



Wayne
County
Community
College
District

FALL 2010 - SUMMER 2011 CATALOG

1 College District, 5 Campuses



Downriver
Campus



Downtown
Campus



District Office



Eastern
Campus



**UNIVERSITY
CENTER**



Northwest
campus



Western
Campus

PREFACE

The Wayne County Community College District (WCCCD) provides educational resources to the residents of Wayne County and to those of many other communities. The District has five campuses and one course site, the University Center located throughout Wayne County. Each campus is located near a major freeway. WCCCD serves 32 cities and townships. The District has more than 90 programs leading to either an associate degree or certificate in various disciplines.

From its beginning in 1967, WCCCD has viewed education as one of the most important factors for achieving success in today's dynamic and technologically driven work environment.

The District provides a step-by-step approach to a career path by providing students with the ability to reach their career potential through an "open door" policy and affordable tuition. Because WCCCD is committed to "Make Education First," every student has the chance to fulfill his or her educational goals.

This catalog is for informational use only and does not constitute a contract. Wayne County Community College District reserves the right to add or delete, without notice, any course offering or information contained in this catalog.

Note: The District reserves the right to assign instructional staff other than those listed in the "Academic Schedule of Classes" and to eliminate, cancel, phase out or reduce courses and programs for financial, curricular or programmatic reasons.

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INTRODUCTION

ACCREDITATION

The Wayne County Community College District (WCCCD) is accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools, 30 North LaSalle Street, Suite 2400, Chicago, Illinois 60602-2504; 312-263-0456, 1-800-621-7440, (fax at) 312-263-7462 or www.ncahlc.org. Information regarding the status of an institution is available at ext.11, or by email at status@ncahlc.org; complaints can be directed to ext. 198, or by email at complaints@ncahlc.org. In addition, specific program accreditation or approval has been granted by the following agencies:

- Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association
4720 Montgomery Lane, Suite 200
P.O. Box 31220
Bethesda, Maryland 20824-1220
(301) 652-2682 (301) 652-7711 fax
www.aota.org
- Accreditation Review Council on Education in Surgical Technology and Surgical Assisting ARC/STSA
6 W. Dry Creek Circle, Suite #110
Littleton, CO 80120
(303) 694-9262 (303) 741-3655 fax
<http://arcst.org>
- American Dental Association
Commission on Dental Accreditation
211 E. Chicago Ave.
Chicago, Illinois 60611-2678
(312) 440-2500 (312) 440-7461 fax
www.ada.org
- American Veterinary Medical Association
1931 North Meacham Road, Suite 100
Schaumburg, Illinois 60173-4360
(800) 248-2862
www.avma.org
- American Society of Health Systems Pharmacist
7272 Wisconsin Ave.
Bethesda, MD 20814
(301) 657-3000
www.ashp.org
- Commission on Accreditation/ Approval for Dietetic Education of the American Dietetic Association
120 South Riverside Plaza, Suite 2000
Chicago, IL 60606-6995
(800) 877-1600
www.eatright.org
- Commission on Accreditation of Allied Health Education Programs (CAAHEP)
1361 Park St.
Clearwater, Florida 33756
(727) 210-2350
www.caahep.org
- Michigan Commission on Law Enforcement Standards (MCOLES)
7426 North Canal Road
Lansing, Michigan 48913
(517) 322-1417 (517) 322-5611 fax
- Michigan Correctional Officer's Training Council
Main Building
715 West Willow
Lansing, MI 48913 (517) 334-6573
- Michigan Department of Community Health
EMS & Trauma Systems Section
Capitol View Building, 6th Floor
201 Townsend Street
Lansing, Michigan 48913
(517) 241-3024 (517) 241-9458 fax
www.michigan.gov/ems
- Michigan Department of Corrections
206 E. Michigan Ave.
Grandview Plaza
P.O. Box 30003
Lansing, MI 48909

- National Automotive Technicians Education Foundation
101 Blue Seal Drive, Suite 101
Leesburg, VA 20175
(703) 669-6650
- State of Michigan Department of Community Health Board of Nursing
P.O. Box 30193
Lansing, Michigan 48909
(517) 335-0918 (517) 373-2179 fax
- State of Michigan Department of Consumer & Industry Services Division of Federal Support Services
P.O. Box 30193
Lansing, Michigan 48909
(517) 335-0918 (517) 373-2179 fax
- State of Michigan Michigan Fire Fighters Training Council General Office Building
7150 Harris Drive
Lansing, Michigan 48912
(517) 322-5444 (517) 322-8540 fax

VISION STATEMENT

To be recognized as an institution that has achieved national and international recognition for enduring excellence as a comprehensive, multi-campus community college. The Wayne County Community College District will focus on continuous self-evaluation and improvement; preparation of a highly skilled workforce in support of the Wayne County economy; student academic and career success, and leadership in strengthening the open door philosophy of educational opportunity.

MISSION STATEMENT

Wayne County Community College District's mission is to empower individuals, businesses, and communities to achieve their goals through excellent and accessible services, culturally diverse experiences, and globally competitive higher education and career advancement programs.

VALUES STATEMENT

- Excellence in teaching and learning
- Diverse, international and intercultural education
- Student and community service
- Accountability
- Integrity

GENERAL EDUCATION

The foundation of the College's degree programs is in general education and is described by the "Philosophy of General Education," a broad statement of the knowledge, skills, and attitudes that students are expected to achieve and that have always been a part of the College's programs of study. The "Philosophy of General Education" was adopted in principle by the college's faculty at the Faculty Organization Day, held in March 1997 and re-affirmed by the Board of Trustees on November 24, 2009.

It reflects the curricula describing the academic group requirements listed under the catalog descriptions of specific degrees. It also reflects the faculty's belief that the values of general education are infused throughout the curricula and are often defined in practice by the discipline in which instruction and learning take place.

PHILOSOPHY OF GENERAL EDUCATION

At Wayne County Community College District, we believe that learning leads to a better life. Our general education curriculum equips students with the tools needed to build such a life, and to serve family, community, and society. We provide a range of required and elective courses designed to satisfy four possible student purposes:

- Transfer to four-year degree programs;
- Prepare for a two-year career program;
- Gain personal, social or professional enrichment; and
- Prepare for Certificate programs

The student who pursues an Associate Degree will study English, humanities, the social sciences, the natural sciences, and/or mathematics. Upon successful completion of the curriculum, the student will be able to:

- Read, write, and speak effectively
- Understand and appreciate the role of culture and the arts in both society and personal life
- Know the principles and be able to apply the methods of science
- Have mathematical and technological skills (especially computer skills) sufficient for personal and career need
- Know the principles and methods of the social sciences, and understand the basic social, political, and economic issues of the contemporary world
- Understand and appreciate both our common humanity and the diversity of cultures — historically, around the globe, and within contemporary America
- Be able to identify, define, and think critically about the issues that arise in daily life, both personally and professionally
- Have the skills needed to work ethically and effectively with others
- Become a lifelong learner.

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT'S 2009-2014 STRATEGIC GOALS

The District has established the strategic goals listed below for District-Wide development and improvement as outlined in the 2009-14 strategic plan. The theme of this strategic plan is Leading WCCCD to Enduring Excellence through a Focus on Student Success and District-Wide Effectiveness.

Goal #1 - ADVANCEMENT OF THE OPEN DOOR OF EDUCATIONAL OPPORTUNITY

Expand its Open Door model by focusing on student access, diversity, equity, multicultural experiences, campus inclusiveness, and community engagement.

Goal #2 - EXPANSION OF COMMUNITY ENGAGEMENT

Serve as an active educational resource for problem-solving and economic development efforts at the community and state levels, and will enhance its engagement in national and international educational initiatives.

Goal #3 - ADVANCEMENT OF INSTRUCTIONAL INNOVATION

Advance curricular, co-curricular, and teaching/learning innovations in response to the dynamic needs of a diverse student body and changes in community and workforce educational needs.

Goal #4 - STRENGTHENING OF PROCESSES TO SUPPORT EFFECTIVE STUDENT LEARNING

Strengthen the assessment of student learning outcomes by increasing faculty and staff participation in (1) ongoing assessment of student learning outcomes at the course, program, discipline, and District levels, (2) analysis of student learning outcomes data, and (3) bringing about improvements in curricula, teaching and learning, and institutional practices based on the assessment data.

Goal #5 - DEVELOPMENT OF INSTITUTIONAL RESOURCES

Increase its capacity to meet changing student, business, and community educational needs through the advancement and sustainability of its human, financial, physical, and technological resources.

Goal #6 - ENHANCEMENT OF DISTRICT-WIDE CONTINUOUS SELF-EVALUATION AND SELF-IMPROVEMENT

Continue to enhance the measurement of its effectiveness in serving students, regional employers, and communities, and will increase the use of measurement data to inform decisions on continuous institutional improvement.

Goal #7 - ADVANCEMENT OF OPERATIONAL AND MANAGEMENT EXCELLENCE

Advance the process of continuously improving operational systems in all divisions and campuses of the district.

A BRIEF HISTORY OF WAYNE COUNTY COMMUNITY COLLEGE DISTRICT

WCCCD has completed more than 40 years of uninterrupted operation committed to the development and delivery of comprehensive educational services. Those living and working in the 32 cities and townships served by the District throughout the southeast Michigan region have enjoyed the benefits of high quality instructional programs, continuing education offerings, and community-based services.

The story of Wayne County Community College District is one of continuing growth and innovation in providing educational training and leadership for the metropolitan region. The District was established in 1967 by the Legislature of the State of Michigan and its initial

seven-member Board of Trustees was elected the following year. In 1984, the number of trustees increased to nine (9).

The first operating budget was based on a \$1,000,000 grant from the State of Michigan, as well as, a \$300,000 stipend from New Detroit, Inc. and anticipated student tuition payments at that time. The new institution had no buildings or facilities of its own, but with the cooperation of local school boards, faith-based organizations and non-profits, classrooms were made available throughout the County of Wayne.

In the summer of 1969, the Board of Trustees directed staff to plan and begin operations for the first fall semester. Instructors were hired, curricula designed and the “District without Walls” opened its doors with an overwhelming response by community members.

Presently, the District’s five state-of-the-art campuses and University Center are located in industrial, suburban and metropolitan areas where a major share of Michigan’s technical and skilled occupations are located. Because of the diversity of its service areas, WCCCD places a strong emphasis on occupational and career programs and traditional college and university transfer programs, including those within the liberal arts disciplines.

THE STUDENT BODY

The Wayne County Community College District practices an “open door” admission policy, and provides an educational experience to students who desire the opportunity. The District has a rich and diverse student population; approximately 75% are women and more than 50% are members of minority groups. While some 85% are Michigan residents, citizens from more than 30 countries are also enrolled in programs of study at the District. Nearly 50% of the students are freshmen, and nearly 75% of all WCCCD students attend part-time.

The student body is reflective of the diverse constituency served by the District. Approximately 65% of the student body receives financial aid or participates in work-study programs. Each semester, more than 300 veteran students also take advantage of the G.I. Bill.

Each year, the District graduates more than 1,000 students. While a majority of students are enrolled in two-year transfer programs, the District has expanded career/technical course offerings to meet the demands of new and emerging technologies. Currently one-third of the College’s enrollment is in career occupations. Many will continue their education at four-year institutions, while others focus on terminal degrees and professional certificates allowing entry into rewarding careers.

ALUMNI

When the doors opened in 1969, students previously excluded for various reasons from higher educational opportunities found a home at Wayne County Community College District. Since its founding, graduates of the District have had a profound impact on the professional, political and economic development in Wayne County, the State of Michigan, the nation and world.

Our alumni hold positions as teachers, dentists, doctors, lawyers, entrepreneurs, journalists, nurses, corporate business professionals, law enforcement officers, administrators, elected officials and a variety of other positions in professional and technical areas. The District has graduated more than 30,000 students, and approximately 550,000 have furthered their careers or enriched their lives through continuing education programs offerings.

ENROLLMENT MANAGEMENT, STUDENT SERVICES AND ACADEMIC POLICIES

ADMISSIONS

Admission Procedures for New Students

Admission to Wayne County Community College District is “open door” and automatic for those who are 18 or older. Admission to specific programs is not automatic. New students are required to complete an Application for Admission and submit it to the Office of Admissions. Students are encouraged to apply for admission online at www.wcccd.edu. Those who have attended other post-secondary institutions should have all previous academic credentials (transcripts) forwarded to the District Records Office.

After completing an application and the COMPASS assessment, students will meet with an academic advisor to discuss their educational goals and select appropriate courses. The opportunity to register for classes online is dependent on the student personal identification number (PIN). A new student must see an advisor in order to have their PIN activated. For those under 18 years of age, the possession of a high school diploma or approval of a parent or guardian is required to accompany the Application for Admission.

Persons under age 16 must re-apply and be approved for each semester for which they intend to enroll regardless of previous enrollments. Applications for persons under the age of 16 are submitted to the District Office of Student Services, 801 W. Fort St., Detroit, MI 48226. These classes may be available at no cost to the high school student who qualifies under the State School Aid Act, PA.148, Section 216. Students should contact their high school principal or academic advisor.

Transfer Students

Students transferring to Wayne County Community College District from other colleges or universities who wish to have credit transferred to their WCCCD record should request the previous institution to forward official copies of their transcripts to the District Records Office. Generally, credit earned from regionally accredited institutions and from all publicly supported junior and community colleges is acceptable if earned with a grade of “C” or better and is appropriate to the student’s program of study. Transfer students are also encouraged to apply online at www.wcccd.edu. Students who have a bachelor’s or graduate degree are not required to take a placement test to enroll.

Former Students (Returning)

A returning student is an individual who has not attended the District for the last two years. All students in this category must complete an application for re-admission. All students re-admitted to the District after missing four or more regular semesters or two years will be responsible for the curricula and regulations published in the current catalog and other official publications which are in effect at the time of their re-admission.

Ability to Benefit Provision

The Ability to Benefit is a federal regulation that requires “institutions which admit as regular students anyone who does not have a high school diploma or GED must determine that these students have the ability to benefit from continued education if they are otherwise eligible to receive Title IV assistance.” Penalty for noncompliance is institutional loss of federal funds for all students enrolled.

Currently, the District requires all recipients of financial aid to have a high school diploma, GED or have completed the COMPASS testing through a referral to the Office of Academic Support.

Program Admission

Certain programs at the District have prerequisite courses and other criteria required for admission. In addition to meeting the official admissions/registration requirements, students are required to apply for official program admission to their program of study. Students must complete an official Program Admission Form that may be obtained from the Student Services Office, the Office of Admissions and Records or from the Campus Academic Officer. Program admission is required for technical degrees and certificate programs.

PLEASE NOTE: All students re-admitted to the District after missing two years will be responsible for the curricula and regulations published in the current Catalog and other official publications which are in effect at the time of their re-admission. In certain cases, dates of program admission may take precedence over dates of college admission for purpose of meeting program requirements for graduation.

International Students

Wayne County Community College District is authorized under federal law to enroll non-immigrant students. A student from another country seeking admission should file an international application with the Office of Admissions at the campus of their choice.

The international applicant who wishes to study at Wayne County Community College District shall have completed their secondary education and be eligible for admissions to college-level studies. International applicants should begin the admission process at the earliest possible date.

Students must comply with the instructions for admission, academic requirements and language standards. Applicants who do not complete the District admissions requirements in time for their expected term of enrollment will be required to wait for the next term for admission consideration.

Senior Citizens

Citizens who are residents of the district and 60 years of age or older may enroll at Wayne County Community College District tuition-free. Senior Citizen Tuition Waivers will be granted on a seat-availability basis in regularly scheduled academic classes. Although student activity fees shall be waived for senior citizens, they are responsible for all other fees such as the cost of books and class supplies. Senior citizen students are expected to adhere to the same academic standards, rules and regulations that are in place for other students. Proof of age and residency is required at the time of registration.

Native American Students

Free tuition is available to eligible Native American students. Students, however, are responsible for all fees, books and class supplies. Students claiming this exemption must present appropriate documentation at the time of enrollment. For more information visit the Office of Admissions & Records at your campus.

Michigan Community College Virtual Learning Collaborative Admission

The Michigan Community College Association, with support from the Michigan Virtual University, created a Michigan Community College Virtual Learning Collaborative (MCCVLC) among Michigan's community colleges. Wayne County Community College District is a member of the MCCVLC. The MCCVLC is designed to allow current Michigan community college students to take courses from other member colleges while still receiving support services and maintaining their academic record at the designated home college. For further admissions information please visit www.mccvlc.org.

Student Assessment

All first-time students with intent to pursue a degree or certificate must be assessed for skills in reading, writing, and mathematics prior to registering for classes. The assessment used is COMPASS and the process takes approximately two hours to complete. If a student has attended another college or university they may be exempt from assessment testing. Official transcripts must be submitted proving that certain courses in English, writing and mathematics have been completed.

The results of your assessment testing do not affect your admission to WCCCD. Students who meet the “open door” admission requirements are automatically admitted to the college. However, the results of your assessment testing will be used by the District to assure that you are placed in courses appropriate for your skill level, particularly in English and mathematics.

To arrange for the COMPASS assessment, contact the Student Services Office at the campus of your choice. Please plan to stay at least two hours for your testing session. It is suggested that you prepare for assessment prior to your test day. The Student Services Office can provide you with sample test questions and practice tests to help you prepare. Please bring a photo ID when testing. Students are encouraged to call the campus to confirm the testing schedule.

Assessment Requirements and Institutional Priorities

WCCCD is committed to creating a holistic learner-centered environment in which students, faculty, and administrators collaborate to improve student learning. To that end, WCCCD focuses on (1) assessing the degree to which students achieve their stated goals and learning outcomes for courses, programs, and disciplines and (2) sharing assessment results among students, faculty members, and administrators to inform decisions regarding the improvement of student learning, teaching, curricula, and institutional practices.

