and technical applications. Prerequisite: CPT 105 or AOA 105. (FL)

BUS 219-Advanced Desktop Publishing
(3 credit hours - 1 lecture 4 lab - T)
Emphasizes document creation using page-layout software to produce newsletters, brochures, flyers, and advertisements. Includes an introduction to graphics software. Prerequisite: BUS 215.

BUS 260-Business Correspondence
(3 credit hours - 2 lecture 2 lab - T (B))
Introduction to the types of written communications used frequently in business. Development of ability to convey facts and information in a clear, concise, and complete manner. The student is encouraged to develop courtesy, cooperation, and a desirable attitude toward the reader. Co-requisite: ENG 180 or permission of instructor.

BUS 262-Organizational Behavior
(4 credit hours - 4 lecture 0 lab - T)
Students will study human behavior, emphasizing career successes, in organizations including business, industry and the government. Topics include motivation, high performance organizations, group and conflict processes. The student will use both learning theory and critical thinking skills in experiential exercises and case studies relevant to the workplace. Prerequisite: BUS 111. (FL, WI)

BUS 265-Human Resource Management
(3 credit hours - 2 lecture 2 lab - T)
A study of philosophy, principles, and methods of personnel management including organizational structures, areas of responsibility, policy making, procurement and placement, training, evaluation, wage and salary administration, employee benefit programs, and a survey of labor laws. Prerequisite: None. (FL, SP)

BUS 268-Analyzing Financial Statements
(4 credit hours - 4 lecture 0 lab - T (E))
This course develops skills of financial analysis for the prospective bank lender/credit analyst. Content includes the conceptual frame-work for analysis, basic and advance analytic techniques and extensively utilizes the case study approach. Prerequisite: ACC 113 or special permission.

BUS 269-Introduction to e-Commerce
(3 credit hours - 2 lecture 2 lab - T)
An introduction to electronic commerce. The course focuses on using the Internet to buy and sell products as well as analyzing types of Internet businesses. It introduces promoting, advertising, and selling electronically. The course will help the student to create a website with two different software packages. Prerequisite: CPT 105.

BUS 272-Financial Management
(3 credit hours - 2 lecture 2 lab - T)
Corporate structure, forms of business organization, financing through securities, sources of capital, management of assets, administration of income and expenses, expansion and combinations are studied. Prerequisites: ACC 101 and BMC 120. (SP)

BUS 273-Real Estate Principles and Practices
(4 credit hours - 4 lecture 0 lab - T)
Basic foundation course in real estate philosophy, theory, economics, and administration. Covers elementary physical, legal, locational, and economical characteristics of real estate, real estate markets, and influences on real estate values. Prerequisite: None.

BUS 274-Real Estate Law
(4 credit hours - 4 lecture 0 lab - T)
Includes eleven legal areas commonly concerned with typical real estate professionals. Among topics covered are law of agency as applied to real estate brokers and salesmen, law of fixtures, estates, conveyances of real estate, mortgages and liens, license laws of Ohio, and zoning. Prerequisite: None.

BUS 275-Real Estate Finance
(4 credit hours - 4 lecture 0 lab - T)
Includes institutions, methods, instruments, and procedures involved in financing of real estate, nature, and characteristics of mortgage market. Effects of monetary and fiscal policies on real estate financing considered. Prerequisite: None.

BUS 276-Real Estate Appraising
(4 credit hours - 4 lecture 0 lab - T)
This course deals with appraisal theory, basic principles affecting value of real property; data accumulation and analysis of city, neighborhood, site, and property; applied techniques and estimating value from three approaches; building analysis, depreciation; entire range of appraisal process; and preparation based on field experience of preparing single-family residential appraisal report. Prerequisite: None.

BUS 277-Real Estate Brokerage
(4 credit hours - 4 lecture 0 lab - T)
This course expands on BUS 273 and includes: specialized fields of real estate, principal-agent relationship, listing principles and practices, closing principles and practices, sales contract, principles of economics and real estate appraising, property insurance, real estate finance, federal laws regulating real estate practice, mathematics in real estate, and other facets of real estate needed by real estate professionals; Ohio licensing laws and requirements. Prerequisite: BUS 273 or permission of instructor.

BUS 281-Money And Banking
(3 credit hours - 3 lecture 0 lab - T)
A study of the fundamental concepts of banking credit, central banking, and monetary theory. Prerequisite: None.

BUS 282-Principles of Banking
(4 credit hours - 4 lecture 0 lab - T)
Survey course presenting the fundamentals of bank functions in a descriptive fashion so that the beginning banker may view his profession in a broad and operational perspective. The descriptive orientation is intentional. Banking is increasingly dependent upon personnel who have the broad perspective so necessary for career advancement. Prerequisite: None.

BUS 283- Bank Management
(4 credit hours - 4 lecture 0 lab - T)
Presentation of the new trends which have emerged in the philosophy and practice of management. The study and application of the principles outlined provide new and experienced bankers with a working knowledge of bank management. Since case study is becoming well established as an effective management learning technique, this course introduces the use of cases as a new element. Prerequisite: BUS 282.

BUS 284-Consumer Lending
(4 credit hours - 4 lecture 0 lab - T)
This American Institute of Banking course is designed to provide an overview of the consumer credit operation. The course examines the role of consumer credit in overall banking operations. Other topics covered are: evaluating credit risks and consumer credit policy; the loan – from application through documentation and closing; servicing and collecting loans, consumer compliance, portfolio management, and marketing. Prerequisite: BUS 282.

BUS 286-Consumer Credit Analysis
(4 credit hours - 4 lecture 0 lab - T)
This American Institute of Banking course is designed for individuals who understand the basics of consumer lending and its function within a bank, but need specific training on the many aspects of making a consumer loan. Other topics covered are: legal and regulatory issues; credit application, investigation, and scoring fundamentals; credit decision considerations; loan interviewing; documentation, closing, and review. Prerequisite: BUS 282.

BUS 287-Home Mortgage Lending
(4 credit hours - 4 lecture 0 lab - T)
A study of the mortgage market, the acquisition of a mortgage portfolio, mortgage plans and procedures, and mortgage loan processing and services. Includes discussion on the obligations of the mortgage loan officer in overall portfolio managements. Prerequisite: BUS 282.

BUS 288-Trust Functions & Services
(4 credit hours - 4 lecture 0 lab - T)
A study of the services rendered by institutions engaged in trust business. Includes analysis of the services and duties involved in trust operations and of the distinction between the business and legal aspects of trust functions. Prerequisite: BUS 282.

BUS 289-Saving & Time Deposit Banking
(4 credit hours - 4 lecture 0 lab - T)
An analysis of the historical development of saving institutions, the basic economic functions of the saving process, and the current operations and policies of saving institutions. Also includes clarification of the important differences between financial savings by individuals or organizations and real savings that appear as capital formation, and description of the system of financial flows of income to capital investments. Prerequisite: BUS 282.

BUS 291-Government & Business
(3 credit hours - 2 lecture 2 lab - B)
Provides an appreciation of the origins and workings of both governmental and business institutions as a system of social thought and action. Prerequisite: BUS 151. (FL)

BUS 292-Branch Bank Management
(4 credit hours - 4 lecture 0 lab - T)
Course is designed to present a comprehensive overview of the branch function and the manager's role in its operation. Separate modules dealing with branch operations and lending provide a complete introduction to the functional aspects of the branch management position. In addition, a central module on the overall management of all branch functions provides the students with an awareness and appreciation of this critical element in the operation of a successful branch. Prerequisite: BUS 282.

BUS 295-Special Problems
(0.1-8 credit hours - T)
Provides the opportunity to apply selected and current courses, seminars, directed individual study, and other quality educational experiences that contribute substantially to a Business student's program of study. Prerequisite: Dean approval.

BUS 296-Vocational Education Experience
(1-12 credit hours - T)
This course number designates transfer credit awarded for the satisfactory completion of an approved secondary or post-secondary program in vocational education. If approved six (6) credit hours are awarded for each academic year completed in a full-time vocational education program for up to twelve (12) credit hours. This credit is to be evaluated by the student's advisor and Division Dean.

BUS 297-Technical Work Experience
(1-12 credit hours - T)
The 297 course number designates transfer credit awarded for the satisfactory acquisition of knowledge through the performance of verified (documented) work experience in an occupation specialty at the level of journeyman, technician, semiprofessional, or paraprofessional, or mid-management person. If approved, up to six (6) credit hours are awarded for each calendar year of full-time work completed at a specified level. There is no tuition fee. The maximum number of credits to be thus awarded is twelve (12). The judgment of the Division Dean determines if any (or how much) credit will be awarded.

BUS 299-Seminar
(3 credit hours - 3 lecture 0 lab - T)
Course taken in conjunction with internship. Includes discussion of students' intern experiences, principles of employment practices, and improvement of employee traits. Prerequisite: Special approval by technology coordinator.

CAD 105-AutoCAD I
(3 credit hours - 1 lecture 4 lab - T)
An introduction to Computer Aided Drafting and Design. The primary focus is on the use of PC hardware and AutoCAD software for the creation of two-dimensional drawing entities. AutoCAD topics may include an introduction to computer interfaces, display control, 2-D entity construction and editing, layer creation and control, text, basic dimensioning, and basic plotting commands. Drafting topics may include geometric shape creation, orthographic projections, and proper drawing set-up and layout. Prerequisite: None. (FL, WI)

CAD 114-Architectural Graphics I
(3 credit hours - 2 lecture 3 lab - T)
Topics introduce the student to the visual communication language of architecture. Topics include architectural career opportunities, CADD drawing tools and processes, residential design and drafting methods. Application of topics to a residential architectural graphics project is required. Prerequisite: CAD 105. (WI)

CAD 115-Architectural Graphics II
(3 credit hours - 2 lecture 3 lab - T)
Topics include a continuation of residential design and drafting; emphasizing sections, details, and mechanical systems. Drawing topics include more complex drafting skills, including details, longitudinal and transverse sections, and presentation methods. Physical model building will be introduced. Prerequisite: CAD 114 or permission of instructor. (SP)

CAD 119-AutoCAD II
(3 credit hours - 1 lecture 4 lab - T)
A continuation of AutoCAD I in which students will proceed into more advanced topics of the software. Items covered may include advanced 2-D entity creation and editing, drawing set-up in varying scales, text and dimension style set-up and control, block insertion and modifications, external references, plot styles, advanced plotter set-up, attributes and an introduction into 3-D AutoCAD controls. Prerequisite: CAD 105 or permission of instructor. (WI)

CAD 125-Construction Methods and Materials I
(3 credit hours - 2 lecture 3 lab - T)
This course focuses on the materials and methods of commercial and residential construction. Topics include CSI formatting, site work, concrete/masonry, woods, and metals. Site visitations and workshops are used to reinforce these concepts. Prerequisites: None. (FL)

CAD 126-Construction Methods and Materials II
(3 credit hours - 2 lecture 3 lab - T)
A continuing study of the materials and methods of commercial and residential construction. Topics include roofing systems, doors/windows, moisture and thermal protection, special construction, and finishes. Site visitations are used to reinforce concepts. Prerequisite: CAD 125 or permission of instructor. (SP)

CAD 141-Introduction to Mechanical Modeling
(3 credit hours - 1 lecture 4 lab - T)
This course introduces solid and wireframe/surface modeling technologies as applied to mechanical design and computer aided machining. Course topics include 3-D construction fundamentals, Boolean operators, parametric part modeling, NURBS surfaces, assembly modeling and drawing extraction. Design automation software specific to mechanical design is used. Prerequisite: CAD 105 or permission of instructor. (WI)

CAD 142-Introduction to Architectural Modeling
(3 credit hours - 1 lecture 4 lab - T)
This course introduces object oriented 3-D modeling techniques as applied to architectural drafting and design. Course topics include mass study creation, space planning and architectural objects. Drawing extraction of floor plans, elevations and sections from 3-D models is covered. Design automation software specific to architectural drafting and design is used. Prerequisites: CAD 114 and CAD 119. (SP)

CAD 212-Architectural Working Drawings I
(4 credit hours - 2 lecture 4 lab - T)
Introduces students to the process of creating professional architectural drawings and details. Topics include career practices and opportunities, fundamentals of drawing set-up and creation. AutoCAD and Autodesk's Architectural Desktop will be used to begin creation of a set of building plans. Drawings may include a site plan, floor plan(s), and elevations. Prerequisites: CAD 119 and CAD 142, or permission of instructor. (FL)

CAD 213-Architectural Working Drawings II
(4 credit hours - 2 lecture 4 lab - T)
Continues the study and creation of building plans using AutoCAD and Autodesk's Architectural Desktop. Topics include framing methods and components, roof framing, foundation, and building sections. Drawings may include a roof framing plan, foundation plan, and building section. Prerequisite: CAD 212 or permission of instructor. (WI)

CAD 214-Architectural Working Drawings III
(4 credit hours - 2 lecture 4 lab - T)
Continues the study and creation of building plans using AutoCAD and Autodesk's Architectural Desktop. Topics include building sections, stair construction, architectural details, cabinetry, and millwork. Drawings may include a stair layout, building sections, interior elevations, and architectural details. Prerequisite: CAD 213 or permission of instructor. (SP)

CAD 215-Estimation & Building Codes
(3 credit hours - 2 lecture 3 lab - T)
A course in the fundamentals of estimating. Topics include bidding procedures, contracts, takeoffs, and contractor selection. Estimation will include manual and computer generated techniques for residential and commercial construction. Also included is an introduction to building codes. Prerequisites: CAD 212 and CAD 213; Co requisite: CAD 214.

CAD 216-VIZ Rendering
(3 credit hours - 2 lecture 3 lab - T)
This course continues with the Architectural Desktop program by introducing the CAD drafter to a stand along rendering and animation package. Course topics include planning, display, content styles, and interoperability. Drawing extraction of floor plans, elevations, and sections from 3-D models is covered. Design automation software specific to architectural drafting and design is used. Prerequisites: CAD 242 or permission of instructor. (WI)

CAD 242-Intermediate Architectural Modeling
(3 credit hours - 2 lecture 3 lab - T)
This course continues with object oriented 3-D modeling techniques as applied to architectural drafting and design. Course topics include planning, display, content styles, and interoperability. Drawing extraction of floor plans, elevations and sections from 3-D models is covered. Design automation software specific to architectural drafting and design is used. Prerequisite: CAD 142 or permission of instructor. (FL)

CHM 101-Chemistry
(4 credit hours - 3 lecture 3 lab - G)
An introduction to the basic concepts of chemistry, including the following topics: metric system, atoms, elements, molecules, compounds, moles, chemical equation and reactions, stoichiometry, gas laws, liquids, solids, chemical bonds, solutions, acids, and bases. Prerequisite: MTH 097 Placement Level. (FL, WI, SP)

CHM 102-Introduction to Organic and Biochemistry
(4 credit hours - 3 lecture 3 lab - G)
An introduction to organic and biochemistry. A study of general principles and their application to various industrial and biological processes. This course prepares the student for further study in the field of biochemistry. Prerequisite: Grade of "C" or better in CHM 101. (SP)

CHM 121-General Chemistry I
(5 credit hours - 4 lecture 3 lab - G)
This course focuses on the principles of general chemistry, including measurements and chemical analysis, atomic and molecular structures, chemical formulas and equations, stoichiometry and solution reactions, periodicity, bonding, and molecular geometry, and thermochemistry. Students will complete lab experiments related to these topics. This course is recommended for students who are pursuing an associate degree in science-engineering or an allied health related field. Prerequisites: Placement into MTH 115 or a grade of "C" or better in MTH 113, and high school chemistry or CHM 101 with a grade of "C" or better. (FL)

CHM 122-General Chemistry II
(5 credit hours - 4 lecture 3 lab - G)
This course continues to investigate the principles of college chemistry, including states of matter, solutions, chemical equilibrium, acid/base chemistry, reaction kinetics, and intermolecular forces. Students will complete lab experiments related to these topics. This course is recommended for students who are pursuing an associate degree in science, engineering or an allied health related field. Prerequisite: CHM 121 with a grade of "C" or better. (WI)

CHM 123-General Chemistry III
(5 credit hours - 4 lecture 3 lab - G)
This course continues to investigate the principles of college chemistry, including thermodynamics of chemical reactions, electroechemistry, nuclear chemistry, and organic chemistry. Students will complete lab experiments related to these topics. This course is recommended for students who are pursuing an associate degree in science, engineering or an allied health related field. Prerequisite: CHM 122 with a grade of "C" or better. (SP)

CMT 103-Blueprint Reading
(3 credit hours - 2 lecture 2 lab - B)
Print care and development, orthographic drawing interpretation, sectional and assembly drawings, pneumatic and hydraulic schematics, and an introduction to geometric dimensioning and tolerancing symbols. Prerequisite: None. (FL)

CMT 105-CNC Machining Fundamentals
(4 credit hours - 2 lecture 4 lab - T)
Introduces the fundamental concepts of numerically controlled machining technology. Additional studies will focus on coordinate system, cutting tools, feeds and speeds, tool offsets, and how they are used by the machine, setup and machining of parts. Prerequisite: None. (FL)

CMT 135-Numerical Control Programming I
(4 credit hours - 2 lecture 4 lab - T)
NC/CNC machine tool capability, the Cartesian coordinate system, drafting for NC programming, and incremental or absolute part programming. Prerequisites: CMT 103 and CMT 105, or permission of instructor. (WI)

CMT 138-Measurement and Layout
(4 credit hours - 2 lecture 4 lab - T)
An introduction to precision measuring. Course topics include language of measurement, systems of measurement, scaled instruments, vernier instruments, micrometer instruments, gage blocks, comparators, pneumatic measurement, optical instruments, surface measurements, and coordinate measuring machines. Prerequisites: Grade of "C" or better in MTH 097 or placement into MTH 113, and CMT 103, or permission of instructor. (WI)

CMT 201-Computer Assisted Machining I
(4 credit hours - 2 lecture 4 lab - T)
2-D geometry, geometry modification, tooling and machining data, tool path generation and editing, and lathe programming. Prerequisite: CMT 135 or permission of instructor. (FL)

CMT 205-Numerical Control Programming II
(4 credit hours - 2 lecture, 4, lab - T)
Multi-axis milling machines, horizontal milling machines, multi-axis lathes, live tooling, CNC control systems, program planning, program structure, Tool functions, setting offsets, Plane selection, datum shift, and conversational programming. Prerequisite: CMT 135 and MTH 113 or instructor permission. (SP)

CMT 207-Tool Design Fundamentals I
(3 credit hours - 2 lecture, 2 lab - T)
Tool design economics, tool materials, cutting tool design, work holding principles, jig design, fixture design, inspection tooling, tool design for the joining processes, and modular tooling. Prerequisite: CAD 105, CMT 105 and MTH 113, or instructor permission. (SP)

CMT 209-Product Manufacturing
(3 credit hours - 1 lecture 6 lab - T)
Team concepts and knowledge from previous courses are used to develop a manufacturing plan and generate a machine product. Includes production planning and control, tooling setups, and personal evaluation. Lab activities include plan implementation, tool building, and actual production of parts using lathe, mill, drilling, and surface grinding applications. Prerequisite: CMT 231 or permission of instructor. (SP)

CMT 211-Computer Assisted Machining II
(4 credit hours - 2 lecture 4 lab - T)
3-D geometry construction, wire frame models, surface models, geometry modification, tooling and machining data, 3-D tool path generation and editing, post processor customization. Prerequisite: CMT 201. (WI)

CMT 212-Computer Assisted Machining III
(4 credit hours - 2 lecture 4 lab - T)
Computer Assisted Machining III is a study of the generation of 3D numerical control code utilizing a CAM program. The topics of study will include 3D geometry construction, wireframe models, surface models, geometry modification, tooling and machining data, 3D toolpath generation and editing, post processor customization and mill programming. Prerequisite: CMT 211 and CMT 231, or permission of instructor. (SP)

CMT 221-Introduction to CNC Machines
(4 credit hours - 2 lecture 4 lab - T)
Hands-on training in the operation of CNC machines. Both turning and milling will be performed producing parts of complex shapes. Emphasis will be placed on power requirements, programming skills, tool selection, and use of tool offsets for size control. Prerequisite: CMT 205 or permission of instructor. (FL)

CMT 231-Advanced CNC Machines
(4 credit hours - 2 lecture 4 lab - T)
A study in CAD/CAM and its use in the programming of contoured surfaces combining the knowledge and skill from CMT 211 and CMT 221. Additional topics include modular tooling use for work piece holding. Prerequisites: CMT 201 and CMT 221, or permission of instructor. (WI)

CMT 235-Geometric Tolerancing
(3 credit hours - 3 lecture 0 lab - T)
Geometric tolerancing and dimensioning based on the ANSI/ASME Y14.5M-1994 standard. Prerequisite: CMT 103. (SP)

COM 090-Effective Reading
(4 credit hours - 3 lecture 2 lab - G)
Builds vocabulary knowledge. Improves comprehension through studying main ideas, supporting details, relationships of ideas, and inferences. Reviews the use of the dictionary. Further develops vocabulary and comprehension skills through a required novel assignment. Prerequisite: None. (FL, WI, SP, SU)

COM 091-Reading & Study Skills
(4 credit hours - 3 lecture 2 lab - G)
Strategies for taking notes, comprehending text-books, improving memory, and taking tests are demonstrated and applied. Vocabulary study and a required novel further develop comprehension skills. The rapid reading techniques of skimming and scanning are practiced. Critical reading and thinking skills are developed. Prerequisite: C or better in COM 090 when placed in COM 090 by assessment testing. (FL, WI, SP, SU)

COM 092-ADVANCE Study Skills Lab
(2 credit hours - 4 lab - G)
Strategies for learning terminology, taking notes, comprehending text-books, improving memory, and taking tests are demonstrated and applied to the content and task requirements in the college-level course. Critical reading and thinking skills are developed through integrated assignments. Prerequisite: Score 73-79 on the Reading Subtest of *Accuplacer.* (FL, WI, SP, SU)

COM 122-Interpersonal Communication
(3 credit hours - 3 lecture 0 lab - G)
This interactive course will explore the principles of communication as it pertains to personal and workplace relationships. Perception, culture, listening, and conflict management are among the topics which will be explored. Prerequisite: None. (FL, WI, SP, SU)

COM 261-Public Speaking
(4 credit hours - 3 lecture 2 lab - G)
Introduction to public speaking processes which are designed to help individuals communicate effectively in a variety of public speaking situations. This course focuses on developing, organizing, preparing, delivering, and analyzing public presentations. Prerequisites: ENG 150 and ENG 180. (FL, WI, SP, SU)

CPT 105-Introduction to Microcomputer Software Applications
(3 credit hours - 2 lecture 2 lab - B)
Provide students with an in-depth introduction of the different types of software application programs that are used at home, at school, and at work. Emphasis will not only be placed on learning new skills but retaining those skills and applying them to different projects. Prerequisite: None. (FL, WI, SP, SU)

CUL 102-Orientation to Culinary Arts
(2 credit hours - 2 lecture 0 lab - B)
An introductory course for the Culinary Arts technology stressing basic food, fundamental procedures, and techniques used by the professional chef. The student will become familiar with the environment and language of the food service industry including both the public and private sector. Prerequisite: None. (FL)

CUL 104-Safety and Sanitation
(3 credit hours - 3 lecture 0 lab - T)
A study of the causes of food borne diseases and food spoilage. The student will become familiar with information on local, state and federal regulations regarding safety and sanitation. Particular attention will be given to preventing kitchen accidents, keeping sanitary facilities and equipment, correct sanitary food preparation, good practices for store sanitation, and preventing contamination. Prerequisite: None. (FL)

CUL 106-Fundamentals of Food Preparation I
(4 credit hours - 3 lecture 3 lab - T)
The student will gain a working knowledge of the culinary environment including methods of cooking all types of meat, fish, vegetables, salads, soups, sauces, and desserts. Students will become familiar with vital information regarding spices, herbs, seasoning, metric conversions, weights, and measures. Students will become familiar with international culinary terms and equipment, and using practical applications in the lab. Co-requisite: CUL 104. (FL)

CUL 108-Introduction to Baking
(3 credit hours - 2 lecture 3 lab - T)
An intensive course covering all aspects of the fundamentals, principles, and applications of practical bakery food production and pastry making. Students will learn the production of international yeast-raising bakery products, and the chemistry of baking. There will also be a section on the causes of and solutions to common bakery production errors. Prerequisites: CUL 104 and CUL 106 or permission of instructor. (WI)

CUL 112-Fundamentals of Food Preparation II
(3 credit hours - 2 lecture 3 lab - T)
Through lab and lecture, the student will continue toward more advanced training building upon the principles and concepts learned in CUL 106. The student will be better able to prepare foods, develop menus, and become more acclimated as a culinary practitioner in the kitchen environment. Prerequisite: CUL 106. (WI)

CUL 113-Meat Technology
(2 credit hours - 1 lecture 3 lab - T)
An introduction to all food service aspects of dealing with meat including grading, inspection, storage, butchery, and basic methods of meat preparation. The student will become familiar with different cuts of the animal and with a variety of meat including red meat, white meat, fish, poultry, and game. Prerequisite: CUL 104. (SP)

CUL 114-Nutrition and Menu Planning
(3 credit hours - 3 lecture 0 lab - T)
Students will learn the characteristics of the major nutrient groups, their relationship to diet and health, and the foods in which they are found. Students will apply these principles to creating menus, marketing, food purchasing, and preparation to meet the nutritional needs and tastes of consumers in both the private and public sectors. Prerequisites: None. (SP)

CUL 116-Professional Baking
(3 credit hours - 1 lecture 6 lab - T)
This course is a continuation of CUL 108 including more complex preparations and decorations. Advanced baking techniques will include production of bakery food specialties including puff pastry, cakes, and other specialized pastries and breads. Prerequisite: CUL 108 or permission of instructor. (SP)

CUL 118-Professional Table Service
(2 credit hours - 1 lecture 2 lab - T)
Details relating to 'Dining Room Service' as well as full 'Beverage Management' knowledge to all table settings in a restaurant, for banquets and other food service operations. Includes table and beverage setting arrangements, specific types of service and delivery systems. Students will understand the importance of dealing with employees and customer relations in the dining room and the bar environment. Proper handling and knowledge of alcoholic beverages are taught. Proper safety and sanitation for customers and employees is also discussed. Prerequisite: CUL 104. (SU)

CUL 120-Practicum in Culinary Arts I/Seminar
(5 credit hours - 1 lecture 40 lab - T)
This practicum involves hands on experiences working in a food service site. It provides the student with an opportunity to put to practical use the knowledge obtained in the classroom under the direction of a qualified chef or food production manager and the College coordinator. The activities will involve the duties found in food production such as baking, vegetable preparation, grill and broiler cooking, and dessert preparation to name a few. Prerequisites: CUL 113, CUL 114 and CUL 116. (SU)

CUL 202-Food and Beverage Cost Control
(2 credit hours - 2 lecture 0 lab - T)
A study of the application of accounting theory to the management of food service items. Students will learn to set up and use systems including data processing to control major costs of food and beverages. Each student will develop a control routine for food and beverage operation. Prerequisite: CUL 120. (FL)

CUL 206-Classical Cuisine
(3 credit hours - 1 lecture 6 lab - T)
An advanced course in which the student will apply previous knowledge by employing various preparation techniques, planning advanced menus, preparing the food, and coordinating cooking activities. Students practice culinary cuisine based on principles developed by the great classic European chefs. The student will refine the skills of a chef and test recipes culminating in a final cooking test of a demonstration of classical cookery. Prerequisite: CUL 120. (FL)

CUL 208-Food Service Equipment/Facility Organization
(3 credit hours - 2 lecture 2 lab - T)
Provides advice to students on the best ways to develop the elements of kitchen equipment, design kitchens to accommodate them, and situate equipment in a manner that assures smooth operations and a pleasant work atmosphere. Making wise purchases of food service equipment and assuring the food service facility complies with health and safety codes is also included. Prerequisite: CUL 120. (FL)

CUL 216-Classical Desserts
(3 credit hours - 1 lecture 6 lab - T)
Through lab and lecture, the advanced student will gain a working knowledge of classical dessert making which includes menu planning, preparation, presentation, and familiarization with all varieties of classical desserts. The student will have a working knowledge of hot, cold, and frozen classical desserts. Prerequisites: CUL 116 and CUL 120. (WI)