English as a Second Language Testing

Once admitted to Wayne County Community College District, students with limited English proficiency will be assessed using the COMPASS Test. This service is limited only to students who have applied and been accepted by the College. Results from the Compass Test will be used by District staff to assist students with placement in courses that are appropriate to the student’s skill level.

Program Testing

The Office of Career Planning and Placement administers a number of assessment services for students, faculty, advisors and staff. Testing services include:

- Test of Essential Academic Skills (TEAS): administered for all students applying for admission to the Nursing program.
- Health Occupations Basic Entrance Test (HOBET): administered for the Allied Health programs. The results of this assessment are used depending on the program, and for admissions or advisory purposes. Testing registration packets for the TEAS and HOBET are available from the Student Services department on each campus.

Online Orientation

An online orientation is available at www.wcccd.edu and includes information about District policies, procedures, programs and services. It is interactive and recommended for both first-time college students and students new to the District.

Academic Advisement and Guidance Services

Each campus is staffed with advisors and support staff who provide advising services as an integral part of the instructional process. As well, Advisors are available in many locations. In assisting students to achieve their

Advisement and Guidance Services (cont.)

Academic greatest potential, our advisors and other staff are committed to an effective entry-exit college experience. Services provided include:

- Educational guidance
- Academic advising
- College transfer information
- Scholarship information
- Personal/social/career advising

Jointly, advisement staff and the student may develop a plan which gives a student the opportunity to gain competencies in:

- Program selection
- Goal setting
- Career focus
- Stress management
- Time management

Financial Aid

Students must complete the **Free Application for Federal Student Aid (FAFSA)**, online at www.fafsa.com, each academic year to be considered for any type of Financial Aid.

Financial Aid is available to those who qualify. Students are encouraged to apply as early as January 2nd of each calendar year.

Student financial aid funds are made available only for the purposes directly related to Wayne County Community College District's educational expenses. The use of these funds for any other purposes may jeopardize your eligibility to continue to receive these benefits.

The District Financial Aid Office has the right to review, adjust or cancel the financial aid award at any time because of a change in the student's FAFSA, financial, marital or academic status, or because of adjustments (changes) in federal or state regulations, funding or computational errors. Students may accept any number of awards or other financial assistance from public

or private sources or both. However, the total assistance may not exceed the cost of attendance. Assistance with applying for Federal and State financial aid is available in the Student Services areas of each District campus. Information is also available on the District's website: www.wcccd.edu, the State of Michigan's website: www.michigan.gov/mistudentaid and the Department of Education's website. The types of financial assistance include the following:

- Federal Pell Grant
- Academic Competitiveness Grant (ACG)
- Federal Supplemental Educational Opportunity Grant (SEOG)
- Federal Work Study
- Michigan Tuition Incentive Program (TIP)
- Federal Stafford Student Loan

The terms and conditions for each type of financial assistance are available in the Student Services areas online. A student may decline all or any portion of a financial aid award in writing.

Financial Aid Satisfactory Academic Progress Policy

In order to receive Federal Financial Aid, regulations require that all students make continued progress in their educational program. This requirement is called Satisfactory Academic Progress and will be monitored by the District Financial Aid Office. In accordance with Federal Regulations the District Financial Aid Office's policy will be to check Satisfactory Academic Progress, minimally at intervals of one year. The Federal Government has established the following Standards for Satisfactory Academic Progress:

Qualitative Standard

By the end of the second academic year (regardless of how many credits the student has accrued), the student must have a "C" average or its equivalent. The District Financial Aid Office will review the qualitative progress after each

Financial Aid Satisfactory Academic Progress Policy (cont.)

academic year. In order to continue to receive financial aid a student must:

- Maintain at least a cumulative 2.0 GPA.
- Maintain at least a “C” average.

Quantitative Standard

The Satisfactory Academic Progress Policy also includes a quantitative component. A student who is maintaining a high GPA by withdrawing from every course he attempts after the first year would meet a qualitative standard (GPA) but wouldn't be progressing toward graduation. Therefore, the institution must set a maximum time frame in which a student is expected to finish a program and a measure to determine the percentage of credit hours completed versus those attempted.

The District Financial Aid Office will review the quantitative progress after each academic year. In order to continue to receive financial aid a student must:

- Complete a program of study within 150% of the credits required to graduate.
- If a major requires 60 credit hours for graduation, a student must complete the program in no more than 90 credit hours.
- Successfully complete at least 67% of all attempted credits.
- A student must complete and receive a passing grade in at least 2 out of every 3 classes in which he or she is enrolled.

Non-credit courses are not included in the calculation of financial aid, and are therefore not counted as credit hours attempted. Withdrawal grades (W and XW) and incomplete grades (I) will be counted as credit hours attempted. Transfer credit, remedial credit and repeated courses will also be counted as credit hours attempted.

Financial aid funds may not be used to cover the cost of non-credit courses, therefore they are not counted as credit hours attempted. Institutional

withdrawal grades (WI) will not be counted as credit hours attempted.

Notification

Students who fail either the quantitative or qualitative test for academic progress will be notified in writing. Students who are in their first academic year and are failing to meet Satisfactory Academic Progress requirements are placed on Probation. They will be sent letters from the District Financial Aid Office warning them that they are in danger of losing their Title IV eligibility. Students on probation cannot appeal probationary status. They will be encouraged to seek academic advising. Academic progress for probation students will be measured again at the end of their second academic year.

Students who are in their second academic year and are failing to meet Satisfactory Academic progress are no longer eligible for Federal Title IV aid. They may submit an appeal accompanied by all required supporting documentation.

A student who loses financial aid eligibility due to failure to meet Satisfactory Academic Progress standards will regain eligibility when the institution determines that he or she is again meeting the standards. Eligibility may also be regained if the student is approved through the appeal process.

Appeal Process

If you have experienced a significant circumstance which you feel has had an impact on your ability to make satisfactory academic progress, you have the opportunity to file an appeal with the District Financial Aid Office. Mitigating circumstances include:

- Death of student's close relative
- Injury or illness of student
- Personal tragedy or event.

A completed Academic Progress Appeal form must be submitted along with documentation supporting the significant event or circumstance.

A completed Plan of Work (through the end of the program) must also be submitted.

An appeal form is available on the District website at www.wcccd.edu. The appeal form and all supporting documentation will be reviewed by the District Financial Aid Office and you will receive a written response.

Veteran Affairs

The Veteran Affairs office is located in the District Records Office, 801 W. Fort, Detroit, MI 48226 or www.wcccd.edu.

The main purpose of Veteran Affairs is to certify enrollment of those veterans and dependents that are using their educational benefits. The staff is a liaison between the Department of Veterans Affairs and Wayne County Community College District. The staff assists the veteran in filling out forms, explaining the various degree programs the District has to offer and directing the student to the various academic departments for advising and ongoing support services.

The Department of Veteran Affairs requires that all recipients of veteran educational benefits make progress toward their stated academic degree. Therefore, all veterans receiving benefits must maintain an accumulated grade point average (GPA) of 2.0 to remain eligible for Veterans Administration benefits. A veteran who allows his or her accumulated GPA to fall below 2.0 will be placed on probation. A veteran will be allowed two semesters to bring his or her accumulated GPA to 2.0 or higher. If the veteran fails to do so, the Department of Veterans Affairs will be notified of his or her unsatisfactory progress.

A signed statement acknowledging these requirements will be required from each veteran student at the beginning of each enrollment period.

Registration

There are specific registration procedures for new students, former students and for students who are currently enrolled. A detailed description of

the enrollment and registration procedures is published in the Schedule of Classes which is available at www.wcccd.edu and at all WCCCD locations prior to each registration period.

Residency

Students residing within the District service area at the time of registration will be charged resident tuition rates. The District is defined as all of Wayne County with the exception of the following cities and townships: Dearborn, part of Dearborn Heights, Garden City, Highland Park, Livonia, Northville, Plymouth and part of Canton Township. Residency can be verified by voter registration card, driver's license, tax or rent receipts, or state identification card.

Change of Name or Address

A student who changes his or her name or address at any time after registration must immediately report such a change to the Office of Admissions and complete a change of data form. A veteran who changes address after certification must also report such a change to the District Student Services Division.

Deferred Tuition Plan

A minimum payment of 65% of all tuition and fees must be paid at the time of registration.

Outstanding Balances

Outstanding balances that are not paid in full on or before the published due date will be placed on Financial Hold and charged a default fee*. All student accounts remaining delinquent at the end of the semester (please refer to the District calendar for specific date) will be charged an additional semester delinquency fee*. All refunds will be applied to the student's account. Students who cancel or withdraw from classes after all refund periods have ended will be charged prior to receiving a refund. **Fee's subject to change.*

Payment by Check

Personal checks must be drawn on a bank in Michigan and must have a preprinted name and account number on them. If the writer of the check is a person other than the student, the student must present the writer's ID. The student must have adequate picture identification and endorse the check. Any one of the following identification is accepted: driver's license, military service ID, picture charge cards, employment picture ID card, state picture ID card or passport.

Payment of Tuition and Fees

All tuition, fees and deposits are due at the time of registration. Students that opt for the deferred tuition payment plan must pay a minimum of 65% of total tuition and fee(s) for the current term, and a deferred tuition fee* will be assessed. Payments may be made by money order, check, debit card, Visa, MasterCard, Discover Card, American Express.

**Fee's subject to change.*

Wayne County Community District reserves the right to cancel the registration of any student who does not make required tuition and fees payment within the specified timeframe.

Cashless Registration Process

The District does not accept cash. Students may opt to pay by money order, check, debit card, Visa, MasterCard, Discover, American Express. Online payment is also available. The District bookstores provide money orders for a nominal fee. It is recommended that the student review the cost of tuition and fees in the schedule of classes or online before registering. Where applicable, please remember to consider the fees for student activities, labs, admissions and registration when calculating tuition costs.

NOTE: *All returning students who have an outstanding balance must pay 100% of their outstanding balance or make payment arrangements before they can register for the current semester.*

Returned Check Policy

Students are liable for all amounts pertaining to any bank rejected checks, which includes but is not necessarily limited to the following:

- **The amount of the rejected check**
- **A District service fee* for NSF (bad check) processing**
- **A deferred fee***
- **Charges assessed by the external check guarantee company utilized by the district.**

ALL CHECKS WRITTEN TO THE DISTRICT ARE VERIFIED BY AN EXTERNAL CHECK GUARANTEE AGENCY. ALL RETURNED CHECKS ARE SUBJECT TO THE AGENCY'S COLLECTION FEES.

STOP PAYMENT OF CHECK DOES NOT INITIATE CANCELLATION OF CLASSES. YOU MUST OFFICIALLY WITHDRAW FROM YOUR CLASSES BY COMPLETING AN ADD/DROP FORM.

Important Registration Information

You are officially registered when the registration staff enters your classes into the registration system or once you click the "submit" button for those registering online. *You are responsible for all tuition and fees incurred including the non-refundable registration fee.* You must pay at least 65% of your tuition and fees at the time of registration. You must officially withdraw from your class (es) within the refund period to be eligible for any refund. The unpaid balance of tuition and fees is still due when you drop a course after the refund period ends. Therefore, *any course dropped after the 50% refund period must be paid for in FULL.*

Disclaimer

The schedule of classes is for information only and does not constitute a contract. The District reserves the right to change, modify or alter without notice all fees, charges, tuition, expenses and costs of any kind and further reserves the right to add or delete, without notice, any course offering or information contained in the schedule.

WCCCD reserves the right to assign instructional staff and to eliminate, cancel, phase out or reduce course sizes and/or programs for financial, curricular or programmatic reasons.

Auditing Classes

Students desiring to audit courses for no credit must indicate "audit" on the Registration Form for the appropriate classes prior to registering. Students auditing courses pay regular tuition and fees. Credit is not given for an audited course, nor may a change to credit status be made after the student has registered to audit a course. Students who desire to change from credit status to audit status in a course must do so before the class begins. The course is included on the official transcript as an audit and denoted by the letter V.

Repeating Courses

Students may not repeat for credit any course for which they have earned a "C" or better. Exceptions may be made in special circumstances at the discretion of the Vice-Chancellor or his/her designee.

Adding or Dropping Classes

Students may add or drop classes through the registration period. Please consult the current Schedule of Classes for applicable add/drop dates. Students desiring to add/drop classes may do so online through Webgate or complete and process the appropriate form in the office of records/registration at the campus of their choice. Classes dropped after the refund period will be reflected as a "W" grade on the student transcript.

Withdrawing from Classes

Officially withdrawing from classes may entitle students to full or partial refunds. For more information, refer to the current Academic Schedule book.

Refunds

Classes cancelled by the District will result in a 100% refund.

The District reserves the right to cancel classes. The District will attempt to notify students whose classes are cancelled. Students substituting another course must process a drop/add form as soon as possible without additional charge for the added class. If students do not wish to substitute another course, a refund is automatic and there is no need to process a drop/add form. The refund will be mailed to the student approximately 3-5 weeks after the first day of the semester. **There is no refund for health reasons.** Classes dropped by the student after the refund deadlines will result in "no refund."

Tuition, student activity fees, technology fee, and all course designated fees are refundable within the deadline requirements. However, registration, drop/add and deferred fees are not refundable unless the District cancels one or all of a student's classes.

Career Planning and Placement

The Career Planning and Placement Office offer students and graduates an opportunity to explore employment opportunities in conjunction with their educational and personal goals. Professional staff is available at each campus to provide a variety of employment related services.

Individuals may explore career options using such resources as the Michigan Occupational Information System (MOIS), a statewide information system which provides detailed occupational information and related education and training data. Students and graduates receive assistance in preparing resumes, cover-letters, and improving their interviewing skills through the use of employability development software programs located at Campus Career Planning and Placement Offices. Referrals are made to testing and counseling services where students can receive assistance in identifying interests, aptitudes, and abilities; relating to career choices.

As a member of the Community College District Employment Network, each campus has access to a computerized job sharing, job posting, and record keeping system. WCCCD subscribes to a leading recruitment website, College Central Network. Through this site, students can view jobs posted locally and nationally, and also post, update and forward their resume.

Student Activities

The Office of Student Activities coordinates a variety of programs and services intended to enhance the educational purpose and philosophy of the District. Formal education is only one facet of a student's total educational experience while attending Wayne County Community College District. With this in mind, participation in student activities encourages and challenges students to get involved in other facets of the District community by planning or participating in student organizations and activities. The educational opportunities, development of leadership, social and interpersonal skills, personal satisfaction and enjoyment gained from participating in student activities will make the personal investment well worth the effort.

Each campus has student activities. Activities include recreational, social, and family activities. This may include guest speakers and special events. Phi Theta Kappa is the District's student honors society. Student activities at WCCCD are student driven. For information about specific student organizations and activities, contact the administrative office at the WCCCD location of your choice.

It is the students' responsibility to provide individual liability, health and accident insurance coverage. The District accepts no responsibility for insurance coverage for participation in any student activity.

Student Government

The Student Executive Council (SEC) is the representative student government body consisting of all District students. The SEC deals with District-wide issues and assists in planning student-oriented activities

Academic Honesty

The expectation at Wayne County Community College District is that the principles of truth and honesty will be practiced in all academic matters. Therefore, acts of academic dishonesty, including such activities as plagiarism or cheating, are regarded by the District as very serious offenses. In the event that cheating, plagiarism or other forms of academic dishonesty on the part of students are discovered, each incident will be handled on an individual basis as deemed appropriate by the instructor.

Care should be taken that students' rights are not violated and that punitive measures are instituted only in cases where documentation of offenses exists. A description of all such incidents should be reported to the Campus Academic Officer where a file of such occurrences is maintained. The Campus Academic Officer may institute action against a student according to procedures of due process outlined in Student Rights and Responsibilities in the *Student Handbook*.

Class Attendance

Students are expected to attend all class sessions. When absence from class is unavoidable, it is the student's responsibility to make arrangements for make-up work, and to determine if announcements relevant to the course were missed during the absence. Make-up work is permitted at the instructor's discretion. Excessive absence may result in failure.

Students may not bring children to class or leave them unattended at the campus.

PLEASE NOTE: Class attendance can only be monitored and verified by the instructor.

Final Examinations

Final examinations are held regularly at the end of each semester or session. Students are required to take the final examination at the time and place scheduled in order to receive credit for the course, unless otherwise indicated by the instructor.

Grading System

The following is the grading system used at Wayne County Community College District. All courses in which the student enrolls and earns grades are recorded on the official transcript. Grade points are used to measure a student's academic achievement for the total number of credit hours attempted. Final course grades are accessible online by the third business day following the end of the semester through Webgate. Students must make sure that their correct address is on file and may do so at the campus records office of their choice.

Grade	Points	Description
A	4.0	Excellent
B	3.0	Above Average
C	2.0	Average
D	1.0	Below Average
E	0.0	Failure to complete course requirements satisfactorily

Transcript

Codes	Description
CR	Credit by Examination
CFE	Credit for Experience
AP	Advanced Placement (Articulation)
I*	Incomplete: The awarding of an incomplete grade is at the discretion of the instructor provided the student has been attending the class, is passing and has an unforeseen emergency, which occurs after the last day to drop classes.
NG	No grade issued by instructor.
V	Audit: Students visiting or auditing a course must declare this option when registering. Veteran and financial aid students are not eligible to audit courses.
WI**	Institutional Withdrawal: Issued for failure to attend any class during the first four weeks of the semester. W** Withdrawal: Withdrawal by the student during the first half of the semester. XW Walk-away status: Attended at least 1 class during the first third of the semester and failed to withdraw during the remaining two-thirds of the semester.
W**	Withdrawal: Withdrawal by the student during the first half of the semester.
XW	Walk-away status: Attended at least 1 class during the first third of the semester and failed to withdraw during the remaining two-thirds of the semester.

Note *District policy requires all students who earn an incomplete "I" grade to complete that course by the end of two consecutive terms after the term in which the "I" grade was given. The student is charged with the responsibility of completing the course requirements through the instructor who issued the "I" grade. In the event the student is unable to contact the instructor, the student must immediately contact the appropriate Campus Academic Officer. Failure to complete the course requirements within the two-consecutive-term time limit shall result in a grade of "E" replacing the "I" grade. Students should not register a second time for a course in which they have an outstanding "I" grade. An "Incomplete" grade is given only when an unforeseen emergency prevents the student from completing the work in a course and is given at the discretion of the instructor.

Note **While NEITHER GRADES WI, XW, W ARE CALCULATED AS PART OF THE OFFICIAL GRADE POINT AVERAGE, they are counted in determining satisfactory progress for students receiving financial aid and continuing eligibility.

Grade Point Average (GPA)

The grade point average is calculated by multiplying the grade points by credit hours attempted. The cumulative grade point average is the total number of grade points earned divided by the total number of credit hours attempted. Attempted credit hours include "E" grades, even though grade points are not earned. THE HIGHEST GRADE IS USED TO CALCULATE GRADE POINTS FOR ANY REPEATED CLASS.

Example:

English	C = 2 x 3 credits = 6 grade points
Biology	B = 3 x 4 credits = 12 grade points
Psychology	E = 0 x 3 credits = 0 grade points
Political Science	A = 4 x 3 credits = 12 grade points 14 credits (divided into)

30 grade points/14 credit hours attempted

Equals **2.1 GPA**

Equation = (total number of grade points earned) divided by (total number of credit hours attempted).

Standards of Academic Progress

The Board of Trustees of Wayne County Community College District hereby authorizes the Chancellor to develop and promulgate standards for admission to and satisfactory progress in academic programs which vary from the general admissions and progress standards now in force. The Chancellor shall ensure that any such standards are appropriately published and communicated to students affected. In addition, the administration shall clarify to students that the General Standards for Admission and Satisfactory Progress already in force shall be applicable to all students unless separate standards have been promulgated for

specific academic programs. (Apprvd: 11/28/84; Revised 9/23/92)

It is hereby policy that requirements for graduation include a cumulative GPA of 2.0 or higher. No degree will be granted to any student who has less than a 2.0 cumulative GPA. (Apprvd: 3/26/86; Revised 9/23/92)

The District maintains that all students should make continued progress toward an educational goal. In an effort to assist students, the following standards of academic progress have been established:

- Good Standing: A student maintaining a 2.0 or above cumulative GPA.
- Total credits utilized in computing the cumulative GPA will not include:
 - Credit for classes which have been repeated. The lower grade will not be used in determining the GPA
 - Classes with a grade of CR, CRE or V and withdrawals (WI, W, XW).
- Probationary Status: A student who has a cumulative GPA below 2.0 is placed on probationary status. A student is notified of probationary status on the semester grade report. When a student is placed on probation, the following steps must be followed:
 - The student will be assigned an academic advisor for prescriptive assessments and the determination of the appropriate courses to pursue in the future. Note: It will be the student's responsibility to contact the advisor to schedule an appointment
 - A probationary student may not elect more than nine (9) credit hours for the fall/spring semesters; six (6) credit hours in the summer unless that student has the written authorization of the advisor.
 - The student must schedule regular meetings with an academic advisor during the academic probationary period.

Standards of Academic Progress (cont.)

- Continued Probationary Status: A student is placed on continued probationary status when the student's GPA for a semester is 2.0 but the cumulative GPA remains below 2.0.
- Exclusion: If a student maintains a cumulative GPA of less than 2.0 for three consecutive semesters, the student may be excluded from future enrollment at the District for one semester. Re-entry is not automatic. A student may apply for re-entry through a campus Office of Admissions.

Appeal of Grades

A student who believes that a grade has been awarded unfairly or incorrectly should first contact the instructor who awarded the grade to discuss the issue and attempt to resolve the dispute. If the matter is not resolved to the student's satisfaction, the student may appeal the grade to the campus Chief Academic Officer at the location where the course was taken.

The student will be advised of the appeal process, which includes a written statement from the student and the instructor's written response. Grade appeals must be filed within 90 days of the conclusion of the semester or session during which the student was enrolled in the course where the challenged practice occurred.

Student Complaints

Students who have a complaint concerning a course, an instructor or other staff should discuss the problem with the instructor or staff person first. If the student is still dissatisfied after this discussion, student should complete a formal, written inquiry/complaint form, available in the student services office at the campus of choice. Refer to the Student Code of Conduct in the WCCCD Student Handbook.

Credit for Pre-College Learning

Wayne County Community College District recognizes that many of our students come to us

with a wealth of learning which was achieved through experiences outside a college classroom. The District sponsors several programs which are directed toward helping students convert those learning experiences into college credit that may be applied toward a certificate or degree. These include the Articulation Program, Credit by Examination, the College Level Examination, Credit for Experiential Learning and Credit for Specialized Experience. Contact the Campus Admissions Office.

Articulation Programs**High Schools**

High School articulation agreements are cooperatively planned and operated by the District and several secondary schools. Students who graduate from a participating school's career and technical preparation program may be eligible to receive college credit for competencies successfully completed in high school.

Colleges/Universities

The purpose of college/university articulation agreements is to allow students to complete an associate degree program, or in some cases, a certificate program, and transfer to a related bachelor's degree program with minimum loss of credit and duplication of coursework. Every articulation agreement describes the specific courses to be taken at WCCCD in order to complete the associate degree at WCCCD and successfully matriculate into to a four year college or university program of study.

Credit by Examination

Upon the recommendation of the Chief Academic Officer, credit may be earned for some courses in the current catalog through special examination. Credit earned in this manner will satisfy degree and certificate requirements. An academic officer can provide students with the direction and the forms necessary to apply for credit by examination.

College Level Examination Program (CLEP)

The CLEP test is based on the premise that individuals acquire knowledge informally throughout their lives. The test allows them to convert this knowledge into college credit. This opportunity may be particularly useful to the occupational career student, adult student, and the student who did not graduate from high school but who has acquired some special expertise.

There are two types of CLEP tests available: the **General Examinations**, which measure knowledge in basic liberal arts areas (English composition, humanities, mathematics, and social science/history), and the **Subject Examinations**, which measure achievement in 37 specific college courses. When prior college credit has been earned on a formal basis in the subject area, no CLEP credit will be allowed. Credit is granted for tests with scores which rank at the 50th percentile or higher based on sophomore norms presented in tables of percentile ranks provided by the College Entrance Examination Board, which developed and standardized the CLEP test.

A maximum of one year of credit (30) credit hours may be allowed for pre-college learning. This credit will apply toward WCCCD degrees and certificates. Most examinations are given once each month and may be taken by WCCCD students at the Counseling and Testing Bureau of Wayne State University. Descriptive brochures and applications are available at Wayne State University, 5050 Cass Avenue, Detroit, Michigan 48202.

Credit for Experiential Learning

If you wish to receive credit for learning you have achieved through experience but do not wish to use the CLEP or Credit by Examination programs, you may take advantage of our experiential learning program. To do this, you prepare a portfolio which includes the following

information:

1. Courses for which you want to receive credit
2. Learning goals that you have achieved
3. Documentation of the achievement of the learning goals

This portfolio is then reviewed by faculty to determine if credit may be awarded. Several things about experiential learning are important to understand as students consider using this opportunity to earn credit. First, credit is granted for learning achieved from experience, not for the experience itself. In developing the portfolio, students will need to demonstrate that their experiences have helped them gain both theoretical and practical knowledge at the same level as they would have achieved by taking the course. Second, the process of developing a successful portfolio is as time consuming as taking a course. Therefore, we recommend that students consider this option only if they wish to receive credit for a group of courses. Credit for a single course is earned more efficiently through credit by examination or the CLEP program.

The fee for this service is an amount equal to half the normal tuition for the courses in addition to a fee* for processing. The Campus Chief Academic Officer can provide students with the directions and the forms necessary to receive credit for experiential learning.

Credit for Specialized Experience

Wayne County Community College District will grant four credit hours of credit, without fee payment, for Fire Academy, Police Academy, military, conscientious objector, Peace Corps, or Volunteers in Service to America (VISTA) service and experience, subject to the following stipulations:

1. Credit will be granted only for one of these training or service experiences.
2. Credit for military service will be granted only for active duty service of one year or more.
3. Credit for Fire and Police Academy

Credit for Specialized Experience (cont.)

experience will be granted only after completion of academy training, and one year of active duty with a public fire protection or law enforcement agency.

4. Credit for Peace Corps and VISTA experience will be granted only after completion of the appropriate tour of duty.
5. Credit for conscientious objector service will be granted only for those objectors who rendered service to the community as a result of their legally determined conscientious objector status.
6. This credit will not satisfy any part of the 15 credits at WCCCD required for graduation.
7. This credit is general elective credit and does not apply toward the fulfillment of any general education requirement for a degree.
8. This credit will be recorded on the student’s academic record, without grade, as follows:

COE 999	4 credits
<i>Conscientious Objector Service</i>	
EMS 999	4 credits
<i>Emergency Medical Training</i>	
FAE 999	4 credits
<i>Fire Academy Experience</i>	
MSE 999	4 credits
<i>Military Service Experience</i>	
PAE 999	4 credits
<i>Police Academy Experience</i>	
PCE 999	4 credits
<i>Peace Corps Experience</i>	
VSE 999	4 credits
<i>VISTA Experience</i>	
9. To obtain this credit, students must meet the following criteria:
 - a. Be currently registered or have earned credit for at least one WCCCD credited course
 - b. Present official certificates to the Registrar attesting to the Fire Academy training (diploma or other official verification); military service (DD 214 preferred); or Peace Corps, VISTA, Police Academy, or Emergency Medical Training experience. Contact 313-496-2862 for further information.

Transfer College Information

Planning for Transfer

Many students attending WCCCD are beginning a journey toward a bachelor’s degree program, taking their freshman and sophomore requirements here while planning to transfer to a senior college or university. Many students will choose to obtain an associate degree prior to transfer to their chosen senior institution.

Getting an associate degree is encouraged because it equips students with a marketable degree should interruptions occur in completing a bachelor’s degree.

Some tips that will ensure that you make an easy transition from the community college to the university setting include:

- Begin planning early – meet with a WCCCD advisor to explore senior colleges and universities.
- Once you have selected a transfer institution, make contact with an advisor at that school as well.
- Make certain you understand the freshman and sophomore level requirements of your chosen university.
- If you are uncertain about where to attend upon completing your program at WCCCD, explore college web sites, write for information about programs you are interested in, and/or plan a trip to one or more colleges to become familiar with their environment, faculty and programs.
- WCCCD hosts “College Night” programs where representatives from senior colleges and universities will be on-site to speak with students. Plan to attend one of these events.

Transfer Support

The Office of Student Services on each campus can provide information about which WCCCD courses will transfer to universities in the area. It is the student’s responsibility to consult an academic adviser to plan a program of study based on the specific university and appropriate

academic major. Academic advisors can help students select the right courses for transferring to a four-year institution or college.

MACRAO Transfer Student Agreement

Wayne County Community College District is a member of the Michigan Association of College Registrars and Admission Officers (MACRAO). Members of this association represent both two-year and four-year colleges who have worked together to formulate a transfer student agreement.

The MACRAO transfer student agreement ensures that a student who completes the MACRAO Common Core courses at a participating two-year college will have satisfied general education requirements at the participating four-year college. The MACRAO Common Core of general courses includes the following:

- English Composition (6 credit hours).
- Natural Science/Mathematics (8 credit hours). (Courses must be taken from a minimum of two subject areas. At least one science course must include a laboratory.)
- Social Science (8 credit hours). (Courses must be taken from a minimum of two academic disciplines.)
- Humanities (8 credit hours). (*Courses must be taken from a minimum of two academic disciplines.*)

The inclusion of specific courses within a given category is determined by WCCCD. In general, technical, vocational, development and enrichment courses will not be included in the MACRAO Common Core. Special circumstances may allow for select vocational course acceptance if agreed to by a participating four-year college.

It is important for students wishing to take advantage of this agreement to work closely with an advisor at any WCCCD campus to insure that the courses they select fulfill the WCCCD general

education requirements and are eligible for the MACRAO agreement.

- WCCCD, upon student request, will evaluate a student's transcript for completion of the MACRAO Transfer Agreement. A "MACRAO Transfer Agreement Satisfied" endorsement will be placed on the student's transcript if the MACRAO Common Core has been fulfilled.
- The four-year college will determine the transferability, equivalency, and applicability of the MACRAO Common Core courses in meeting additional baccalaureate requirements. No additional General Education Common Core courses will be required by the four-year college of any student who completes the associate of arts (A.A.) or associate of science (A.S.) degree. *According to the requirements of the MACRAO agreement.
- Participating four-year colleges may require, of all students, additional graduation requirements beyond the 30 credit hours (45 quarter hours) satisfied by the MACRAO Common Core (i.e., competency, foreign languages, physical education, religion). Transfer students who complete the MACRAO Common Core will be expected to fulfill all graduation requirements.
- In order to benefit from the MACRAO Transfer Agreement, a student must be eligible for admission to a four-year college. The attainment of an A.A. or A.S. degree is desirable for most prospective transfer students. Individual objectives and circumstances are best considered by allowing each student flexibility to determine the time of transfer.

Waiver of Program Requirements

When a student is preparing to register for the final semester of his or her program or degree and unable to complete the requirements because a course (1) has not been offered recently at any campus, and (2) is not offered for the upcoming semester or has been cancelled due to lack of

Waiver of Program Requirements (cont.)

enrollment, the student may petition the District to have the required course waived and a related course substituted. No course will be waived without the substitution of another course.

Petitions for a waiver of course requirement must be submitted within the first two weeks of the enrollment period for the semester in which the waiver is to apply, except in the case of cancelled classes. Students should go to the Campus Chief Academic Officer to initiate a petition to waive program requirements. Some program requirements are absolute and cannot be waived. Nothing in this policy shall be construed to create an obligation on the part of the District to waive any program requirements.

Campus Presidents Honor List

Students completing 12 or more credits during the fall or spring semesters with a minimum grade point average of 3.5 are eligible to be recognized by the President of their respective campus.

Graduation with Honors

Students who complete degree requirements with exceptionally high scholastic averages are eligible to receive degrees with honors. Those who have earned the following grade point averages are eligible to be graduated:

- 3.75-4.00 summa cum laude
- 3.50-3.74 magna cum laude
- 3.25- 3.49 cum laude

In computing the grade point average, all courses taken (with the exception of developmental educational courses) at Wayne County Community College District are considered.

Graduation

Prior to the semester in which the students intend to graduate, they must:

1. Be officially admitted to the program or declare their major within the first 12 credit hours of coursework at the District.
2. Obtain and complete an application for graduation.
3. Submit the completed form to the appropriate advisor or program director for review.

Students are expected to follow the program outlined in the catalog in effect at the time of admission to the college. After an enrollment break of two or more years, students must follow the program requirements of the catalog at the time of re-enrollment.

ACADEMIC SUPPORT AND DEGREE REQUIREMENTS

PLANNING YOUR PROGRAM OF STUDY

The most important thing to do to ensure your success at WCCCD is to carefully plan your progress through your program of study, whether that is several specific courses or an entire certificate or degree. This plan should include consideration of family or job commitments, as well as the College's requirements and course offerings.

Student services staff are available on all campuses Monday through Friday, both day and evening, to help you in planning your program of study. In addition, faculty members, campus academic staff and student services staff are available to assist you in making sound academic decisions in your program of study.

These individuals are valuable resources and you should consult them any time you have a question. Students are encouraged to meet with an advisor each semester prior to registering.

CLASS SCHEDULING

The District strives to meet the scheduling needs of all students, whether they choose to study full-time, part-time, or less than part-time. Since earning a degree requires at least 60 academic credits, the length of time it takes to complete a degree depends on the number of credits a student successfully completes each semester.

Most WCCCD courses are three academic credits and require three hours of class time per week. Some courses require more academic credits and longer hours for laboratory and/or practicum assignments. Generally, classes are in session 15 weeks for the fall and spring terms, and 12 or 7.5 weeks for summer terms. Fast-Track and other academic sessions may vary in duration. Courses are also offered through Distance Learning. Refer to the current Schedule of Classes for specific and up-to-date information on the time, day and campus location of offered courses or at

www.wcccd.edu. This catalog suggests a sequence of courses you should follow to earn your degree if you are a full-time student. However, since many students are employed or have family responsibilities and other commitments, part-time study is available for the majority of programs. Contact the advising office at the campus of your choice for advice on selecting courses for part-time study.

FULL-TIME STUDY

Full-time study is 12 or more academic credit hours. To be successful, students are required to spend additional time each week (outside of class) in study and preparation.

PART-TIME STUDY

Part-time study is defined as 6-11 credit hours of study. Less than six (6) credit hours is not considered part-time. To be successful, students are required to spend additional time each week (outside of class) in study and preparation.

ACADEMIC SUPPORT SERVICES

Students are encouraged to meet regularly with their student services staff or advisors when entering WCCCD and throughout their stay at the District for assistance in educational planning and self-development. Advisors and other staff are available to assist students with educational, vocational and personal concerns. Individual and group experiences are available through a variety of District resources for students who wish to increase their effectiveness as learners and to improve their social skills.

LEARNING CENTERS

The District provides supportive services through its Learning Centers located at each campus. The centers provide academic skill building for individuals and groups. Students can receive individualized tutoring in English,

mathematics, science, study skills, humanities, social sciences, and accounting. Each Learning Center houses a wide range of equipment and materials to address various levels of learning difficulties. Students can use audiotapes, videotapes, classroom textbooks and computers.

SERVICES FOR STUDENTS WITH SPECIAL NEEDS

The ACCESS program provides students access to all District occupational, technical, and vocational programs. Students who are economically underserved, disabled, or limited English speaking are provided academic assistance, supportive services, and personal and career advisement. Each student is given the opportunity to realize his/her maximum potential which is achieved by formal and informal assessments.