CUL 218-Garde-Manger
(3 credit hours - 2 lecture 3 lab - T)
The student will demonstrate preparation and presentation of cold foods, ice carvings, classical preparations of specialty foods, and buffet presentation. Students will become familiar with and be able to prepare nutritional cold foods, hot hors d'oeuvres, sausages, and truffles, as well as demonstrate correct carving of fruits and vegetables. Prerequisites: CUL 120 and CUL 206. (WI)

CUL 220-Practicum in Culinary Arts II/Seminar
(6 credit hours - 2 lecture 40 lab - T)
Drawing materials from all aspects of food service operations, this course serves as a capstone of Culinary Arts Technology. Students' knowledge and resources of past courses are pulled together in menu planning, forecasting, purchasing, and serving a la carte meals and/or table d'hotel menus at both on-campus and off-campus sites. Knowledgeable guest lecturers will add enrichment to the course. Prerequisites: CUL 120, CUL 216 and CUL 218. (SP)

CUL 222-Food Service Management
(4 credit hours - 4 lecture 0 lab - T)
Provides the advanced student practical details related to all aspects of setting up and running a restaurant, cafeteria, or institutional food service operation. Included will be training related to basic management principles and practices of successful food service operations, purchasing and inventory management, facility design, standardized recipes, cost control techniques, food handling for health and safety, and employee management. Prerequisite: CUL 120. (SP)

ECE 123-Creative Activities: Art & Music
(4 credit hours - 4 lecture 0 lab - T)
Content focuses on planning and developing music and art experiences appropriate for 0-7 year-olds. Incorporates literacy experiences in the creative process.
Prerequisite: None. (FL)

ECE 127-Field Practicum I
(2 credit hours - 1 lecture 7 labs - T)
The 70 hour field/clinical experience and seminar emphasize the planning and implementation of creative activities including music, art, and play appropriate for the early childhood classroom. Additional focus is placed on the cognitive development of the 0-8 year-old child through the planning and implementing of mathematics and literacy experiences. Prerequisites or co-requisites: Meet Ohio Revised Code and Regulations for participation with children, ECE 123, EDU 125, 135, and 183. (FL)

ECE 227-Field Practicum II
(2 credit hours - 1 lecture 7 labs - T)
Emphasis in the 70 hour field experience/seminar is on literature, programming, health and science, and parent experiences. Planning, implementing, and reflecting on the experiences is required. Additional focus is placed on the cognitive development of the 0-8 year-old child through the planning and implementing of nutrition, and literacy experiences. Prerequisite: ECE 127; Co-requisites: Meet Ohio Revised Code and Regulations for participation with children, ECE 233, 242, EDU 125, and 211. (WI)

ECE 233-Children's Literature
(3 credit hours - 3 lecture 0 lab - T)
A survey and critical study of preschool children's literature, both prose and poetry. Includes selection of children's books for diverse groups of children and families and the development of the literature program.
Prerequisite: Sophomore status. (FL)

ECE 242-Creative Activities - Health and Science
(3 credit hours - 3 lecture 0 lab - T)
Development of problem solving through meaningful science and health related experiences for the preschool child. Prerequisite: None. (WI)

ECE 271-Infant/Child Nutrition
(3 credit hours - 3 lecture 0 lab - T)
Study of nutrients, nutritional practices, and their effect on infants and children. Topics include meal planning and nutrition programs, CACFP. Prerequisite: EDU 101. (SP)

ECE 277-Preschool Program Development
(3 credit hours - 3 lecture 0 lab - T)
Focuses on assessment, curriculum development, classroom management, and environmental arrangements. Prerequisites: ECE 127 and ECE 227. (WI)

ECE 281-Child Care Supervision & Administrative
(3 credit hours - 3 lecture 0 lab - T)
Emphasizes the director's responsibility for the development and operation of an early childhood center under Ohio law. Prerequisite: None. (WI)

ECE 284-Infant/Toddler Care and Programming
(3 credit hours - 2 lecture 3 lab - B)
A study of the curriculum and programming needs of the child from birth to three years. Prerequisite: EDU 183. (SP)

ECE 285-School Age Child Care and Programming
(2 credit hours - 1 lecture 3 lab - B)
Study of the curriculum and programming needs for the child 5-12 years old. Prerequisite: EDU 183. (SU)

ECE 292-Student Teaching Practicum
(3 credit hours - 0 lecture 21 lab - T)
A comprehensive teaching experience with an approved center and under the supervision of a cooperating teacher. Student is responsible for full range of classroom activities and child care responsibilities. Concurrent enrollment in ECE 293 required. Prerequisites: Meet Ohio Revised Code and Regulations for participation with children, completion of 81 credit hours including 45 hour of Early Childhood Education courses and by permission of the program director, ECE 277 and HLT 143. Concurrent: ECE 293. (SP)

ECE 293-Student Teaching Seminar
(3 credit hours - 3 lecture 0 lab - T)
Discussion of practicum experiences, early childhood education issues, professional work attitudes and ethical practices. Concurrent: ECE 292. (SP)

EDP 129-Field Practicum I
(2 credit hours - 1 lecture 7 lab - T)
This 70-hour field practicum and seminar emphasizes the use of observation, authentic assessment, and standardized assessment in the classroom as well as the knowledge and skills necessary to effectively serve as an educational assistant in the special needs classroom. The student is directly supervised by a licensed/certified professional as well as qualified college faculty. Prerequisites or Co-requisites: Meet Ohio Revised Code and Regulations for participation with children, EDP 109, 245, EDU 111, EDU 125, EDU 135, EDU 183, and ENG 150. (FL)

EDP 203-Developmentally Appropriate Social Competence
(3 credit hours - 3 lecture 0 lab - T)
Focuses on techniques which assist in the development of pro-social behavior. Skills and programs for transitioning into adulthood are studied. Prerequisite: EDP 109. (SU)

EDP 221-Reading to Learn
(4 credit hours - 4 lecture 0 lab - T)
Focuses on a variety of techniques for assisting the student age 8 – 14 in using comprehension and content based reading in acquiring knowledge. Addresses study skill strategies. Prerequisite: EDU 101 and EDU 125. (FL)

EDP 229-Field Practicum II
(2 credit hours - 1 lecture 7 lab - T)
This 70-hour field practicum and seminar emphasize the concept of positive collaboration between family, school and community as well as planning and implementation of mathematics activities. Focus is also placed on literacy, and addressing the difference between learning to read and reading to learn. The student is directly supervised by a licensed/certified professional as well as qualified college faculty. Prerequisites or Co-requisite: Meet Ohio Revised Code and Regulations for participation with children and EDP 129. (WI)

EDP 231-Comprehensive Field Practicum
(3 credit hours - 0 lecture 21 lab - T)
This comprehensive practicum serves as a capstone for the program. Under the direct supervision of a licensed/certified professional as well as qualified college faculty, the paraprofessional student will apply the skills necessary to be an effective assistant of the classroom teacher and student. The paraprofessional student will experience and exhibit the professional role in typical classrooms and classrooms with exceptionalities. Prerequisite/Co-requisite: EDP 129, EDP 229, and permission of the EDP program director. Concurrent enrollment in EDP 232 is required. (SP)

EDP 232-Comp. Field Practicum Seminar
(3 credit hours - 3 lecture 0 lab - T)
Discussion of practicum experiences, issues and challenges in the role of the paraprofessional, and ethical practices. Concurrent enrollment in EDP 231. (SP)

EDP 245-High Incidence Disabilities
(4 credit hours - 3 lecture 3 lab - T)
Emphasizes the exceptionalities designated as high incidence (mild to moderate) disabilities. Focus is also given to federal statutory definitions and assistive technology as related to these disabilities. Prerequisite: EDU 145. (FL)

EDP 247-Low Incidence Disabilities
(4 credit hours - 3 lecture 3 lab - T)
Emphasizes the exceptionalities designated as moderate to severe disabilities. Focus is also given to federal statutory definitions and assistive technology as related to these disabilities. Prerequisite: EDU 145. (WI)

EDU 101-Introduction to Education
(4 credit hours - 4 lecture 0 lab - T)
Graduates of the Zane State Education program are prepared for licensure as Pre-K teachers or Educational Paraprofessionals. This course offers an introduction to the broad spectrum of skills and knowledge necessary for lifelong success in a career working in the field of Education. Prerequisite: None. (FL)

EDU 109-Effective Classroom Management
(3 credit hours - 2 lecture 3 lab - T)
Techniques for effective classroom management and individualized behavior interventions are studied. Emphasis is placed on individual and small group management as well as enhancing the learning environment. Prerequisites: EDU 101. (WI)

EDU 111-Observation Skills
(3 credit hours - 2 lecture 3 lab - T)
Study of authentic and formal assessment tools used in the typical and special needs classrooms. Emphasizes the development of observation skills through the study of types of observations, reliability testing, objective reporting, portfolio development, and use of observation findings. Prerequisite: Meet Ohio Revised Code and Regulations for participation with children and EDU 101. (WI)

EDU 125-Early Childhood Literacy
(4 credit hours - 4 lecture 0 lab - T)
Study of the development of language, writing, and reading in 0-8 year olds. Emphasis is placed on the knowledge and skills needed to encourage literacy development. Prerequisite: EDU 101. (SP)

EDU 135-Classroom Mathematics
(3 credit hours - 3 lecture 0 lab - T)
Study of the nine strands of mathematics and math curriculum scope and sequences for children 2-8 years of age. Content focuses on the process of learning mathematics and the skills necessary for the paraprofessional to assist with learning. Content standards for grades PreK-6 are studied. Prerequisite: EDU 101. (FL)

EDU 145-Introduction to Special Education
(4 credit hours - 4 lecture 0 lab - T)
Emphasizes litigation and legislation regarding children with disabilities with focus on the Individuals with Disabilities Education Act (IDEA) and the Individualized Education Plan (IEP) process. Early intervention and giftedness are introduced as well. Prerequisite: EDU 101. (SP)

EDU 183-Child Development
(5 credit hours - 4 lecture 3 lab - B)
Content focuses on the theories and current research related to the growth and development of the child from conception through early childhood. Prerequisite: Meet Ohio Revised Code and Regulations for participation with children and EDU 101, or permission of Education Department Chair in the case of non-education majors. (SP, SU)

EDU 205-Educational Technology
(4 credit hours - 3 lecture 3 lab - T)
This course will provide the requisite technical knowledge, skills, and dispositions so teachers can utilize technology effectively, efficiently, and strategically in the classroom. Prerequisite: EDU 101 and CPT 105. (SU)

EDU 211-Family, School & Community
(3 credit hours - 3 lecture 0 lab - T)
Study of effective strategies for linking the family, school and community. Emphasis is placed on the distinct needs of the family, and services available to the family through the school and the community. Prerequisites: EDU 101. (SU)

EDU 225-Phonics
(3 credit hours - 3 lecture 0 lab - T)
This course is an introduction to the linguistic elements of both written and spoken English, and their historical development. It provides the coursework necessary for formal Reading instruction in the early and middle childhood grades. Prerequisites: EDU 101. (WI)

EET 105-Introduction to the Electric Power Utility Industry
(3 credit hours - 3 lecture 0 lab - T)
This course will provide an introduction to the generation, transmission, and distribution of three-phase electric power. This introduction will be reinforced by a tour of a local power generating station, substations, and various power-related facilities. Descriptions of various positions within the power utility industry will be examined as well as the terminology and safety regulations that are unique to the industry. Additional topics include an introduction to single-phase and three-phase transformers as used by the electric power utility industry. Prerequisites: EET 112 and MTH 124. Corequisite: EET 123.

EET 110-Industrial Electricity
(3 credit hours - 2 lecture 3 lab - B)
This course for non-EET majors is a study of basic electrical principles including current, voltage, resistance, Ohm's law, the power law, efficiency, energy, electricity safety, series, parallel, and series-parallel circuits, and voltage sources. Electronic devices studied include diodes, capacitors, inductors, transistors, SCRs, triacs, integrated circuits, A.C. and D.C. motors, transformers, and controls. Students work with analog and digital VOMs and the oscilloscope. Prerequisite: Completion of MTH 097 with a grade of "C" or higher, or placement into a math course at or above the level of MTH 113. (WI)

EET 111-D.C. Circuit Analysis I
(4 credit hours - 3 lecture 3 lab - T)
Topics include resistance, current, voltage, Kirchhoff's Current and Voltage Laws, Ohm's Law, the resistor color code, Watt's Law, sources of D.C. current and voltage, MultiSIM®, construction/operation of the rectifier diode in D.C. circuits, the use of both analog and digital volt-ohm-milliammeters, and soldering and desoldering techniques. Co-requisite: MTH 113 or placement into MTH 124. (FL)

EET 112-D.C. Circuit Analysis II
(4 credit hours - 3 lecture 3 lab - T)
Analysis of D.C. circuits using Branch Current Analysis, Thevenin's and Norton's Theorems, Superposition, and MultiSIM®. Devices studied include the zener diode as a voltage regulator, the I-C voltage regulator, the transformer in D.C. power supplies, capacitors, inductors, rectifiers, control relays, and generators. Other topics include the construction of D.C. power supplies, transient response of R-C and R-L circuits, and magnetic circuits. Prerequisite: EET 111. (WI)

EET 113-Electronic Devices
(4 credit hours - 3 lecture 3 lab - T)
Introduction to the theory and operation of common semiconductor devices including: rectifier diodes, zener diodes, SCRs, triacs, bipolar transistors, JFETs, MOSFETs, op-amps, LEDs, seven-segment displays, MOVs, and Schottky diodes. Circuits studied include the common-emitter amplifier; common collector; fixed or gate-bias of JFETS; inverting, non-inverting, voltage-follower, and comparator op-amp circuits. Students use the analog oscilloscope, digital and analog curve tracers, function generators, and frequency counters. Prerequisite: EET 111. (WI)

EET 114-Digital Circuits
(4 credit hours - 3 lecture 3 lab - T)
An introduction to digital electronics including a study of binary, hexadecimal, and octal numbering systems; common TTL and CMOS logic gate functions and electrical characteristics; the use and interpretation of manufacturer's TTL and CMOS data manuals; consistent logic smybology; Boolean Algebra; DeMorgan's Theorem; and Karnaugh Mapping. In addition to common logic gates, open-collector buffers, tri-state buffers, flip-flops and latches, Schmitt Triggers, one-shot circuits, and clock oscillator circuits are also studied. Prerequisite: EET 113. (SP)

EET 123-A.C. Circuit Analysis
(4 credit hours - 3 lecture 3 lab - T)
Voltage and current phase relationships in R-L-C series, parallel, and series-parallel single-phase and three-phase circuits. Other topics include apparent power, real power, VARs, power factor and delta- and wye-connected circuits. Single-phase and three-phase transformers will be introduced. The generation transmission, and distribution of three-phase power will be introduced in the classroom and reinforced by a tour of a local power generating station. Computer software used includes OrCAD schematic capture and MultiSIM. Prerequisites: EET 112 and MTH 124. (SP)

EET 151-Cisco Routers I
(4 credit hours - 2 lecture 5 lab - T)
Cisco Systems, Inc. CCNA1 Curriculum: Living in a Network-Centric World, Communicating Over a Network, Application Layer Functionality and Protocols, OSI Transport Layer, OSI Network Layer, Addressing the Network IPv4, Data Link Layer, OSI Physical Layer, Ethernet, Planning and Cabling Networks, Configuring and Testing your Network. Prerequisites: Completion of MTH 097 with a grade of "C" or higher or placement into a math course at or above the level of MTH 113, and CPT 105 or EGT 109. (SU)

EET 153-Cisco Routers II
(4 credit hours - 2 lecture 5 lab - T)
Cisco Systems, Inc. CCNA 2 Curriculum: WANs, Routers, and Packet Forwarding; Introduction to Routing and Static Routing; Introduction to Dynamic Routing Protocols; Distance Vector Routing Protocols; RIP Version 1; VLSM and CIDR; RIP Version 2; The Routing Table: A Closer Look; EIGRP; Link-State Routing Protocols; OSPF. Prerequisite: EET 151. (FL)

EET 155-Cisco Routers III
(4 credit hours - 2 lecture 5 lab - T)
Cisco Systems, Inc. CCNA4 Curriculum: LAN Design; Basic Switch Concepts and Configuration; VLANs; VTP; STP; Inter-VLAN Routing; Basic Wireless Concepts and Configuration. Prerequisite: EET 153. (WI)

EET 157-Cisco Routers IV
(4 credit hours - 2 lecture 5 lab - T)
Cisco Systems, Inc. CCNA4 Curriculum: Introduction to WANs; PPP; Frame Relay; Network Security; Access Control Lists; Teleworker Services; IP Addressing Services; and Network Troubleshooting. Prerequisite: EET 155. (SP)

EET 211-Power Control Electronics
(4 credit hours - 3 lecture 3 lab - T)
Covers the operating characteristics, manufacturer's specifications, and applications of electronic devices in industrial control circuitry. Topics include silicon rectifiers, SCRs, diacs, triacs, UJTs, relays, photoelectric devices, phototransistors, optoisolators, single-phase, three-phase, and pulse-width modulated power supplies, and solid-state relays. Prerequisites: EET 113.

EET 215-Digital Circuits and Microprocessors
(4 credit hours - 3 lecture 3 lab - T)
Topics include: synchronous and asynchronous counters; decoders and drivers; encoders; digital displays; multiplexers and demultiplexers; arithmetic circuits; shift registers; programmable logic devices; RAM and ROM memory devices, memory mapping, and memory decoding; A/D and D/A converters; and an introduction to the 80x86 family of microprocessors, microcomputer architecture, and the basics of microcomputer system organization. Prerequisite: EET 114. (FL)

EET 221-Industrial Instrumentation and Controls
(4 credit hours - 3 lecture 3 lab - T)
Industrial process control devices and circuits including signal conditioning, instrumentation amplifiers, strain gages, pressure transducers, flow meters, thermocouples, thermistors, RTDs, I-C temperature sensors, electronic and electromechanical timers, counters, programming and wiring the Alan-Bradley Pico Controller, frequency-to-voltage converters, robotic actuators and robot configurations. Prerequisites: EET 113.

EET 230-Electronic Communications
(4 credit hours - 3 lecture 3 lab - T)
Covers transistor-based amplifier and switching circuits; classes of amplifiers; linear integrated circuit amplifiers; frequency response and bandwidth of filters; current, voltage, and power gain of amplifiers; oscillator circuits; AM, FM, SSB, and DSB receiver and transmitter systems; wave propagation; antennas; transmission lines; telephony circuits and terminology; and the spectrum analyzer. Students construct an AM superheterodyne receiver. Prerequisites: EET 113 and EET 123. (FL)

EET 245-Rotating Machinery and Controls
(4 credit hours - 3 lecture 3 lab - T)
An introduction to the theory of operation and construction of three-phase transformers, D.C. motors, single-phase and three-phase motors and alternators, and variable speed drives. Control circuits studied include overcurrent protection, start-stop, braking, reversing, and speed control. The National Electric Code is used in the specification of conductors, overloads, fuses and control circuitry. Prerequisite: EET 123. (WI)

EET 251-Programmable Logic Controllers
(4 credit hours - 3 lecture 3 lab - T)
Constructing basic control circuits using RS Logix 500®, programming SLC5/04 and MicroLogix 1000 PLCs, interpreting basic ladder logic (control circuits) using Rockwell's RS Logix 500®, selecting input and output modules, interpreting and creating wiring diagrams to attach input and output control devices to input and output modules, configuring and wiring thermocouple modules, configuring and wiring analog combination input/output modules, and interpreting the electrical ratings of PLC modules. Prerequisite: EET 245 or permission of instructor.

EET 270-Power Protection and Control
(4 credit hours - 3 lecture 3 lab - T)
Course content covers the skills and knowledge requisite to gaining entry-level employment in positions within the electric power utility industry related to the design, construction, testing, maintenance, and repair of the equipment and hardware that protects and controls the generation, transmission, and distribution of electricity. Prerequisites: EET 245 and EET 251.

EGT 109-Engineering Technology Computer Applications
(3 credit hours - 1 lecture 4 lab – T/B)
Emphasizes the training and information needed to utilize existing computer hardware and software as integral tools in solving various engineering and scientific problems with practical applications. The basics of word processing, spreadsheets, and databases will be taught through application software. Prerequisite: None. (FL)

EGT 127-Industrial Health & Safety
(3 credit hours - 3 lecture 0 lab - B)
An overview of OSHA and the agency's health and safety requirements for general industry. Successful completers will receive an OSHA 30-hour Health and Safety Card for general industry. Prerequisite: None. (SP)

EGT 136-Welding
(3 credit hours - 2 lecture 3 lab - B)
This course enables the student to apply classroom knowledge to skills gained in the welding laboratory. Instruction will be in metal identification/selection and use. Emphasis will be placed on metal joining processes and stress relieving techniques. Topics will include welding terminology, symbolism, joint preparation, and selection of processes for both thick and thin metal construction. Safety in welding will be enforced. Prerequisite: None.

EGT 145-Industrial Mechanics
(3 credit hours - 1 lecture 4 lab - T)
This course provides instruction in basic concepts applicable to the mechanics of common power and hand tools associated with installing and maintaining electrical substation equipment. Prerequisite: None.

EGT 150-Beginning Graphing Calculator Workshop
(1 credit hour - 1 lecture 0 lab - T)
Examines the features of the TI-83+ or TI-84+ Graphing Calculator. More specifically, the course explores viewing screens and menus, setting modes, storing and recalling values, understanding errors, entering calculations using parentheses and exponents, graphing functions, exploring graphs, solving systems graphically, and using the calculator in matrix, trigonometric, calculus, statistical, and programming applications. Prerequisite: None.

EGT 200-Internship I
(2-4 credit hours - 0 lecture 20-40 lab - T)
Supervised work experience required for engineering students. Includes student applying for a job in a related area, on-the-job, supervision, scheduled visits by coordinators, and periodic evaluations. Prerequisite: Sophomore standing. Internship positions must be approved by the Dean.

EGT 201-Community Service
(2-4 credit hours - 0 lecture 20-40 lab - T)
Supervised work experience by students performed for pay or gratuitously for a public agency or non-profit entity. Qualifying agencies and entities include, but are not limited to, those providing health or child care, legal assistance, consumer services, corrections, civic affairs, neighborhood improvement, rural development, environmental quality, gerontology, and other fields of human betterment and community improvement. Prerequisite: Special approval.

EGT 205-Seminar
(1 credit hour - 1 lecture 0 lab - T)
A seminar course accompanying Co-Op or Internship, including group discussion on applying learned concepts to the employment experience, and Internship or Co-Op critique. Co-requisite: Enrollment in EGT 200, EGT 201, or EGT 210.

EGT 206-Employment Search
(1 credit hour - 1 lecture 0 lab - G)
A seminar course discussing the necessary skills and procedures to conduct a successful job search. Prerequisite: Sophomore standing or permission of instructor. (WI)

EGT 210-Internship II
(2-4 credit hours - 0 lecture 20-40 lab - T)
A continuation of Internship I. Prerequisite: EGT 200.

EGT 215-Advanced Engineering Technology Computer Applications
(3 credit hours - 1 lecture 4 lab - T)
Emphasizes the study and use of up-to-date computer equipment, software, and operating systems. The student will have the opportunity to use all-purpose software packages as well as telecommunications, Internet, and OLE techniques. Prerequisite: EGT 109 or CPT 105. (FL)

EGT 220-Project Management
(3 credit hours - 2 lecture 3 lab - T)
This course emphasizes the study of project management as it relates to the technological industry. This includes the background knowledge and application of the project management process from project formulation to implementation. Prerequisite: EGT 109 or CPT 105 and completion of MTH 097 with a grade of "C" or higher or placement into a math course at or above the level of MTH 113, or permission of instructor. (SP)

EGT 295-Special Problems
(0.1-8 credit hours - T)
Provides the opportunity to apply selected and current courses, seminars, directed individual study, and other quality educational experiences which contribute substantially to an Engineering Technology student's program of study. Prerequisite: Dean approval.

EGT 296-Vocational Education Experience
(1-12 credit hours - T)
This course number designates transfer credit awarded for the satisfactory completion of an approved secondary or post-secondary program in vocational education. If approved six (6) credit hours are awarded for each academic year completed in a full-time vocational education program for up to twelve (12) credit hours. This credit is to be evaluated by the student's advisor and Division Dean.

EGT 297-Technical Work Experience
(1-12 credit hours - T)
The 297 course number designates transfer credit awarded for the satisfactory acquisition of knowledge through the performance of verified (documented) work experience in an occupation specialty at the level of journeyman, technician, semiprofessional, or paraprofessional, or mid-management person. If approved, up to six (6) credit hours are awarded for each calendar year of full-time work completed at a specified level. There is no tuition fee. The maximum number of credits to be thus awarded is twelve (12). The judgment of the Division Dean determines if any (or how much) credit will be awarded.

ENG 095-Introduction to Writing
(4 credit hours - 3 lecture 2 lab - G)
A review of basic grammar and punctuation increases accuracy in writing. Sentence combining exercises increase the use of a variety of sentence patterns. The processes of prewriting, outlining, and composing paragraphs based on personal knowledge and experience develop writing skills. Prerequisite: None. (FL, WI, SP, SU)

ENG 096-Writing Fundamentals
(4 credit hours - 3 lecture 2 lab - G)
Advanced study of grammar and punctuation increases accuracy in writing. The process of prewriting, outlining, and composing are applied to various modes of writing as the students learn to transition from paragraph writing to essay writing. Emphasis is placed on the writing process and APA formatting of documentation. Prerequisite: Grade of "C" or better in ENG 095 when placed into ENG 095 by assessment testing. (FL, WI, SP, SU)

ENG 097-ADVANCE Writing Lab
(2 credit hours – 4 lab – G)
Study grammar, mechanics and punctuation to increase proofreading skills and accuracy in writing. Use the processes of research, pre-writing, outlining, and drafting to complete writing assignments integrated with the paired college-level course. Prerequisite: Score 78-87 on the Sentence Skills Subtest of *Accuplacer.* (FL, WI, SP, SU)

ENG 150-Freshman Composition
(5 credit hours - 5 lecture 0 lab - G)
This course emphasizes the writing and revising process with essay mastery as the primary goal. Students read literary examples as models and write in descriptive, narrative, expository, persuasive, and poetic modes. A research essay written in APA style is a requirement to successfully complete this course. Prerequisites: Placement by testing or a grade of "C" or better in COM 091 and/or ENG 096. Word processing knowledge is necessary. A proficiency test is available for qualified students. Please visit The Learning Center for more information. (FL, WI, SP, SU)

ENG 180-Technical Writing
(4 credit hours - 4 lecture 0 lab - G)
This course strengthens students' composition skills and introduces them to workplace writing including technical description, layout and design, reports, summaries, graphics, memos, letters, and job search documents. Students analyze and synthesize data, practice oral and small group communication, and create a professional writing portfolio. Prerequisite: ENG 150. A proficiency test is available for qualified students. Please visit The Learning Center for more information. (FL, WI, SP, SU)

ENG 240-Creative Writing
(5 credit hours - 5 lecture 0 lab - G)
English 240 introduces students to creative writing techniques. Students will read practical advice, professional models, and works by other writers in the course. Workshops, peer critiques, and group projects will show how creative writing, though solitary at times, is a social construction. Students will read and write in the genres of fiction, poetry, nonfiction, and drama. Prerequisite: Grade of "C" or better in ENG 150.

ENG 242-The Literature of Work
(4 credit hours - 4 lecture 0 lab - G)
This writing-intensive course will consider the roots and development of U.S. attitudes toward work, examining concepts of the Protestant work ethic, Yankee ingenuity, and the myth/aura of the self-made man and/or woman. Exploring the literature will provide a context in which to examine the advantages and disadvantages of great wealth, living off the land, and access to education. The class will read fiction and non-fiction, essay and poetry. Students will read a self-selected book length work. The Literature of Work requires thoughtful weekly journal entries as well as formal written assignments. Prerequisite: Grade of "C" or better in ENG 150.

ENG 245-The Literature of Crime
(5 credit hours - 5 lecture 0 lab - G)
This survey course investigates the genre of crime fiction over two centuries as well as the depiction of crime and punishment in literary works both fiction and nonfiction. Students will read a wide sample of American and British literature beginning with Edgar Allen Poe and Sir Arthur Conan Doyle. The reading list includes works that deal with different kinds of crime spending substantial time on hard-boiled detective stories, true crime writing, film noir, and examples of contemporary crime fiction. Students will complete the course with a better understanding of how these stories, novels, essays, and films have helped to shape society and also how society has helped shape the genre. Prerequisite: Grade of "C" or better in ENG 150.

ENG 247-The Literature of Sustainability
(4 credit hours - 4 lecture 0 lab - G)
This survey course will explore current and past literature regarding issues of environmentalism and sustainability. Readings will be from a range of literature, which may include fiction, non-fiction, poetry, and/or journalism; students will also have opportunities to take part in field trips, view films, and/or hear speakers. Students will read a self-selected book-length work. The course challenges students to articulate and explore their growing awareness of environmental issues through reading, discussing, and responding in writing to literature from a variety of eras, genres, and points of view. Prerequisite: Grade of "C" or better in ENG 150.

ENG 252-British Literature: Industrialism to Present
(4 credit hours - 4 lecture 0 lab - G)
This survey course introduces students to a broad range of British literature (print and film) involving works from the Early Romantic Period up to the present day. The works studied will include novels, short stories, poetry, and drama. By reading and analyzing these works, students will learn about various themes, conventions, literary movements, and historical events during this time period and will also strengthen their critical thinking skills. Writers studied will include Wordsworth, Dickens, Blake, Shelley, Austen, Keats, Yeats, and Heaney. Prerequisite: ENG 150.

ENG 295-Special Problems
(0.1-8 credit hours - G)
Provides the opportunity to apply selected and current courses, seminars, directed individual study, and other quality educational experiences that contribute substantially to a student's program of study. Prerequisite: Dean approval.

If a student fails an English class delivered by distance learning, she/he will not be permitted to take the same class in a DEAL section subsequently.

ENV 171-Water Sampling & Analysis
(4 credit hours - 2 lecture 4 lab - T)
Provides both field and laboratory practice in the sampling techniques and chemical analysis (wet chemistry, instrumentation, portable test kits) of surface waters. The ecology of lentic and lotic ecosystems is included, so seasonal variations can be incorporated into the interpretation and reporting of water quality data. Prerequisite: BIO 141 or permission of instructor. (SP)

ENV 215-Wastewater Treatment
(3 credit hours - 2 lecture 3 lab - T)
Provides background that is appropriate for the State of Ohio Class I Wastewater Operators level. Emphasis is placed on both theory and design aspects of the major treatment techniques, operations problems, laboratory analysis, wastewater collection, biosolids treatment, and industrial pre-treatment requirements. Prerequisite: None. (WI)

ENV 218-Air Sampling & Analysis
(4 credit hours - 3 lecture 3 lab - T)
A study of the Earth's atmosphere including: constituents and interactions, pollutant sources/sinks, stationary and mobile source control technologies, effects of pollutants on the environment, public policy, and standard techniques used to sample for both gasses and particulates. Prerequisite: Completion of MTH 097 with a grade of "C" or higher or placement into a math course at or above the level of MTH 113. (FL)

ENV 226-Transportation of Hazardous Materials
(1 credit hour - 1 lecture 0 lab - T)
Evaluates the United States Department of Transportation's requirements for the shipping and handling of hazardous materials. Provides information and training for the hazardous materials employee in accordance with the USDOT's requirements of 49 CFR 172.704. A certificate will be awarded upon completion. Prerequisite: None. (WI)

ENV 230-HAZWOPER: Technician
(3 credit hours - 2 lecture 3 lab - T)
Prepares students to safely respond to accidental releases of hazardous materials through the use of personal protection equipment, monitoring instrumentation, and control techniques. Provides information and training for the Hazardous Materials Technician in accordance with the HAZWOPER standard, 29 CFR 1910.120(q). A certificate will be awarded upon completion. Prerequisite: ENV 241 or permission of instructor. (SP)

ENV 241-HAZWOPER: Waste Site Worker
(3 credit hours - 2 lecture 3 lab - T)
Prepares students to effectively evaluate and control hazards associated with hazardous materials sites. Provides the information and training required for the Waste Site Worker in accordance with the HAZWOPER standard, 29 CFR 1910.120(e). A certificate will be awarded upon completion. Prerequisite: None. (WI)

ENV 253-Groundwater Hydrology
(3 credit hours - 2 lecture 3 lab - T)
An overview of basic groundwater hydrology, including groundwater flow systems, well design, and groundwater management. Emphasis will be placed on the environmental aspects of groundwater development and management. Prerequisite: Completion of MTH 097 with a grade of "C" or higher or placement into a math course at or above the level of MTH 113, and Sophomore status, or permission of instructor. (FL)

ENV 267-Solid & Hazardous Waste Management
(3 credit hours - 3 lecture - T)
An overview of the state and federal regulations and processes associated with the generation, treatment, and disposal of solid and hazardous waste. Processes evaluated include: composting landfill construction and design, incineration, and recycling. Prerequisite: None. (FL)

ENV 272-Advanced Instrumentation and Analytical Methods
(3 credit hours - 2 lecture 3 lab - T)
An advanced laboratory course involving methods of qualitative and quantitative analysis of inorganic and organic compounds using standard methods and quality control. The calibration and operation of flame and graphite, furnace atomic absorption will be emphasized. Prerequisite: CHM 101. (WI)

ENV 291-Drinking Water Treatment
(3 credit hours - 2 lecture 3 lab - T)
Provides background that is appropriate for the State of Ohio Class I Water Operators level. Emphasis is placed on both theory and design aspects of the major treatment techniques, operations problems, laboratory analysis, water distribution, pumping, and budgets. Prerequisite: None. (FL)

GEO 161-U.S. Geography
(4 credit hours - 4 lecture 0 lab - G)
A regional approach to U.S. geography focusing on the interrelationships of the physical, social, cultural, and economic geography impacts on the development of the United States. Prerequisite: None.

GEO 171-World Regional Geography
(4 credit hours - 4 lecture 0 lab - G)
World Regional Geography is an introduction to the study of geography on a global scale. Students will discuss the physical, cultural, and socioeconomic factors that impact on world regions. An emphasis will be placed on the globalization. Prerequisite: ENG 150.

GLY 135-Earth Science
(4 credit hours - 3 lecture 3 lab - B)
An overview of basic geological and meteorological principles including rock and mineral formation and identification, plate tectonics, landforms, geologic hazards, basic historical geology, and weather data acquisition and weather forecasting. An introduction to Ohio geology is also included. Prerequisites: None. (WI)

HIM 110-Introduction to Health Information Management
(3 credit hours - 2 lecture 2 lab - T)
Orientation to the health information management profession. Introduction to primary and secondary record systems; content and structure of health care data sets; collection, analysis and storage methods; and retrieval of patient data elements. Prerequisite: None. (FL)

HIM 130-Health Information Processing and Organization
(3 credit hours - 2 lecture 2 lab - T)
Health care data management, including organization of HIM functions, data quality, access, and retention. Discussion of classification systems, clinical vocabularies and nomenclatures. Prerequisite: HIM 110. (WI)

HIM 150-ICD-9-CM Coding for Medical Offices
(3 credit hours - 3 lecture 0 lab - T)
Introduction to principles and conventions for assigning ICD-9-CM codes to patient encounters for billing physician services. Prerequisite: HLT 121. (WI)

HIM 155-CPT Coding for Medical Offices
(3 credit hours - 3 lecture 0 lab - T)
Introduction to rules, regulations and principles for assigning CPT codes to patient encounters for billing physician services. Prerequisite: HLT 121, HIM 150. (SP)

HIM 160-Comparative Health Information Management
(2 credit hours - 1 lecture 2 lab - T)
Purposes, uses and handling of health information; departmental and facility administration; licensing and accreditation requirements as well as an introduction to payment systems in ambulatory care and specialized treatment facilities. Prerequisite: HIM 130. (SP)

HIM 170-Medico-Legal Aspects of Health Care Records
(3 credit hours - 3 lecture 0 lab - T)
Evaluation of health care records as legal documents; special emphasis on policies and procedures concerning release of medical information and protecting patient confidentiality; principles and organization of the judicial system; healthcare fraud and abuse and HIPAA regulations. Prerequisite: HIM 130. (SU)

HIM 185-Health Care Data in Reimbursement
(3 credit hours - 2 lecture 2 lab - T)
Organization of the healthcare delivery system including managed care and capitation. Theory and use of reimbursement systems such as DRGs, APCs and RBRVS. Discussion of data flow from admission to billing and analysis of casemix. Prerequisite: HIM 130. (SP)

HIM 190-Professional Practicum I
(2 credit hours - 1 lecture 7 lab - T)
Practical application of health information management processes including filing, retrieval and qualitative and quantitative analysis of medical data as well as record completion by physicians and other allied health professionals. Prerequisite: HIM 130. (SU)

HIM 201-Health Care Quality Improvement
(3 credit hours - 3 lecture 0 lab - T)
Organization and use of data in healthcare quality improvement programs including quality assessment and monitoring, case management, risk management and credentialing under current external regulatory guidelines and accreditation requirements. Prerequisites: HIM 130. (FL)

HIM 205-Cancer Registry
(1 credit hour - 0 lecture 2 lab - T)
Organization and operation of a hospital cancer registry under guidelines of the American College of Surgeons emphasizing case finding, accession, indexing, abstracting and follow-up of cancer data. Prerequisite: HIM 130. (WI)

HIM 207-Health Informatics
(2 credit hours - 2 lecture 2 lab - T)
An in-depth look at the use of information technology in the healthcare delivery system including: the roll, purpose and use of health information systems, the computer-based patient record, various health information system applications, information systems life cycle and future technologies. Prerequisite: HIM 130. (SP)

HIM 211-Pharmacology for HIM
(3 credit hours - 3 lecture 0 lab - T)
Overview of the conventional drug classes presenting only the more commonly prescribed preparations primarily emphasizing common effects and indications for use. Prerequisite: BIO 242 and BIO 243. (FL)

HIM 215-Medical Coding: Hospitals and Ambulatory Services
(3 credit hours - 2 lecture 2 lab - T)
Theory and application of skills required to assign and sequence codes for hospital ambulatory services for reimbursement using the CPT and ICD-9-CM classification system. Prerequisite: HIM 150, HIM 155 and HLT 173. (FL)

HIM 222-Health Record Statistics
(3 credit hours - 2 lecture 2 lab - T)
Exploration of theory and application of health care statistics as related to data definitions and uses, mathematical review, statistical data collection, computation of statistical formulae and collection and reporting of vital statistics. Prerequisite: MTH 113. (FL)

HIM 245-Professional Practicum II
(3 credit hours - 1 lecture 14 lab - T)
Practical application of health information management processes including medicolegal release of medical information, patient registration, patient accounts, DRG coordination and assignment, ambulatory coding, flowcharting, generation of job procedures and optical disk scanning. Prerequisite: HIM 190. (WI)

HIM 250-ICD-9-CM Coding II
(4 credit hours - 2 lecture 4 lab - T)
Theory and application of skills necessary to assign ICD-9-CM diagnosis and procedure codes to inpatient cases for reimbursement and research. Prerequisite: HIM 150, 155, 215. (WI)

HIM 265-Resource Management for Health Information
(3 credit hours - 2 lecture 2 lab - T)
Planning, organizing, staffing, budgeting and analysis of management systems along with job standards and performance evaluations emphasizing development of supervisory management and leadership skills. Prerequisite: HIM 130. (WI)

HIM 281-Clinical Abstracting
(3 credit hours - 2 lecture 2 lab - T)
Introduction to clinical databases with emphasis on knowledge of abbreviations, laboratory tests, treatments, symptoms and drug therapies. Significant laboratory abstracting practice. Prerequisites: HIM 130, HIM 211 and HLT 173. (WI)

HIM 290-Professional Practicum III
(4 credit hours - 1 lecture 21 lab - T)
Practical application and reinforcement of knowledge previously learned including statistical reporting, hospital-wide and HIM department quality assurance, utilization review, risk management and trauma, cardiac, burn and tumor registries. Prerequisite: HIM 245. (SP)

HIM 291-Health Information Management Capstone
(2 credit hours - 1 lecture 2 lab - T)
Practical applications of competencies from the HIM curriculum including projects, laboratory simulations and case studies. Students will be required to complete a mock credentialing examination. Co-requisite: HIM 290. (SP)

HLT 102-Radiation Protection for General X-Ray Machine Operators
(3 credit hours - 3 lecture 0 lab - T)
An introduction to radiation protection to include the basics of radiation physics, radiographic exposure and processing, radiation safety and protection, and radiobiology. Prerequisite: Current enrollment in an allied health program, or current employment as an allied health paraprofessional, or permission of instructor.

HLT 105-The Health Care System: Issues & Professions
(3 credit hours - 3 lecture 0 lab - B)
A survey of the health care system. Students explore the evolution of medicine and technology, medical-legal ethics, patient rights, medical cost and financing, personality types, communication strategies, and teamwork. Also included is a brief introduction to the major allied health professions. Prerequisite: None .(FL)

HLT 106-GXMO Clinical Module Chest & Abdomen
(1 credit hour - 0 lecture 2 lab - T)
Introduces the analysis of theory in radiography of the chest and abdomen. Includes medical terminology, radiographic terminology, and image receptors. Prerequisite: HLT 102 (C or above), or permission of instructor.

HLT 107-GXMO Clinical Module Extremities
(2 credit hours 0 lecture 4 lab - T)
Introduces the analysis of theory in radiography of the upper and lower extremities. Includes medical terminology, radiographic terminology, and image receptors. Prerequisite: HLT 102 (C or above), or permission of instructor.

HLT 108-GXMO Clinical Module Skull and Sinuses
(1 credit hour 0 lecture 2 lab - T)
Introduces the analysis of theory in radiography of the skull, facial bones, nasal bones, and sinuses. Includes medical terminology, radiographic terminology, and image receptors. Prerequisite: HLT 102 (C or above), or permission of instructor.

HLT 109-GXMO Clinical Module Spine
(1 credit hour 0 lecture 2 lab - T)
Introduces the analysis of theory in radiography of the vertebral column and SI joints. Includes medical terminology, radiographic terminology, and image receptors. Prerequisite: HLT 102 (C or above), or permission of instructor.

HLT 110-GXMO Clinical Module Podiatric
(1 credit hour 0 lecture 2 lab - T)
Introduces the analysis of theory in radiography of the foot and ankle, specifically for those employed in a podiatric facility. Includes medical terminology, radiographic terminology, and image receptors. Prerequisite: HLT 102 (C or above), or permission of instructor.

HLT 121-Medical Terminology
(3 credit hours - 3 lecture 0 lab – T/B)
A study of vocabulary used by medical personnel. Includes spelling, pronunciation, definitions, and usage. Basic prefixes, suffixes, root words, and combining vowels are emphasized as the foundation for mastery. Prerequisite: Completion of the Assessment and Placement Test with exemption from COM 091 and/or COM 090 reading courses OR successful completion of COM 090 with "C" or better and/or COM 091 with "C" or better. (FL, SU)

HLT 122-Medical Dictation/Transcription
(3 credit hours - 2 lecture 3 lab - T)
Students will develop skills in the use of a machine transcriber and its use in the medical office through the typing of such reports as history and physicals, radiology reports, operative reports, discharge summaries, and consultations. Prerequisites: AOA 140 (C or above) and HLT 121(C or above). (SP)

HLT 130-Advanced Medical Dictation and Transcription
(3 credit hours - 2 lecture 3 lab - T)
A continuation of HLT 122, this course helps students develop skills in the use of a machine transcriber through the typing of medical reports such as history and physicals, radiology reports, operation reports, pathology reports, discharge summaries, consultations, and autopsies. Prerequisite: HLT 122 (C or above).

HLT 131-Advanced Medical Terminology
(2 credit hours - 2 lecture 2 lab - T)
Continuation of HLT 121 for students in Health Information Management and in other health related programs requiring expanded working knowledge and understanding of the language of medicine. Prerequisite: HLT 121. (WI)

HLT 141-First Aid & CPR
(2 credit hours - 1 lecture 3 lab - T)
Introduction and practice in accepted national standards for first aid and cardio-pulmonary resuscitation. Prerequisite: None. (SU)

HLT 143-Health & Safety For Child Care Programs
(2 credit hours - 1 lecture 3 lab T)
Instruction and practice in first aid, cardiopulmonary resuscitation, recognition and prevention of communicable disease, and recognition of child abuse. The course provides the trainings required of by ODJFS Child Care Rule 5101:2-12-27 . Prerequisite: None. (SU)

HLT 150-Professionalism in Health Care
(3 credit hours - 3 lecture 0 lab - B)
This course introduces allied health students to professional behavior in health care. Topics such as professional demeanor, communication, ethics, and study skills are incorporated into the course. Prerequisites: ENG 150 with a grade of "C" or better. (FL, WI, SP)

HLT 165-Electrocardiography I
(2 credit hours - 2 lecture 0 lab - T)
Training in the recognition of basic cardiac arrhythmias, operation of electrocardiographic equipment, and basic life support measures needed to sustain a patient in crisis situations. Prerequisite: None.

HLT 166-Electrocardiography Fieldwork
(2 credit hours - 0 lecture 4 lab - T)
This course completes the classroom EKG curriculum with a laboratory/clinical application. The student will rotate through clinical settings that actively apply the electrocardiographic skills and participate in the application and monitoring of electrocardiograms. Prerequisite: Admission in MAT program, BIO 240, BIO 241, and permission of instructor.

HLT 173-Diseases & the Disease Process
(3 credit hours - 3 lecture 0 lab - B)
Introduction to human diseases and various disabling medical conditions. Covers etiology, symptoms, diagnosis, and various intervention approaches which will be valuable to the student of allied medicine. This course reinforces and builds upon the content of other basic health courses and prepares the student for more in-depth technical allied health coursework. Prerequisite or Co-requisite: BIO 240 and 241. (WI, SU)

HLT 200-Internship I
(2-4 credit hours - 0 lecture 20-40 lab - T)
Supervised unpaid work experience option for students in health technologies. Students are assigned to area physicians' offices and other health agencies as trainees or assistants in their selected health specialty field where practical experience and direct observation of job performance and requirements are afforded. Prerequisite: Sophomore standing. Internship positions must be approved by the Dean.

HLT 221-Nutrition and Diet Therapy
(3 credit hours - 3 lecture 0 lab - T)
Introduction to normal nutritional requirements and current theories in nutrition. Therapeutic diets used in treating specific health conditions are studied. Prerequisite: Open to MAT, MAW, & SFM students only. (WI, SP)

HLT 222-Nutrition and Supplementation
(2 credit hours - 2 lecture 0 lab - T)
This course is designed to expand the student's knowledge beyond general diet concerns to include the nutritional needs of the physically active. Special emphasis is placed on maximizing training and performance with consideration given to the positive and negative impacts associated with a variety of dietary supplements. Prerequisite: HLT 221. (FL)

HLT 250-Cross-Sectional Imaging
(2 credit hours - 2 lecture 0 lab - B)
An overview of the basic cross-sectional anatomy as it appears utilizing modern medical imaging modalities. The course is organized to study regions of the body to include head, thorax, abdomen, and pelvis using cross-sectional medical images, diagrams, and models. This anatomy will be studied utilizing sagittal, coronal, and some axial relationships, but emphasis is given to transverse relationships. Prerequisites: BIO 240, BIO 242, and RAD 124, or permission of instructor. (FL)

HLT 295-Special Problems
(0.1-8 credit hours - T)
Provides the opportunity to apply selected and current courses, seminars, directed individual study, and other quality educational experiences which contribute substantially to an Allied Health student's program of study. Prerequisite: Dean approval.

HLT 299-Seminar
(3 credit hours - 3 lecture 0 lab - T)
Course taken in conjunction with internship or practicum. Includes discussion of students' intern experiences, principles of employment practices, and improvement of employee traits. Prerequisite: Instructor approval.

HRT 120-Staffing and Employment Functions
(3 credit hours - 3 lecture 0 lab - T)
Provides students with techniques for effective employee staffing. Topics include job search, interviewing, assessment, affirmative action, employee discipline, and termination. Prerequisite: BUS 265. (WI)

HRT 133-Strategic Compensation
(3 credit hours - 3 lecture 0 lab - T)
This course provides an in-depth study of the history, principles, theories, and practices of compensation and an overview of alternative reward systems and strategies. Students will review compensation surveys, policies governing benefits (including health, life, disability, pension/retirement, and pay for time not worked), and the laws governing compensation. Prerequisite: BUS 265. (SP)

HRT 225-Cultural Diversity
(3 credit hours - 3 lecture 0 lab - T)
Introduces the student to diversity management and affirmative action programs. The emphasis is to increase student awareness of demographic changes, cultural differences, legal aspects, and diversity challenges. Students will learn the concepts of managing diversity and valuing differences in a workplace environment. Prerequisite: Sophomore status or permission of instructor. (FL, WI)

HRT 230-Labor Relations
(3 credit hours - 3 lecture 0 lab - T)
An overview of the history, organization, and development of labor unions and other professional employee associations. Topics include union management tactics, collective bargaining, and labor laws. Prerequisite: BUS 265 or permission of instructor. (WI)

HRT 260-Issues in Human Resources Management
(3 credit hours - 3 lecture 0 lab - T)
A capstone for the Human Resources major, students complete an in-depth study of current major issues in personnel/human resources management. Group discussions are led by expert guest speakers. The course emphasizes the role, functions, and practices of the human resources department in an organization. Prerequisite: Sophomore status or permission of instructor. (SP)

HST 101-Western Civilization I
(4 credit hours - 4 lecture 0 lab - G)
This is a survey of Western Civilization stressing early development, cultural institutions and the emerging national monarchies to the Middle Ages. The subjects covered include: Ancient Mesopotamia, Egypt, Greece, Rome, the Byzantine Empire, Islam and the Middle Ages. Co-requisite: ENG 150.

HST 121-U.S. History I
(4 credit hours - 4 lecture 0 lab - G)
U.S. History I, Pre-Contact with European Civilization to 1865 is an introductory overview of United States history, beginning with Native American cultures through the end of the Civil War. The course will highlight Native American cultures and prehistory, European exploration and colonization, the War for Independence, formation of the United States government, the War of 1812, Jacksonian democracy, economic and cultural forces, slavery, and the causes of the Civil War. Students will examine these topics from political, economic, and cultural perspectives. Students will also learn to distinguish primary from secondary sources and will critically analyze documents. Co-requisite: ENG 150.

HSV 101-Introduction to Human Services
(3 credit hours - 3 lecture 0 lab - T)
Orientation to the populations, services, and professions involved in Human Services. An overview of the knowledge, values, and skills necessary for providing direct services to target populations. Prerequisite: None. (FL)

HSV 103-Human Development
(3 credit hours - 3 lecture 0 lab - B)
Students study the bio-psycho-social dimensions of human development through the life cycle. Prerequisite: None. (FL)

HSV 105-Group Dynamics
(3 credit hours - 2 lecture 3 lab - B (T))
Information, theory, and experiential activities related to work teams, parliamentary procedure, and facilitating purposeful groups. Prerequisite: None. (SP)

HSV 106-Issues/Ethics in Human Services
(3 credit hours - 3 lecture 0 lab - T)
In this course the student will develop a sensitivity to the ethical issues in Human Services and to the implications of professional actions. The ability of the student to reason about ethical issues and to develop an awareness of moral responsibility will be addressed using an 8-step model. Prerequisite: HSV 101. (SP)

HSV 107-Family Dynamics
(3 credit hours - 3 lecture 0 lab - T)
Introduces the structures and processes of families in a multi-cultural context. Prerequisite: None. (WI)

HSV 109-Interviewing Techniques in Human Services
(3 credit hours - 2 lecture 3 lab - T)
Introduces the student to the theory and practice of structuring an interview. Prerequisites: HSV 101 and PSY 101. (WI)

HSV 111-Learning and Behavior Theory
(3 credit hours - 2 lecture 3 lab - T)
Understanding the principles of learning and behavior as they relate to the process of developing behavior-change interventions for dysfunctional behavior. Prerequisite: HSV 101. (FL, WI)

HSV 121-Assessment in Human Services
(4 credit hours - 3 lecture 3 lab - T)
Students practice application of theories of problem-solving and social work intervention in simulated situations. Includes introduction to technical writing skills utilized in the social work profession. Prerequisites: HSV 101, HSV 103 and HSV 109. (SP)

HSV 123-Drug Use and Abuse
(3 credit hours - 3 lecture 0 lab - T)
Provides information about legal and illegal drugs of abuse, theories of addiction, models of treatment and recovery, and techniques of intervention. Prerequisite: None. (SP)

HSV 201-Grief Management
(3 credit hours - 3 lecture 0 lab - T)
Introduces students to the human grief process, its various stages, and some basic intervention strategies. Facilitates personal growth and development in the student in regard to the issues of loss. Prerequisite: None. (FL)

HSV 203-Administration of Activity Therapy
(4 credit hours - 3 lecture 3 lab - T)
Introduction to the concepts and processes of activity therapy. Emphasis on developing treatment plans and conducting recreational/diversional activities and psychoeducational activities for older adults, the mentally ill, the developmentally disabled, and people with behavior disorders. Prerequisite: None.

HSV 205-Pharmacology of Chemical Dependency
(3 credit hours - 3 lecture 0 lab - T)
An overview of the fundamental principles of pharmacology related to various classifications of mood altering chemicals. This course provides updated information about new research findings that relate to the various drugs of abuse as well as new trends and new drugs being abused. Medications which are commonly abused and have potential for dependence will also be covered. Prerequisite: HSV 123.

HSV 207-Drug/Alcohol Prevention Strategies
(3 credit hours - 2 lecture 3 lab - T)
This course covers the history of prevention strategies, with an emphasis on various approaches to the problem and evaluation of their effectiveness, as well as definitions, theories and domains of prevention as part of the continuum of response to alcohol/drug problems in our society. Evaluation of needs of special populations within the larger community will also be addressed. Current theory and practice are reviewed through a study of several actual prevention programs. Prerequisite: HSV 123.

HSV 211-Social Systems Theory
(4 credit hours - 4 lecture 0 lab - T)
Study of theories and supportive research to explain human behavior within the social environment emphasizing the ecological person-in-environment perspective. Prerequisites: HSV 101 and PSY 201.

HSV 213-Gerontology
(3 credit hours - 3 lecture 0 lab - T)
Introduction to the field of aging. Information about the special needs and services appropriate to the older adult population. Prerequisite: None. (WI)

HSV 215-Service Delivery in Human Services
(3 credit hours - 2 lecture 3 lab - T)
Introduction to the historical and contextual foundation of the U.S. Social Welfare System. Prerequisites: HSV 101 and HSV 211. (WI)

HSV 217-Mental Retardation
(3 credit hours - 2 lecture 3 lab - T)
Explores the causes, treatments, services, agencies, and laws related to mentally retarded/developmentally disabled people. Prerequisite: None.

HSV 221-Violence in the Family
(3 credit hours - 3 lecture 0 lab - T)
Course addresses physical indicators, risk factors, interventions, and legal issues of child, spousal, and elder abuse. Prerequisite: None. (SP)

HSV 223-Case Management
(3 credit hours - 2 lecture 3 lab - T)
Focuses on case management as a method of human service delivery. Students will develop skills in managing multiple aspects of human service interventions in dual roles of coordinator and provider of direct services. Prerequisite: HSV 101; Co-requisite: HSV 232. (SP)

HSV 230-Practicum in Human Services I
(4 credit hours - 2 lecture 14 lab - T)
Provides an opportunity for students to develop professional skills under supervision. Students spend 14 hours a week in a human service agency observing and assisting with direct client contact and related duties. This experience is integrated with a classroom seminar. Prerequisite: Sophomore status in HSV Technology with advisor approval. (FL)

HSV 231-Practicum in Human Services II
(4 credit hours - 2 lecture 14 lab - T)
The second of three fieldwork experiences which provides an opportunity for students to develop professional skills under supervision. Students spend 14 hours a week in a human service agency with the focus on assisting skilled staff. Prerequisite: HSV 230. (WI)

HSV 232-Practicum in Human Services III
(5 credit hours - 2 lecture 21 lab - T)
The third of three fieldwork experiences which provides an opportunity for students to develop professional skills under supervision. The student spends 21 hours a week in a human service agency with the focus on direct client contact and related duties. The student focuses on applying the skills developed in the previous courses. Prerequisite: HSV 231. (SP)

HUM 101-Leadership Development Studies
(4 credit hours - 4 lecture 0 lab - G)
This course is designed to provide emerging and existing leaders the opportunity to explore the concept of leadership and to develop and improve leadership skills. The course integrates readings from the humanities, experiential exercises, films, and contemporary readings on leadership. Prerequisites: ENG 150 or placement by testing into ENG 150 or grade of C or better in COM 091 and ENG 096. (WI)

HUM 102-Critical Thinking
(4 credit hours - 4 lecture 0 lab - G)
Critical thinking is the general term given to a wide range of cognitive skills. The purpose of this course is to develop these skills through reading and activities. This will be accomplished through drawing inferences from data; identifying language problems, including ambiguity and vagueness; recognizing hidden assumptions; and developing the skill of making rationally defensible choices. Students will be challenged to identify their own styles of critical thought, and to apply new techniques to real-life issue. Prerequisites: Grade of "C" or better in ENG 150.