Additionally, other specialized services are available based on academic or special needs of the student. Students who are eligible for supportive services are:

- Students with an academic or economic need.
- Students whose native language is other than English.
- Students with a physical or mental learning disability. (Students, who are designated as disabled, either physically or cognitively, must present medical documentation). For additional information, please contact The Learning Center at the campus of your choice.

Each campus offers services to students with special needs. Contact the Learning Center at the campus of your choice for more information.

- Downriver: 734-946-3500
- Downtown: 313-496-2758
- Eastern: 313-922-3311
- Northwest: 313-943-4000
- Western: 734-699-7008

DEVELOPMENTAL EDUCATION

Developmental education coursework is designed to build upon existing skills in order to facilitate student success in the core curriculum at Wayne County Community College District. Developmental education courses are offered in writing, reading and mathematics for students needing review in these areas. The courses emphasize individual attention, personalized teaching, and learning in small support groups. Each course carries full college credit at WCCCD. Developmental education courses are not transferable to four-year institutions for academic credit. The Developmental Education courses that are offered are as follows:

- ENG 111 Introduction to Reading Skills
- ENG 112 Career and Technical Reading I
- ENG 113 Career and Technical Reading II
- ENG 114 Career and Technical Writing I
- ENG 115 Career and Technical Writing II
- MAT 100 Basic Mathematics
- MAT 105 Pre Algebra
- MAT 112 Elementary Algebra
- MAT 113 Intermediate Algebra

LEARNING RESOURCE CENTERS

Learning Resource Centers (LRC) are located at all campuses. Services in each of our Learning Resource Centers include: computers and photocopiers/printers, course reserves, inter-library loan, reference services, virtual chat reference help, access to an Online Public Access Catalog (OPAC), and circulation services for students, faculty, and staff. Students, faculty, and staff have access to library resources in electronic and hardcopy formats that were selected to support study, research and recreational reading. The general and reference collections are arranged by Library of Congress call numbers. The LRC's also maintain a collection of scholarly journals, newspapers, and popular magazines. Other resources include multi-media equipment,

LEARNING RESOURCE CENTERS (cont.)

instructional videos, collection of e-books and access to the Library databases.

WCCCD is a member of the Detroit Area Library Network (DALNET), a multitype library and information network servicing the seven counties in the Southeast Michigan/Detroit Metropolitan area. The current DALNET members, along with WCCCD, are:

- Adam Cardinal Maida Alumni Library
- Arab American National Museum
- Beaumont Hospitals
- Botsford General Hospital
- Concordia University Ann Arbor
- Detroit Institute of Arts Library
- Detroit Medical Center
- Detroit Public Library
- John D. Dingell VA Medical Center
- Macomb Community College Library
- Marygrove College Library
- Mount Clemens Regional Medical Centers Library
- Oakland Community College Library
- Oakland County Law Library
- Rochester College
- The Henry Ford Benson Ford Research Center
- University of Detroit Mercy
- Walsh College Library
- Wayne State University

DALNET provides links to the information gateway, which include: access to DALNET member library catalogs, Digital Projects, access to health Information links, reciprocal borrowing agreements, access to research links, and DALNET news. DALNET also provides WCCCD libraries with access to a fully integrated library management system that is used to automate and manage library operations.

The WCCCD LRC web pages provide current information about the Learning Resource Centers. The web pages provide access to the

library catalog; articles and databases including WCCCD licensed Full Text article databases; internet search links to search engines, internet guides, and links to online help with APA and MLA style; frequently asked questions; and library services for faculty, students, staff and community. WCCCD students, faculty and staff can search these resources from any college network-connected PC or remotely from home or any off campus location. WCCCD instructors may schedule Bibliographic Instruction Sessions, class assignments and instruction in the use of equipment with campus LRC Coordinators for their classes.

Students must have the WCCCD Student One Card (which is also the library card) to use printing machines and access other LRC resources and services. Community members may purchase a cash card for printing in the LRC's.

Contact Information for the LRC's are as follows:

Downriver LRC	
John Dingell Library	734-374-3228
Downtown LRC	
Arthur Cartwright Library	313-496-2358
Eastern LRC	
Joseph Young, Jr. Library	313-579-6911
Northwest LRC	
John Conyers, Jr. Library	313-943-4080
Western LRC	
William D. Ford Library	734-699-7008 ext. 5561

CONTINUING EDUCATION

The School of Continuing Education provides the District with quality services that foster personal enrichment and professional development for individuals and the community to upgrade skills thereby increasing competitiveness. Courses and workshops are offered to assist professionals in maintaining the mandatory continuing education requirements for certification and licensure. Programs are offered to enrich the intellectual, physical, and emotional aspects of an individual regardless of age. The District is committed to the design and delivery of innovative programs and courses that address the diverse needs of business and the community and contribute to the economic development of Wayne County. District goals are achieved through the successful delivery of non-credit programs for special target populations.

The **Career and Professional Training** component is comprised of the School of Continuing Education professional development programs. These programs offer diversified, short-term skills training programs designed to provide individuals with the skills necessary for employment, skills upgrade, career advancement, certification/re-certification, and licensure. Some of the occupational-based programs include:

- Advanced computer technology
- Customer service training
- Government regulations
- Innovative training solutions
- Leadership development
- Measurable training results
- Performance improvement
- Safety and health training

Persons enrolling in Personal Enrichment and Leisure programs offered through the School of Continuing Education are able to enjoy a variety of programs intended for their personal growth and development, and/or the attainment of personal goals, i.e.: fitness and yoga courses,

computer training, photography, gardening, cooking, and music and dance.

The School of Continuing Education also provides children and youth with the opportunity to enroll in programs designed to assist them with the extra motivation necessary to do well in school, while creating a foundation for continuous life-skills building. Parents may enroll children in courses to strengthen academic and test-taking skills, nurture interests in dance, music, science, mathematics and art, discover new recreational skills or enhance existing ones.

Community members and organizations enroll in Continuing Education special guest lectures, seminars and workshops intended to address a specific need or topics of interest. Certain programs provide the flexibility of distance learning; allowing program participation online.

CORPORATE COLLEGE

The Corporate College provides customized training that assures the maximum outcome for a high-skilled and high-demand workforce. This service helps to energize business, industry, and professional corporations/organizations in today's economic market.

Services are tailored to include the following:

- E-Learning and interactive classes
- Formative and summative evaluation
- Needs assessment and analysis
- Onsite training and support services
- Program and course design and delivery

The Corporate College provides affordable customized occupational training as well as educational and learning opportunities that meet individualized requirements of employers in a globalized marketplace. Management/leadership training, team building, process improvement, and front-end analysis programs are detailed specific to meet the needs of business and industry.

DISTANCE LEARNING

The District's distance learning offerings are designed to provide students with greater access to the District's programs and are available to all students. Distance learning opportunities are available through online courses, ITV course offerings and Live-Interactive online courses.

Online Courses: These courses enable students to earn course credit through Internet connections at locations of their choosing. Students must have access to a computer with an Internet connection and relevant computer peripherals. A majority of online course work occurs in a virtual environment that is accessible 24 hours a day, seven days a week. Most online courses are 100% online. However, some courses require periodic face-to-face sessions.

Interactive Television (ITV): ITV courses are offered in specially-equipped classrooms which are linked by two-way audio/two-way video conferencing technology to other campuses. This initiative links the campuses such as Downtown, Downriver, Eastern, Northwest, and Western together, allowing students to participate in the same course simultaneously. This technology allows students and faculty to interact between the campuses and allows them to see and hear each other live. ITV makes it possible for students to participate in courses that were limited to them due to travel restrictions or low enrollments.

Live-Interactive Online (LIO): This technology allows students to access their course from any location with access to the Internet. Students need a computer with an Internet connection and relevant computer peripherals. An instructor sends text, graphics, and audio to students' computers simultaneously for interactive learning experiences. Whether working from home, work, or on-campus, all of the LIO students have the ability to ask "live" questions of the instructor and fellow students.

For more information concerning any of the District's distance learning opportunities, please contact The Center for Distance Education at distancelearning@wcccd.edu.

WEEKEND COLLEGE

Weekend courses leading to certificates and degrees are offered on Fridays and Saturdays at all campuses. The **Weekend College Degree program** is offered at the Downtown Campus.

Classes are offered on Friday evenings and Saturdays with the following options available:

Degrees:

- Associate of Arts
- Associate of Science
- Associate of Applied Science
(*Business Administration*)
- Associate of General Studies

Certificates:

- Business Administration

For a complete listing of Weekend College Degree classes, refer to the Schedule of Classes.

CATALOG-IN-FORCE

Each student's catalog-in-force for degree or certificate requirements is the College Catalog which is in effect when a student first enrolls in credit courses at Wayne County Community College District.

A student, who has been away from the College for four (4) or more regular semesters, or the last two (2) years, must complete an application for re-admission. Students will follow the Catalog-in-force requirements (degree or certificate program requirements) effective the term the student re-enrolls in credit courses.

For programs that have selective admission, a student's catalog-in-force requirements (degree or certificate program requirements) are those that are in effect the term a student is accepted into the program and enrolls in program courses.

CATALOG-IN-FORCE (cont.)

In addition, the District reserves the right to change course offerings and academic requirements as deemed necessary.

DEGREE REQUIREMENTS

Requirements for All Degrees

Candidates applying for an associate degree at Wayne County Community College District must meet the following basic requirements:

- Complete at least 60 credit hours:
 - A minimum of 15 credits of program requirements at WCCCD
 - PS 101 American Government (3 credits)
 - Program course with a “C” or higher
Note: English 119 is required for all degrees
- Have a minimum grade point average of 2.0 upon completion.

REQUIREMENTS FOR SPECIFIC DEGREES

Associate of Arts (A.A.) Degree

The associate of arts (A.A.) degree is designed for students who plan to transfer to a four-year college or university and for those who plan to earn a professional degree. Programs leading to the A.A. degree are designed for students who plan to major in such areas as performing arts, English, humanities, or social sciences and for students who are preparing for professional programs in areas such as law, journalism, business administration, teaching and computer information systems.

In order to receive the A.A. degree, students must:

1. Complete the “Requirements for All Degrees” as listed in each program
2. Complete the following academic group requirements:

General Education Courses:

English 119 and ENG 120 . . . . .	.6 credits
PS 101 - American Government . . .	.3 credits
Humanities . . . . .	.9 credits
Natural Science* . . . . .	.8 credits
✓ *Natural Science course must include a laboratory	
Social Science . . . . .	.9 credits

Note: Students must complete a minimum of three (3) courses from the following areas of concentration:

- | | |
|----------------|---------------------|
| - Anthropology | - Philosophy |
| - Economics | - Political Science |
| - English | - Psychology |
| - History | - Sociology |
| - Mathematics | - Speech |

Total General Education Credits: . . . 35 credits

+

Electives 25 credits

Associate of Arts Degree

Program Total: 60 credits

Associate of General Studies (A.G.S.) Degree:

This degree program helps students who plan to study a variety of areas without committing themselves to a specific field as they prepare for employment or additional academic work. In order to receive the A.G.S. degree, students must:

1. Complete the "Requirements for All Degrees" as listed in each program
2. Complete the following academic group requirements:

*English .....	.3 credits
<i>*select any one (1) course from ENG 111- ENG 115</i>	
ENG 119 .....	.3 credits
Humanities .....	.3 credits
Mathematics .....	.3 credits
*Natural Science .....	.3 credits
<i>*ANT 153, DT 130 OR any course from AST, BIO, GEL, CHM, PHY</i>	
PS 101 - American Government .....	.3 credits

Total General Education Credits: ...18 credits

+

Electives42 credits

Associate of General Studies

Degree Total 60 credits

Additional Associate Degrees:

A student who has received an associate degree from WCCCD may obtain an additional associate degree in another area. However, students should seek academic advising before pursuing an additional associate's degree. This provision is subject to the following stipulations:

- For each additional associate degree, a minimum of 15 semester credit hours must be completed at WCCCD. These credit hours may not repeat previously earned credit.
- All academic group requirements for the associate of arts or associate of science degree may be met by credit previously earned, or by credit additionally earned, or both.
- All courses required by any specific program must be completed.

- An associate of arts degree may be earned following an associate of science degree or vice versa. However, no additional degree will be granted in the same program in which the first degree was earned.
- An additional degree must be within a specific program if the first degree was not.
- Students must complete their last semester at WCCCD.
- Students may not receive a certificate and an associate degree in the same career program within the same semester.

Certificate Requirements (CERT)

The certificate programs are designed for students who are seeking job-entry skills and for those who wish to improve their performance on their present job or who wish to qualify for advancement. In order to receive a certificate, students must satisfy the specific program requirements. The specific course requirements are listed in the academic program section of this Catalog. Refer to the table of contents for page listings of certificate programs. In addition, contact the Workforce Development Department at the District for information on specialized certificate training programs offered throughout the academic year.

- Short-Term Certificate:
minimum 10 credits, maximum 29 credits*
- One-Year Certificate:
minimum 30 credits, maximum 35 credits*
- Two-Year Certificate:
*minimum 60 credits, maximum 72 credits
**At least 70 percent of courses must be occupational specific courses.*

Courses that Satisfy the Academic Group Requirements

The courses listed below may be used to satisfy the English, Humanities, Social Sciences, and Natural Sciences academic group requirements for the following degree programs:

- Associate of Arts
- Associate of Applied Science
- Associate of Science
- Associate of General Studies

Refer to the “Specific Degree Requirements” and the special requirements of your chosen program listed in this catalog to be sure that you select the correct courses.

NOTE: Elective courses may be selected from the list of courses below in addition to the courses listed in the Course Description section of this catalog.

I. Courses that satisfy English requirements:

Options:

ENG 119	English I (required for all degrees plus one other English (ENG) course.)
ENG 120	English II (required for the A.A., A.S. and other degree's.)
ENG 134	Technical Communications
ENG 260	Introduction to African-American Literature
ENG 261	African-American Literature in the Twentieth Century
ENG 270	Professional and Technical Report Writing
ENG 280	Creative Writing

II. Courses that satisfy the humanities requirements:

Options:

AAS 253	African-Caribbean Literature
ARA 101	Introduction to Arabic I
ARA 102	Introduction to Arabic II
ART 101	Drawing I
ART 102	Drawing II
ART 103	Drawing III
ART 111	Design I
ART 112	Design II
ART 115	Basic Drawing for Animation
ART 121	Painting I
ART 122	Painting II
ART 123	Painting III
ART 131	Ceramics I
ART 132	Ceramics II
ART 151	Sculpture I
ART 152	Sculpture II
ART 171	Printmaking I
ART 172	Printmaking II
ART 173	Printmaking III
ART 174	Printmaking IV
ART 211	Life Drawing I
ART 212	Life Drawing II
ART 213	Life Drawing III
CHN 101	Introduction to Chinese
DAN 101	Modern Dance I
DAN 102	Modern Dance II
DAN 103	Modern Dance III
DAN 111	Ballet I

II. Courses that satisfy the humanities requirements (cont.)

DAN 115	African-American Dance
DAN 211	Choreography and Performance I
ENG 212	Women in Literature
ENG 228	Introduction to Folklore and Mythology
ENG 231	Introduction to Poetry
ENG 232	Introduction to the Novel
ENG 233	Introduction to Drama
ENG 234	The English Bible as Literature
ENG 240	Introduction to Shakespeare
ENG 250	American Literature, 1800-Present
ENG 252	English Literature Across the Centuries
ENG 260	Introduction to African-American Literature
ENG 261	African-American Literature in the Twentieth Century
ENG 266	African-Caribbean Literature
ENG 280	Creative Writing
ENG 285	Children's Literature
ENG 290	Spanish American Literature
ENG 292	Latina Literature-The Past Decade
FRE 101	Elementary French I
FRE 102	Elementary French II
FRE 201	Intermediate French I
FRE 202	Intermediate French II
GRM 101	Introduction to German
HIS 151	World Civilization I
HIS 152	World Civilization II
HIS 230	American Cultural History of 17th to 19th Century
HIS 249	History of the United States I
HIS 250	History of the United States II
HUM 101	Introduction to the Visual Arts
HUM 102	Introduction to the Performing Arts
HUM 103	The Art of Humanities
HUM 126	Foundations of African-American Art
HUM 141	Introduction to the Theatre
HUM 211	Music Appreciation
HUM 221	Art Appreciation
HUM 222	Art History

HUM 231	Introduction to Film
JPN 101	Elementary Japanese I
JPN 102	Elementary Japanese II
MUS 100	Introduction to the Fundamentals of Music
MUS 101	Fundamentals of Music I
MUS 102	Fundamentals of Music II
MUS 121	History of Jazz I
MWS 102	Muslim World Civilization
PHL 101	Comparative Religions I
PHL 102	Comparative Religions II
PHL 201	Introduction to Philosophy
PHL 211	Introduction to Logic
PHL 221	Ethics
SPA 101	Elementary Spanish I
SPA 102	Elementary Spanish II
SPA 201	Intermediate Spanish I
SPA 202	Intermediate Spanish II
SPH 101	Fundamentals of Speech
SPH 105	Improving the Speaking Voice
SPH 111	Interpretative Reading
SPH 131	Introduction to Radio, Television and Mass Communications
SPH 161	Play Production

III. Courses that satisfy the natural sciences requirements:

- For the A.A. degree and the A.S. degree:
- At least one (1) of the natural sciences must be a laboratory course.
 - Mathematics courses numbered 155 or above may be used to meet the non-laboratory natural science requirement.

Options:

Note: + designates a science course with a laboratory

Natural Sciences:

ANT 153	Introduction to Physical Anthropology
AST 101	Astronomy I: New Solar System
BIO 125	Biology for Non-Science Majors
BIO 151	Human Ecology
BIO 155+	Introductory Biology
BIO 165+	Botany
BIO 175+	Zoology

BIO 240+	Human Anatomy and Physiology I	Options:	
BIO 250+	Human Anatomy and Physiology II	AAS 131	American Government and the African-American Struggle
BIO 252	Pathophysiology		
BIO 295+	Microbiology	AAS 140	The Psychology of the African-American Experience
CHM 105+	Introductory Chemistry		
CHM 136+	General Chemistry I	ANT 152	Introduction to General Anthropology
CHM 145+	General Chemistry II		
CHM 155+	Survey of Organic and Biochemistry	ANT 154	Introduction to Cultural Anthropology
CHM 250	Organic Chemistry I	ANT 201	Urban Life and Culture
CHM 252	Organic Chemistry II	ANT 210	Anthropology of Sex and Culture
CHM 255+	Organic Chemistry Lab	ECO 101	Principles of Economics I
DT 130	Fundamentals of Nutrition	ECO 102	Principles of Economics II
GEL 210+	Physical Geology Lecture	ECO 232	Consumer Economics
PHY 115+	Fundamentals of Physics	ECO 272	Money and Banking
PHY 235+	General Physics I	HIS 151	World Civilization I: Prehistory to 1650
PHY 245+	General Physics II		
PHY 265+	Physics for Scientists & Engineers I	HIS 152	World Civilization II: 1650 to Present
PHY 275+	Physics for Scientists & Engineers II	HIS 220	History of Michigan
		HIS 230	Patterns of American Life: A Cultural History of 17th to 19th Century America
		HIS 249	History of the United States I: 1607-1865
		HIS 250	History of the United States II: 1865-Present
		MS 110	The Bible as a Historical Document
		MS 120	The History and Sociological Impact of the Black Church in America
		MS 150	The Blended Family and the Church
		MS 155	Law and Respect/ Religion and Diversity
		MS 160	The Black Woman and Religion
		MWS 101	Muslim World Ideologies and Culture
		MWS 103	Muslim World Historical Survey
		MWS 106	Muslim World International Relations
		MWS 107	Muslim World Contemporary Issues
		PS 101	American Government
		PS 104	Introduction to Political Science
		PS 160	International Politics

Mathematics:

MAT 155 College Algebra

MAT 156 Trigonometry

MAT 171 Analytic Geometry and Calculus I

MAT 172 Analytic Geometry and Calculus II

MAT 271 Analytic Geometry and Calculus III

MAT 272 Linear Algebra

MAT 273 Differential Equations

IV. Courses that satisfy the social sciences

requirements:

1. At least two courses must be selected from the following academic areas:

- Anthropology (ANT)
- Economics (ECO)
- Geography (GEG 202)
- History (HIS)
- Political Science (PS)
- Psychology (PSY)
- Sociology (SOC)

2. Courses that satisfy the social sciences requirements below must be taken from more than one academic area.

PS 275	Public Administration Internship
PSY 101	Introductory Psychology
PSY 202	Human Sexuality
PSY 220	Child Growth and Development
PSY 225	Child Growth and Development with a Practicum
PSY 230	Psychology of Adjustment
PSY 235	Psychology of Adjustment with a Practicum
PSY 250	Psychology of Personality
PSY 260	Social Psychology
SOC 100	Introduction to Sociology
SOC 103	Social Problems
SOC 120	Death and Dying
SOC 225	Sociology of Work
SOC 230	Ethnic Minorities
SOC 245	Marriage and Family
SOC 250	Juvenile Delinquency

DEGREE & CERTIFICATE PROGRAMS

Wayne County Community College District offers the following degree and certificate programs:

1.	Accounting	AAS	19.	CIS: Computer Programming Specialist	AAS
2.	Accounting	CERT	20.	CIS: Computer Support Specialist	AAS
3.	Addiction Studies	CERT	21.	CIS: Computer Support Specialist	CERT
4.	Alternative Fuels Technology	CERT	22.	CIS: Database Specialist	AAS
5.	American Sign Language	CERT	23.	CIS: Master Web Site Designer	CERT
6.	Associate General Studies	AGS	24.	CIS: Master Web Site Designer	AAS
7.	Associate of Arts	AA	25.	CIS: System Administrator	AAS
8.	Associate of Science	AS	26.	CIS: Video Game Design & Animation	AAS
9.	Automotive Service Technology (NATEF) Certified	AAS	27.	CIS: Video Game Design & Animation	CERT
10.	Automotive Service Technology (NATEF) Certified	CERT	28.	CIS: Webmaster Administrator	AAS
11.	Aviation Mechanics: Airframe	AAS	29.	Certified Nurse Aide (CNA)	CERT
12.	Aviation Mechanics: Airframe	CERT	30.	Criminal Justice: Corrections	AAS
13.	Aviation Mechanics: Powerplant	AAS	31.	Criminal Justice: Law Enforcement	AAS
14.	Aviation Mechanics: Powerplant	CERT	32.	Dental Assisting	CERT
15.	Business Administration	AA	33.	Dental Hygiene	AS
16.	Business Administration	AAS	34.	Dental Laboratory Technician	CERT
17.	Computer Information Systems (CIS)	AAS	35.	Dietetic Technology	AAS
18.	CIS: Computer Network Administrator	AAS	36.	Digital Media Production	AAS
			37.	Digital Media Production	CERT
			38.	Early Childhood Education:	AAS
			39.	Early Childhood Education: Childcare Training: CDA	CERT
			40.	Electrical Electronics Engineering Technology (EEE)	AAS
			41.	Electrical Electronics Engineering Technology (EEE)	CERT
			42.	EEE: Computer Technology	AAS
			43.	EEE: Industrial Electronics & Control Technology	AAS
			44.	EEE: Telecommunications Technology	AAS
			45.	Emergency Medical Technology	AAS
			46.	Emergency Medical Technology	CERT
			47.	Emergency Room Multi-Skill Healthcare Technology	AAS
			48.	Emergency Room Multi-Skill Healthcare Technology	CERT
			49.	Entrepreneurship	CERT
			50.	Facility Maintenance	AAS
			51.	Facility Maintenance	CERT

52. Fire Protection Technology: Fire Administration	AAS	86. Office Information Systems: Office Specialist	AAS
53. Fire Protection Technology: Fire Suppression	AAS	87. Office Information Systems: Office Specialist	CERT
54. Fire Protection Technology	CERT	88. Paralegal Technology	AAS
55. Foodservice Systems Management	AAS	89. Performing Arts: Theater	AA
56. Foodservice Systems Management	CERT	90. Pharmacy Technology	AAS
57. Forensic Photography	CERT	91. Pharmacy Technology	CERT
58. Geothermal Systems Technology	CERT	92. Phlebotomy Technician	CERT
59. Gerontology	AAS	93. Pre-Engineering	AS
60. Gerontology	CERT	94. Pre-Mortuary Science	AAS
61. Graphic Design Technology	CERT	95. Pre-Physician Assistant	AAS
62. Healthcare Renewable Energy	CERT	96. Pre-Social Work	AA
63. Heating Ventilation, Air Conditioning (HVAC)	AAS	97. Project Management	CERT
64. Heating Ventilation, Air Conditioning (HVAC)	CERT	98. SED: Sustainable Building & Sites	CERT
65. Heavy Equipment Maintenance Technology	AAS	99. Surgical Technology	AAS
66. Heavy Equipment Maintenance Technology	CERT	100. Surgical Technology: Accelerated Alternate Delivery (ADD)	CERT
67. Hemodialysis Patient Care Specialist	AAS	101. Surgical Technology: Central Service Tech	CERT
68. Hemodialysis Patient Care Specialist	CERT	102. Surgical Technology: First Assistant	CERT
69. Homeland Security	CERT	103. Teacher Education: Elementary Education	AA
70. Hotel and Restaurant Management	CERT	104. Veterinary Technology	AAS
71. Industrial Computer Graphics	AAS	105. Water and Environmental Technology	CERT
72. Industrial Computer Graphics	CERT	106. Welding Technology	AAS
73. International Business	CERT	107. Welding Technology	CERT
74. Library Technology	CERT		
75. Logistics Management	CERT		
76. Machine Tool Technology	AAS		
77. Machine Tool Technology	CERT		
78. Manufacturing Technology	AAS		
79. Mechatronics Technology	CERT		
80. Mental Health	AS		
81. Mental Health	CERT		
82. Numerical Control Technology	AAS		
83. Nursing	AAS		
84. Office Information Systems: E-Business	AAS		
85. Office Information Systems: E-Business	CERT		

DEGREE PROGRAMS

ACCOUNTING

- College Certificate
Associate of Applied Science

About the Program

The Accounting Associate of Applied Science degree and College Certificate programs prepares students presently employed in the accounting field and seeking advancement, and for those seeking a position in the field immediately upon graduation. Areas where a student may find employment include but are not limited to, auditing, payroll, cost, budget and tax. In addition to the course work in Accounting, the student will complete courses in various other business disciplines and the liberal arts.

This program offers:

Associate of Applied Science: **67** credit hours
College Certificate: **34** credit hours

Program Goals

- To provide students, with a background in the accounting field, an advanced foundation of accounting principles and concepts for entry-level positions with accounting tax services firms, CPA firms and other small businesses. Certificate is designed for rapid entry into the workforce while maximizing transfer credit into the Associate of Applied Science Degree in Accounting.
- To prepare students to successfully pass the National Certified Bookkeeping Exam and Individual Income Taxation Enrolled Agent Exam.

Program Outcomes

- Students will be able to demonstrate use of technology, software and integrated computerized accounting software to perform basic accounting and bookkeeping tasks.

- Demonstrate proficiency in preparing and processing payroll records and reports in compliance with state and federal requirements
- Competently prepare and analyze financial statements in accordance with generally accepted accounting principles.
- Recognize and interpret the fundamentals of Individual Income Taxation (according to Enrolled Agent Exam objectives).
- Apply the Internal Revenue Code as it relates to individual, partnership, and corporation income taxes.
- Identify and explain concepts of financial accounting in accordance with the National Certified Bookkeeping Exam objectives.
- Balance and reconcile financial information and fundamentals of Individual Income Taxation according to the Enrolled Agent Exam objectives.
- Accurately prepare professional financial statements and other reporting documents with a 70% or higher proficiency rate.
- Articulate, apply and practice ethical parameters of the profession to include federal and state regulatory guidelines for generally accepted accounting principles.

Certificate Goals

- To provide students, with a foundation in principles and concepts related to the accounting field.
- Certificate is designed for rapid entry into the workforce while maximizing transfer credit into the Associate of Applied Science Degree in Accounting.

Certificate Outcomes

- Students will be able to demonstrate use of technology, software and integrated computerized accounting software to perform basic accounting and bookkeeping tasks.
- Demonstrate competency in the preparation of financial statements, payroll reports, tax returns and other related financial documents.

Admission Requirements

Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer.

Degree Requirements

- Students must complete all course work with a grade of “C” or better to meet graduation requirements.

**Accounting: College Certificate
Recommended Sequence of Courses**

CR. No.	COURSE TITLE	CREDITS
<u>SEMESTER 1</u>		
ACC 110	Principles of Accounting I	4
BUS 150	Introduction to Business	3
BUS 225	Computer Applications in Business	3
ENG 119	English I	3
MAT 155	College Algebra	4
SEMESTER TOTAL		17
<u>SEMESTER 2</u>		
ACC 111	Principles of Accounting II	4
ACC 105	Income Tax Accounting	3
ACC 112	Computerized Accounting	3
BL 201	Business Law I	4
BUS 240	Business Communications	3
—OR—		
BUS 221	Business Statistics	3
SEMESTER TOTAL		17
CERTIFICATE TOTAL		34

Note: Certificate total hours may not include prerequisites.

**Accounting: Associate of Applied Science
Recommended Sequence of Courses**

CR. No.	COURSE TITLE	CREDITS
<u>SEMESTER 1</u>		
ENG 119	English I	3
BUS 225	Computer Applications in Business	3
SPH 101	Fundamentals Speech	3
—OR—		
SPH 105	Improving the Speaking Voice . . .	3
BUS 150	Introduction to Business	3
ACC 110	Principles of Accounting I	4
SEMESTER TOTAL		16
<u>SEMESTER 2</u>		
ENG 120	English II	3
MAT 155	College Algebra	4
ACC 111	Principles of Accounting II	4
ACC 112	Computerized Accounting Software	3
SEMESTER TOTAL		14
<u>SEMESTER 3</u>		
ECO 101	Principles of Economics I	3
BL 201	Business Law I	4
MGT 205	Management Principles	3
ACC 210	Intermediate Accounting I	3
ACC 105	Income Tax Accounting	3
SEMESTER TOTAL		16
<u>SEMESTER 4</u>		
ECO 102	Principles of Economics II	3
MKT 200	Principles of Marketing	3
PS 101	American Government	3
BUS 221	Business Statistics	3
—OR—		
BUS 240	Business Communications	3
ACC 211	Intermediate Accounting II	3
SEMESTER TOTAL		15

Continued on next page

ACCOUNTING continued

SEMESTER 5

Electives6*

SEMESTER TOTAL6

PROGRAM TOTAL67

Note: Program total hours may not include prerequisites.

*Electives may include:

- ✓ any course offered except ACC 100
- ✓ no courses numbered below ENG 119
—AND—
- ✓ MAT courses numbered below 155
- ✓ BUS 228 Internet Webpage Design strongly recommended

ADDICTION STUDIES

- College Certificate

About the Program

The Addiction Studies College Certificate program prepares graduates to work as entry level professionals in centers and facilities serving persons who are dependent upon addictive substances. Job functions include interviewing, conducting group sessions and behavior management.

College Certificate Goals

- To prepare students for and/or advancing their careers in the field of addictive addiction disorders including gambling, drug and alcohol dependency treatment, prevention and education through successful completion of the State of Michigan Certified Addiction Counselor exam.
- Understand and apply fundamental concepts of biological, psychological and social aspects of dependency addiction and disorders.
- As necessary, enhance the psychosocial functioning of clients in addiction disorder treatment programs.

College Certificate Outcomes

- Students will be able to understand causes of addiction dependency and its effects on individuals, families, groups and communities.
- Prepare students for successful completion of the State of Michigan Certified Addiction Counselor (CAC-M, CAC-R and CAAC) certification process with a 70% proficiency rate or higher.
- Prepare and plan an appropriate community resources profile plan for clients and customers.
- Analyze, identify, plan, implement and evaluate interventions.
- Demonstrate knowledge of critical thinking concepts to adapt intervention and

assessment skills to a variety of agency settings e.g. crisis counseling, employment services, children’s protective services, self-sufficiency, housing, mental health, corrections and advocacy.

Admission Requirements

- Students are required to do the following:
- Fulfill all WCCCD admission requirements
 - Fulfill course placement requirements based on COMPASS test.
 - Students must complete WCCCD Program Application and submit to the Campus Academic Officer.

Degree Requirements

- Students must complete all course work with a grade of “C” or better to meet graduation requirements.

**Addiction Studies: College Certificate
Recommended Sequence of Courses**

CR. No.	COURSE TITLE	CREDITS
<u>SEMESTER 1</u>		
HUS 105	Group Expression for Self Growth I	3
ENG 119	English I	3
PSY 101	Introductory Psychology	3
HUS 110	Introduction to Human Services	3
SEMESTER TOTAL		12
<u>SEMESTER 2</u>		
HUS 135	Professionalism in Human Services	3
MEH 140	Mental Health Legal Information	3
ADD 110	Introduction to Addiction	3
ADD 130	Assessment, Diagnosis & Treatment of Addictions	3
SEMESTER TOTAL		12
<u>SEMESTER 3</u>		
AAS 237	Illegal Drug Traffic and the African-American Community ..	3
HUS 120	Group and Social Process I	3
ADD 135	Addiction Field Practicum Methods Seminar I	4
ADD 102	Addiction Counseling: Theories & Techniques	3
SEMESTER TOTAL		13
<u>SEMESTER 4</u>		
ADD 214	Pharmacology of Addiction	3
ADD 235	Addiction Field Practicum Methods Seminar II	4
SEMESTER TOTAL		7
CERTIFICATE TOTAL		44

Note: Certificate totals may not include prerequisite work.

ALTERNATIVE FUELS TECHNOLOGY

- College Certificate

About the Program

The Alternative Fuel College Certificate prepares students for career areas utilizing alternative energy and fuel cell technology. Students will be taught and prepared to work on gas-electric hybrids, hydrogen, compressed natural gas, bio-diesel, propane, methanol, ethanol and even garbage-powered vehicles and other power units. Students will learn preventive maintenance, safety procedures refueling procedures, troubleshooting, and problem solving techniques on a wide range of technologies to insure a solid career with a multitude of possibilities in this new emerging industry. Additionally, students will be instructed on the fundamental principles in the production, processing, storage, distribution and utilization of energy. This program addresses the need for the development of alternative sources of energy and conventional fossil fuels.

College Certificate Goals

- To prepare students for careers utilizing the development of and reliance on alternative energy and fuel cells and repair of automotive alternative fuel vehicles.
- To teach and prepare students as a precursor for a declared four-year baccalaureate degree.

College Certificate Outcomes

- Students will be able to demonstrate basic electrical, mechanical, and chemical, mathematics, science and computer skills knowledge to identifying solutions for alternative energy.
- Apply critical thinking and analytical skills to determine where and when alternative energy and fuel cells are appropriate and effective for repair.

- Select and use appropriate tools and equipment to perform repairs according to industry standards.
- Identify the types of automotive alternative fuels available.
- Identify, diagnose, and repair malfunctions of light duty diesel engines, electric vehicles, fuel cells and hybrid electric vehicles.
- Identify and understand the properties of natural gas, propane, and hydrogen and their use as a fuel for internal combustion engines or fuel cells.
- Describe and demonstrate safe work habits and protocol for quality and safety procedures with alternative fueled vehicles.