HUM 203-Introduction to Ethics
(4 credit hours - 4 lecture 0 lab - G)
This course looks at a variety of philosophical theories as a basis for studying ethics and for making determinations of behavior in work and daily living. Students will learn what goes into the creation of a code of ethics and will have a chance to review and evaluate the codes of ethics from a variety of professions. In the final weeks of the course, students will review modern ethical issues and apply course content to making choices within them. Prerequisite: ENG 150 with a grade of "C" or better. (WI)

IDS 101-College Success Strategies
(1 credit hour - 0 lecture 2 lab - G)
This course serves as an orientation to the role of the college student. It familiarizes the student with the campus, student services, and student-related policies and procedures. Course participants will focus on college success strategies related to time management, healthy lifestyle choices, problem solving, academic planning, and utilizing the college's computer resources. The course also provides opportunities for students to examine personal characteristics and motivations and identify an appropriate career path. Prerequisite: None. (FL, WI, SP, SU)

IDS 102-Linked Freshman Seminar
(2 credit hours - 2 lecture 0 lab - G)
This seminar, linked with CPT 105, provides an introduction to the college experience through a three-fold approach: responsibilities of college students, including awareness of available resources; strategies for success such as goal setting, effective planning and communication, time management, and critical thinking; and civic engagement through a service learning project. Prerequisite: Placement into ENG 150 or ENG 096 (COM 091 exempt). (FL)

IDS 103-Freshman Seminar
(3 credit hours - 3 lecture 0 lab - G)
This seminar provides an introduction the college experience through a three-fold approach: responsibilities of college students, including awareness of available resources; strategies for success such as goal setting, effective planning and communication, time management, and critical thinking; and civic engagement through a service learning project. Prerequisite: Placement into ENG 150 or ENG 096 (COM 091 exempt). (FL)

ITC 101-Introduction to Information Technology
(3 credit hours - 2 lecture 3 lab - T)
An introduction to the areas of concentration within Information Technology. Topics covered will familiarize students with basic concepts of information technology areas through hands-on projects. Prerequisite: Proficiency in CPT 105. (FL)

ITC 102-Introduction to Multimedia Applications
(3 credit hours - 2 lecture 3 lab - T)
Concepts and development of interactive multimedia presentations are covered using essential skills in developing, acquiring, and manipulating images to be integrated into computer-based multimedia applications. A multimedia application will be created. Prerequisite: Proficiency in CPT 105. (FL, SP)

ITC 103-Introduction to Programming Logic
(3 credit hours - 2 lecture 3 lab - T)
Covers the basic concepts of program flowcharting and design. Provides an understanding of the fundamental concepts of the structures that are used in designing, testing, and implementing a program. Also, covers the basic concepts of object oriented programming. Prerequisite: Proficiency in CPT 105. (FL)

ITC 110-Basics of UNIX
(3 credit hours - 2 lecture 3 lab - T)
An introduction to the UNIX user environment. The course is recommended for anyone who requires basic UNIX user skills. Standard UNIX environment tasks will be used to gain skills to use UNIX applications effectively, including those for the system administrator. Prerequisite: ITC 103. (SP)

ITC 112-UNIX Systems Administration
(3 credit hours - 2 lecture 3 lab - T)
Enables the development of effective system administrator skills for the UNIX operating system. Helps individuals master the basics of installation, customization and common UNIX system administration tasks. Prerequisites: ITC 110 and MTH 113. (FL)

ITC 121-Visual Basic
(3 credit hours - 2 lecture 3 lab - T)
Introduction to the Visual Basic language. Topics include: building a Visual Basic application, working with controls, variables, constants, data types, expressions, selection structures, loops, procedures, functions, and building menus. Designing, developing, testing and debugging Visual Basic applications will be covered. Prerequisites: Completion of MTH 097 with a grade of "C" or higher or placement into a math course at or above the level or MTH 113, and ITC 103 or EET 114. (FL, WI)

ITC 122-Web Site Design
(3 credit hours - 2 lecture 3 lab - T)
Designed to give the student a solid understanding of the tools used to create web sites. This course in web design provides hands-on experience in HTML and web presentation. Basic design will be taught in a client-server environment. Prerequisite: ITC 102. (SP)

ITC 123-Client-Side Scripting
(3 credit hours - 2 lecture 3 lab - T)
Covers writing in JavaScript for the purpose of creating dynamic, interactive web-based applications that run completely within a web browser, without server-side programming. Also includes embedding directly into HTML. An introduction to CSS will also be provided. Prerequisites: ITC 103, and completion of MTH 097 with a grade of "C" or higher or placement into a math course at or above the level of MTH 113. (WI)

ITC 124-E-Solutions Fundamentals
(3 credit hours - 2 lecture 3 lab - T)
Covers the e-business cycle and the need for companies to transform their application development practices and how to design applications that fit the e-business application model. Issues surrounding the implementation of e-business applications will be discussed. Hands-on introduction to Java application tool kits is included. Prerequisite: ITC 101 and ITC 102. (SP)

ITC 130-COBOL I
(3 credit hours - 2 lecture 3 lab - T)
The first course of a two-part study of the COBOL language, introducing computer problem solving using the language. Primary emphasis is the development of a working knowledge of COBOL through the solution of typical business problems. Ample computer time is provided to enable the development of programming proficiency with the COBOL language. Prerequisites: ITC 103, and completion of MTH 097 with a grade of "C" or higher or placement into a math course at or above the level of MTH 113. (SP)

ITC 132-COBOL II
(3 credit hours - 2 lecture 3 lab - T)
A continuation of ITC 130. Introduces advanced computer problem solving using the language. Primary emphasis is the development of a working knowledge of COBOL through the solution of typical business problems. Table processing, control breaks, and sorting are emphasized. Prerequisite: ITC 130.

ITC 141-Introduction to C++ Programming
(3 credit hours - 2 lecture 3 lab - T)
Introduces the C++ programming language through the use of the Visual C++ compiler and Windows operating system. Themes covered include data types in C++, arithmetic operations, flow of program control, functions and arguments, pointers, I/O, and object oriented programming principles. Prerequisites: ITC 103, and completion of MTH 097 with a grade of "C" or higher or placement into a math course at or above the level of MTH 113. (WI)

ITC 142-Imaging & Graphics for the Web
(3 credit hours - 2 lecture 3 lab - T)
Covers the layering levels of Flash, a powerful animation tool used in Web applications, as well as scripting language which gives Flash its flexibility. All this will be done in a hands-on environment where the students have the opportunity to practice the concepts being taught. Prerequisite: ITC 102 or CPT 105. (FL)

ITC 143-Server-Side Scripting
(3 credit hours - 2 lecture 3 lab - T)
ASP.NET, one of the most powerful methods of providing dynamic content on the Web, is utilized to call external programs for number manipulation, query databases, generate customization graphics, and perform related tasks in the building of the server-side of a Web site. Projects using this powerful technology will enable skill building for using ASP.NET and similar tools. Prerequisites: ITC 123. (WI)

ITC 144-Digital Photography
(3 credit hours - 2 lecture 3 lab - T)
The techniques of digital photography will be covered. These include an overview of digital cameras, exposure basics, aperture, shutter speed, lenses, lighting, and composition. The language of digital imaging as well as other digital techniques will be discussed. Prerequisite: Proficiency in CPT 105 or ITC 101. (SP)

ITC 150-Microcomputer Hardware
(3 credit hours - 2 lecture 2 lab - T)
Explores related topics in microcomputer operations, including hardware, system maintenance, configurations, upgrades and troubleshooting, and operating system software. Includes decision making regarding hardware and software purchases. Prerequisite: Proficiency in CPT 105. (SP)

ITC 151-Advanced Visual Basic
(3 credit hours - 2 lecture 3 lab - T)
A continuation of ITC 121. Topics include: database management, reports, error trapping and creating classes. Database access will be emphasized. Additional designing, developing, testing and debugging Visual Basic applications will be accomplished. Prerequisite: ITC 121.

ITC 152-Assembler Language Programming
(3 credit hours - 2 lecture 3 lab - T)
Introduces low-level programming through the use of the IBM Assembler Programming language. Themes covered include the software environment, software design, macro assembler instructions, interrupts, operators and pseudo-ops, extended file management, the coprocessor, and the hardware-software interface. Prerequisites: ITC 103, and completion of MTH 097 with a grade of "C" or higher or placement into a math course at or above the level of MTH 113.

ITC 153-Advanced Graphic Design
(3 credit hours - 2 lecture 3 lab - T)
Covers essential skills in developing, acquiring, and manipulating images to be integrated into computer-based multimedia applications. Includes mastery of scanning devices, digital photo and video equipment, use of paint and draw software, and use of image manipulation software. Emphasizes the development of graphics in the structure and format required to incorporate into interactive multimedia applications. Prerequisite: ITC 102. (WI)

ITC 160-Print Layout
(3 credit hours - 2 lecture 3 lab - T)
Covers skills necessary for a new generation of typesetters and designers working with new standards in digital page production. Page layout using cutting-edge page layout software is covered. Course includes the principles of typesetting, logo design, brochure development, and other graphic principles necessary to create successful and appealing print pages. Prerequisite: ITC 102 or permission. (SP)

ITC 202-Java Programming
(3 credit hours - 2 lecture 3 lab - T)
An introduction to programming with Java. Hands-on knowledge of the Java basics, including primitive types and strings, constants, objects, methods, classes, and instance variables are covered. Prerequisites: ITC 103 and MTH 113. (FL)

ITC 203-Advanced C++ Programming
(3 credit hours - 2 lecture 3 lab - T)
A continuation of ITC 141. Topics include: arrays, pointers and strings, classes, inheritance, file processing, and data structures. Additional designing, developing, testing and debugging C++ applications will be accomplished. Prerequisite: ITC 141. (SP)

ITC 204-Editing Digital Video
(3 credit hours - 2 lecture 3 lab - T)
Develops skills in developing, acquiring, and manipulating video and sound to be integrated into computer-based multimedia applications. Includes mastery of the use of sound recording and manipulation software plus video capture and editing software. Emphasizes the capture and editing of sound and video in the structure and format required to be incorporated into an interactive multimedia application. Prerequisite: ITC 102. (FL)

ITC 209-Systems Analysis
(3 credit hours - 2 lecture 3 lab - T)
Enables the development of a working knowledge of the various stages involved in the evolution of information technology projects. Techniques necessary to analyze present information flow and to develop project specifications with respect to equipment selection are covered. An understanding of the problems of implementing a project and the techniques for overcoming these problems are addressed. Prerequisites: Sophomore standing, ENG 180 and ITC 143, or EET 151. (FL)

ITC 211-Security
(3 credit hours - 2 lecture 3 lab - T)
The fundamentals of providing security for information assets, security terminology and abbreviations, and levels of threats are explored. Discussions will include how information security is achieved using today's technologies. Prerequisites: ITC 103, and completion of MTH 097 with a grade of "C" or higher or placement into a math course at or above the level of MTH 113. (WI, SP)

ITC 222-Advanced Java Programming
(3 credit hours - 2 lecture 3 lab - T)
Designed for the Java programmer who has already mastered the basics. Stand-alone applications will be developed. Prerequisite: ITC 202.

ITC 225-Database Management Systems
(3 credit hours - 2 lecture 3 lab - T)
Presents the concepts of database management. Concepts are applied to a relational database management system. Database design, creation, queries, forms, reports, and other features are illustrated with the use of database management system software. Prerequisite: ITC 101 or permission. (WI)

ITC 226-Web Site & Kiosk Authoring Software
(3 credit hours - 2 lecture 3 lab - T)
Provides an opportunity to expand knowledge and develop more sophisticated programs using multimedia and computer graphics software, video, and editing equipment. The basics of Director and Lingo, the programming language for Director will be covered. Interactive design will be addressed. A major project will be created and designed using Director and Lingo. Prerequisite: ITC 204. (WI)

ITC 229-Systems Design
(3 credit hours - 2 lecture 3 lab - T)
A continuation of the steps required in the design and implementation of information systems. Included is a major project emphasizing the blending of system analysis, synthesis and design. Evaluating the success of the system through follow-up techniques is addressed. Prerequisite: ITC 209. (WI)

ITC 237-e-Commerce Web Implementation
(3 credit hours - 2 lecture 3 lab - T)
This course provides the skills to create fast, scalable enterprise-wide business applications. The student builds user interfaces, creates databases, SQL and business logic, using ASP .NET component technologies. Students will use the fundamentals of electronic commerce to implement a B2B or E-Commerce site. Prerequisite: ITC 143. (SP)

ITC 240-Introduction To Networking
(3 credit hours - 2 lecture 3 lab - T)
Covers fundamentals of networking including hardware and software. A client-server operating system will be used to provide experience in installation, operation, and administration of a local area network (LAN). Prerequisite: ITC 101 or CPT 105 or EGT 109. (SP)

ITC 242-Advanced Animation Scripting
(3 credit hours - 2 lecture 3 lab - T)
Advanced study of animation on the web, focusing on improving interactivity on a wide variety of web sites such as corporate, entertainment, information, and e-commerce sites. Tools include animation scripting language which allows variation from simple linear timelines. Applications to sophisticated content such as games and other interactivity pieces are explored. Prerequisite: ITC 142. (WI)

ITC 249-Systems Applications
(3 credit hours - 2 lecture 3 lab - T)
A continuation of ITC 229. An actual system application will be developed, tested, and implemented. Incorporation of programming and systems skills in a community or academic setting project is required. Prerequisite: ITC 229. (SP)

ITC 250-Database and Server Tools
(3 credit hours - 2 lecture 3 lab - T)
Intended to develop skills to manipulate data and extract the required information through the use of external database management software. Structured query language used to allow a programmer to generate complex output from multiple files usually stored in a database will be covered. Prerequisite: ITC 123 or ITC 110 or ITC 130 or ITC 121. (FL)

ITC 260-3D Animation
(3 credit hours - 2 lecture 3 lab - T)
An introduction to animated 3D graphics modeling. Fundamental concepts of 3D animation, including modeling 2D shapes, lofting, 3D primitives, and box modeling are covered. Techniques of virtual camera placement and fundamental lighting methods are introduced. Additional topics cover material editing, animation, and special effects. Prerequisites: ITC 142 or ITC 102. (SP)

LAW 101-Criminal Law
(3 credit hours - 3 lecture 0 lab - T)
A study of jurisdiction, structure of court systems, criminal and civil distinctions, use of criminal codes, statute and ordinance, introduction to elements of particular crimes, and brief introduction to laws of evidence. Prerequisite: None. (FL)

LAW 106-Introduction to Criminal Justice
(4 credit hours - 3 lecture 3 lab - B)
A study of the three branches of the criminal justice system, police, courts and corrections, and how they interrelate with one another. A brief introduction to private security and how it relates to the criminal justice system. Prerequisite: None. (FL)

LAW 109-Corrections
(3 credit hours - 2 lecture 3 lab - T)
An introduction and overview of the fundamental processes, trends, and practices of juvenile and adult probation, institutional treatment, parole, and contemporary community-based correctional problems—both public and, private. Included is a review of the history and philosophy of corrections. Laboratory time incorporates visits to correctional facilities. Prerequisite: None. (WI)

LAW 110-Civil Liabilities
(3 credit hours - 2 lecture 3 lab - T)
An examination of civil litigation involving men and women in the Criminal Justice System. Emphasis on preparing for and also avoiding lawsuits. Includes the basics of civil liabilities. Prerequisite: None.

LAW 112-Defensive Tactics
(2 credit hours - 1 lecture 3 lab - T)
The theoretical and practical aspects of confronting suspects in a law enforcement capacity. Planning, position, and hand-to-hand defense techniques are covered. Also included is defensive use of the short baton. Prerequisite: None.

LAW 115-Police Corrections Defensive Driving
(2 credit hours - 1 lecture 3 lab - T)
A practical course which instructs the student in the safe handling of a motor vehicle in both ordinary and emergency situations. Precision driving is stressed. Prerequisite: Valid Ohio Driver's License. (SP)

LAW 122-Investigations I
(3 credit hours - 2 lecture 3 lab - T)
A study of investigative procedures; initial contact by the investigator, interviewing, case development, follow-up investigations, handling of leads, hot or cold information, in-custody interviews and procedures. Prerequisite: None. (FL)

LAW 123-Investigations II
(4 credit hours - 3 lecture 3 lab - T)
A study of the concept of continual investigation, evidence identification, collection, preservation, laboratory capability and limitations, examination of physical evidence, within the resources of the investigator and the demonstration of the laboratory criminalistics to the extent supported by existing facilities. Prerequisite: LAW 122.

LAW 124-Community Relations & Crime Prevention
(4 credit hours - 4 lecture 0 lab - T)
A study of the field of police and community relations emphasizing the police officers' role and influence in community relations. The impact of community tensions and conflict on the officer, the department, and the community. In addition, the use of and effect of crime prevention programs to both aid the community, and influence community relations, will be included. Prerequisite: None.

LAW 128-Evidence
(3 credit hours - 3 lecture 0 lab - T)
A study of the rules of evidence and of criminal procedure; arrest, search and seizure, kinds of evidence, and admissibility of evidence in court. Prerequisite: None. (WI)

LAW 130-Contemporary Issues in Correctional Institutions
(3 credit hours - 2 lecture 3 lab - T)
Examination of contemporary problems that exist within juvenile and adult penal institutions. The examination will entail a study of the inmate subculture, riots, and homosexuality. The course will also examine comparative penal systems, treatment approach, and new alternatives. Prerequisite: None. (WI)

LAW 135-Community Based Corrections
(4 credit hours - 3 lecture 3 lab - T)
An exploration of the philosophy and programs of juvenile and adult probation/parole supervision, halfway houses, work-release and educational-release furloughs. Includes an introduction to classification. Prerequisite: None. (SP)

LAW 155-Correctional Law
(3 credit hours - 2 lecture 3 lab - T)
An historical and analytical approach will be used in examining constitutional and criminal law which affect the rights of prisoners in the nation's institutions. Recent cases and statutory amendments will be reviewed to create understanding of law for the correctional worker. Prerequisite: None. (SP)

LAW 162-Criminal Legal Procedures
(4 credit hours - 4 lecture 0 lab - T)
An examination of the legal process from arrest through confinement and release; a review of the court systems' principles of federal, state, and local law and the constitutional history and basis of those laws; the application of laws and the impact of both on the defendant and officer. Prerequisite: None. (SP)

LAW 191-Police Operations
(3 credit hours - 2 lecture 3 lab - T)
Line activities of the law enforcement profession with special emphasis on the patrol function and crime prevention; also includes preliminary investigations, and introduction to specialized units such as detective, vice, juvenile, etc. Prerequisite: None.

LAW 208-Victimology
(4 credit hours - 4 lecture 0 lab - T)
Introduction to the study of criminal/victim relation-ship. A look at the history of the victim; analysis of the criminal/victim relationship with emphasis on specific crimes, personal property, compensation and restitution to victims of crimes. Prerequisite: None. (FL)

LAW 220-Constitutional Law
(3 credit hours - 3 lecture 0 lab - T)
An enhancement to previous discussions and studies of important United States Supreme Court cases with particular emphasis on corrections and police. Prerequisite: None. (SU)

LAW 226-Probation and Parole
(4 credit hours - 3 lecture 3 lab - T)
An intensive examination of local, state, and federal probation, parole and pardon systems, staffing and services, and analysis of the potential for reform in the future. Programs such as halfway houses, group homes, and work education release will be explored. Prerequisite: None. (FL)

LAW 227-Criminology
(4 credit hours - 4 lecture 0 lab - B)
A sociological statement of the crime problem including examination of the characteristics, etiology, and correction of crime with emphasis on the problem within the United States. Attention will be given to particular aspects of crime including the inadequate handling of the problem and its relation to social norms. Prerequisite: None. (WI)

LAW 229-Juvenile Crime
(3 credit hours - 2 lecture 3 lab - B)
An analysis of the problems of today's "youth in trouble" with special attention being given to training police officers to deal more effectively with juvenile offenders through better understanding of prevention, causes, methods of approach, and disposition. Prerequisite: None. (WI)

LAW 265-Firearms I
(2 credit hours - 1 lecture 3 lab - T)
A review of handgun shooting fundamentals with an emphasis on safety. Shooting exercises include using the revolver, automatic pistol, and shotgun. Night firing, close combat, pivot, and tactical handgun are included. Prerequisite: None. (FL)

LAW 266-Firearms II
(2 credit hours - 1 lecture 3 lab - T)
A review of handgun shooting fundamentals with emphasis on safety. Shooting exercises include using the revolver, automatic pistol, and shotgun. Night firing, close combat, pivot, and tactical handgun are included. Prerequisite: LAW 265 or PRW 108, or Military, or POTA Basic Training. (SP)

LAW 270-Cultural Sensitivity
(2 credit hours - 2 lecture 0 lab - T)
Terminology, strategies, and methodologies used in delivering services to diverse cultural groups. Definition of terms used interchangeably in cross-cultural communication. Prerequisite: Permission of instructor. (WI)

LAW 277-Seminar in Administration of Criminal Justice
(3 credit hours - 3 lecture 0 lab - T)
Identification and analysis of current issues and problems in law enforcement and the administration of criminal justice. This is the criminal justice capstone course in which students are required to demonstrate sophomore level academic skills including speaking and writing. Prerequisites: ENG 150 and ENG 180. (SP)

LAW 295-Special Problems
(0.1-8 credit hours - T)
Provides the opportunity to apply selected and current courses, seminars, directed individual study, and other quality educational experiences that contribute substantially to a Criminal Justice student's program of study. Prerequisite: Dean approval

MAT 101-Introduction to Medical Assisting
(3 credit hours - 2 lecture 3 lab - T)
Introduces the students to the field of medical assisting with emphasis on the administrative and clinical duties. The course highlights scheduling, telephone appointments, records maintenance, medical law and ethics, vital signs, and communications. Prerequisite: Admission to Medical Assisting Program. (FL)

MAT 105-Basic Medical Lab Techniques
(4 credit hours - 3 lecture 3 lab - T)
Acquaints the medical assisting student with the basic techniques used in the modern medical laboratory, including professional, small organization, basic equipment and instruments used, types of specimens, an overview of basic lab testing, and techniques. Prerequisite: Admission to Medical Assisting Program. (WI)

MAT 112-Medical Business Practices
(3 credit hours - 2 lecture 3 lab - T)
Students are introduced to the administrative skills needed for medical office operation. Maintaining financial records and insurance claims, filing techniques, banking procedures, and managing office equipment also are introduced. Job shadowing experiences place students in work environments to observe application of medical business practices. Prerequisite: MAT 101. (WI)

MAT 125-Medical Assisting Procedures I
(3 credit hours - 2 lecture 3 lab - T)
Application of clinical skills is the focus of this course. Common therapeutic procedures, minor surgery procedures, aseptic technique, and patient preparation are included. Prerequisite: MAT 112. (SP)

MAT 151-Patient Contact and Public Relations
(3 credit hours - 3 lecture 0 lab - T)
The development of personal communication skills and attitudes for allied health professionals is emphasized. The importance of viewing “the whole patient” is stressed. Interaction skills, interviewing techniques, and aspects of working with aging and terminally ill patients are studied as part of the patient-professional relationship. Prerequisite: Admission to Medical Assisting program. (SP)

MAT 160-Basic Venipuncture for the Medical Assistant
(2 credit hours - 1 lecture 2 lab - T)
Focuses on the principles of blood collection and proper specimen processing techniques needed in a physicians office setting. The student will be able to understand theory and competently perform phlebotomy and medical assistant techniques associated with specimen collected in physicians office setting upon completion of classroom instruction and clinical experience. Prerequisites: Completion of MAT 105 with a grade of "C" or better. Co-requisites: MAT 161. (SU)

MAT 161-Clinical Practicum/Seminar I
(4 credit hours - 1 lecture 20 lab - T)
Supervised unpaid work experience required for students in the Medical Assisting program. Students are assigned to area physicians' offices where practical experience and direct observation of job performance and requirements are afforded. MAT students may be required to have experiences at two clinical sites in order to meet administrative and clinical objectives. Prerequisites: Sophomore standing. Internship positions must be approved by the instructor. (SU)

MAT 201-Medical Assisting Procedures II
(3 credit hours - 2 lecture 3 lab - T)
An advanced study in clinical procedures used by the medical assistant. Students gain basic knowledge and understanding of special procedures and applications of radiology and electrocardiography. Prerequisite: MAT 161. (FL)

MAT 211-Pharmacology and Drug Administration
(3 credit hours - 2 lecture 3 lab - T)
Provides basic knowledge of symbols and abbreviations used by the physician in writing prescriptions for drugs frequently prescribed by the physician in the office. The responsibility of the medical assistant and other health professionals in providing the patient with drug therapy is emphasized. Prerequisite: Admission to Medical Assisting program or permission of instructor. (SP)

MAT 261-Clinical Practicum/Seminar II
(4 credit hours - 2 lecture 14 lab - T)
This unpaid clinical experience is designed to strengthen the administrative and clinical skills of the sophomore student. Students may be required to participate at two clinical sites in order to complete all program competencies. Prerequisites: Satisfactory completion of all required didactic courses and permission of program director. (SP)

MET 120-Industrial Materials & Processes
(3 credit hours - 2 lecture 3 lab - T)
Introductory course in study of materials and processes used in today's modern manufacturing industries. "Hands-on" projects include testing of various materials and assignments in various industrial processes, such as casting, joining, heat treating, hot working, and cold working of metals. Prerequisite: Completion of MTH 097 with a grade of "C" or higher or placement into a math course at or above the level of MTH 113, and EGT 109 or CPT 105, or instructor permission. (SP)

MET 201-Engineering Economy
(3 credit hours - 2 lecture 3 lab - T)
Economic analysis of engineering projects and methods of justification, introduction to the analysis of engineering economic decisions. Topics include time value of money, cost estimation, equipment comparison, break-even analysis, payback, economic lot size, and replacement analysis. Prerequisites: MTH 113 and EGT 109.

MET 210-Computer-Aided Working Drawings
(3 credit hours - 1 lecture 4 lab - T)
Emphasizes design application and background knowledge needed to carry out drafting and design functions to complete working drawings. Includes application of geometric tolerancing and descriptive geometry and extensive generation of detail and assembly drawings. A team project is also incorporated. Prerequisite: CAD 105 or CAD 141, or permission of instructor. (FL)

MET 216-Operations Management
(3 credit hours - 3 lecture 0 lab - T)
An introduction to the field of operations management. Studies in manufacturing and service industry applications blend material from accounting, industrial engineering, management, and statistics. Topics introduced are operations strategy, forecasting, total quality management, statistical quality control, product and facilities design, location selection, work systems, and layout design. Prerequisite: None.

MET 219-Statistical Process Control
(3 credit hours - 2 lecture 2 lab - T)
Study of statistical applications of on-line quality control functions of process control. Includes capability analysis and construction of control charts by variables and attributes with computer utilization. Also includes an introduction to statistics and quality control in general. Prerequisites: Completion of MTH 097 with a grade of "C" or higher or placement into a math course at or above the level of MTH 113, and EGT 109, or instructor permission. (WI)

MET 220-Statistical Problem Solving
(2 credit hours - 1 lecture 3 lab - T)
Various projects and experiments are conducted, usually in industrial process environments, using techniques such as brainstorming, cause and effect diagrams, Pareto analysis, and Failure Mode and Effect analysis. Statistical methods studied include Chi-square, regressions, ANOVA, and orthogonal arrays. Prerequisite: MET 219 or permission of instructor.

MET 221-Statics
(3 credit hours - 2 lecture 3 lab - T)
Analysis of forces and effects of forces acting upon rigid bodies at rest. Essentially a force analysis, i.e., the determination of the total internal forces produced in members of a structure by externally applied loads. Prerequisites: MTH 124 and PHY 201. (FL)

MET 231-Strength of Materials
(3 credit hours - 2 lecture 3 lab - T)
The study of internal stresses/strain and deformation caused by externally applied loads and how they are used in designing structural members which will safely satisfy the imposed loads. Prerequisite: MET 221. (WI)

MET 243-Dynamics
(3 credit hours - 2 lecture 2 lab - T)
Study of the motion of a given body with and without considering the forces which produce these motions. Emphasis is on the fundamentals of motion, analysis of machine members, and mechanism design. A detailed study of the effect of unbalanced forces on moving rigid bodies. Prerequisite: MET 221.

MET 251-Hydraulics & Pneumatics I
(3 credit hours - 2 lecture 3 lab - T)
A study of the principles of fluid/pneumatic power and the application in an industrial setting on manufacturing equipment. Includes how to design a system with proper sizing and components connected together to be able to execute necessary functions in manufacturing operations. Prerequisites: MTH 124 and PHY 201, or permission of instructor. (SP)

MET 261-Machine Design
(3 credit hours - 2 lecture 3 lab - T)
Study of design and determination of the size and shape of various machine components such as beams, bearings, shafts, fasteners, gears, drive belts, and flywheels. Utilizes CAD knowledge previously learned, including solid modeling. A team design project is required as well as a capstone proficiency exam and a portfolio. Prerequisites: MET 120, MET 210, and MET 231 or instructor permission. (SP)

MET 281-Industrial Instrumentation
(3 credit hours - 2 lecture 3 lab - T)
Basic theories underlying design of industrial instruments, pyrometers, thermocouples, manometers, velometers, and other transducers. Also includes digital-to-analog and analog-to digital devices and computer interfacing. Prerequisites: MTH 124, EET 110 and EGT 109, or permission of instructor.

MET 282-Robotics
(3 credit hours - 2 lecture 3 lab - T)
An introduction to robotics including coordinate systems, drives, programming and applications. Labs will include programming pneumatic and electric servo robots and their integration into work cells. Prerequisite: EGT 109 or permission of instructor.

MKT 100-Marketing
(4 credit hours - 4 lecture 0 lab - T)
A critical study of the field of marketing institutions and functions with an emphasis on problems and practices in marketing. Presents the development and present status of the marketing system in the United States. Areas covered are consumer and industrial markets, retailing and wholesaling structure, and marketing functions and policies. Prerequisite: None. (FL, WI, SP, SU)

MKT 101-Retail Management
(4 credit hours - 3 lecture 3 lab - T)
A study of the development of retailing in the American economy, including opportunities and historical perspectives of the field, legal aspects, planning considerations in developing strategies, choice of location, store design and layout, and managing and supervising retail personnel. Prerequisite: MKT 100. (SP)

MKT 202-Advertising
(4 credit hours - 3 lecture 3 lab - T)
A study of the principles of advertising and promotion, stressing history and the development of advertising and advertising techniques, including illustration, copy, slogans, and layout, as well as various advertising media, and direct-mail marketing. Prerequisite: MKT 100. (FL)

MKT 207-Visual Design & Merchandising
(3 credit hours - 2 lecture 2 lab - T)
Principles and objectives of visual merchandising and store design. The course is structured using various exercises and actual display work. Interior and exterior displays, window construction and display, color and texture, light and lighting, line and composition, mannequins and fixtures, and visual merchandising planning are the focal points of this course. Prerequisite: MKT 202. (WI)

MKT 215-Principles of Professional Sales
(3 credit hours - 2 lecture 3 lab - T)
A study of the principles of professional selling, including its economic aspects, types of selling, and background of professional sales to include products, companies, customers, motivation, and competition, and all aspects of the sales process and techniques. Prerequisite: MKT 101. (WI)

MLT 102-Introduction to Medical Laboratory Technology
(3 credit hours - 1 lecture 6 lab - T)
Acquaints students with the various aspects of the modern medical laboratory, including professional roles, ethics, basic equipment and instruments used, types of specimens and their collections, the departments of the lab, and an overview of lab tests. The student will be able to competently perform phlebotomy and operate basic lab equipment upon completion of classroom instruction and clinical experience. Prerequisite: Admission to the Medical Laboratory Technology program, and placement into MTH 115 or completion of MTH 113 with a grade of “C” or better. (FL)

MLT 200-Clinical Body Fluids
(3 credit hours - 2 lecture 3 lab - T)
Microscopic and macroscopic evaluation of urine and other non-blood body fluids. Includes review of the urinary system, collection procedures, and lab safety. Prerequisites: MLT 102 with a grade of “C” or better. (WI)

MLT 201-Clinical Hematology I
(4 credit hours - 3 lecture 3 lab - T)
Introduction to basic principles and laboratory procedures used in hematology and coagulation. Includes basic manual and automated methods used in the study of blood cells and hemostasis. Prerequisite: MLT 102 with a grade of “C” or better. (WI)

MLT 205-Clinical Hematology II
(4 credit hours - 3 lecture 3 lab - T)
Focuses on advanced principles and procedures used in hematology and coagulation. Identification of various disease states associated with hematology and coagulation is studied. Successful completion of this course enables the students to perform routine hematology and coagulation testing during clinical experience. Prerequisites: MLT 220 with a grade of “C” or better. (FL)

MLT 210-Advanced Clinical Biochemistry I
(4 credit hours - 3 lecture 3 lab - T)
Theories and principles of clinical chemistry analysis, including associated instrumentation and calculations. Students perform representative automated and manual laboratory procedures. Quality control and significant results in relationship to disease states are included. Prerequisite: CHM 123 with a grade of "C" or better. (FL)

MLT 211-Advanced Clinical Biochemistry II
(3 credit hours - 2 lecture 3 lab - T)
Continued study of theories and principles of clinical chemistry. Focus is on special chemistry, therapeutic drug monitoring, toxicology, and endocrine testing. Students perform representative laboratory automated and manual procedures. Quality control and significant results in relationship to disease states are included. Prerequisite: MLT 210 with a grade of "C" or better. (WI)

MLT 220-Immunology
(3 credit hours - 2 lecture 3 lab - T)
Study of the immune system and associated laboratory testing based on antigen-antibody reactions. Calculations, disease correlation, and techniques associated with immunology are emphasized. Successful completion of this course enables students to perform routine serological tests during clinical experiences. Prerequisites: MLT 200 and MLT 201 with a grade of "C" or better. (SP)

MLT 230-Clinical Microbiology
(5 credit hours - 4 lecture 3 lab - T)
Introduction to the identification of pathogenic microorganisms and associated diseases in humans. Laboratory instruction emphasizes isolation, identification, and evaluation of clinically significant microorganisms. Successful completion of this course enables the students to perform routine microbiological procedures and evaluate test results in the clinical experience. Prerequisites: CHM 201, MLT 205, and MLT 235 with a grade of "C" or better. (FL)

MLT 235-Clinical Immunohematology
(4 credit hours - 3 lecture 3 lab - T)
Focuses on the basic principles of typing, grouping, and cross matching blood and blood products for transfusion, blood donation, component processing, transfusion practices, and various transfusion associated disease states. Successful completion of this course enables students to perform routine immunohematology procedures during clinical experiences. Prerequisites: MLT 220 with a grade of "C" or better. (WI)

MLT 244-Directed Practice I: Clinical Chemistry
(4 credit hours - 1 lecture 20 lab - T)
Off-campus experiences introduce students to the operation of actual clinical chemistry student elective, and phlebotomy laboratories and enable them to apply skills and theory learned during the didactic portion of the MLT program. Students will spend 40 hours per week for five weeks practicing procedures under the supervision of pathologists and medical technologists in hospital settings. Prerequisites: MLT 205 and MLT 235 with a grade of "C" or better. (WI)

MLT 245-Directed Practice II: Clinical Immunohematology
(3 credit hours - 1 lecture 12 lab - T)
Off-campus experiences introduce students to the operation of actual clinical immunohematology departments in the laboratory and enable them to apply skills and theory learned during the didactic portion of the MLT program. Students will spend 40 hours per week for three weeks practicing procedures under the supervision of pathologists and medical technologists in hospital settings. Prerequisites: MLT 244 with a grade of "C" or better. Directed practice will be taken concurrently with MLT 262. The instructor will also visit students on a regularly scheduled basis at hospitals. (SP)

MLT 246-Directed Practice III: Clinical Hematology and Coagulation
(3 credit hours - 1 lecture 12 lab - T)
Off-campus experiences introduce the students to the operation of actual clinical laboratories and enable them to apply skills and theory learned during the didactic portion of the MLT program. Students will spend 40 hours per week for three weeks practicing procedures under the supervision of pathologists and medical technologists in hospital settings. Prerequisites: MLT 230, MLT 231, and MLT 244 with a grade of "C" or better. Directed practice will be taken concurrently with MLT 262. The instructor will also visit students on a regularly scheduled basis at hospitals. (SP)

MLT 247-Directed Practice IV: Clinical Microbiology and Immunology
(3 credit hours - 1 lecture 12 lab - T)
Off-campus experiences introduce students to the operation of actual clinical laboratories and enable them to apply skills and theory learned during the didactic portion of the MLT program. Students will spend 40 hours per week for three weeks practicing procedures under the supervision of pathologists and medical technologists in hospital settings. Prerequisites: MLT 230, MLT 231, and MLT 244 with a grade of "C" or better. Directed practice will be taken concurrently with MLT 262. The instructor will also visit students on a regularly scheduled basis at hospitals. (SP)

MLT 262-Role Transition
(3 credit hours - 3 lecture 0 lab - T)
A seminar which prepares students for attaining employment in their profession. Topics covered include career opportunities, resume writing, interviewing, and job seeking skills. Focus is also on activities to prepare students for the certification exam including simulated registry exams and case studies. Prerequisites: MLT 230, MLT 231, and MLT 244 with a grade of "C" or better. Concurrent: MLT 245 and MLT 246. (SP)

MTH 001-Fractions Review
(1 credit hour - 0 lecture 2 lab - G)
A review of basic fraction concepts, the arithmetic of fractions, vocabulary associated with fractions, and application problems involving fractions. (FL, WI, SP, SU)

MTH 002-Whole Numbers Review
(1 credit hour - 0 lecture 2 lab - G)
Designed to review whole number concepts, the arithmetic of whole numbers, vocabulary associated with whole numbers, and application problems involving whole numbers. (FL, WI, SP, SU)

MTH 003-Decimals Review
(1 credit hour - 0 lecture 2 lab - G)
Foundations in decimal number concepts, the arithmetic of decimal numbers, vocabulary associated with decimal number operations, and application problems involving decimal numbers. (FL, WI, SP, SU)

MTH 004-Percents Review
(1 credit hour - 0 lecture 2 lab - G)
A study of percent concepts and the application problems involving percents. (FL, WI, SP, SU)

MTH 005-Ratios, Rates & Proportions Review
(1 credit hour - 0 lecture 2 lab - G)
Topics covering ratios, rates, and proportions concepts and application problems. (FL, WI, SP, SU)

MTH 006-Metric Systems & Statistics Review
(1 credit hour - 0 lecture 2 lab - G)
An overview of the metric system of measurement; the conversions of metric units; the basic statistics of mean, median, and mode; and application problems involving metric measurements and basic statistics. (FL, WI, SP, SU)

MTH 007-Basic Algebra Review
(1 credit hour - 0 lecture 2 lab - G)
Develop basic algebra concepts, vocabulary associated with algebra, and solve application problems using equations and the principles of equality. (FL, WI, SP, SU)

MTH 008-Graphing
(1 credit hour - 0 lecture 2 lab - G)
Develop fundamentals and vocabulary associated with the rectangular coordinate system, graph ordered pairs, solve and graph linear equations, and application problems. (FL, WI, SP, SU)

MTH 009-Basic Geometry Review
(1 credit hour - 0 lecture 2 lab - G)
An exploration of basic geometry concepts, vocabulary associated with basic geometry, and application problems involving geometry. (FL, WI, SP, SU)

MTH 090-Computation Skills
(4 credit hours - 3 lecture 2 lab - G)
Study and apply whole numbers, fractions, decimals, ratios, rates, proportions, metric measurement, mean, median, mode, and percents. Prerequisite: None. (FL, WI, SP, SU)

MTH 091-Pre-Algebra
(4 credit hours - 3 lecture 2 lab - G)
Study and apply exponents, order of operation, primes, prime factorization, LCM, GCF, and rational numbers. Build an understanding of key words, symbols, and properties used to evaluate and simplify algebraic expressions and solve equations. Develop skills in using equations to solve application problems involving angles, perimeters, areas, and basic geometric figures. Understand the rectangular coordinate system and solve and graph linear equations. Prerequisite: Pass MTH 090 Exit Exam if placed in MTH 090 by assessment test. (FL, WI, SP, SU)

MTH 092-Pre-Business Mathematics
(4 credit hours - 3 lecture 2 lab - G)
Study and apply fractions, decimals, metric measurement, balancing a checkbook, reconciling a bank statement, basic algebraic equations and formulas, percent increase/decrease, complementary percentages, discounts, reading business charts and tables, simple and compound interest, mark-ups, mark-downs, payroll, mean, median, mode, and life insurance. Prerequisite: Pass MTH 090 Exit Exam if placed in MTH 090 by the assessment test. (FL, WI, SP, SU)

MTH 094-ADVANCE Pre-Business Mathematics
(4 credit hours - 3 lecture 3 lab - G)
Identifies computation skills that have not been mastered, and requires demonstration of mastery of them within the first two weeks of the term. Study and apply balancing a checkbook, reconciling a bank statement, basic algebraic equations and formulas, percent increase/decrease, complementary percentages, discounts, reading business charts, and tables, simple and compound interest, mark-ups, mark-downs, payroll, and life insurance for the remainder of the term. Prerequisite: Score of 57-70 on the Arithmetic subtest of *Accuplacer.* (FL, WI, SP, SU)

MTH 095- ADVANCE Pre-Business Mathematics Lab
(2 credit hours - 4 lab - G)
Study and apply fractions, decimals, metric measurement, balancing a checkbook, reconciling a bank statement, basic algebraic equations and formulas, percent increase/decrease, complimentary percentages, discounts, reading business charts and tables, simple and compound interest, mark-ups, make-downs, payroll, mean, median, mode, and life insurance. This course will include some integrated assignments with BUS 153. The MyMathLab® computerized program will be an integral component of this class. Prerequisite: Grade of "B" or better in MTH 090 or a score of 71 or greater on the Accuplacer Arithmetic subtest. (FL, WI, SP, SU)

MTH 096-ADVANCE Pre-Algebra
(4 credit hours - 3 lecture 3 lab - G)
Identify computation skills that have not been mastered, and require demonstration of mastery of them within the first two weeks of the term. For the rest of the term study and apply exponents, order of operation, primes, prime factorization, LCM, GCF, and rational numbers. Build an understanding of key words, symbols, and properties used to evaluate and simplify algebraic expressions and solve equations. Develop skills in using equations to solve application problems involving angles, perimeters, areas, and basic geometric figures. Understand the rectangular coordinate system and be able to solve and graph linear equations. Prerequisite: Score of 57-70 on the Arithmetic Subtest of *Accuplacer.* (FL, WI, SP, SU)

MTH 097-Beginning Algebra
(4 credit hours - 3 lecture 3 lab - G)
Combines lecture and lab components to prepare the student for the MTH 113 Algebra course. Topics studied are signed numbers, introduction to algebra, simple equations and inequalities, basic algebraic operations, graphing, lines (slopes and simple equations), variation, and introduction to simple factoring. A scientific calculator is required. Prerequisite: (1) Direct placement by *Accuplacer*; or (2) pass MTH 091 Exit Exam if placed in MTH 091; or (3) placement by *Accuplacer* after completion of MTH 090; or (4) a grade of "C" or better in MTH 096. (FL, WI, SP, SU)

MTH 098-ADVANCE Beginning Algebra
(4 credit hours - 3 lecture 3 lab - G)
Identify computation skills that have not been mastered, and require demonstration of mastery of them within the first two weeks of the term. For the rest of the term study and apply signed-numbers, exponent laws, solve simple equations and inequalities, basic algebraic operations of polynomials, simple factoring, graphing, lines (slopes and simple equations), and square roots. Prerequisite: Score of 57-70 on the Arithmetic Subtest of *Accuplacer* and score of 28-66 on the Algebra Subtest of *Accuplacer*. (FL, WI, SP, SU)

MTH 106-Math 113 Excel Lab
(1 credit hour - 0 lecture 2 lab - G)
Assists students in understanding the material in MTH 113. A voluntary lab for students currently enrolled in MTH 113. Topics are supplemented by group worksheets and short self-quizzes. Concurrent enrollment in MTH 113 is required. Students who fail MTH 113 must register for MTH 106 when repeating MTH 113. (FL, WI, SP, SU)

MTH 108-Math 115 Excel Lab
1 credit hour - 0 lecture 2 lab - G)
Assists students in understanding the material in MTH 115. A voluntary lab for students currently enrolled in MTH 115. Topics are supplemented by group worksheets and short self-quizzes. Concurrent enrollment in MTH 115 is required. (FL, WI, SP, SU)

MTH 111-Mathematics for Business
(4 credit hours - 4 lecture 0 lab - G)
Provides the mathematical skills needed to solve business application problems and satisfies the math requirements of several of the Zane State technologies. Whole numbers, fractions, decimals, checking accounts, percents, trade and cash discounts, markups and markdowns, simple and compound interest, consumer credit, taxes, payroll, insurance, depreciation, home mortgages, the metric system, and business statistics are studied. You may choose to take MTH 111 in a computerized, independent-study format or in a standard format. A scientific calculator is required. Prerequisite: (1) Placement by testing; or (2) a grade of "A" in MTH 090; or (3) a grade of "C" or better in MTH 092; or (4) a grade of "C" or better in MTH 094. Students who fail MTH 111 must take MTH 092 before repeating MTH 111. (FL, WI, SP, SU)

MTH 113-Algebra
(4 credit hours - 4 lecture 0 lab - G)
Serves as a terminal college algebra course or, together with MTH 124 and MTH 125, provides the necessary background for MTH 225. Topics include factoring algebraic expressions, operations involving algebraic fractions, laws of exponents, roots and radicals, quadratic equations, functions and graphs, and simultaneous linear equations. You may choose to take MTH 113 in a computerized, independent-study format or in a standard format. A scientific calculator is required. Students who fail MTH 113 may not register for MTH 113 again unless they also register for MTH 106 (MTH 113 Excel Lab). Prerequisite: (1) Placement by testing; or (2) a grade of "C" or better in MTH 097; or (3) pass the MTH 097 Credit-by-Exam; or (4) a grade of "C" or better in MTH 098. (FL, WI, SP, SU)

MTH 115-College Algebra
(5 credit hours - 5 lecture 0 lab - G)
College Algebra in conjunction with MTH 134 and MTH 135, provides the necessary background for MTH 251. Topics include equations and inequalities, functions and graphs, polynomial and rational functions, exponential and logarithmic functions, systems of equations and inequalities, and matrices and determinants. A graphing calculator is required. Prerequisites: (1) MTH 113 with a grade of "C" or better; or (2) successful completion of MTH 113 Credit-by-Exam; or (3) ACT score of 22; or (4) placement by testing into MTH 115. (FL, WI, SP, SU)

MTH 124-Algebra & Trigonometry I
(4 credit hours - 4 lecture 0 lab - G)
Provides a background to algebra and an introduction to trigonometric concepts. Topics studied are numerical and literal symbols, algebraic laws and operations, equations and formulas, functions and graphs, right triangle trigonometry, systems of linear equations, factoring, fractions, fractional equations, quadratic equations, radians, and vectors and their applications. A graphing calculator is required. Prerequisite: (1) MTH 113 with a grade of “C” or better; or (2) successful completion of MTH 113 Credit-by-Exam; or (3) placement by testing into MTH 124. (FL, WI, SP, SU)

MTH 125-Algebra & Trigonometry II
(4 credit hours - 4 lecture 0 lab - G)
Furnishes students the more rigorous background in trigonometry that is necessary to study MTH 225. Included in the topics are oblique triangles, graphs of trigonometric functions, exponents and radicals, complex numbers, logarithms, determinants, equations and systems of equations of higher degree, and the plane analytic geometry of the line, circle, and parabola. A graphing calculator is required. Prerequisite: (1) MTH 124 with a grade of “C” or better; or (2) successful completion of MTH 124 Credit-by-Exam. (WI, SP, SU)

MTH 134-Pre-Calculus I
(4 credit hours - 4 lecture 0 lab - G)
Affords students the opportunity to develop an extensive trigonometric background. Included topics are right triangle trigonometry, trigonometric functions of any angle, graphs of the trigonometric functions, inverse trigonometric functions, oblique triangles, vectors, the trigonometric form of a complex number, trigonometric identities, equations, and formulas, and functions and their graphs. A graphing calculator is required. Prerequisites: (1) MTH 115 with a grade of "C" or better; or (2) successful completion of MTH 115 Credit-by-Exam.

MTH 135-Pre-Calculus II
(4 credit hours - 4 lecture 0 lab - G)
Broadens the algebra background that is necessary for a student to study MTH 251. Topics are polynomial and rational functions, exponential and logarithmic functions, systems of equations and inequalities, matrices and determinants, and plane analytic geometry. A graphing calculator is required. Prerequisites: (1) MTH 134 with a grade of "C" or better; or (2) successful completion of MTH 134 Credit-by-Exam.

MTH 225-Introductory Calculus
(4 credit hours - 4 lecture 0 lab - G)
A college calculus course that includes plane analytic geometry, the derivative, derivative applications, integration, and integration applications. A graphing calculator is required. Prerequisite: (1) MTH 125 with a grade of “C” or better; or (2) successful completion of MTH 125 Credit-by-Exam. (FL, SP, SU)

MTH 227-Statistics
(4 credit hours - 4 lecture 0 lab - G)
Equips student with understanding of statistical concepts dealing with the processing and interpretation of numerical information. Basic statistical applications including measures of central tendencies and variations, probability, sampling, hypothesis testing, and correlation analysis will be studied. A graphing calculator is required. Prerequisite: (1) MTH 113 with a grade of “C” or better; or (2) successful completion of MTH 113 Credit-by-Exam. (WI, SP, SU)

MTH 251-Calculus I
(5 credit hours - 5 lecture 0 lab - G)
The first course in a sequence of three covering the fundamental concepts of calculus and their applications. Topics in this course are functions and graphing, limits and continuity, derivatives, and derivative applications. Concepts of differential calculus as applied to trigonometric functions and curve sketching are included. A graphing calculator is required. Prerequisite: (1) MTH 125 with a grade of "C" or better; or (2) successful completion of MTH 125 Credit-by-Exam; or (3) MTH 225 with a grade of "C" or better; or (4) MTH 135 with a grade of "C" or better; or (5) successful completion of MTH 135 Credit-by-Exam. (FL)

MTH 252-Calculus II
(5 credit hours - 5 lecture 0 lab - G)
Calculus II is a continuation of MTH 251. Topics in this course are integrals, applications of integration, differentiation and integration of logarithmic, exponential, and inverse trigonometric functions, logarithmic differentiation, indeterminate forms and L'Hospital's rule, and techniques of integration including integration by parts, the method of partial fractions, the Trapezoid Rule, the Midpoint Rule, and improper integrals. Concepts of integral calculus as applied to trigonometric functions, finding areas, and finding volumes are included. Prerequisite: MTH 251 with a grade of "C" or better. (WI)

MTH 253-Calculus III
(5 credit hours - 5 lecture 0 lab - G)
Calculus III is the final course in the Calculus trilogy. Topics in this course are further applications of integration, infinite sequences and series, parametric equations, polar coordinates, conic sections, the geometry of space, and vectors. Concepts of integral and differential calculus as applied to parametric equations, polar equations, finding lengths of curves, and finding areas of polar regions are included. Prerequisite: MTH 252 with a grade of "C" or better. (SP)

MTH 295-Special Problems
(0.1-8 credit hours - G)
Provides the opportunity to apply selected and current courses, seminars, directed individual study, and other quality educational experiences that contribute substantially to a student's program of study. Prerequisite: Dean approval.

NFS 106-Employment Search
(1 credit hour - 1 lecture 0 lab - G)
A seminar course discussing the necessary skills and procedures to conduct a successful job search. Prerequisite: None. (WI)

NFS 200-Internship I
(2-4 credit hours - 0 lecture 20-40 lab - T)
Supervised work experience required for natural science students. Includes student applying for a job in a related area, on-the-job supervision, scheduled visits by coordinators, and periodic evaluations. Prerequisite: Sophomore standing. Internship positions must be approved by the Dean. (SU)

NFS 201-Community Service
(2-4 credit hours - 0 lecture - 20-40 lab - T)
Supervised work experience by students performed for pay or gratuitously for a public agency or non-profit entity. Qualifying agencies and entities include, but are not limited to, those providing health or child care, legal assistance, consumer services, corrections, civic affairs, neighborhood improvement, rural development, environmental quality, gerontology, and other fields of human betterment and community improvement. Prerequisite: Special approval.

NFS 205-Seminar
(1 credit hour - 1 lecture 0 lab - T)
A seminar course accompanying Internship including group discussions on internship experiences, applying learned concepts to the employment experience, and internship critique. Prerequisite: Special approval of instructor and dean. (SU)

NFS 210-Internship II
(2-4 credit hours - 0 lecture 20-40 lab - T)
A continuation of Internship I. Prerequisite: NFS 200.

NFS 215-Introduction to Geographic Information Systems
(3 credit hours - 2 lecture 3 lab - T)
Provides an introduction to the concepts and application of Geographic Information Systems (GIS). Emphasis is placed on basic cartographic principles, data sources, data acquisition, data presentation in tabular and thematic formats, and basic project design. The basic platform for presentation will be ArcView software. Prerequisites: CPT 105 or EGT 109 or NFS 102. (WI)

NFS 240-Wetlands Ecology
(3 credit hours - 2 lecture 3 lab - T)
Serves as a capstone experience for all natural science students. Topics include the ecology of wetlands, wetland plants, hydric soils, wetland animals, wetland delineation, constructed wetlands, and wetland mitigation. A group field research assignment with written and oral reports will allow students to use and apply previous technology courses. Prerequisites: BIO 141 and ENV 171. Co-requisite: PRW 270. (SP)

NFS 295-Special Problems
(0.1-8 credit hours - T)
Provides the opportunity to apply selected and current courses, seminars, directed individual study, and other quality educational experiences which contribute substantially to a Natural Science student's program of study. Prerequisite: Dean approval.

NFS 296-Vocational Education Experience
(1-12 credit hours - T)
This course number designates transfer credit awarded for the satisfactory completion of an approved secondary or post-secondary program in vocational education. If approved six (6) credit hours are awarded for each academic year completed in a full-time vocational education program for up to twelve (12) credit hours. This credit is to be evaluated by the student's advisor and Division Dean.

NFS 297-Technical Work Experience
(1-12 credit hours - T)
The 297 course number designates transfer credit awarded for the satisfactory acquisition of knowledge through the performance of verified (documented) work experience in an occupation specialty at the level of journeyman, technician, semiprofessional, or paraprofessional, or mid-management person. If approved, up to six (6) credit hours are awarded for each calendar year of full-time work completed at a specified level. There is no tuition fee. The maximum number of credits to be thus awarded is twelve (12). The judgment of the Division Dean determines if any (or how much) credit will be awarded.