Admission Requirements

Students are required to complete the following:

- Fulfill all WCCCD admission requirements.
- Declare intent to enter the Alternative Fuels Technology Program on the WCCCD Application for Admission or change intent at the admissions office.
- Fulfill course placement requirements based on COMPASS test results.
- Students must complete WCCCD program admission applications during the semester they are enrolled in AUT 117, and then submit the application to the Campus Academic & Student Services Officer.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Alternative Fuels Technology: College Certificate

Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
AUT 114	Electrical/Electronic Systems I	3
AUT 115	Electrical/Electronic Systems II	3
SEMESTER TOTAL		6
SEMESTER 2		
AUT 116	Electrical/Electronic Systems III	3
AUT 117	Electrical/Electronic Systems IV	3
SEMESTER TOTAL		6
SEMESTER 3		
AUT 150	Introduction to Alternative Fuels	4
AUT 152	Introduction to Electric and Fuel Cells	4
AUT 154	Introduction to Hybrid Fuel Technology	4
SEMESTER TOTAL		12
SEMESTER 4		
AUT 151	Light Duty Diesel Engines	4
AUT 153	Introduction to Gaseous Fuels ..	4
AUT 155	Introduction to Hydrogen Applications and Safety	4
SEMESTER TOTAL		12
CERTIFICATE TOTAL		36

Note: Certificate totals may not include prerequisite work.

AMERICAN SIGN LANGUAGE

- College Certificate

About the Program

The American Sign Language College Certificate degree program at Wayne County Community College District is designed to give students a foundation in American Sign Language (ASL) and to acquaint them with basic issues of concern to the Deaf community. The program also offers an opportunity for individuals already working in the Deaf community to increase their understanding of ASL, the Deaf culture and affective community skills.

Certificate Goals

- To teach students the style and semantic concepts of ASL to allow for effective communication with Deaf persons in informal settings, human service, health care and other corporate or non-profit sectors.
- Enhance the credentials of current ASL professionals for advanced employment opportunities that assign value to skills in ASL and knowledge of the Deaf culture.
- To prepare students to enter an interpreter training program and successfully pass the ASL certification exam, sponsored by the national licensing association, with a proficiency score of 70% or higher.

Certificate Outcomes

- Students will be able to describe the structures of ASL to include phonology, morphology syntax and semantics at a 75% proficiency level or higher.
- Interpret and demonstrate competency in ASL expressive and receptive skills at a 75% proficiency level or higher.
- Interpret consecutively and simultaneously in a low-key, one-on-one setting.
- Interpret and demonstrate competency in visual gestural communication and finger spelling.

AMERICAN SIGN LANGUAGE
continued

- Demonstrate the ability to function appropriately in an interpreting situation following the interpreter’s Code of Professional Conduct.
- Interpret skills learned in the classroom, accurately apply them into general situations and adjust language style to match that of the consumer’s in and out of the Deaf community and in service fields.
- Exhibit an awareness, support and respect for ASL as the visual language of the Deaf community.

Admission Requirements

Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Possess a high school diploma or GED
- Fulfill course placement requirements based on the COMPASS test.
- Declare intent to enter the American Sign Language program and indicate intent on the Application for Admission form.

Degree Requirements

- Students must complete all course work with a grade of “C” or better to meet graduation requirements.

American Sign Language: College Certificate Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
<u>SEMESTER 1</u>		
ASL 101	American Sign Language I	3
ASL 102	Structure of American Sign Language	3
ASL 103	Visual Gestural Communication	3
SEMESTER TOTAL		9
<u>SEMESTER 2</u>		
ASL 104	Introduction to ASL Fingerspelling	3
ASL 105	Orientation to Deafness	3
ASL 107	Introduction to the American Deaf Culture	4
SEMESTER TOTAL		10
<u>SEMESTER 3</u>		
ASL 201	American Sign Language II	4
ASL 204	Interpreting I	3
ASL 205	Field Experience in Sign Language	4
SEMESTER TOTAL		11
CERTIFICATE TOTAL		30

Note: Certificate total hours may not include prerequisites.

ASSOCIATE OF ARTS - A.A.

Associate of Arts

About the Program

The District offers a two-year course of study leading to the Associate of Arts degree. This degree is designed for students who plan to complete their first two years of college at Wayne County Community College District and transfer to a baccalaureate degree granting institution. Programs leading to the A.A. degree are designed for students who plan to major in such areas as performing arts, English, humanities or the social sciences. It is also for students who are preparing for professional programs in areas such as law, journalism, business administration, teaching and computer information systems.

Program Goals

- To provide a general foundation of an associate of arts studies as the precursor for a declared four-year degree.

Program Outcomes

- To successfully complete the Associate of Arts program with a "C" average or higher as a foundation to transfer to a four-year baccalaureate institution.

Degree Requirements

- The Associate of Arts degree consists of a minimum of sixty (60) semester hours of credit, of which fifteen (15), must be earned at WCCCD.
- Course work must be completed with a grade of "C" or better.
- Thirty-five (35) credit hours are used to satisfy the general education and academic group requirements.
- Twenty-five (25) credit hours are needed to satisfy the elective requirements
- Consult a transfer coordinator at the campus for course requirement advising.

Students are required to complete:

A total of twenty-five (25) elective credit hours, including a minimum of three (3) courses in one of the following areas of concentration:

- Humanities
 - English
 - Speech
- Social Science
 - African-American Studies
 - Anthropology
 - Economics
 - Sociology
- Life and Physical Science
 - Mathematics
- Human and Community Development
 - Philosophy
 - Psychology

Continued on next page.

ASSOCIATE OF ARTS - A.A.

continued

Associate of Arts (A.A.) Degree:

General Education Course Requirements:

AMERICAN GOVERNMENT 3

PS 101 American Government3

ENGLISH 6

ENG 119 English I3

ENG 120 English II3

HUMANITIES 9

- Consult a counselor for other course options
- Courses must be taken in more than one of the following academic disciplines:
 - Dance
 - English {200 level courses only}
 - French
 - Humanities courses
 - Music
 - Philosophy
 - Spanish
 - Speech
 - HIS 151, HIS 152, HIS 249, HIS 250
 - MWS 102 Muslim World Civilization

NATURAL SCIENCE 8

- Courses must be taken in more than one of the following academic disciplines:
 - ANT 153 Introduction to Physical Anthropology
 - Biology
 - Chemistry
 - Mathematics courses numbered 155 or above
 - Physics
- Consult a counselor for other course options

SOCIAL SCIENCE

9

- Courses must be taken in more than one academic discipline.
- At least two (2) courses or six (6) credit hours must be from the following academic disciplines:
 - Anthropology
 - Economics
 - History
 - Geography
 - Political Science
 - Psychology
 - Sociology
- One course may be taken from the following academic disciplines:
 - African-American Studies
 - Muslim World Studies

GENERAL EDUCATION TOTAL35

ELECTIVES25

A.A. PROGRAM TOTAL60

Note: Total hours may not include prerequisites.

ASSOCIATE OF GENERAL STUDIES

Associate of General Studies Degree

About the Program

This degree program helps students who plan to study a variety of areas without committing themselves to a specific field as they prepare for employment or additional academic work.

Program Goals

- To provide a general foundation of liberal arts studies as the precursor for a declared four year baccalaureate degree.

Program Outcomes

- To successfully complete the Associate of General Studies degree program of study with a "C" average or higher as a foundation to transfer to a four-year baccalaureate institution.

Degree Requirements

- The Associate of General Studies degree consists of a minimum of sixty (60) credit hours of credit, of which fifteen (15), must be earned at WCCCD.
- Course work must be completed with a grade of "C" or better.
- Complete the "Requirements for All Degrees"
- Complete all academic group requirements
- Consult a transfer coordinator at the campus for course requirement advising.

General Studies (A.G.S.) Degree:

AMERICAN GOVERNMENT 3
 PS 101 American Government3

ENGLISH 6
 ENG 1193
 Elective: any English course above ENG 119 ...3

HUMANITIES 3
 Select one three (3) credit course from the following:

- Dance
- French
- Music
- Spanish
- English
- Humanities
- Philosophy
- Speech

MATHEMATICS 3

NATURAL SCIENCE 3
 Any three (3) credit course from the following:

- Astronomy
- Biology
- Chemistry
- Geology
- Physics
- ANT 153 Introduction to Physical Anthropology
- DT 130 Fundamentals of Nutrition

GENERAL EDUCATION TOTAL18
ELECTIVES42
A.G.S. PROGRAM TOTAL60

Note: Program total hours may not include prerequisites.

ASSOCIATE OF SCIENCE - A.S.

Associate of Science

About the Program

The District offers a two-year course of study leading to the Associate of Science (A.S.) degree. This degree is designed for students who plan to complete their first two years of college at Wayne County Community College District and transfer to a baccalaureate degree granting institution. Students pursuing this degree plan to transfer and major in the natural or physical sciences including chemistry, mathematics, biology and physics. Courses leading to an A.S. degree are designed for students enrolled in pre-professional studies for such areas as medicine, dentistry, engineering, and dietetics and environmental and natural resources.

Program Goals

- To provide a general foundation of an associate of science studies as the precursor for a declared four-year degree.

Program Outcomes

- To successfully complete the Associate of Science program of study with a "C" average or higher as a foundation to transfer to a four-year baccalaureate institution.

Degree Requirements

- The Associate of Science degree consists of a minimum of sixty (60) credit hours of credit, of which fifteen (15), must be earned at WCCCD.
- Course work must be completed with a grade of "C" or better.
- Complete the "Requirements for All Degrees"
- Complete all academic group requirements
- Consult a transfer coordinator at the campus for course requirement advising.

Associate of Science (A.S.) Degree:

General Education Course Requirements:

AMERICAN GOVERNMENT 3
PS 101 American Government3

ENGLISH 6
ENG 119 English I3
ENG 120 English II3

HUMANITIES 9

- Consult a counselor for other course options
- Courses must be taken in more than one of the following academic disciplines:
 - Arabic
 - Chinese
 - Dance
 - English {200 level courses only}
 - French
 - Humanities courses
 - Music
 - Philosophy
 - Spanish
 - Speech
 - HIS 151, HIS 152, HIS 249, HIS 250
 - MWS 102 Muslim World Civilization

NATURAL SCIENCE 20

- Courses must be taken in more than one of the following academic disciplines:
 - ANT 153 Introduction to Physical Anthropology
 - Biology
 - Chemistry
 - Mathematics courses numbered 155 or above
 - Physics
- Consult a counselor for other course options

SOCIAL SCIENCE 9

Courses must be taken in more than one academic discipline.

At least two (2) courses or six (6) credit hours must be from the following academic disciplines:

- Anthropology
- Economics
- Geography
- History
- Political Science
- Psychology
- Sociology

One course may be taken from the following academic disciplines:

- African-American Studies
- Muslim World Studies

GENERAL EDUCATION TOTAL . . . . .	.47
ELECTIVES: . . . . .	.13
A.S. PROGRAM TOTAL . . . . .	.60

Note: Program total hours may not include prerequisites.

AUTOMOTIVE SERVICE TECHNOLOGY (NATEF) CERTIFIED

- College Certificate Associate of Applied Science

About the Program

The Automotive Service Technology Associate of Applied Science degree and College Certificate programs are designed to develop qualified technicians to diagnose, repair and service modern automobiles. The programs provide opportunities for the student to develop their skills and competencies for entry-level positions such as an automotive technician, service manager, parts manager, product test technician and self-employment. The programs prepare students for Automotive Service Excellence (ASE) and State of Michigan certifications for any of the eight (8) automotive areas or “Master” certification.

The instruction, curriculum, facilities and equipment of this program have been evaluated by the National Automotive Technicians Education Foundation (NATEF) and the District received certification from the National Institute for Automotive Service Excellence (ASE) in the following areas:

- Brakes
- Engine Performance
- Electrical/Electronic Systems
- Suspension & Steering

This program offers:

Associate of Applied Science: **61** credit hours
College Certificate: **30** credit hours

Program Goals

- To prepare students for employment in the auto service industry through applied knowledge of automotive technology machinery, software and its applications.
- To teach students the basic principles of automotive technology safety as it applies to tool and equipment operations.

Continued on next page.

AUTOMOTIVE SERVICE TECHNOLOGY (NATEF) CERTIFIED continued

- To prepare students for individual credentialing by recognized skill standards established by the National Automotive Technicians Education Foundation (NATEF).
- To prepare students for individual credentialing by recognized skill standards established by the State of Michigan certifications of any of the eight (8) automotive areas and/or “Master” certification.

Program Outcomes

- Students will be able to demonstrate basic math and use of appropriate tools and equipment to perform maintenance and basic repair services according to industry standards in a safe manner.
- Diagnose and perform basic mechanical and electrical repairs using appropriate tools and equipment according to industry standards in a safe manner.
- Work independently and professionally as a member of an automotive service technology team.
- Students will be able to obtain individual credentialing through the National Institute for Automotive Service Excellence (ASE) with a cut score or better proficiency rate established by the industry association.
- Students will be able to obtain individual credentialing in any of the eight (8) automotive areas and/or “Master” certification by the State of Michigan with a 70% or better proficiency rate.

Certificate Goals

- To provide a basic foundation of the automotive service industry through applied knowledge of machinery, software and its applications.

- To prepare students for individual credentialing by recognized skill standards established by the National Automotive Technicians Education Foundation (NATEF).
- To prepare students for individual credentialing by recognized skill standards established by the State of Michigan certifications of any of the eight (8) automotive areas and/or “Master” certification.

Certificate Outcomes

- Students will be able to demonstrate basic math and use of appropriate tools and equipment to perform basic maintenance and repair services.
- o teach students the basic principles of automotive technology safety as it applies to tool and equipment operations.
- Work independently and professionally as a member of an automotive service technology team.

Admission Requirements

Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Declare intent to enter the Automotive Service Technology Program on the WCCCD Application for Admissions or change intent at the admissions office.
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application during the semester they are enrolled in AUT 114 - Electrical/Electronics Systems I course, and then submit the application to the Campus Academic & Student Services Officers.

Degree Requirements

- Students must complete all course work with a grade of “C” or better

**Automotive Service Technology:
College Certificate
Recommended Sequence of Courses**

REQUIRED CAREER COURSES:

AUT 114	Electrical/Electronic Systems I	3
AUT 115	Electrical/Electronic Systems II	3
AUT 116	Electrical/Electronic Systems III	3
AUT 117	Electrical/Electronic Systems IV	3

Select 18 credits from the following:

AUT 118	Engine Performance I	3
AUT 119	Engine Performance II	3
AUT 200	Engine Performance III	3
AUT 201	Engine Performance IV	3
AUT 120	Brakes I	3
AUT 203	Brakes II	3
AUT 121	Suspension & Steering I	3
AUT 204	Suspension & Steering II	2
AUT 122	Automatic Transmission and Transaxle I	4
AUT 206	Automatic Transmission and Transaxle II	3
AUT 124	Engine Repair I	4
AUT 207	Engine Repair II	3
AUT 125	Heating & Air Conditioning I	3
AUT 208	Heating & Air Conditioning II	2
AUT 126	Manual Drive Train & Axles I	3
AUT 209	Manual Drive Train & Axles II	2

CERTIFICATE TOTAL30

Note: Certificate totals may not include prerequisites.

**Automotive Service Technology:
Associate of Applied Science
Recommended Sequence of Courses**

**CR. No. COURSE TITLE CREDITS
SEMESTER 1**

AUT 114	Electrical/Electronics I	3
AUT 115	Electrical/Electronics II	3
ENG 119	English I	3
MAT 113	Intermediate Algebra	3
ELECTIVE: Humanities (<i>any course</i>)		3
SEMESTER TOTAL		15

SEMESTER 2

AUT 116	Electrical/Electronics III	3
AUT 117	Electrical/Electronics IV	3
PS 101	American Government	3
ENG 120	English II	3
ELECTIVE: Natural Science with Lab		4
SEMESTER TOTAL		16

SEMESTER 3

BUS 240	Business Communications	3
SPH 101	Fundamentals of Speech	3
ELECTIVE: Social Science (<i>any course</i>)		3

Any 6 credits from the list below:

AUT 118	Engine Performance I	3
AUT 119	Engine Performance II	3
AUT 200	Engine Performance III	3
AUT 201	Engine Performance IV	3
AUT 120	Brakes I	3
AUT 203	Brakes II	3
AUT 121	Suspension & Steering I	3
AUT 204	Suspension & Steering II	2
AUT 122	Automatic Transmission and Transaxle I	4
AUT 206	Automatic Transmission and Transaxle II	3
AUT 124	Engine Repair I	4
AUT 207	Engine Repair II	3
AUT 125	Heating & Air Conditioning I	3
AUT 208	Heating & Air Conditioning II	2
AUT 126	Manual Drive Train & Axles I	3
AUT 209	Manual Drive Train & Axles II	2
SEMESTER TOTAL		15

Continued on next page.

AUTOMOTIVE SERVICE TECHNOLOGY (NATEF) CERTIFIED continued

SEMESTER 4

ELECTIVES:6

Any 9 credits from the list below:

AUT 118	Engine Performance I	.....3
AUT 119	Engine Performance II	.....3
AUT 200	Engine Performance III	.....3
AUT 201	Engine Performance IV	.....3
AUT 120	Brakes I	.....3
AUT 203	Brakes II	.....3
AUT 121	Suspension & Steering I	.....3
AUT 204	Suspension & Steering II	.....2
AUT 122	Automatic Transmission and Transaxle I	.....4
AUT 206	Automatic Transmission and Transaxle II	.....3
AUT 124	Engine Repair I	.....4
AUT 207	Engine Repair II	.....3
AUT 125	Heating & Air Conditioning I	...3
AUT 208	Heating & Air Conditioning II	..2
AUT 126	Manual Drive Train & Axles I	..3
AUT 209	Manual Drive Train & Axles II	..2
SEMESTER TOTAL		.....15
PROGRAM TOTAL		.....61

*Note: Program total hours may not include prerequisites.
Refer to course descriptions for prerequisite
information.*

AVIATION MECHANICS: AIRFRAME

- College Certificate
Associate of Applied Science

About the Program

The Aviation Mechanics Associate of Applied Science and College Certificate degree program offers two options: Airframe and Powerplant.