NGT 101-Introduction to the Petroleum Industry
(3 credit hours - 2 lecture 3 lab - T)
This course provides an overview of the petroleum industry. Topics include a brief history of the industry and an introduction drilling, production, and distribution. Students will have an opportunity to meet with and discuss these topics with industry professionals. Prerequisite: None. (FL)

NGT 111-Petroleum Geology
(4 credit hours - 3 lecture 3 lab - T)
This course consists of an introduction to the basic principles of geology including sedimentation and stratigraphy with history of petroleum, petroleum reservoirs, and petroleum traps. Included are introductions to sources of data used in petroleum exploration and construction and display of geologic data. Prerequisite: None (FL)

NGT 151-Oil and Gas Reservoirs
(4 credit hours - 3 lecture 3 lab - T)
This course consists of the study of physical properties of petroleum reservoir rocks emphasizing porosity, fluid saturation, and permeability and study of thermodynamic behavior of naturally occurring hydrocarbon mixtures including core analysis, porosity, and permeability determinations. Prerequisite: NGT 111. (FL)

NGT 161-Drilling Methods
(3 credit hours - 2 lecture 3 lab - T)
This course consists of the study of the principles of drilling methods and drilling systems, including drilling fluids, bit programs, casing and cementing, controlled directional drilling, open hole fishing, blowout prevention, and drilling data analysis. Co-requisite: NGT 211. (WI)

NGT 211-Drilling Operations
(3 credit hours - 2 lecture 3 lab - T)
This course will be a companion course to NGT 161-Drilling Operations. Students will explore many of the topics presented in NGT 161 in more depth. Specifically, issues of horizontal drilling and specialty applications related to the development of the Marcellus Shale will be explored. Co-requisite: NGT 161. (WI)

NGT 221-Field Services
(3 credit hours - 2 lecture 3 lab - T)
This course consist of the study of well servicing and workover topics including well logging methods, well completion methods, well servicing and repair, well plugging and abandonment, well stimulation treatment, and well service profitability. Prerequisite: None. (SP)

NGT 231-Formation Evaluation
(3 credit hours - 2 lecture 3 lab - T)
This course consists of a study of basic formation evaluation techniques with emphasis placed on the integration of formation evaluation techniques and well completion methods. Practice of wireline log analysis is included. Prerequisites: NGT 111 and NGT 151. (WI)

NGT 241-Natural Gas Production
(3 credit hours - 2 lecture 3 lab - T)
This course consists of a study of the theory and design of list systems, design and selection of surface systems for the separation, treatment of hydrocarbons, and the storage of oil, water, and gas. Prerequisite: None. (SP)

NGT 251-Natural Gas Distribution and Compression
(3 credit hours - 2 lecture 3 lab - T)
This course consists of the study of the theory, design, and applications of natural gas distribution from the wellhead to the consumer. Field gathering, field compression systems, field gas processing and basic pipeline systems and construction will be covered. An introduction to mainline compression and distribution will be discussed. The basic concepts of metering and will metering systems design will be included. Prerequisites: MTH 124 and PHY 201. (WI)

NGT 261-Applications in Natural Gas Technology
(4 credit hours - 3 lecture 3 lab - T)
This course introduces the applications of natural gas in basic residential heating, utility scale power generation, and the emerging applications in the transportation industry. This course also encourages students to research new potential applications of natural gas that emphasize the lower carbon footprint of this fuel. Prerequisite: Successful completion of all previous NGT program courses. Co-requisite: NGT 281. (SP)

NGT 271-Mineral Rights and Leases
(3 credit hours - 2 lecture 3 lab - T)
Designed as a practical exercise of researching property ownership for wells, introduction to laws of land ownership, mineral rights, royalties and leases, transfer of property, deed plating and writing deed descriptions, review of Ohio oil and gas law and other laws related to the oil fields and the relationship of development of oil and gas in Ohio to the remainder of the Appalachian Basin. Prerequisite: None. (FL)

NGT 281-Natural Gas Technology Capstone Experience
(4 credit hours - 1 lecture 6 lab - T)
This course will provide the student with an opportunity to complete a project designed by industry professionals. The student will work directly with industry personnel and program faculty to assist in solving and implementing solutions to an actual industry problem. Skills and knowledge obtained in previous coursework will be applied during this course. Students will be assessed based on criteria developed by these professionals. Prerequisite: Successful completion of all previous NGT program courses. Co-requisite: NGT 261. (SP)

The following OPT courses are open only to students enrolled in the Ohio Peace Officer Training Academy:

OPT 106-Introduction to Criminal Justice
(4 credit hours - 3 lecture 3 lab - B)
A study of the three branches of the criminal justice system, police, courts and corrections, and how they interrelate with one another. A brief introduction to private security and how it relates to the criminal justice system. Prerequisite: None.

OPT 112-Defensive Tactics
(2 credit hours - 1 lecture 3 lab - T)
The theoretical and practical aspects of confronting suspects in a law enforcement capacity. Planning, position, and hand-to-hand defense techniques are covered. Also included is defensive use of the short baton. Prerequisite: None.

OPT 115-Defensive Driving
(2 credit hours - 1 lecture 3 lab - T)
A practical course which instructs the student in the safe handling of a motor vehicle in both ordinary and emergency situations. Precision driving is stressed. Prerequisite: Valid Ohio Driver's License.

OPT 122-Investigations I
(3 credit hours - 2 lecture 3 lab - T)
A study of investigative procedures; initial contact by the investigator, interviewing, case development, follow-up investigations, handling of leads, hot or cold information, in-custody interviews and procedures. Prerequisite: None.

OPT 123-Investigations II
(4 credit hours - 3 lecture 3 lab - T)
A study of the concept of continual investigation, evidence identification, collection, preservation, laboratory capability and limitations, examination of physical evidence, within the resources of the investigator and the demonstration of the laboratory criminalistics to the extent supported by existing facilities. Prerequisite: OPT 122.

OPT 162-Criminal Legal Procedures
(4 credit hours - 4 lecture 0 lab - T)
An examination of the legal process from arrest through confinement and release; a review of the court systems' principles of federal, state, and local law and the constitutional history and basis of those laws; the application of laws and the impact of both on the defendant and officer. Prerequisite: None.

OPT 191-Police Operations
(3 credit hours - 2 lecture 3 lab - T)
Line activities of the law enforcement profession with special emphasis on the patrol function and crime prevention; also includes preliminary investigations, and introduction to specialized units such as detective, vice, juvenile, etc. Prerequisite: None.

OPT 265-Firearms I
(2 credit hours - 1 lecture 3 lab - T)
A review of handgun shooting fundamentals with an emphasis on safety. Shooting exercises include using the revolver, automatic pistol, and shotgun. Night firing, close combat, pivot, and tactical handgun are included. Prerequisite: None.

OPT 266-Firearms II
(2 credit hours - 1 lecture 3 lab - T)
A review of handgun shooting fundamentals with emphasis on safety. Shooting exercises include using the revolver, automatic pistol, and shotgun. Night firing, close combat, pivot, and tactical handgun are included. Prerequisite: OPT 265.

OPT 270-Community Diversity
(3 credit hours - 3 lecture 0 lab - T)
Terminology, strategies, and methodologies used in delivering services to diverse cultural groups. Definition of terms used interchangeably in cross-cultural communication. Prerequisite: None.

OTA 107-Fundamentals for the Occupational Therapy Assistant
(4 credit hours - 4 lecture 0 lab - T)
Introduces the student to the definition of occupational therapy, areas of practice, major approaches to occupational therapy, roles and functions of occupational therapy personnel, occupational analysis, and the OT processes. Also provides an introduction to the organizational structure of the profession. Prerequisite: Admission into the Occupational Therapy Assistant program. (FL)

OTA 113-Fundamentals of Occupational Therapy: Media I
(3 credit hours - 2 lecture 3 lab - T)
Instruction in the use of crafts and therapeutic media related to daily living, self-management, and avocational pursuits in treatment geared toward restoration of function. Concepts of occupational analysis and therapeutic adaptations will be emphasized. Teaching/learning methods as part of the therapeutic process will be addressed. Prerequisite: OTA 107. (WI)

OTA 130-Directed Practice I (Level I Fieldwork)
(4 credit hours - 2 lecture 10 lab - T)
Provides students with the opportunity for observation and participation in the community, in the occupational therapy clinic, and/or related service program. This experience is integrated with coursework in OTA 136 and supplemented with weekly seminars. Focus of the learning experience is on observation, communication, professional behavior, therapeutic relationships, and use of therapeutic modalities. Prerequisites: OTA 113, HLT 121 and ENG 150. (SP)

OTA 136-Physical Disabilities in Occupational Therapy: Media II
(3 credit hours - 2 lecture 3 lab - T)
Introduction to the role of occupational therapy in the treatment of individuals with physical dysfunction in a variety of treatment settings. Emphasis is on understanding the general treatment and supportive concepts utilized for various disabling conditions and ages. The treatment planning process and implementation are incorporated with documentation skills. Prerequisites: BIO 240, BIO 241, and OTA 113,. Co-Requisites: BIO 242 and 243. (SP)

OTA 210-Physical Agent Modalities in Occupational Therapy
(1 credit hour - 0 lecture 3 lab - T)
This course will teach students about physical agent modalities for entry level occupational therapy assistant practice. Included in the course design will be opportunity for students to give return demonstration of the use of equipment and positioning of clients. Prerequisites: OTA 136 or permission of the instructor. (WI)

OTA 217-Advanced Physical Disabilities in Occupational Therapy: Media III
(4 credit hours - 3 lecture 3 lab - T)
Further detail about the role of occupational therapy in the treatment of individuals with physical dysfunction in a variety of treatment settings. Emphasis is on understanding the specific treatment and supportive techniques utilized for additional disabling conditions. The treatment planning process and implementation continues to be incorporated with documentation skills. Prerequisites: HLT 173 and OTA 136. (FL)

OTA 220-Psychosocial Concepts & Skills for Occupational Therapy: Media IV
(4 credit hours - 3 lecture 3 lab - T)
Provides the occupational therapy assistant student with an introduction to the etiology and symptomatology of psychosocial dysfunction. The student gains an understanding of the residual effects of the condition or impairment and of the expected cognitive, psychological, and/or social functions. Appropriate occupational therapy treatment techniques will be emphasized. Documentation skills will be continued. Prerequisites: PSY 201, OTA 130, HSV 103, and ENG 180. (FL)

OTA 221-Occupational Therapy in Geriatric & Alternative Practice Settings: Media V
(4 credit hours - 3 lecture 3 lab - T)
Introduction to the role of occupational therapy with the elderly population. Emphasis is on understanding the aging process and function, pertinent to the elderly. Attention will be given to treatment modalities specific to the population. Prerequisites: OTA 217 and OTA 220. (WI)

OTA 225-Occupational Therapy Concepts & Media for Children: Media VI
(4 credit hours - 3 lecture 3 lab - T)
Introduction to the role of occupational therapy with children and adolescents with psychological and/or physical dysfunction. The course will build on concepts from Human and Child Development courses with some additional focus on development from age 0-3. Pathology of diseases/disabilities common to children will be reviewed. Course emphasis on application of modalities to children, applying information from previous OTA courses to a variety of populations. Prerequisites: OTA 217, OTA 220, and EDU 183. (WI)

OTA 232-Clinical Laboratory Experience I (Level II Fieldwork)
(10 credit hours - 0 lecture 32 lab for 10 weeks - T)
Students spend 32 hours each week of the quarter gaining clinical experience in an occupational therapy program under the general supervision of a registered occupational therapist and daily supervision of, either an OTR or a COTA. Students provide direct care to patients/clients with a variety of disabling conditions and complete necessary documentation and record keeping. Prerequisites: Successful completion of all previous OTA program courses. Level II Fieldwork must be finished within 18 months of completion of academic coursework. (SP)

OTA 233-Clinical Laboratory Related Topics I
(2 credit hours - 2 lecture 0 lab - T)
Topics related to the clinical laboratory experiences are presented and discussed in seminar format. Discussion of clinical activities reinforce academic coursework and address new or updated information related to OT practice. Prerequisites: Successful completion of all previous OTA program courses. (SP)

OTA 242-Clinical Laboratory Experience II (Level II Fieldwork)
(10 credit hours - 0 lecture 32 lab for 10 weeks - T)
Students spend 32 hours each week gaining in-depth clinical experience and providing patient care under the supervision of a registered occupational therapist. Prerequisites: Successful completion of all previous OTA program courses. Level II Fieldwork must be completed within 18 months of academic coursework. (SU)

OTA 243-Clinical Laboratory Related Topics II
(2 credit hours - 2 lecture 0 lab - T)
Additional topics related to the clinical laboratory experience are presented and discussed in seminar format. Discussion of clinical activities will reinforce academic coursework and address new or updated information related to OT practice. Prerequisites: Successful completion of all previous OTA program courses. (SU)

OTA 295-Special Problems
(0.1-8 credit hours - T)
Provides the opportunity to apply selected and current courses, seminars, directed individual study, and other quality educational experiences that contribute substantially to an Occupational Therapy Assistant student's program of study. Prerequisite: Dean approval.

PAR 151-Introduction to Law for the Paralegal
(3 credit hours - 3 lecture 0 lab - T)
Introduces students to the legal system as well as to the substance of constitutional, statutory, criminal, and civil laws, and to the legal reasoning and writing skills required of paralegals. Corequisite: ENG 150 or permission of instructor. (FL)

PAR 152-Computerized Legal Concepts for Paralegals
(3 credit hours - 2 lecture, 2 lab - T)
An introduction to the computerization of the concepts, processes, and procedures of the law and to the use of on-line data bases in researching and resolving legal issues, as well as in constructing legal documents. This course will, thus, help students to begin to analyze and research legal issues, and to draft legal documents. Co-requisite: PAR 151 or permission of instructor. Basic word processing and internet search skills are also required. (FL)

PAR 153-Techniques of Legal Research
(3 credit hours - 2 lecture 3 lab - T)
Familiarizes students with the law library and helps them develop legal research skills. Prerequisite: PAR 151 or permission of instructor. (WI)

PAR 155-Family Law
(3 credit hours - 2 lecture 2 lab - T)
The legal formalities of family law are studied, including marriage, annulments, divorce, property rights and distribution, custody and visitation, alimony, separation agreements, adoptions, parent, and child law. Students learn to interview clients with family law problems and to prepare complaints and agreements. Prerequisite: PAR 151 or permission of instructor. (SP)

PAR 159-Civil Law & Procedures for the Paralegal
(3 credit hours - 2 lecture 2 lab - T)
An overview of the paralegal's function in the pretrial civil litigation process. Develops the skills to prepare relevant litigation documents. Prerequisite: PAR 151 or permission of instructor. (WI)

PAR 160-Drafting Wills & Probating Estates in Ohio
(3 credit hours - 2 lecture 2 lab - T)
Examines the requirements of a will and how estates are probated. Students will also consider the more common forms of wills, trusts, and intestacy, while being introduced to elementary estate planning techniques. Prerequisite: PAR 151 or permission of instructor. (SP)

PAR 250-Criminal Law for the Paralegal
(3 credit hours - 3 lecture 0 lab - T)
The course consists of a primary overview of both the substance and procedure of criminal law as a paralegal would experience it at both the state and federal level of investigation, prosecution, and appeal. Prerequisites: PAR 151 or permission of instructor. (FL)

PAR 251-Legal Writing I
(3 credit hours - 2 lecture 3 lab - T)
Covers objective legal writing while emphasizing office memoranda and the refinement of analytical reasoning skills. Prerequisite: PAR 153 or permission of instructor. (FL)

PAR 253-Real Estate Transactions for the Paralegal
(3 credit hours - 3 lecture 0 lab - T)
A practical introduction to the drafting of deeds, deeds of trust, contracts, promissory notes, senior and junior mortgages, wrap-around mortgages and settlement sheets, and related real estate concepts. Prerequisite: PAR 151 or permission of instructor. (SU)

PAR 255-Legal Writing II
(3 credit hours - 2 lecture - 2 lab - T)
Continues the development of basic analytical and writing techniques commenced in PAR 251, but emphasizes adversarial rather than objective writing skills. Students will prepare trial memoranda and briefs, and develop elementary appellate advocacy writing skills. Prerequisite: PAR 251. (WI)

PAR 258-Bankruptcy Law for the Paralegal
(3 credit hours - 3 lecture 0 lab - T)
Reviews substantive bankruptcy law, while examining the legislative intent and historical underpinnings of the bankruptcy code. Also reviews procedures that guide and often control substantive bankruptcy law, and its practical implementation, while focusing on bankruptcy's procedural complications. Prerequisite: PAR 151 or permission of instructor. (SP)

PAR 259-Corporate & Partnership Law
(3 credit hours - 2 lecture 2 lab - T)
An overview of the formation and operation of corporations, as well as of general and limited partnerships, and limited liability companies. Prerequisite: PAR 151 or permission of instructor. (FL)

PAR 262-Torts & Insurance Law
(3 credit hours - 2 lecture 2 lab - T)
Students will study tort law and the documents associated with tort litigation. Insurance law, including insurable interests to compromise, accord, and release, will also be studied. Prerequisite: PAR 153 or permission of instructor. (WI)

PAR 265-Paralegal Seminar
(3 credit hours - 3 lecture 0 lab - T)
Students will display their paralegal skills and legal aptitudes by constructing portfolios of their major written assignments and by sitting for a comprehensive written examination covering the law's principal substantive areas. Students will also be directed in their search for suitable paralegal employment. Prerequisite: PAR 251 or permission of instructor. (SP)

PBT 180-Phlebotomy I
(2 credit hours - 1 lecture 3 lab - T)
Focuses on the principles of blood collection and proper specimen processing techniques. The student will be able to understand theory and competently perform phlebotomy and clinical assistant techniques upon completion of classroom instruction and clinical experience. Prerequisites: Placement into ENG 150, and satisfactory score on reading comprehension and placement into Math 110, completion of health requirements.

PBT 181-Phlebotomy II
(2 credit hours - 1 lecture 6 lab - T)
Focuses on continued development of phlebotomy and clinical skill in varied clinical settings. The student will spend 6 hours per week in the clinical setting and 1 hour per week in lecture. Prerequisite: PBT 180 with a grade of "C" or better.

PBT 182-Phlebotomy III
(2 credit hours - 1 lecture 6 lab - T)
Focuses on continued development of phlebotomy and clinical skill in varied clinical settings. The student will spend 6 hours per week in the clinical setting and 1 hour per week in lecture. Prerequisite: PBT 181 with a grade of "C" or better.

PHL 101-Introduction to Philosophy
(4 credit hours - 4 lecture 0 lab - G)
In this course, students will be introduced to the discipline of philosophy by studying some of the most important ideas and theories of famous philosophers. This study will be organized around the following sub-divisions within Philosophy: (a.) metaphysics and epistemology; (b.) ethics; (c.) philosophy of religion; (d.) philosophy of human nature; and (e.) social and political philosophy. The study of famous philosophical theories within these sub-divisions will also include the following: (a.) an investigation into the nature of philosophical questions; (b.) an exploration of the different views in history of what philosophy actually is and what it studies; (c.) an understanding of the Socratic method; and (d.) an investigation into the usefulness of philosophy and how it can influence one's personal life, as well as the society at large. Students will be expected to critically analyze philosophical theories both orally in class discussions and in writing assignments. Prerequisite: Grade of "C" or better in ENG 150.

PHL 201-Contemporary Philosophy
(4 credit hours - 4 lecture 0 lab - G)
This course surveys the great philosophers and philosophical theories from the last 350 years of Western Philosophy. Particular attention will be paid to how these philosophers and theories have influenced our current global society. The following philosophers will be studied: Copernicus, Galileo, Descartes, Pascal, Hobbes, Locke, Hume, Rousseau, Kant, Hegel, Kierkegaard, Nietzsche, Feuerbach, Mill, Marx, James, Russell, Dewey, Ayer, Wittgenstein, Quine, Rawls, Heidegger, Husserl, Scheler, Reinach, Stein, Sartre, De Beauvoir, and Derrrida. Some of the major theories discussed will be the nature of knowledge, freedom, morality, social justice, the ideal state, the nature of religion, and the relationship of religion to science. Prerequisite: Grade of "C" or better in ENG 150.

PHY 110-Physical Science
(4 credit hours - 3 lecture 3 lab - G)
Provides the student with an overview of physical science. Primary emphasis is placed on the basics of physics. Prerequisite: Completion of MTH 097 with a grade of "C" or higher or placement into a math course at or above the level of MTH 113. (SP)

PHY 201-Physics I
(4 credit hours - 3 lecture 3 lab - G)
Physics focuses on the observation and measurement of the behavior of our physical world. Topics covered are mechanics of solids and liquids. Co-requisite: MTH 124. (SU)

PHY 202-Physics II
(4 credit hours - 3 lecture 3 lab - G)
This is a continuation of PHY 201. Topics covered are temperature, heat, thermodynamics, wave motion, sound, electricity, and magnetism. Prerequisite: PHY 201.

PHY 203-Physics III
(4 credit hours - 3 lecture 3 lab - G)
This is a continuation of PHY 201 and PHY 202. Topics covered are light, optics, relativity, quantum, atomic and nuclear physics. Prerequisite: PHY 202.

POL 101-American National Government
(4 credit hours - 4 lecture 0 lab - G)
American National Government is an introduction to the nature, purpose and structure of the national government in the United States. The process of and participants in the creation of public policy are emphasized, including a citizen's role in a democracy. The positive and negative aspects of broad participation are compared. Co-requisite: ENG 150.

PRW 108-Field Technician Orientation
(3 credit hours - 2 lecture 3 lab - T)
An orientation to field sport techniques and terminology needed by employees in Natural Resources. Includes certification in Ohio Division of Watercraft Basic Boating course, ACA flat water canoeing, and Division of Wildlife Hunter Education. Labs include on-the-water and shooting range experience. Prerequisite: None. (FL)

PRW 115-Forest Fire Suppression & Safety
(2 credit hours - 1 lecture 2 lab - T)
An introduction to forest fire fighting that includes the material from the U.S. Forest Service course S130, S190 and Standards for Survival for a total of 32 hours of instruction. Successful completion permits the student to take the physical examination and qualify for the "Ohio Team." Prerequisite: None.

PRW 120-Wildlife of Ohio
(3 credit hours - 2 lecture 3 lab - T)
An introduction to the game and non-game species of Ohio. Students will study identification, distribution, life history and basic morphological structures and their adaptations. Prerequisite: BIO 141 or permission of instructor. (WI)

PRW 130-Soil and Water Conservation
(3 credit hours - 2 lecture 3 lab - T)
Introduction to soil science including physical, chemical, and biological properties related to land use, environmental quality, and plant growth. Soil conservation practices will also be emphasized. Prerequisite: None. (FL)

PRW 131-Recreation Area Construction
(3 credit hours - 1 lecture 4 lab - T)
Overview of tools, materials, and techniques used in construction and maintenance of outdoor recreation facilities. Labs include use of tools and completion of one or more construction projects. Prerequisite: None. (SP)

PRW 250-Wildlife Habitat Management
(3 credit hours - 2 lecture 3 lab - T)
Habitat evaluation and manipulation techniques are studied and put into practice in the field. Cover mapping habitats, quantitative vegetation analysis, release cutting, and controlled burning are some of the operations used in the ecological assessment and management of successional stages for game and non-game species. Prerequisites: BIO 141, BIO 151, and PRW 120, or permission of instructor. (FL)

PRW 254-Recreation Power Equipment
(3 credit hours - 1 lecture 4 lab - T)
The operation, maintenance, and safety of equipment used in outdoor recreation facilities. Includes knowledge of mechanical systems. Labs include operation and/or maintenance of chainsaws, mowers, tractors, and welding equipment. Prerequisite: None. (FL)

PRW 257-Forestry
(3 credit hours - 2 lecture 3 lab - T)
An introduction to forestry science and dendrology. The course emphasizes tree identification, silviculture, planting, harvest, and forest measurement methods. Prerequisite: BIO 151 or permission of instructor. (FL)

PRW 260-Wildlife Population Management
(3 credit hours - 2 lecture 3 lab - T)
The sampling and analysis of wildlife populations are emphasized. Census techniques, mark-recapture, and removal methods are used to assess population numbers. Age and growth studies, survivorship curves, population biology of vertebrates (pest and non-pest species), condition, sexing, and necropsy techniques for birds and mammals are covered. Prerequisite: PRW 250 or permission of instructor. (WI)

PRW 261-Recreation Management
(3 credit hours - 2 lecture 3 lab - T)
A survey of existing recreation areas to include their diversity, development, mission, budgeting, and management. Facility design and function will be analyzed. Labs include trips to various recreation sites. Prerequisite: Sophomore status. (SP)

PRW 262-Natural Resources Laws and Enforcement
(3 credit hours - 2 lecture 3 lab - T)
An overview of natural resource law enforcement from historic roots in constitutional law to current duties of officers. The process of training, investigation, search and seizure, arrest, and court appearances from a natural resources officer perspective. Prerequisite: PRW 108 or permission of instructor. (WI)

PRW 270-Fisheries Management
(3 credit hours - 2 lecture 3 lab - T)
Freshwater fish are studied in terms of their taxonomy, morphology, life history, and ecology. Aquatic habitat evaluation is combined with management practices for lakes, ponds, and stream systems. Population studies, age and growth, food habits, and stocking techniques are incorporated into sound ecological practices. Prerequisite: BIO 141 or permission of instructor. (SP)

PRW 271-Landscaping-Design & Management
(3 credit hours - 2 lecture 3 lab - T)
Identification and use of plant materials and horticultural practices in landscape design and turf management. Includes at least one design project and trips to various horticultural and recreational facilities. Prerequisites: Sophomore status. (SP)

PRW 274-Nature Interpretation
(3 credit hours - 2 lecture 3 lab - T)
Designed to acquaint students with the techniques and theories related to interpreting the natural environment. Students are expected to utilize information learned in previous courses or experiences to develop and present informative and educational interpretative programs. Prerequisite: Sophomore status or permission of instructor. (SP)

PSV 200-Internship I
(2-4 credit hours - 0 lecture 20-40 lab - T)
Supervised work experience required for students in public service technologies (Early Childhood Education, Criminal Justice). Includes student applying for a job in a related area, on-the-job supervision, scheduled visits by coordinators, and periodic evaluation. Prerequisite: Sophomore standing. Internship positions must be approved by the Dean.

PSV 201-Community Service
(2-4 credit hours - 0 lecture 20-40 lab - T)
Supervised work experience by students performed for pay or gratuitously for a public agency or non-profit entity. Qualifying agencies and entities include, but are not limited to, those providing health or child care, legal assistance, consumer services, corrections, civic affairs, neighborhood improvement, rural development, environmental quality, gerontology, and other fields of human betterment and community improvement. Prerequisite: Special approval.

PSV 210-Internship II
(2-4 credit hours - 0 lecture 20-40 lab - T)
Continuation of Internship I. Prerequisite: PSV 200.

PSV 295-Special Problems
(.1-8 credit hours - T)
Provides the opportunity to apply selected and current courses, directed individual study, and other quality educational experiences which contribute substantially to a Public Service student's program of study. Prerequisite: Dean approval.

PSV 296-Vocational Education Experience
(1-12 credit hours - T)
This course number designates transfer credit awarded for the satisfactory completion of an approved secondary or post-secondary program in vocational education. If approved six (6) credit hours are awarded for each academic year completed in a full-time vocational education program for up to twelve (12) credit hours. This credit is to be evaluated by the student's advisor and Division Dean.

PSV 297-Technical Work Experience
(1-12 credit hours - T)
The 297 course number designates transfer credit awarded for the satisfactory acquisition of knowledge through the performance of verified (documented) work experience in an occupation specialty at the level of journeyman, technician, semiprofessional, or paraprofessional, or mid-management person. If approved, up to six (6) credit hours are awarded for each calendar year of full-time work completed at a specified level. There is no tuition fee. The maximum number of credits to be thus awarded is twelve (12). The judgment of the Division Dean determines if any (or how much) credit will be awarded.

PSV 299-Seminar
(3 credit hours - 3 lecture 0 lab - T)
This course is taken in conjunction with Internship. It includes discussion of students' intern experiences, principles of employment practices, and improvement of employee traits. Prerequisite: Permission of instructor. (SU)

PSY 101-Introduction to Psychology
(4 credit hours - 4 lecture 0 lab - G)
An overview of the major theories, concepts, and biological processes involved in the study of human behavior. Topics include history of psychology, research methods, biological bases of behavior, sensation and perception, consciousness, learning, memory, cognition and intelligence, motivation and emotion, lifespan development, personality, stress and coping, psychological disorders and their treatment, and social behavior. Prerequisite: If placed by testing, a grade of "C" or better in COM 090 and/or COM 091 or completion or enrollment in ENG 150. (FL, WI, SP, SU)

PSY 110-Psychology of Gender
(4 credit hours - 4 lecture 0 lab - G)
Gender is a fundamental organizing principle of human behavior. Society places different expectations on how we should think, feel, and behave, depending upon the sex into which we are born (female or male). This course will explore beliefs and experiences of gender (femininity and masculinity) through readings, reflection, discussion, and examinations. Topics include gender-role attitudes, sex differences (research and theories), and male-female differences in achievement, communication, relational styles (friendships, romantic relationships), physical and mental health, and orientations towards work. Prerequisites: If placed by testing, a grade of "C" or better in COM 090 and/or COM 091 or completion of or enrollment in ENG 150.