The program is designed to prepare students for entry into a variety of occupations, which require competence in the two basic areas of airframe and powerplant technology. Students completing the certificate or the Associate of Applied Science Degree program will be qualified to obtain a Federal Aviation Administration (FAA) Certificate to be licensed as an airframe or powerplant technician. Students seeking career advancement in the field or transfer to a four-year institution should elect the Association of Applied Science Degree. Students who wish to prepare only for the FAA license should select the Certificate.

This program offers:

- Aviation Mechanics Airframe Associate of Applied Science: **100** credit hours
- Airframe Aviation Technician College Certificate: **48** credit hours

Program Goals

- To teach and prepare students for individual certificate credentialing by the Federal Aviation Administration (FAA) to be licensed as an airframe technician.
- To teach students the basic principles of aviation mechanical safety as it applies to airframe repair.

Airframe Program Outcomes

- Students will demonstrate an understanding of and proficiency in the basic principles to analyze, troubleshoot and repair servicing all systems of the airframe to include; nonmetallic, sheet metal, wood, fabric and finishing coverings, aircraft welding, communication and navigation systems, electrical, hydraulics, pneumatic lines and fittings systems, landing gear systems, position and warning systems, instrument, cabin atmosphere control systems, fuel, ice, rain control and fire protection systems.
- Demonstrate proficiency in performing aircraft weight and balance, major and minor repairs and alterations, cleaning and corrosion control and ground operations.
- Demonstrate an applied understanding of basic math concepts and use of appropriate tools and equipment to perform maintenance and repair services in accordance with the federal aviation industry standards and guidelines.
- Demonstrate proficiency in completing airframe maintenance forms and records.
- To prepare students for individual credentialing by the Federal Aviation Administration (FAA) General, Airframe written, oral and practical exams with a 70% or better proficiency rate and attain a mechanics certificate with airframe ratings.

Admission Requirements

Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Aviation Mechanics (Airframe): College Certificate

Recommended Course Sequence

Note: Courses from the following are required to achieve a Federal Aviation Administration (FAA) Certificate in Aviation Mechanics Airframe:

Airframe Section

AFM 201	Basic Sheet Metal	.....8
AFM 202	Non-Metallic Structures and Finishes	..... 8
AFM 203	Airframe Electrical	.....8
AFM 204	Aircraft Navigation and Communications	.....8
AFM 205	Assembly and Rigging and Aircraft Systems	.....8
AFM 206	Landing Gear Systems and Airframe Inspections	.....8

AVIATION AIRFRAME

CERTIFICATE TOTAL:48

Aviation Mechanics (Airframe):

Associate of Applied Science degree Recommended Sequence of Courses

GENERAL EDUCATION COURSES

ENG 119	English I	.....3
ENG 134	Technical Communications	.....3
PS 101	American Government	.....3
	Natural Science with Lab	.....4
GENERAL EDUCATION TOTAL:		.....13

OCCUPATIONAL SUPPORT COURSES

MAT 121	Technical Mathematics I	.....3
MAT 156	Trigonometry	.....4
OCCUPATIONAL SUPPORT TOTAL:		.....7

Continued on next page.

AVIATION MECHANICS: AIRFRAME continued

OCCUPATIONAL SPECIFIC COURSE

(Courses from the following required to achieve a Federal Aviation Administration (FAA):

Air Science Section

ATP 101	Introduction to Aviation I	.8 credits
ATP 102	Introduction to Aviation II	8 credits
ATP 103	Basic Electricity	. . . . .8 credits
ATP 104	Materials, Fuel, Fire and Corrosion	. . . . .8 credits

AIR SCIENCE SECTION TOTAL**32**

Airframe Section

AFM 201	Basic Sheet Metal	. . . . .8 credits
AFM 202	Non-Metallic Structures and Finishes	. . . . .8 credits
AFM 203	Airframe Electrical	. . . . .8 credits
AFM 204	Aircraft Navigation and Communications	. . . . .8 credits
AFM 205	Assembly and Rigging and Aircraft Systems	. . . . .8 credits
AFM 206	Landing Gear Systems and Airframe Inspections	. . . . .8 credits

AIRFRAME SECTION TOTAL**48**

AIRFRAME AAS

PROGRAM TOTAL:**100**

Note: Program totals may not include prerequisites.

AVIATION MECHANICS: POWERPLANT

- College Certificate
Associate of Applied Science

About the Program

The Aviation Mechanics Associate of Applied Science and College Certificate degree program offers two options: Airframe and Powerplant.

The program is designed to prepare students for entry into a variety of occupations, which require competence in the two basic areas of airframe and powerplant technology. Students completing the certificate or the Associate of Applied Science Degree program will be qualified to obtain a Federal Aviation Administration (FAA) Certificate to be licensed as an airframe or powerplant technician. Students seeking career advancement in the field or transfer to a four-year institution should elect the Association of Applied Science Degree. Students who wish to prepare only for the FAA license should select the Certificate.

This program offers:

- Aviation Mechanics Associate of Applied Science: **96** credit hours
- Powerplant Aviation Technician College Certificate: **48** credit hours

Powerplant Program Goals

- To teach and prepare students for individual credentialing by the Federal Aviation Administration (FAA) to be licensed as a powerplant technician.
- To teach students the basic principles of aviation mechanical safety as it applies to airframe and powerplant repair.

Powerplant Program Outcomes

- Students will demonstrate proficiency in analyzing, troubleshooting and repair servicing all systems of the powerplant to include; reciprocating and turbine engines, auxiliary power units, instruments, fire protection systems, electrical systems,

cleaning and lubrication systems, fuel metering and fuel systems, ignition, starting and systems, cooling induction systems, exhaust and reverser systems and propeller and unducted fans.

- Demonstrate proficiency in performing aircraft weight and balance, major and minor repairs and alterations, cleaning and corrosion control and ground operations.
- Demonstrate advanced math concepts and use of appropriate tools and equipment to perform powerplant maintenance and repair services in accordance with the federal aviation industry standards and guidelines.
- Identify, describe and proficiently complete powerplant maintenance forms and records.
- To prepare students for individual credentialing by the Federal Aviation Administration (FAA) General Powerplant written, oral and practical exams with a 70% or better proficiency rate and attain a mechanics certificate with powerplant ratings.

Airframe & Powerplant Certificate Goals

- To teach and prepare students for individual certificate credentialing by the Federal Aviation Administration (FAA) to be licensed as an airframe technician.
- To teach students the basic principles of aviation mechanical safety as it applies to airframe and/or powerplant repair.

Airframe & Powerplant Certificate Outcomes

- Students will be able to demonstrate an applied understanding of the basic principles to analyze, troubleshoot and repair servicing systems of the airframe and/or powerplant.

Admission Requirements

Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer.

Degree Requirements

- Students must complete all course work with a grade of “C” or better to meet graduation requirements.

Aviation Mechanics (Powerplant): College Certificate

Recommended Course Sequence

Note: Courses from the following are required to achieve a Federal Aviation Administration (FAA) Certificate in Aviation Mechanics Powerplant:

Powerplant Section

PPM 201	Reciprocating Engine Operation	8
PPM 202	Reciprocating Engine Systems	8
PPM 203	Reciprocating Engine Overhaul and Troubleshooting	8
PPM 204	Propellers and Turbine Engine Operation	8
PPM 205	Turbine Engine Designs, Accessories and Instruments	8
PPM 206	Turbine Engine Overhaul and Troubleshooting	8
POWERPLANT SECTION TOTAL . . . . .		.48

Continued on next page.

AVIATION MECHANICS: POWERPLANT continued

Aviation Mechanics (Powerplant): Associate of Applied Science Recommended Sequence of Courses

GENERAL EDUCATION COURSES

ENG 119	English I	.....3
ENG 134	Technical Communications	....3
PS 101	American Government	.....3
	Natural Science with Lab	.....4
GENERAL EDUCATION TOTAL		.....13

OCCUPATIONAL SUPPORT COURSES

MAT 121	Technical Mathematics I	.....3
OCCUPATIONAL SUPPORT TOTAL		....3

POWERPLANT OCCUPATIONAL SPECIFIC COURSE

Courses from the following required to achieve a Federal Aviation Administration (FAA)

Air Science Section

ATP 101	Introduction to Aviation I	.8 credits
ATP 102	Introduction to Aviation II	8 credits
ATP 103	Basic Electricity	.....8 credits
ATP 104	Materials, Fuel, Fire and Corrosion	.....8 credits
AIR SCIENCE SECTION TOTAL		.....32

Powerplant Section

PPM 201	Reciprocating Engine Operation	.....8 credits
PPM 202	Reciprocating Engine Systems	.....8 credits
PPM 203	Reciprocating Engine Overhaul and Troubleshooting	....8 credits
PPM 204	Propellers and Turbine Engine Operation	.....8 credits
PPM 205	Turbine Engine Designs, Accessories and Instruments	.....8 credits
PPM 206	Turbine Engine Overhaul and Troubleshooting	.....8 credits
POWERPLANT TOTAL		.....48

POWERPLANT AAS

PROGRAM TOTAL96

Note: Program totals make not include prerequisites.

BUSINESS ADMINISTRATION

Associate of Arts Degree

Associate of Applied Science Degree

About the Program

The Business Administration Associate of Arts AND Associate of Applied Science degree programs are suitable for students presently employed in business and industry and seeking advancement, those seeking such a position immediately upon graduation and those anticipating transfer to a four-year institution. The student will complete a core liberal arts and business courses. Those anticipating transfer should coordinate their studies with the transfer policies of the institutions to which they intend to transfer. In some instances, these students may find it more advantageous to pursue a more general associate degree.

This program offers:

Associate of Arts Degree: **62** credit hours

Associate of Applied Science: **61** credit hours

Program Goals

- To teach and provide a general foundation of the field of business administration as a precursor for a declared four-year degree.

Associate of Arts AND Associate of Applied Science Program Outcomes

- Students will be able to employ effective oral, written and presentational techniques consistent with the business and management environment.
- Demonstrate and apply ethical values, global awareness and technological skills to identified problems and issues making appropriate decisions related to business problems.
- Assess, identify and apply critical thinking skills to formulate viable solutions to business problems by using basic accounting, business and financial concepts.
- Proficiently articulate and communicate business information and data utilizing word processing, spreadsheet applications, slide presentations and database software.

Admission Requirements

Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer.

Degree Requirements

- Students must complete all course work with a grade of “C” or better to meet graduation requirements.

**Business Administration: Associate of Arts
Recommended Sequence of Courses**

CR. No.	COURSE TITLE	CREDITS
<u>SEMESTER 1</u>		
ENG 119	English I	3
BUS 225	Computer Applications In Business	3
SPH 101	Fundamentals of Speech —OR—	3
SPH 105	Improving Your Speaking Voice	3
BUS 150	Introduction to Business	3
ACC 110	Principles of Accounting I	4
SEMESTER TOTAL		16

<u>SEMESTER 2</u>		
ENG 120	English II	3
MAT 155	College Algebra	4
PS 101	American Government	3
ACC 111	Principles of Accounting II	4
MGT 205	Principles of Management	3
SEMESTER TOTAL		17

<u>SEMESTER 3</u>		
ECO 101	Principles of Economics I	3
BUS 228	Internet Web Page Design	3
MKT 200	Principles of Marketing	3
BUS 240	Business Communications —OR—	3
BUS 221	Business Statistics	3
Elective:	Humanities	3
SEMESTER TOTAL		15

SEMESTER 4

ECO 102	Principles of Economics II	3
BL 201	Business Law I	4
Elective:	Natural Science w/Laboratory	4
Elective:	Humanities	3
SEMESTER TOTAL		14
PROGRAM TOTAL		62

Note: Program total hours may not include prerequisites.

**Business Administration: Associate of Applied Science
Recommended Sequence of Courses**

<u>SEMESTER 1</u>		
ENG 119	English I	3
BUS 225	Computer Applications In Business	3
SPH 101	Fundamentals of Speech	3
BUS 150	Introduction to Business	3
ACC 110	Principles of Accounting	4
SEMESTER TOTAL		16

<u>SEMESTER 2</u>		
ENG 120	English II	3
MAT 155	College Algebra	4
PS 101	American Governments	3
ACC 111	Principles of Accounting II	4
MGT 205	Principles of Management	3
SEMESTER TOTAL		17

<u>SEMESTER 3</u>		
ECO 101	Principles of Economics I	3
Elective:	BUS/ACC	3
BUS 228	Internet Web Page Design	3
MKT 200	Principles of Marketing	3
BL 201	Business Law I	4
SEMESTER TOTAL		16

<u>SEMESTER 4</u>		
ECO 102	Principles of Economics II	3
BUS 240	Business Communications	3
—OR—		
BUS 221	Business Statistics	3
Elective:	. . . . .	6
SEMESTER TOTAL		12
PROGRAM TOTAL		61

Note: Program total hours may not include prerequisites.

CERTIFIED NURSE AIDE (CNA)

Short-Term College Certificate

About the Certificate

The Certified Nurse Aide (CNA) is a short-term certificate comprised of one (1) ten credit hour course:

NURSING AND HEALTH CARE SKILLS:

NHS 100 Nursing Assistant10

Course Description:

The Nursing Assistant: Acute and Chronic Care course will help students master the theory and skills necessary to assist professional health care providers in giving patient care. The students will have the opportunity to develop care-giving skills consistent with those outlined by the State of Michigan for nursing assistants.

Students will learn to assist in various health care settings such as long term care facilities, hospitals, and home care. Upon successful completion of the course, students are eligible to take the Michigan Certified Nurse Aide Examination for CNA Certification.

Admission Requirements

- A high school diploma or equivalent GED is required as well as a health exam, immunizations, criminal background check and two letters of reference. The Nursing Assistant course is offered each semester. It is a 10 credit course consisting of 270 contact hours over a seven, eleven, or fourteen week period of time. Clinical experience is provided in 128 contact hours in a laboratory setting and 52 hours in a Long Term Care facility.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

COMPUTER INFORMATION SYSTEMS

Associate of Applied Science

About the Program

The Computer Information Systems Associate of Applied Science degree program is designed to provide a solid foundation in the fundamental skills that are generally required to analyze system requirements and design solutions or, to support and manage the application of technology resources. Degree concentrations include core courses of information systems fundamentals, database systems, networking, web systems and software development. Additional courses are chosen in one specialized area of concentration to complete the degree option requirements.

Program concentrations are designed to meet the educational needs of most segments of the IT field in a client-server environment, and microprocessor platform along with web and server applications. The training blends general education courses with the required IT skills for programmer/ analyst in government, insurance, manufacturing, service, sales, utilities and banking. Additional education and job experience lead to work in systems analysis and project management.

Students seeking a degree in computer Information Systems have the following options:

- An Associate of Applied Science degree in all Computer Information Systems.
- Select from one of eight concentrations in the Computer Information Systems program.

CIS: Associate of Applied Science Degree - One (1) General Degree = CIS: A.A.S.

CIS: Associate of Applied Science Degree Includes eight (8) Concentrations:

1. Computer Programming Specialist - (AAS)
2. Computer Support Specialist - (AAS & CERT)
3. Database Specialist - (AAS)
4. Master Website Designer - (AAS & CERT)
5. Network Administrator - (AAS)
6. System Administrator - (AAS)
7. Video Game Design & Animation - (AAS & CERT)
8. Webmaster Administrator - (AAS)

College Certificate Concentrations options:

1. Computer Support Specialist - (CERT)
2. Master Website Designer - (CERT)
3. Video Game Design & Animation - (CERT)

Program Goals

- To teach students foundation skills and to apply that knowledge to meet the needs of the computer information systems field.
- Provide general education coursework with technical competence required in IT skills for programmers and analysts and other aspects of the profession.

Program Outcomes

- Students will be able to apply knowledge of computing and mathematics appropriate to the discipline.
- Analyze a problem, and identify and define the computing requirements appropriate to its solution.
- Demonstrate applied knowledge in the design, implement, and evaluate a computer-based system, process, component or program to meet desired needs.
- Demonstrate an applied understanding of processes that support the delivery and management of information systems within a specific application environment.
- Effective use of written, oral, verbal and interpersonal communication skills

operating as a member of a diverse team of individual support interacting with a broad range of audiences.

- An understanding of professional, ethical, legal, security and social issues and responsibilities related to the profession.

Admission Requirements

Students are admitted to the program each semester. Students must have the program approval, a completed application, and other required information submitted by the due date. If there are openings after the application deadline, any remaining openings will be filled on a “first-come” basis. To be admitted into the CIS program students must:

- Fulfill all WCCCD admission requirements.
- Declare program intent on the WCCCD admission application or change program intent at the campus admission office.
- Fulfill course placement requirements based on COMPASS test.
- Obtain an Educational Development Plan of Work, outlining the student’s plan for program completion from an academic advisor.

Degree Requirements

- Students must complete all course work with a grade of “C” or better to meet graduation requirements.