PSY 201-Abnormal Psychology
(4 credit hours - 4 lecture 0 lab - G)
Students will learn the diagnostic criteria for mental disorders and the different theoretical approaches to treatment. Classes of mental disorders covered include: anxiety, cognitive, developmental, dissociative, eating, gender identity, impulse control, mood, personality, schizophrenia, sexual, sleep, somatoform, and substance-related disorders. Prerequisite: PSY 101. (FL, WI, SP)

PSY 203-Child/Adolescent Psychology
(4 credit hours - 4 lecture 0 lab - G)
An examination of the normal physical, cognitive, and emotional changes that occur as a child develops from conception to adolescence. Developmental problems such as attention deficit disorder, autism, and juvenile delinquency are also covered. The student will critically examine the major theories of development and use these theories as a conceptual framework for understanding development. Prerequisite: PSY 101 or HSV 103. (SP)

PSY 217-Social Psychology
(4 credit hours - 4 lecture 0 lab - G)
A discovery of how other people can influence the thoughts, feelings, and behaviors of an individual. Topics include formation of perceptions about self and others, attitude formation and change, social influences on behavior (e.g., obedience, conformity, etc.), group processes, prosocial and aggressive behaviors, and prejudice/discrimination. Written and interactive assignments are part of the course. Prerequisite: PSY 101.

PSY 231-Educational Psychology
(4 credit hours - 4 lecture 0 lab - G)
Examines normative and non-normative cognitive, social, and emotional development in children and adolescents. The student will use developmental theory as a basis for understanding how problems occur and may be addressed in this age group. Theories of learning, motivation, instructional strategies, and assessment are examined. Prerequisite: PSY 101. (SP)

PTA 101-The Paraprofessional in Physical Therapy
(3 credit hours - 3 lecture 0 lab - T)
Introduces the history and principles of physical therapy and the role of the physical therapist assistant within the field. Prerequisite: Admission to the PTA program. (FL)

PTA 107-Physical Therapy Procedures I
(3 credit hours - 2 lecture 3 lab - T)
Introduces fundamental treatment considerations and techniques including body mechanics, gait training, and mobility. Prerequisite: Admission to the PTA program. (FL)

PTA 108-Introduction to the Clinical Setting
(3 credit hours - 2 lecture 3 lab - T)
Provides the opportunity to observe PTs and PTAs in the clinical setting while initiating problem solving and documentation skill training. Prerequisites: PTA 101 and PTA 107. (WI)

PTA 109-Physical Therapy Procedures II
(3 credit hours - 2 lecture 3 lab - T)
Presents the principles, concepts, and application of introductory level therapeutic exercises along with objective assessment techniques. Prerequisites: PTA 108 and PTA 112. (SP)

PTA 111-Physical Therapy & Dysfunction of the Musculoskeletal System
(4 credit hours - 4 lecture 0 lab - T)
Emphasizes the effects of disease and injury on the musculoskeletal system and the physical therapy options available to treat the resulting dysfunctions. Prerequisites: PTA 108 and PTA 112. (SP)

PTA 112-Neurological Conditions & Physical Therapy Treatment
(3 credit hours - 3 lecture 0 lab - T)
Presents the principles and concepts associated with neuroanatomy and neurophysiology and their relationship to conditions treated with physical therapy. Prerequisites: PTA 101 and PTA 107. (WI)

PTA 124-Kinesiology
(4 credit hours - 3 lecture 3 lab - T)
Integrates the principles and concepts of anatomy, biomechanics, and physics with the functions and movements of the human body. Prerequisites: PTA 108 and PTA 112. (SP)

PTA 130-Directed Practice Orientation Seminar
(2 credit hours - 2 lecture 0 lab - T)
Students review basic concepts and techniques of physical therapy treatment in preparation for the initial clinical experience. Prerequisites: Successful completion of all first year PTA courses. (SU)

PTA 220-Physical Therapy Procedures III
(3 credit hours - 2 lecture 3 lab - T)
Presents principles, concepts, and applications of physical therapy procedures emphasizing deep heat, electrical, and traction modalities. Prerequisite: Successful completion of all first year PTA courses. (FL)

PTA 227-The Role of the Physical Therapist Assistant in Rehabilitation
(3 credit hours - 2 lecture 3 lab - T)
Presents the concepts, principles, and application of physical therapy procedures emphasizing therapeutic techniques for rehabilitation of persons with severe or chronic conditions or disabilities. Prerequisite: Successful completion of all previous PTA courses. (WI)

PTA 229-Related & Advanced Topics in Physical Therapy
(3 credit hours - 3 lecture 0 lab - T)
This course consists of a series of seminars. These presentations are designed to provide the second year Physical Therapist Assistant student with a variety of information and experiences that expand upon material previously covered. This course also provides the opportunity to introduce the student to subject matter that may be more specialized than the content of the other PTA courses. Prerequisite: Successful completion of all previous PTA courses. (WI)

PTA 230-Directed Practice I
(3 credit hours - 0 lecture 21 lab - T)
Provides students with the opportunity to apply classroom knowledge and laboratory skills in the clinical setting while closely supervised by a physical therapist or physical therapist assistant. Prerequisite: Successful completion of all first year PTA courses. (FL)

PTA 232-Therapeutic Exercises-Concepts and Applications
(3 credit hours - 2 lecture 3 lab - T)
Emphasizes the concepts of advanced exercises along with the application of specific techniques. Prerequisite: Successful completion of all first year PTA courses. (FL)

PTA 233-Physical Therapy Concepts & the Treatment of Special Populations
(3 credit hours - 2 lecture 3 lab - T)
Consists of two modules which address the special considerations associated with the treatment of children and older adults. Prerequisites: PTA 220 and PTA 232. (WI)

PTA 240-Directed Practice II
(3 credit hours - 0 lecture 21 lab - T)
The student continues to apply classroom knowledge and laboratory skills in the clinical setting with an emphasis on measuring independence while under the supervision of a licensed PT or PTA. Prerequisite: PTA 230. (WI)

PTA 255-Advanced Directed Practice
(6 credit hours - 0 lecture 32 lab - T)
Requires students to apply theory and advanced skills with entry-level competence while under the supervision of a licensed PT or PTA. Prerequisite: PTA 240. (SP)

PTA 265-Role Transition and Professionalism
(4 credit hours - 4 lecture 0 lab - T)
Prepares the student for the transition to practicing physical therapist assistant including job search techniques and licensure preparation. Prerequisites: PTA 233, PTA 227, and PTA 229. (SP)

PTA 295-Special Problems
(0.1-8 credit hours - T)
Provides the opportunity to apply selected and current courses, seminars, directed individual study, and other quality educational experiences that contribute substantially to a Physical Therapist Assistant student's program of study. Prerequisite: Dean approval.

RAD 100-Introduction to Medical Imaging
(2 credit hours - 2 lecture 0 lab - T)
An introduction to Radiologic Technology which includes the history of the profession, technologist responsibilities, work ethics, hospital organization, patient care assessments, radiation protection, and basics of radiographic equipment. Prerequisite: Status as RAD or RTW student. (SU)

RAD 105-Radiation Equipment & Production
(4 credit hours - 4 lecture 0 lab - T)
A review of topics in modern physics and mathematics for an understanding of the physical principles upon which radiologic technology is based. Prerequisites: Freshmen in RAD and "C" or better in MTH 115. (SP)

RAD 121-Radiographic Procedures I
(4 credit hours - 3 lecture 3 lab - T)
Introduces the analysis of theory in radiography of the extremities, chest, abdomen, and urinary tract studies. Introduces medical terminology and radiographic terminology. Prerequisites: Admission to Radiologic Technology, RAD 100, BIO 240. (FL)

RAD 122-Radiographic Procedures II
(4 credit hours - 3 lecture 3 lab - T)
A continuation of RAD 121, emphasizing theory of radiography of the alimentary canal, vertebral column, bony thorax, and mobile examinations. Prerequisites: RAD 121, BIO 242. (WI)

RAD 124-Advanced Radiographic Procedures
(4 credit hours - 3 lecture 3 lab - T)
The principles of advanced radiographic procedures of the skull, facial bones, and specific angiographic procedures. Emphasis is placed on anatomy and positioning, accessory equipment, and contrast media. Prerequisites: RAD 121 and RAD 122. (SP)

RAD 130-Directed Practice I
(3 credit hours - 1 lecture 14 lab - T)
Clinical application of radiographic techniques. The student will acquire competencies in the radiology office, transporting of patients to and from the department, and patient examinations. Competencies are limited to only those covered as part of RAD 121. Students observe, assist and perform basic radiographic procedures. Prerequisites: Admission to Radiologic Technology, current CPR certification and RAD 100. (FL)

RAD 131-Directed Practice II
(3 credit hours - 1 lecture 14 lab - T)
Continuation of clinical experience with increased responsibility in preparation, care, and radiographic exposure of the hospital patient. Students are expected to perform routine radiographic procedures with technologist supervision. Prerequisite: RAD 130. (WI)

RAD 132-Directed Practice III
(3 credit hours - 1 lecture 14 lab - T)
Continuation of clinical experience with increased responsibilities. Students are expected to perform routine radiographic procedures with technologist supervision. Additional emphasis is placed on less routine special radiographic procedures in affiliating radiology departments. Prerequisite: RAD 131. (SP)

RAD 202-Radiographic Pathology
(2 credit hours - 2 lecture 0 lab - T)
The course will emphasize common pathologies of the different body systems and how these pathologies are demonstrated radiographically or through other imaging modalities. Prerequisite: RAD 124. (WI)

RAD 203-Radiobiology/Radiation Protection
(3 credit hours - 3 lecture 0 lab - T)
A study of radiation effects upon living tissue and the protective procedures which reduce undesirable radiobiologic effects. Topics include radiation detection and measurement, principles of radiobiology, principles of radiation protection, and radiation protection standards. Prerequisite: RAD 105. (WI)

RAD 204-Radiographic Imaging and Processing
(3 credit hours - 2 lecture 3 lab - T)
This course is designed to establish a knowledge base in factors that govern and influence the production and recording of radiologic images. Film and electronic imaging with related accessories will be emphasized. Prerequisites: MTH 115 and RAD 105. (SU)

RAD 210-Radiographic Image Analysis
(3 credit hours - 2 lecture 3 lab - T)
Provides in-depth analysis of radiographic images. Application of concepts learned in prior courses will be included in image evaluation. Prerequisites: RAD 124 and RAD 204. (WI)

RAD 211-Medical Imaging Ethics & Law
(2 credit hours - 2 lecture 0 lab - T)
A discussion of the background of ethics, legal issues, and ethical behavior required in radiologic sciences. Prerequisites: Sophomore standing and RAD 100. (SP)

RAD 212-Allied Imaging Modalities
(2 credit hours - 2 lecture 0 lab - T)
This course will emphasize the basic principles, procedures, and terminology associated with computed tomography (CT), digital radiography, magnetic resonance imaging (MRI), nuclear medicine (NM), radiation therapy, ultrasonography (US), bone densiometry, and administration. Prerequisite: RAD 105 or permission of instructor. (SP)

RAD 215-Pharmacology for Medical Imaging
(2 credit hours - 2 lecture 0 lab - T)
This course is designed to provide basic concepts of pharmacology. The theory and practice of basic techniques of venipuncture and admission of diagnostic contrast agents and/or intravenous medications are included. The appropriate delivery of patient care during these procedures is emphasized. Prerequisites: RAD 100 and RAD 124. (FL)

RAD 230-Directed Practice IV
(4 credit hours - 1 lecture 21 lab - T)
Continuation of clinical experience with emphasis placed on seldom done procedures and afternoon shift rotation. Students also rotate through an affiliating physician's office for one day. Prerequisite: RAD 132. (SU)

RAD 231-Directed Practice V
(4 credit hours - 1 lecture 21 lab - T)
Continuation of clinical experience in a different affiliating radiology department. Students may also complete rotations in CT, bone density, and mammography. Prerequisite: RAD 230. (FL)

RAD 232-Directed Practice VI
(4 credit hours - 1 lecture 21 lab - T)
Continuation of clinical experience in affiliating radiology departments. Emphasis is placed on rotations in other imaging modalities and afternoon shifts. Prerequisite: RAD 231. (WI)

RAD 233-Directed Practice VII
(4 credit hours - 1 lecture 28 lab - T)
Final quarter of supervised work experience in the clinical setting. Emphasis is placed on areas for student improvement and students' individual interests. Progression is evaluated in all clinical areas and includes rotations through afternoon and evening shifts. Prerequisite: RAD 232. (SP)

RAD 299-Preparation for Role Transition
(3 credit hours - 2 lecture 2 lab - T)
Seminar discussions concerning the RT's role as a health care professional, interviewing skills, resume writing, reality shock, trauma lab simulations, and methods of registry examination preparation. Prerequisite: Sophomore standing or permission of instructor. (SP)

SFM 105-Introduction to Sport Industry
(3 credit hours - 3 lecture 0 lab - T)
Introductory course that showcases the multiple facets of sport industry. The knowledge gained in this course will help students identify different career paths within the sports and fitness industry as well as provide a foundation for other SFM courses. Prerequisite: None. (FL)

SFM 107-History of Sport
(4 credit hours - 4 lecture 0 lab - T)
Introduces students to the history of sport in America. The historical development of the philosophical, cultural and social aspects will be analyzed in light of the advancement in technology and related to the physical activity profession. Prerequisite: None. (WI)

SFM 110-Personal Wellness
(3 credit hours - 3 lecture 0 lab - G)
Introduces students to the different dimensions of health; physical, psychological, spiritual, social, intellectual and environmental. Students will learn how to make informed health decisions about nutrition, stress management and active living in order to positively impact their own personal health. Prerequisite: None. (FL)

SFM 120-Introduction to Resistance Training
(2 credit hours - 1 lecture 2 lab - T)
Introduction to resistance training for the individual user. Students will gain a basic understanding of positioning and safety, as well as the basic concepts underpinning any resistance training program. Prerequisite: None. (FL)

SFM 140-Practicum I
(2 credit hours - 1 lecture 7 lab - T)
This initial observation practicum is designed to give students an everyday look into the workplace of sports and recreation facilities. The shadowing experience permits the student time to observe the daily working of personnel in sports, fitness and recreational environments. Opportunities to see a variety of routine tasks and responsibilities, question and answer time, and learning what expectations are required of those who work in this exciting field comprises the fundamentals of this class. Prerequisite: SFM 105, BIO 240, and BIO 241. (SU)

SFM 150-Individual Activities
(1 credit hour - 0 lecture 2 lab - T)
This course provides students the necessary tools and opportunities to analyze individual sport skills, demonstrate effective instructional techniques, and work with others in a positive and reinforcing fashion to enhance skill performance. Prerequisite: None. (WI)

SFM 160-Dual Sport Activities
(1 credit hour - 0 lecture 2 lab - T)
This course provides students the necessary tools and opportunities to analyze an individual's dual-sport skills, demonstrate effective instructional techniques, and work with others in a positive and reinforcing fashion to enhance skill performance. Prerequisite: None. (SU)

SFM 180-Group Fitness Activities
(2 credit hours - 1 lecture 2 lab - T)
This course provides an introduction to the methods of teaching and encouraging participation in group fitness settings. Students will work in large groups to set fitness goals and facilitate group fitness activities. Lab will include performance of activities along with peer instruction, both designed to foster clear communication of directions and safety related issues. Prerequisite: None. (WI)

SFM 200-Sport Management Foundations
(4 credit hours - 3 lecture 2 lab - T)
This course is a survey of the needs of a variety of recreational facilities. Included within the content is an analysis of the physical needs, safety considerations, equipment, personnel process, staffing requirements, and activity programming. Prerequisites: BUS 111. (WI)

SFM 215-Practicum II
(3 credit hours - 2 lecture 7 lab - T)
This course provides the opportunity for supervised practical experience in an area of the sport, fitness and recreation industry. Through an externship, students will work side-by-side with industry professionals to apply knowledge and to develop leadership and managerial skills. Prerequisites: SFM 120 and SFM 140. (FL)

SFM 220-Intermediate Resistance Training
(3 credit hours - 2 lecture 2 lab - T)
Builds upon the introductory course work to broaden the student's knowledge about the benefits and application of resistance training. Students will develop individual exercise programs by exploration and application of major resistance training concepts and demonstration of appropriate spotting, safety and lifting techniques. Prerequisites: BIO 242 , BIO 243, and SFM 120. (WI)

SFM 230-Management of Athletic Injuries
3 credit hours - 2 lecture 2 lab - T)
Focus is upon the initial management of common injuries resulting from physical activity. By understanding risk factors associated with participation in a variety of sports, students learn skills related to prevention, recognition and treatment. Prerequisite: BIO 242 and BIO 243. (WI)

SFM 240-Exercise Physiology
(5 credit hours - 4 lecture 3 lab - T)
Instruction in testing processes and techniques for individual evaluation of body fat analysis, aerobic and anaerobic fitness, muscle mass and, flexibility combines with the physiological study of the body's systemic responses to exercise. Prerequisites: BIO 242, BIO 243, and HLT 222. (WI)

SFM 265-Practicum III
(4 credit hours - 2 lecture 14 lab - T)
This capstone field experience provides the student with supervised, experiential learning in an area of the sport, fitness or recreation industry. This externship will allow students to work with other professionals in the industry while gaining a sense of autonomy in the directed delivery of services to clients. Prerequisites: SFM 200, SFM 215 and SFM 240. (SP)

SFM 271-Activities for Special Populations
(3 credit hours - 2 lecture 2 lab - T)
This course is designed to prepare physical activity professionals to identify, select and implement appropriate strategies, services and resources to meet the needs, learning styles and experiences of those with special needs. Field based experience with self-analysis is required. An appropriate field placement must be agreed upon between the student and the course instructor. Prerequisite: SFM 215. (SP)

SFM 275-Philosophy and Ethics in Sport Industry
(3 credit hours - 3 lecture 0 lab - T)
Students will compare and contrast the philosophical underpinnings and ethical considerations that shape decisions made in a variety of sport, fitness and recreational settings. In addition, students will explore the historical development and future trends of these overarching philosophies. Prerequisite: SFM 215. (SP)

SOC 101-Introduction to Sociology
(4 credit hours - 4 lecture 0 lab - G)
Introduces students to the basic concepts, theories, perspectives, and processes in sociology. Topics include culture, socialization, groups, organizations, social deviance, social class and inequality, social change and social institutions. This course will help students better understand themselves as well as their relationship to the larger society. Prerequisite: If placed by testing, a grade of C or better in COM 090 and/or COM 091 or completion or enrollment in ENG 150. (FL, WI, SP, SU)

SOC 206-Cultural Diversity
(4 credit hours - 4 lecture 0 lab - G)
An exploration of American diversity in terms of the dynamics of intergroup relations, focusing on selected racial and ethnic groups. In addition, other diversities that will be included in the exploration: religion, gender, sexual preference, and the Appalachian area. Prerequisite: SOC 101. (FL, SP)

SOC 218-Social Problems
(4 credit hours - 4 lecture 0 lab - G)
An overview of contemporary social problems to include poverty, substance abuse, discrimination, crime, family violence, and environment degradation. Students explore the nature of these problems, how they developed, and potential solutions. Students will look at these problems in the United States and within a global society. Prerequisite: If placed by testing, a grade of C or better in COM 090 and/or COM 091 or completion or enrollment in ENG 150. (SP, SU)

SUR 142-Remote Sensing & Cartography
(3 credit hours - 2 lecture 3 lab - T)
Remote sensing and cartography resources, principles, and techniques used in the natural sciences. Natural resources management applications for topographic and specialty maps, aerial photographs, satellite imaging, computer navigation systems, GPS, and GIS. Data collection and manipulation are practiced in lab. Co-requisite: MTH 113. (WI)

SUR 219-Fundamentals of Surveying
(4 credit hours - 2 lecture 4 lab - T)
An introduction to basic land measurement including horizontal distance, elevation, and angle measurements. An introduction to global positioning is included. Students will operate transits, level and total stations. Students will prepare basic surveying drawings. Prerequisite: Completion of MTH 097 with a grade of "C" or higher or placement into a math course at or above the level of MTH 113. (FL, SP)

THR 101-Introduction to Theater
(4 credit hours - 4 lecture 0 lab - G)
Theater 101 is an introductory course designed to give students the skills to recognize contemporary theatrical practices and observe their historical lineage and cultural context. In doing so, this class also seeks to examine the relevance of theatre in modern life and subsequently teaches students to be appreciative audience members. The material will focus on key theatrical terms and dramatic concepts. Students will explore the major movements in dramatic literature from Greek Festival Theatre to American Naturalism. The course will consist of lectures, discussions, and participation opportunities, as well as reading and analyzing plays, viewing filmed versions of plays and attendance at a live theatrical event. Prerequisite: ENG 150, or placement into ENG 150, or grade of "C" or better in COM 090 and/or COM 091 and ENG 096.

WAF 101-Introduction to Welding/Cutting Safety & Processes
(3 credit hours - 2 lec 2 lab - T)
An introduction to basic welding & cutting safety, an overview of general welding terminology and principles, including electrical theory as it applies to the welding process. Instruction on electrode selection and the AWS classification system. Covers identification of different types of weld joints & how to prepare joints to be welded. Laboratory exercises in safe operation of the oxy-fuel torch (handheld & machine versions) and plasma arc cutter. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 103-Basic SMAW I
(5 credit hours - 1 lec 8 lab - T)
Introduction to structural welding of carbon steel with Fill Freeze (E6013 & E6012) and Fast Freeze (E6010) electrode groups in the flat, horizontal & vertical positions. The ability to maintain correct arc length, electrode angle & travel speed is emphasized. Students will become familiar with the techniques for making stringer and weave beads on plate and learn to evaluate the quality of their welds. This includes learning to recognize the common weld defects and their causes. The fillet weld will also be introduced on lap and T-joints. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 105-Basic SMAW II
(5 credit hours - 1 lec 8 lab - T)
A continuation of SMAW I skill exercises, utilizing Fast Freeze electrodes, with the addition of the overhead welding position. The Fast Fill (E7024) & Low Hydrogen (E7018) electrode groups are introduced. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 107-Basic SMAW III
(5 credit hours - 1 lec 8 lab - T)
A continuation of the skills learned in SMAW II with the Low Hydrogen electrode group, in all positions. Introduction of the groove weld and guided-bend testing. Begin utilizing hardfacing electrodes. Students will have the opportunity to take the ODOT (AWS D1.5) State Certification Test. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 109-SMAW Supplemental I
(4 credit hours - 0 lec 8 lab - T)
This course is designed to give students additional lab time, if necessary, to further develop the techniques covered in the Basic SMAW series (WAF 103-107) for the purpose of certification. Students will have the opportunity to take the ODOT (AWS D1.5) State Certification Test. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 111-SMAW Supplemental II
(4 credit hours - 0 lec 8 lab - T)
This course is designed to give students additional lab time, if necessary, to further develop the techniques covered in the Basic SMAW series. If a student has already utilized WAF 109 Supplemental I, and it is determined that additional develop is needed with any techniques covered in the Basic SMAW series, then completion of this course is required before the student may advance to the next level. Students will have the opportunity to take the ODOT (AWS D1.5) State Certification Test. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 121-Introduction to GMAW (MIG) /FCAW
(4 credit hours - 1 lec 6 lab - T)
An introduction to the Gas Metal Arc Welding (MIG) and Flux Cored Arc Welding processes & equipment. Topics include safe operation of equipment, proper machine settings, wire selection & classification, different modes of metal transfer and the effect of different shielding gases. Emphasis on GMAW-S welding of carbon steel with ER70S-6 & FCAW with E71T-1. Skill exercises on fillet & groove welds with backing, in all positions. Introduction to guided-bend testing of groove welds. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 123-Advanced GMAW (MIG)
(4 credit hours - 1 lec 6 lab - T)
A continuation of WAF 121, with the addition of open-root groove welds in all positions. Student efforts will be subject to guided-bend testing. The welding of aluminum & stainless steel is introduced, along with other modes of metal transfer; GMAW-P & GMAW-PP. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 125-GMAW (MIG) Supplemental
(3 credit hours - 0 lec 6 lab - T)
This course is designed to give students additional lab time, if necessary, to further develop the techniques covered in WAF 121 or WAF 123. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 141-Introduction to GTAW (TIG)
(3 credit hours - 1 lec 4 lab - T)
An introduction to basic Gas Tungsten Arc Welding (TIG) safety, setup, equipment and process. Emphasis is on skill exercises with and without filler metal, on carbon steel flats ≤1/8" thickness. Edge, butt, lap & T-joints are included, in all positions. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 143-Advanced GTAW (TIG)
(4 credit hours - 0 lec 8 lab - T)
A continuation of WAF 141, with the addition of stainless steel & aluminum materials. Skills development is concentrated on flats ≤1/8" thickness, however welding of stainless tubing is also introduced. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 145-GTAW (TIG) Supplemental
(3 credit hours - 0 lec 6 lab - T)
This course is designed to give students additional lab time, if necessary, to further develop the techniques covered in WAF 141 or WAF 143. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 151-Blueprint Reading I
(2 credit hours - 2 lec 0 lab - T)
This course serves as an introduction to blueprint reading concepts for welders. Includes discussion of basic lines & views, sketching, notes & specifications, dimensions & tolerances, bill of materials and structural shapes. Basic fractions & decimals are also covered. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 153-Blueprint Reading II
(2 credit hours - 2 lec 0 lab - T)
A continuation of WAF 151, with the introduction of welding symbols & abbreviations and detail prints. An optional study of pipe welding symbols is available for those with an interest in specialization. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 161-Fabrication
(4 credit hours - 2 lec 4 lab - T)
This course serves to introduce students to the principles of fabricating a weldment from a print. Material on construction math, proper layout & repair welding is included. Students will build a final project of their own design. Prerequisites: Permission of instructor. (FL, WI, SP, SU)

WAF 200-Internship
(3 Credits - 0 lecture - 6 lab - T)
This course is a supervised work experience in the welding field. Includes applying for a job in a related area, on-the-job training, scheduled visits by the instructor and periodic evaluation. Internship positions must be approved by the Dean. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 205-Seminar
(1 credit hour - 1 lec 0 lab - T)
This course is taken in conjunction with WAF 200 Internship and includes discussion of student's intern experiences, employer evaluations & areas for improvement as a potential employee. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 211-SMAW Pipe I
(5 credit hours - 1 lec 8 lab - T)
An introduction to open root pipe welding, utilizing the SMAW process, beginning with skill exercises on open root plate welds. Students have the option of either uphill or downhill progression as their area of concentration & their efforts will be subjected to guided-bend tests in 1G, 3G, & 4G positions. Emphasis is placed on proper preparation & fit-up, prior to welding. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 213-SMAW Pipe II
(5 credit hours - 1 lec 8 lab - T)
A continuation of WAF 211, introducing skill exercises on pipe, primarily in the 5G position. Time permitting; the 6G position will be included as well. As in WAF 201, students have the option of either uphill or downhill progression as their area of concentration & their efforts will be subjected to guided-bend & tensile testing in the 5G position. Emphasis is placed on proper preparation & fit-up, prior to welding. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 215-SMAW Pipe Supplemental
(5 credit hours - 0 lec 10 lab - T)
This course is designed to give students additional lab time, if necessary, to further develop the techniques covered in WAF 211 or WAF 213. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 221-GMAW Pipe I
(4 credit hours - 1 lec 6 lab - T)
An introduction to pipe welding, utilizing the GMAW process on carbon steel pipe. Students begin with skill exercises on the top half of the pipe, in the 5G position. Emphasis is placed on proper preparation & fit-up, prior to welding. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 223-GMAW Pipe II
(4 credit hours - 0 lec 8 lab - T)
A continuation of WAF 221; includes skill exercises on the bottom half of the pipe, in the 5G position. Time permitting, the 6G position will be covered as well. Includes guided-bend and tensile testing of the student's efforts with the 5G position. Emphasis is placed on proper preparation & fit-up, prior to welding. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 225-GMAW Pipe Supplemental
(4 credit hours - 0 lec 8 lab - T)
This course is designed to give students additional lab time, if necessary, to further develop the techniques covered in WAF 221 or WAF 223. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 231-GTAW Pipe I
(4 credit hours - 1 lec 6 lab - T)
An introduction to pipe welding, utilizing the GTAW process on carbon steel pipe. Students begin with skill exercises on the top half of the pipe, in the 5G position. Emphasis is placed on proper preparation & fit-up, prior to welding. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 233-GTAW Pipe II
(4 credit hours - 0 lec 8 lab - T)
A continuation of WAF 231; includes skill exercises on the bottom half of the pipe, in the 5G position. Time permitting, the 6G position will be covered as well. Includes guided-bend and tensile testing of the student's efforts with the 5G position. Emphasis is placed on proper preparation & fit-up, prior to welding. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 235-GTAW Pipe Supplemental
(4 credit hours - 0 lec 8 lab - T)
This course is designed to give students additional lab time, if necessary, to further develop the techniques covered in WAF 231 or WAF 233. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 241-Pipe Qualification I
(5 credit hours - 0 lec 10 lab - T)
Advanced pipe welding course designed to develop the skills that should enable the student to pass a UA, ASME or API qualification test. Emphasis is on the 6G position & the student has the choice of which welding process or combination of processes to pursue. Skill exercises begin with the top half of the pipe. Four guided-bend & two tensile tests are required. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 243-Pipe Qualification II
(5 credit hours - 0 lec 10 lab - T)
A continuation of WAF 241, designed to begin with skill exercises on the bottom half of the pipe. Four guided-bend & two tensile tests are required. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 245-Pipe Qualification Supplemental
(5 credit hours - 0 lec 10 lab - T)
This course is designed to give students additional lab time, if necessary, to further develop the techniques covered in WAF 241 or WAF 243. Prerequisite: Permission of instructor. (FL, WI, SP, SU)

WAF 295-Special Problems
(1-8 credit hours - T)
This course is designed to provide the opportunity for independent study of topics relevant to the field of Welding & Fabrication, not covered in other courses. Prerequisite: Permission of instructor.

WORKFORCE DEVELOPMENT

Training and Consulting Division
The Training and Consulting Division is responsible for services delivered to business, hospital, industry, public service, and social service organizations within the College's service area. In addition, the Division is responsible for providing services for dislocated workers, economically disadvantaged persons, and individuals incarcerated at the Belmont Correctional Institution. Services are provided on the main campus in Zanesville, the Zane State College - Willett-Pratt Training Center in Cambridge, and at the location of the organization being served.

The Training and Consulting Division at Zane State College goes beyond the historic community outreach and public service mission of publicly supported colleges to establish "engagement" or "partnerships" in the Zane State College service area. To accomplish these goals the Training and Consulting Division employs these approaches:

1. Responsiveness—the Division assesses the educational and training needs in the Zane State College service area.
2. Respect for Community Partners—the Division encourages joint academic-community identification of problems, solutions, and successes.
3. Academic Neutrality—in its outreach to the community, the Division often serves as a neutral facilitator and source of information for purposes of expanding partnerships.
4. Accessibility—the Division helps community partners understand what educational and training programs Zane State College has to offer and to understand the institution's academic requirements and policies.
5. Integration—the Division promotes the public service mission with efforts to facilitate the learning and training of the workforce and other populations in the Zane State College service area.
6. Coordination—the Division strives to coordinate its educational and training activities with other offices at Zane State College, as well as with the resources of the community, to achieve maximum benefit to community partners.
7. Partnership—the Division strives to establish productive relationships with government, business, labor, education, and non-profit organizations.
8. Commitment—the Division has a strong commitment to function as a community-serving entity at Zane State College, be democratic in purpose and operation, and be accessible to all people who can benefit from further education and training.

Business and Industry Training
The Business and Industry Training Department representing Zane State College and Ohio University Zanesville is dedicated to partnering with business, industry, schools, and other organizations and agencies to improve performance and increase productivity. Services include: assessment of employees to determine skill levels for hiring or training; design and delivery of customized training for employers; and professional development seminars.

Training is developed to meet the specifications of employers and training may be delivered on site or in one of the College's classrooms. Examples of training topics include management, safety, computers, and industrial maintenance. All classes are offered as contract training programs tailored to meet the needs of the workforce and can be offered in a variety of formats at times convenient for our clients. Training may be offered for credit or non-credit. Grant funding provided through Enterprise Ohio directly subsidizes customized non-credit training for local employers.

SkillsMAX is a unique bundle of human capital products and services designed to help companies hire, train, and promote individuals to make better career decisions. As a certified SkillsMAX Center, additional services provided to business and industry include assessments from a variety of recognized vendors, job profiling, corporate university, IT certifications, training and development, skill and competency management, computer-based training, and job matching.

Zane State College Business and Industry Training Online Instruction Center
We offer a wide range of highly interactive courses that you can take entirely over the Internet. All of your courses include expert instructors, many of whom are nationally known authors. Our online courses are

affordable, fun, fast, convenient, and geared just for you. We offer courses from the JER Group as well as Ed2go and Tooling U.

Employment Training Center
The Employment Training Center is a partnership between Zane State College and the Guernsey County Department of Job and Family Services. The Employment Training Center equips youth and adult clients with the skills necessary to secure and retain employment which leads to lifelong self-sufficiency and career success. The open entry-open exit program offers self-paced training. Services include exposing clients to post-secondary education and training programs and assisting them with enrollment; relating basic academic skills to employer needs and expectations; helping clients develop positive social and work place behaviors; and emphasizing job search preparation.

Continuing Education
The Training and Consulting Division cooperates with companies, associations, professional organizations, and institutions to provide credit or non-credit continuing education opportunities. Learners may apply to the College to have their accumulated CEU's evaluated for credit toward an associate degree.

The Small Business Development Center
Located at the Willett-Pratt Training Center, the SBDC offers seminars, classes and services to individuals in Muskingum, Guernsey and Belmont Counties. Services such as advising, training and networking are offered in all three counties at no cost to the individual. In addition, the SBDC offers other business related open enrollment training for a small fee.

ADVISORY COMMITTEES

ACCOUNTING PROGRAM ADVISORY COMMITTEE

Diane Braden ..... Braden Medical Services
Martin Brady, CPA, CMA .....Department of Economics, Business & Accounting, Muskingum College
Katie Brown ..... CPA
Beth Burton ..... CFS, Muskingum County Department of Job & Family Services
Bruce Fouch ..... Business Director, Chapel Grove Inn
Fred McNutt ..... Adjunct Faculty, Zane State College
John Power ..... CPA
Paul Ritchey, CPA.....Norman Jones Enlow & Company
Jim Michaels..... Zane State College Faculty
Grace Peng..... Zane State College Faculty

ADMINISTRATIVE OFFICE ASSISTANT PROGRAM ADVISORY COMMITTEE

Janet Crawford ..... Account Clerk II, State of Ohio Dept. of Rehabilitation & Correction
Teanna Hrinko..... Executive Assistant, Huntington Bank, Muskingum County
Shannon Kenily ..... Coordinator Student Placement Services, Mid-East Career & Technology Center
Julie MacLaine .....Executive Assistant, Zane State College
Christine Shaw..... Ohio University-Zanesville
Vickie Wolfe .....Executive Assistant, Zanesville-Muskingum County Health Department
Marcie Hawkins..... Zane State College Faculty
Donna Shaad ..... Zane State College Faculty

BUSINESS MANAGEMENT/MARKETING/HR PROGRAM ADVISORY COMMITTEE

Randy Bankes ..... The Community Bank
Sandi Byers ..... Human Resources Manager, Dollar General
Patty Scott ..... Realtor and Review Appraiser
Gregory Ritter .....Human Resources Manager, Detroit Diesel
Vicki Taylor ..... Vice President, Huntington Bank
George Hicks ..... Zane State College Faculty

COMPUTER AIDED DRAFTING AND DESIGN PROGRAM ADVISORY COMMITTEE

Jason Baker.....Engineering & Design Manager, Tusco Display
Bob Combs.....Engineering Manager, The Fabri-Form Company
John Cotterman .....Tech Ed/Tech Prep, Coshocton High School
Jeremy Davis .....Stubbs-Addis Architects
Melvin Hazzard.....Replex Plastics
Mike Hinton ..... Stewart-Glapat
Dale Lewis..... Engineering Manager, Mock Wood Working
Dave Lewis.....Metallurg Vanadium
Mike Magis.....Project Manager, The Fabri-Form Company
Dora McElroy ..... Mid-East Career and Technology Center
Terry Richards.....Holophane
James Davis ..... Zane State College Faculty
Jeff Gibbs ..... Zane State College Dean
Janet Herron..... Zane State College Faculty
Mark Gerko..... Zane State College Faculty
Mike Whitson..... Zane State College Faculty

COMPUTERIZED MACHINE TOOL SYSTEMS PROGRAM ADVISORY COMMITTEE

Steve Brock ..... Plant Manager, EMCO Mold
Darren Burrow ..... Plant Manager, Anchor Container
John Cotterman ..... Instructor, Coshocton City Schools
Phil Janke ..... Quality Assurance Manager, Detroit Diesel
Matt Lucas ..... National Sales manager, Laser Reproductions
Charlie McQuain ..... Engineering Manager, Cambridge Tool & Die Corporation
Phil Mock ..... Instructor, Mid-East Career and Technology Center
Charles (Mort) Butcher ..... Zane State College Faculty

CRIMINAL JUSTICE PROGRAM ADVISORY COMMITTEE

William Barker ..... Sheriff, Perry County
Alan Bennett ..... Superintendent, Juvenile Detention, Muskingum County
Dan Kieffer ..... Court Director, Muskingum Juvenile Court
Eric Lambes ..... Chief, Zanesville Police Department
Matt Lutz ..... Sheriff, Muskingum County
Phil Snider ..... Law Enforcement Program Director, Mid-East Career and Tech. Center

CULINARY ARTS PROGRAM ADVISORY COMMITTEE

James Adornetto ..... Manager, Adornetto's Selected Foods, Inc.
Nancy Argo ..... Primrose Retirement
Barbara Bechtel ..... Bureau of Services for the Visually Impaired
Bill Bird ..... Zandex Health Care Corporation
Roberta Cramer ..... Roberta's Professional Cakes & Catering
Mike Gillespie ..... Director of Food & Nutrition Service, Bethesda Hospital
John C. Matesich, III ..... President, Matesich Distributing Company
Chris Norton ..... Chef, Mount Aloysius
David Roach ..... Owner, David's Catering
Betsy Skrobot ..... Owner, Sweet Dolce
Al Zakany ..... Zak's Restaurant
Marco Adornetto ..... Zane State College Faculty

EARLY CHILDHOOD EDUCATION PROGRAM/
EDUCATION PARAPROFESSIONAL PROGRAM ADVISORY COMMITTEE

Casey Coffey ..... Principal, Sheridan Middle School
Kay Davis ..... Director, Byesville Head Start
Staci Edwards ..... Adjunct Faculty, Zane State College
Debbie Fisher ..... Director, Careytown
Jeri Johnson ..... Executive Director, Child Care Resources, Incorporated
Marsha King ..... Adjunct Faculty, Zane State College
Michelle Love ..... EDP, Meadowbrook High School
Hannah Nissen ..... Assistant Professor, Ohio University-Zanesville
Sue Smith ..... Instructional Aide, Mid-East Career & Technology Center
Beverly Steinbrecher ..... Morgan Local School District
Kelly Coffey ..... Program Director, Zane State College

ELECTRICAL/ELECTRONICS ENGINEERING TECHNOLOGY PROGRAM ADVISORY COMMITTEE

Bill Bailey ..... American Electric Power
Curt Clark ..... AT&T
Matt Dudas ..... Mid-East Career & Technology Center
Shelly Grandstaff ..... Application Link
Jason Griffith ..... T Mobile
Dan Hooper ..... Colgate-Palmolive
Tom Householder ..... Zane State College Associate Professor Emeritus
Aaron Johnson ..... Southwestern Bell Corporation
Jamie Kennedy ..... Genesis HealthCare System
Adam Larson ..... American Electric Power

Dan Nelson ..... Zanesville Times Recorder
Shannon Simmerman ..... American Electric Power
Shawn Smith ..... Southeastern Ohio Medical Center
Randy Tolley ..... American Electric Power
Victor Velazquez ..... American Electric Power
Kelly Wayne ..... Genesis HealthCare System
Kim West ..... American Electric Power
Jeff Wilbur ..... The Longaberger Company
Mickey Yarger ..... Kellogg Company
Bob Zullo ..... Byesville Aseptics
Will Bailey ..... Zane State College Faculty
Jim Davis ..... Zane State College Faculty

ENVIRONMENTAL SCIENCE, SAFETY & HEALTH PROGRAM ADVISORY COMMITTEE

Amy Fuller ..... Lab Supervisor, City of Zanesville WW Division
Gigi Hammond ..... Environmental Specialist, American Electric Power
Gary Keffer ..... Health & Safety Director, American Electric Power
Timothy H. Linn, PE, PS ..... Linn Engineering, Inc.
Roger Loomis ..... Utilities Director, City of Newark/Division of Wastewater
Mike Murphy ..... Environmental Specialist, Ohio EPA SE District Office
Lloyd Owens ..... Soil Scientist, USDA/ARS
Mark Rowland ..... Director, Environmental Division, Burgess & Niple, Incorporated
Judith Scott ..... Administrator of Treatment & Distribution, City of Mt. Vernon
Bethany Schunn ..... Chemist, American Electric Power
Ed Shafer ..... Senior Public Health Sanitarian, Zanesville-Muskingum County Health Department
Erich J. Skelley ..... Energy Production Superintendant, American Electric Power
Heidi Suhoski ..... Health & Safety Coordinator, MIBA Bearings, US LLC
Carie Zigan ..... Laboratory Supervisor, Anamatic Corporation
Dan Durfee ..... Zane State College Faculty
John Marks, Ph.D. ..... Zane State College Faculty
James Shepherd ..... Zane State College Faculty

GENERAL EDUCATION ADVISORY COMMITTEE

Jim Boyd ..... Library Extension Services, Muskingum County Library
Milt Cerny ..... Wright Agency
Dr. Nick Dubbeling ..... Six County, Incorporated
Karla Frye ..... Muskingum Valley Educational Service Center
Margaret Garner ..... Mathematics Retired, Zanesville High School
Jeff Hooper ..... Judge, Muskingum County Domestic Relations Court
Bruce Kolopajlo ..... Vice President, Century National Bank
Pam Montgomery ..... Morgan County OSU Extension
Vance Perkerson ..... Mt. Aloysius Corporation
Richard Riesbeck ..... Riesbeck Food Markets, Inc.
Sue Thuma ..... Mathematics, West Muskingum High School
Becke Butler ..... Mathematics, Zane State College Faculty
Roy Fish ..... Psychology, Zane State College Faculty
Susan Holdren ..... Deans of Arts & Sciences, Zane State College Faculty
Kathryn Hooper-Boyd ..... Biology, Zane State College Faculty
Ronald Huth ..... English, Zane State College Faculty
Becky Kellum ..... Mathematics, Zane State College Faculty
Pam Kirst ..... English, Zane State College Faculty
Steve Kish ..... Biology, Zane State College Faculty
Darrell Lagace ..... English, Zane State College Faculty
Senti Longkumer ..... English, Zane State College Faculty
Sue Markel ..... Sociology, Zane State College Faculty
Lisa McDonald ..... Communication, Zane State College Faculty
Robert Miller ..... Mathematics, Zane State College Faculty

HEALTH INFORMATION MANAGEMENT ADVISORY COMMITTEE

Vern Benyon ..... Red Carpet HealthCare Center
Dan Cohen ..... Southeastern Ohio Regional Medical Center
Donald Crock ..... Summit Acers Nursing Home
Dave Davis ..... Genesis Health and Rehabilitation
Melody Gray ..... Medical Associates
Judy Hardwick ..... Cardiology Associates
Nancy Schmitt ..... Primecare
Debbie Tisonyai ..... Quality Care Partners
Misty Hamilton ..... Zane State College Faculty

HUMAN SERVICE PROGRAM ADVISORY COMMITTEE

John Allen, LISW ..... Vice President, Habilitation Services, Six-County, Incorporated
James Applegate ..... Emergency Services Director, Red Cross-Muskingum Valley Chapter
Danny Brenneman ..... Administrator, Coshocton County Job & Family Services
Joanne Butcher, MSW, LISW ..... Social Work Administrator, Retired
Steve Carrel, LISW ..... Executive Director, Muskingum Behavioral Health
Yvonne Factor ..... Director, Zandex HealthCare Corporation
Constance Gordon, LISW ..... Case Manager, St. Anne's Hospital
John Hill ..... Superintendent, Muskingum County Board MR/DD
Kelly Lynch ..... Director, Guernsey County Children's Services
Edie Wilson, LSW, LPC ..... D/C Planner, Genesis HealthCare System
Peg Earhart ..... Zane State College Faculty
Bonnie Taylor ..... Zane State College Faculty

INFORMATION TECHNOLOGY PROGRAM ADVISORY COMMITTEE

David Blum ..... Chief Information Officer, OSU Fisher College of Business
Lonny Claypool ..... IT Consultant, DeVore Technologies
Ralph Hollingsworth, Ph.D. ..... Professor, Muskingum University
Chris Hortsman ..... Instructor, Mid-East Career & Technology Center-Buffalo
John Jacobs ..... Director of Support Services, OSU Fisher College of Business
Al Miller ..... Systems Analyst, Smurfit Stone Container
Robert Pardo ..... Claims Representative
Paul Ragias ..... Data Service Manager, Advantage Bank
Ed Romito ..... Director and CIO, Genesis HealthCare System
Mark Still ..... Instructor, Mid-East Career & Technology Center
John Taylor ..... Senior Programmer, Resource Systems
Phil Wentowrth ..... Director of Client Support Services, Zane State College
Will Bailey ..... Zane State College Faculty
Charles Brookover ..... Zane State College Faculty
Jeffrey Devlin ..... Executive Director of ITS, Zane State College
Jennifer Folden ..... Marketing and Communications Specialist, Zane State College
Barbara Miller ..... Zane State College Faculty
Debbie Neuenschwander ..... Zane State College Faculty
Lynn Wells ..... Zane State College Faculty

MEDICAL ASSISTING PROGRAM ADVISORY COMMITTEE

Henry Beasley, MA ..... Medical Office
Lori Danison ..... Adjunct Faculty/Medical Office Manager
Rick Day, M.D. ..... Medical Advisor
Theresa Halsey, CMA ..... Adjunct Faculty, Zane State College
Sara Moore, CMA (AAMA) ..... Graduate, Zane State College
Patricia Paul ..... Public-Service, Bank Manager
Michelle Stickels, CMA (AAMA) ..... Medical Office
Kristeen Calderhead, CMA (AAMA) ..... Zane State College Faculty
Shanna Morgan, CMA ..... Zane State College Faculty

MLT AND PHLEBOTOMY PROGRAMS ADVISORY COMMITTEE

Jeannie Farrar, CLA ..... Medical Laboratory, Southeastern Ohio Regional Medical Center
Judy Groves ..... Phlebotomy Supervisor, Barnesville Hospital
Cathy Hargrove, MT (ASCP) ..... Lab Education, Fairfield Medical Center
Karen Krebs, MT ..... Laboratory Director, Hocking Valley Community Hospital
Diana Lanning, MLT (ASCP) ..... Laboratory Supervisor, Healthcare Specialists
Dorothy Lordo, PhD, MT ..... Clinical Coordinator, Ohio Health
Pam Perone, MT (ASCP) ..... Lab Technical Manager, Genesis HealthCare System
Charlene Pica ..... Phlebotomy Supervisor, Coshocton County Memorial Hospital
Maggie Pyles, BS, MT ..... Lab Manager, Ohio Valley Medical Center
Lorei Reinhard, MT (ASCP) ..... Laboratory Director, Licking Memorial Hospital
Susan Robinson, MLT (ASCP) ..... Lab Manager, Eastern Ohio Regional Hospital
Denise Williams, MLT ..... Laboratory Supervisor, Medical Associates
Judy Wright, MT ..... Assistant Lab Director, Coshocton County Memorial Hospital
Laura Geiger, MBA, MT ..... Zane State College Faculty
Lisa Jordan, MT ..... Zane State College Faculty

OCCUPATIONAL THERAPY ASSISTANT PROGRAM ADVISORY COMMITTEE

Tim Argyle, OTR/L ..... Occupational Therapy, Licking Memorial Hospital
Laura Brady, COTA/L ..... Occupational Therapy, Select Specialty Services
Mary Davis, COTA/L ..... Occup. Therapy, Southeastern Ohio Regional Medical Center
Peg Earhart, LISW ..... Human Services Program Faculty, Zane State College
Lora Harvey COTA/L ..... Occupational Therapy, Executive Care
Gail Stamm-Requardt, OTR/L ..... Occupational Therapy, Therapros, LLC
Robin Tackett, OTR/L ..... Occupational Therapy, Coshocton County Memorial Hospital
Nicole Wilkins, COTA/L ..... Occupational Therapy, Rehab Associates
Jan Winland, OTR/L ..... Adjunct Faculty, Zane State College
Mary Arnold, OTR/L ..... Zane State College Faculty
Kimberly Lawler, OTR/L ..... Zane State College Faculty

PARALEGAL PROGRAM ADVISORY COMMITTEE

Ward D. Coffman, III ..... Attorney
Kelly J. Cottrill ..... Judge, Muskingum County Court House
Justin Gates ..... Crime Victims Service
Joseph A. Gormley ..... Judge, Muskingum County Probate Court
Faith McGregor ..... Graduate
Greg Starcher ..... Muskingum County Child Support Enforcement Agency
Amy Wilson ..... Zane State College, Faculty

PARKS, RECREATION AND WILDLIFE PROGRAM ADVISORY COMMITTEE

Todd Beisser ..... Superintendant, Seneca Hatchery, Ohio Division of Wildlife
Bob Cifranic ..... Ranger, U.S. Army Corps of Engineers
Bonnie Dailey ..... Director, Muskingum County Parks District
Jim Dooley, Ph D. ..... Department of Biology, Muskingum College
Nicole Hafer ..... Outdoor Education Specialist, Muskingum Soil & Water Conservation Dist.
David Hildebrand ..... Retired Manager, ODNR, Division of Forestry
Paul Holdsworth ..... District Engineer, Muskingum Soil & Water Conservation District
Cathy Janosko ..... Area Supervisor, ODNR, Division of Watercraft
Clifton Kilpatrick ..... Resource Manager, U.S. Army Corps of Engineers
Joe Lehman ..... Wildlife Specialist, Guernsey SWCD
Pamela Meyer ..... Recreation Technician, USFS, Wayne National Forest
Tim Paul ..... Park Technician I, Columbus & Franklin County Metro Parks
Allan Ranck ..... Regional Manager, ODNR, Division of Parks & Recreation
Elizabeth Reeb ..... ODNR, Division of Mineral Resource Management
Mike Reed ..... Wildlife Officer, ODNR, Division of Wildlife
Ed Robinson ..... Wildlife Area Technician, ODNR, Division of Wildlife
Richard Sorg ..... District Program Administrator, Muskingum Soil & Water Conservation District

Robert Stonerock..... Mineral Resources Supervisor, ODNR, Division of Mineral Resources
Lori Totman ..... Conservation Director, Dawes Arboretum
Brian Wilforg.....Instructor of Natural Resources Conservation, Mid-East Career & Technology Center
Mike Zaleski..... Area Manager, ODNR, Ohio Division of Wildlife
Scott Albaugh ..... Zane State College, Faculty
Dan Durfee ..... Zane State College Faculty
Susan Holdren..... Zane State College, Dean
Scott Lenthe, Ph.D ..... Zane State College Faculty
James Shepherd..... Zane State College Faculty
Lynn Wells ..... Zane State College Faculty

PHYSICAL THERAPIST ASSISTANT PROGRAM ADVISORY COMMITTEE

Trudy Krischak, PTA ..... Program Graduate
Kathy Kropf, PT ..... Hocking College
Ryan McConkey, PT, DPT, OCS..... Southeastern Med, Sports Med & Rehab
Jenna McConnell .....Rehabilitation Services Manager, Genesis HealthCare System
Michael McCoy, PTA..... Zandex
Mary Ann Metry, PT ..... Community Member
Layne Paladino, PTA ..... Program Graduate
Mandy Rhoades, PTA..... Program Graduate
Wendy Robinson, MPT ..... Genesis COOR Building
Gus Smalley ..... Program Graduate
Jacquelyn Tom, PT ..... Genesis COOR Building
Starla Weeks, PTA..... Program Graduate
Barbara Shelby, PT ..... Zane State College Dean
Lori Wahl, PT, DPT ..... Zane State College Faculty

RADIOLOGIC TECHNOLOGY PROGRAM ADVISORY COMMITTEE

Judy Addy, RT .....Primecare, Inc.
Leisa Arnold, RT .....Clinical Instructor, Southeastern Ohio Medical Center
Karla Brown, RT ..... Imaging Services Education Consultant, Genesis HealthCare System
Mark Dinges, RT.....Manager of Imaging Services, Genesis HealthCare System
Mary Failla, RT .....Clinical Instructor, Union Hospital
LeAnn Fisher, BS, RT .....Supervisor, CareSource Inc.
Marc Fowler, RT.....Director Diagnostic Imaging, Southeastern Ohio Medical Center
Cindy Gaylord RT .....Manager of Imaging Services, Genesis HealthCare System
Nina Kowalczyk, Ph.D., RT .....Faculty, The Ohio State University
Debbie Medley, RT ..... Imaging Services Education Consultant, Genesis HealthCare System
Richard Mellon, MD ..... Medical Director, Radiology Associates
Dena Putnam, RT .....Clinical Instructor, Twin City Hospital
Monica Saling, RT.....Graduate/Pediatric Associates
Cheryl Stillberger, RT .....Director of Radiology, Genesis HealthCare System
Jerry Tyree, RT .....Radiography Program, Columbus State Community College
Kyle Wallick.....Director of Radiology, Union Hospital
Lauren Huffman, RT..... Zane State College Faculty
Tricia Leggett, RT ..... Zane State College Faculty

SPORT AND FITNESS MANAGEMENT PROGRAM ADVISORY COMMITTEE

Mick Amicone .....President, The Fieldhouse
Beth Chapman ..... Director, Genesis Lifestyle and Fitness Center
Craig Miracle..... Executive Director, Muskingum Family Y
Bill Schimmel .....Director, Schimmel Fitness Center
Barbara Shelby PT ..... Zane State College Faculty
Jacquelyn Tom, PT .....Genesis Coor Building
Tim Berger..... Zane State College Faculty
Lori Wahl PT ..... Zane State College Faculty

INDEX

Academic Assessment for Course Placement 11
Academic Dismissal/Readmission 20
Academic Integrity Policy 26
Academic Course Load & Student Credit Hour Overload 12
Academic Integrity Procedure 27
Academic Misconduct 26
Academic Probation 20
Academic Standards for Probation, Dismissal, and Readmission 20
Adding Courses 12
Advanced Placement Credit Award Catalog Statement 14
All Ohio Academic Team 25
Auditing Courses 21
Business and Industry Training 195
Catalog in Force 11
College Level Examination Program (CLEP) 14
Commencement Policies 24
Computer Literacy Requirement 20
Confirmation of Intent to Graduate 24
Continuing Education 196
Course Substitution 12
Credit by Examination 13
Credit for Prerequisite Math Courses 13
Credit Hours 28
Credit Hour/Course Waiver 13
Credit/No Credit Courses 13
Degree Audit 24
Dropping Courses 12
Educational Facilities 4
Employment Training Center 196
Failed Courses 21
Final Exams (Archiving) 21
Final Graduation Approval/Denial 24
Fresh Start Policy 21
General Education 28
General Education Course Requirements 29
General Education Student Outcomes 29
General Responsibilities of the Faculty Member 26
General Responsibilities of the Student 26
Grade Appeals and Academic Complaints 28
Grade Point Average 20
Grade Report 20
Graduation Honors 24
Graduation Requirements 22
Health Studies Core 11
Incomplete Grades 20
Internship Requirement 23
Life Experience/Non-Traditional Credit 14
Military Training-Academic Credit 14
Minimum Grades for Specific Programs 21
Petition for Graduation 24
Phi Theta Kappa 25
Philosophy of General Education 28
Pre-Engineering Technology Studies Core 11
Prerequisites 12
Presidential Scholar 25
Quarterly Academic Honors 25

Repeating Courses 21
Responsibilities of Students 18
Small Business Development Center 196
Special Problems Courses 13
Split Lectures and Labs 21
Student Classification 20
Training and Consulting Division 195
Transfer Credit 17
Transfer Issues 15
Transfer of Zane State College Credits to Another Institution 18
Transfer to/from and Independent College or University 17
Transfer to/from an Ohio Public College or University 15
Vocational Education Experience 14
Who's Who Among Students In American Junior Colleges 25
Withdrawal from the College 12
Zane State College Business and Industry Training Online Instruction Center 195