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COMPUTER INFORMATION SYSTEMS continued

Computer Information Systems: Associate of Applied Science

GENERAL EDUCATION (GE)

ENG 119	English I	.....3
PS 101	American Government	.....3
Elective:	English	.....3
Elective:	Humanities	.....3
Elective:	Natural Science w/Lab	.....4
Elective:	Social Science	.....3
GENERAL EDUCATION TOTAL:		.....19

OCCUPATIONAL SUPPORT (OS)

BUS 225	Computer Application in Business	.....3
MAT 113	Intermediate Algebra	.....3
SPH 101	Fundamentals of Speech	.....3
Elective:	Other	.....6
OCCUPATIONAL SUPPORT TOTAL:		.....15

ANY 27 CREDITS FROM THE FOLLOWING:

OCCUPATIONAL SPECIFIC

CIS 110	Introduction to Computer Information Systems 4	.....3
CIS 112	Structured Design	.....3
CIS 210	Introduction to UNIX Operating Systems	.....3
CIS 212	LINUX	.....4
CIS 260	System Analysis and Design	.....3

PROGRAMMING OPTION

CIS 203	Visual Basic Programming Language	.....3
CIS 207	Java Programming Language	.....4
CIS 209	C Programming Language	.....4
CIS 223	COBOL I	.....3
CIS 258	JavaScript/PERL	.....4
CIS 259	C++ Object Oriented Programming Language	.....4

DATABASE OPTION

CIS 246	Oracle Database Administration I	.....4
CIS 247	Oracle Database Administration II	.....4
CIS 285	Introduction to Database Concepts	.....3

INTERNET OPTION

CIS 250	E-Commerce Strategies and Practices	.....3
BUS 228	Internet Web Page Design	.....3
CIS 241	Internet Foundations	.....4
CIS 266	Introduction to Graphic Design	.....3
CIS 267	Understanding and Developing Multimedia	.....3

NETWORKING, MICROSOFT AND HARDWARE OPTION

CIS 237	Cisco CCNA	.....7
CIS 240	Networking Essentials	.....3
CIS 243	Network Security Fundamentals	.....3
CIS 245	Wireless Networking	.....3
CIS 249	Computer Support I	.....3
CIS 248	Computer Support II	.....3
CT 210	CompTIA A+	.....6
CT 211	Computer Networking I	.....4
CT 213	Computer Networking II	.....4
CT 215	Computer Networking III4
CT 217	Computer Networking IV4

CIS A.A.S. PROGRAM

TOTAL	61
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COMPUTER INFORMATION SYSTEMS: COMPUTER PROGRAMMING SPECIALIST

Associate of Applied Science

About the Program

The Computer Information Systems Computer Programming Specialist Associate of Applied Science degree program is designed to provide a solid foundation in the fundamental skills that are generally required to analyze system requirements and design solutions or, to support and manage the application of technology resources. Degree concentrations include core courses of information systems fundamentals, database systems, networking, web systems and software development. Additional courses are chosen in one specialized area of concentration to complete the degree option requirements.

Description: Computer Programming Specialists write, test and maintain computer programs.

Program Goals

- To teach students foundation skills and to apply that knowledge to meet the needs of the computer information systems field.
- Provide general education coursework with technical competence required in IT skills for programmers and analysts and other aspects of the profession.

Program Outcomes

- Students will be able to apply knowledge of writing a C++ program for a problem solution from design documents
- Demonstrate ability to properly document, debug and troubleshoot a source code program solution
- Demonstrate applied knowledge utilizing the Linux Operating System to organize files, directories and run a C++ program on the Linux Operating System
- Demonstrate applied knowledge to compile, link and run a computer program in a language other than C++ in the Windows Operating System
- An understanding of professional, ethical, legal, security and social issues and responsibilities associated with the profession.
- Design and implement computer software applications in various languages.
- Design and develop an application using a variety of program languages

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COMPUTER INFORMATION SYSTEMS: COMPUTER PROGRAMMING SPECIALIST

continued

Admission Requirements

- Students are admitted to the program each semester. Students must have the program approval, a completed application, and other required information submitted by the due date. If there are openings after the application deadline, any remaining openings will be filled on a “first-come” basis. To be admitted into the CIS program students must:
- Fulfill all WCCCD admission requirements.
- Declare program intent on the WCCCD admission application or change program intent at the campus admission office.
- Fulfill course placement requirements based on COMPASS test.
- Obtain an Educational Development Plan of Work, outlining the student’s plan for program completion from an academic advisor.

Degree Requirements

- Students must complete all course work with a grade of “C” or better to meet graduation requirements.

Prerequisite Work

- Prior to beginning the Computer Programming Specialist concentration of the Computer Information Systems program, students must have computer competencies which include the ability to key text at a minimum rate of 35 words per minute. These necessary skills can be obtained from your life experiences or by taking any of the following courses: Keyboarding, Keyboarding Fundamentals and Intermediate Keyboarding.

Computer Programming Specialist: Associate of Applied Science Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
CIS 110	Introduction to Computer Information Systems	4
ENG 119	English I	3
BUS 225	Computer Application in Business	3
CIS 112	Structured Design	3
SEMESTER TOTAL		13
SEMESTER 2		
CIS 203	Visual Basic Programming Language	3
PS 101	American Government	3
Elective:	English	3
Elective:	Social Science	3
SEMESTER TOTAL		12
SEMESTER 3		
MAT 113	Intermediate Algebra	3
CIS 260	System Analysis and Design	3
SPH 101	Fundamentals of Speech	3
Elective:	Natural Science w/Lab	4
SEMESTER TOTAL		13
SEMESTER 4		
CIS 207	Java Programming	4
CIS 210	Introduction to UNIX Operating Systems	3
CIS 209	C Programming Language	4
Elective:	Other	3
SEMESTER TOTAL		14
SEMESTER 5		
CIS 258	Javascript/PERL Programming	4
CIS 259	C++ Object Oriented Programming Language	4
Elective:	Humanities	3
Elective:	Other	3
SEMESTER TOTAL		14
CIS PROGRAMMING SPECIALIST		
A.A.S. PROGRAM TOTAL		66

Note: Program total hours may not include prerequisites.

COMPUTER INFORMATION SYSTEMS: COMPUTER SUPPORT SPECIALIST

- College Certificate
Associate of Applied Science

About the Program

The Computer Information Systems Computer Support Specialist Associate of Applied Science degree and College Certificate programs are designed to provide a solid foundation in the fundamental skills that are generally required to analyze system requirements and design solutions or, to support and manage the application of technology resources. Degree concentrations include core courses of information systems fundamentals, database systems, networking, web systems and software development. Additional courses are chosen in one specialized area of concentration to complete the degree option requirements.

Description: Computer Support Specialists provide technical assistance, support, and advice to users. These troubleshooters diagnose problems and provide technical support for hardware, software, and IT systems.

A person in this occupation applies computer software and technology to business related activities and problems. Typical support specialist tasks include analyzing and solving business problems by creating a computerized system using microcomputer application software (e.g. word processor, spreadsheets, databases, presentation, web development, etc.) by writing a custom program or integrating multiple software applications. Students are also prepared to interface with users and functions as an integral part of an IT support team.

This program offers:

Associate of Applied Science: 67 credit hours
College Certificate: 29 credit hours

Program Goals

- To teach students foundation skills and to apply that knowledge to meet the needs of the computer information systems field.
- Provide general education coursework with technical competence required in IT skills for programmers and analysts and other aspects of the profession.

Program Outcomes

- Demonstrate an applied understanding of processes that support the delivery and management of information systems within a specific application environment.
- Effectively solve problems using the appropriate operating system utilities and apply systematic approaches and logic to solving problems.
- Effectively and efficiently plan, install configure and manage resources i.e. connecting and running applications; monitoring, optimize and troubleshoot network software and hardware.
- Effective use of written, oral, verbal and interpersonal communication skills operating as a member of a diverse team of individual support interacting with a broad range of audiences.
- An understanding of professional, ethical, legal, security and social issues and responsibilities.

Certificate Goals

- Provide a basic foundation and practical experience in computer systems concepts with an emphasis in microcomputer applications.

Certificate Outcomes

- Demonstrate ability to manage workgroup resources to include file shares, print shares and physical connections.
- Proficiently install, configure and support industry required applications.
- Proficiently use integrated software packages to analyze and support business problems related to the IT infrastructure.

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COMPUTER INFORMATION SYSTEMS: COMPUTER SUPPORT SPECIALIST continued

Admission Requirements

Students are admitted to the program each semester. Students must have the program approval, a completed application, and other required information submitted by the due date. If there are openings after the application deadline, any remaining openings will be filled on a “first-come” basis. To be admitted into the CIS program students must:

- Fulfill all WCCCD admission requirements.
- Declare program intent on the WCCCD admission application or change program intent at the campus admission office.
- Fulfill course placement requirements based on COMPASS test.
- Obtain an Educational Development Plan of Work, outlining the student’s plan for program completion from an academic advisor.

Degree Requirements

- Students must complete all course work with a grade of “C” or better to meet graduation requirements.

Computer Support Specialist: College Certificate Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
CIS 210	Introduction to UNIX Operating Systems	3
CIS 240	Networking Essentials	3
CT 210	Comp TIA A+	6
CT 211	Computer Networking I	4
SEMESTER TOTAL		16

SEMESTER 2

CIS 212	LINUX	4
CIS 245	Wireless Networking	3
CIS 249	Computer Support I	3
CIS 248	Computer Support II	3
SEMESTER TOTAL		13
COMPUTER SUPPORT CERTIFICATE		
TOTAL		29

Note: Certificate total hours may not include prerequisites.

**Computer Support Specialist:
Associate of Applied Science
Recommended Sequence of Courses**

CR. No.	COURSE TITLE	CREDITS
<u>SEMESTER 1</u>		
CIS 110	Introduction to Computer Information Systems	4
ENG 119	English I	3
BUS 225	Computer Applications in Business	3
Elective:	Humanities	3
SEMESTER TOTAL		13
<u>SEMESTER 2</u>		
CIS 210	Introduction to UNIX Operating Systems	3
CIS 240	Networking Essentials	3
PS 101	American Government	3
CT 210	Comp TIA A+	6
SEMESTER TOTAL		15
<u>SEMESTER 3</u>		
CIS 212	LINUX	4
CT 211	Networking I	4
CIS 245	Wireless Networking	3
Elective:	English	3
SEMESTER TOTAL		14
<u>SEMESTER 4</u>		
CIS 249	Computer Support I	3
SPH 101	Fundamentals of Speech	3
Elective:	Other	3
MAT 113	Intermediate Algebra	3
SEMESTER TOTAL		12
<u>SEMESTER 5</u>		
CIS 248	Computer Support II	3
Elective:	Natural Science w/Lab	4
Elective:	Other	3
Elective:	Social Science	3
SEMESTER TOTAL		13
COMPUTER SUPPORT A.A.S.		
PROGRAM TOTAL		67

Note: Program total hours may not include prerequisites.

COMPUTER INFORMATION SYSTEMS: DATABASE SPECIALIST

Associate of Applied Science

About the Program

The Computer Database Specialist provides the foundation in database concepts with emphasis in practical application. Database administrators define an organizations needs and set up software applications based on those needs. In addition to using databases to catalog and retrieve information, database administrators ensure the integrity of their computer systems by backing up information on a regular basis and focusing on database security.

Description: Database administrators work with database management systems software and determine ways to organize and store data.

Program Goals

- To teach students foundation skills and to apply that knowledge to meet the needs of the computer information systems field.
- Provide general education coursework with technical competence required in IT skills for programmers and analysts and other aspects of the profession.

Program Outcomes

- Students will be able to design, install and configure a relational database management system.
- Understanding of and ability to work in a Linux and Window computing environment.
- Demonstrate ability to develop applications in a Web environment.
- Applied understanding with the Oracle/Microsoft SQL Server/MySQL database environments.

Continued on next page.

COMPUTER INFORMATION SYSTEMS: DATABASE SPECIALIST continued

- Use current database language technology to create and build database objects
- Effective use of written, oral, verbal and interpersonal communication skills operating as a member of a diverse team of individual support interacting with a broad range of audiences.
- An understanding of professional, ethical, legal, security and social issues and responsibilities related to the profession.

Admission Requirements

Students are admitted to the program each semester. Students must have the program approval, a completed application, and other required information submitted by the due date. If there are openings after the application deadline, any remaining openings will be filled on a "first-come" basis. To be admitted into the CIS program students must:

- Fulfill all WCCCD admission requirements.
- Declare program intent on the WCCCD admission application or change program intent at the campus admission office.
- Fulfill course placement requirements based on COMPASS test.
- Obtain an Educational Development Plan of Work, outlining the student's plan for program completion from an academic advisor.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Database Specialist:

Associate of Applied Science

Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
CIS 110	Introduction to Computer Information Systems	4
ENG 119	English I	3
CIS 112	Structured Design	3
BUS 225	Computer Applications in Business	3
SEMESTER TOTAL		.13
SEMESTER 2		
CIS 203	Visual Basic Programming Language	3
SPH 101	Fundamentals of Speech	3
CIS 210	Introduction to UNIX Operating Systems	3
Elective:	English	3
SEMESTER TOTAL		.12
SEMESTER 3		
CIS 285	Introduction to Database Concepts	3
MAT 113	Intermediate Algebra	3
PS 101	American Government	3
Elective:	Other	3
SEMESTER TOTAL		.12
SEMESTER 4		
CIS 246	Oracle Administrator I	4
Elective:	Humanities	3
Elective:	Social Science	3
Elective:	Other	3
SEMESTER TOTAL		.13
SEMESTER 5		
CIS 212	LINUX	4
CIS 247	Oracle Administration II	4
Elective:	Natural Science w/Lab	4
SEMESTER TOTAL		.12
COMPUTER DATABASE PROGRAM		
TOTAL CREDITS		.62

Note: Program totals may not include prerequisite work.

COMPUTER INFORMATION SYSTEMS: MASTER WEBSITE DESIGNER

- College Certificate
Associate of Applied Science

About the Program

The Computer Information Systems Master Website Designer Associate of Applied Science degree and College Certificate programs are designed to prepare students for employment in the area of web design. Students will learn web design, XHTML coding, image editing, validation, CSS, GUI editors, server-side and client-side languages.

Description: Web designers are responsible for day-to-day site creation, design and all technical aspects of a web site.

This program offers:

Associate of Applied Science: **65** credit hours
College Certificate: **30** credit hours

Program Goals

- To teach students foundation skills and to apply that knowledge to meet the needs of the computer information systems field.
- Design website using a variety of software packages
- Implement a genuine transaction-enabled business-to-consumer Web site
- Evaluate strategies and products available for building electronic-business sites
- Demonstrate applied knowledge in essential networking technologies and skills.
- Demonstrate applied knowledge in Internet connection methods, Internet protocols, Domain Name System (DNS), the basic functions of Web browsers and the components of Web addresses
- Provide general education coursework with technical competence required in IT skills for website designers.

Program Outcomes

Students will be able to apply knowledge of

- Effective use of written, oral, verbal and interpersonal communication skills operating as a member of a diverse team of individual support interacting with a broad range of audiences.
- An understanding of professional, ethical, legal, security and social issues and responsibilities.
- Demonstrate an applied understanding of processes that support the delivery and management of information systems within a specific application environment.

Certificate Goals

- Students will be able to demonstrate competencies in the development and deployment of website design.

Certificate Outcomes

- Demonstrate ability to code the features necessary for Web site development and deployment.
- Demonstrate ability to solve problems related to the program content.
- Develop proficiencies in modifying a website.

Admission Requirements

Students are admitted to the program each semester. Students must have the program approval, a completed application, and other required information submitted by the due date. If there are openings after the application deadline, any remaining openings will be filled on a "first-come" basis. To be admitted into the CIS program students must:

- Fulfill all WCCCD admission requirements.
- Declare program intent on the WCCCD admission application or change program intent at the campus admission office.
- Fulfill course placement requirements based on COMPASS test.

Continued on next page.

COMPUTER INFORMATION SYSTEMS: MASTER WEBSITE DESIGNER continued

- Obtain an Educational Development Plan of Work, outlining the student's plan for program completion from an academic advisor.

Prerequisite Work

Prior to beginning the Video Game Design and Animation concentration of the Computer Information Systems program, students must have computer competencies which include the ability to key text at a minimum rate of 35 words per minute. These necessary skills can be obtained from your life experiences or by taking any of the following courses: Keyboarding, Keyboarding Fundamentals and Intermediate Keyboarding.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Master Website Designer: College Certificate Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
CIS 110	Introduction to Computer Information Systems	4
CIS 112	Structured Design	3
CIS 241	Internet Foundations	4
SEMESTER TOTAL		11
SEMESTER 2		
BUS 228	Internet Web Page Design	3
CIS 266	Introduction to Graphic Design ..	3
CIS 213	Web Design Methodology & Technology	3
SEMESTER TOTAL		9
SEMESTER 3		
CIS 258	Javascript/PERL	4
CIS 250	E-commerce Strategies and Practices	3
CIS 267	Understanding and Developing Multimedia	3
SEMESTER TOTAL		10
MASTER WEBSITE DESIGNER		
CERTIFICATE TOTAL		30

Note: Certificate total hours may not include prerequisites.

Master Website Designer:
Associate of Applied Science

Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
CIS 110	Introduction to Computer Information Systems	4
CIS 112	Structured Design	3
ENG 119	English I	3
	Electives: Humanities	3
	SEMESTER TOTAL	13
SEMESTER 2		
CIS 241	Internet Foundations	4
SPH 101	Fundamentals of Speech	3
BUS 225	Computer Applications in Business	3
MAT 113	Intermediate Algebra	3
	SEMESTER TOTAL	13
SEMESTER 3		
CIS 213	Web Design Methodology and Technology	3
BUS 228	Internet Web Page Design	3
	Electives: English	3
	Electives: Social Sciences	3
	SEMESTER TOTAL	12
SEMESTER 4		
CIS 250	E-commerce Strategies and Practices	3
CIS 258	Javascript/PERL	4
CIS 266	Introduction to Graphic Design	3
	Electives: Other	4
	SEMESTER TOTAL	14
SEMESTER 5		
CIS 267	Understanding and Developing Multimedia	3
	Electives: Natural Science w/Lab	4
PS 101	American Government	3
	Electives: Other	3
	SEMESTER TOTAL	13
	MASTER WEBSITE DESIGNER PROGRAM TOTAL	65
	<i>Note: Program total hours may not include prerequisites.</i>	

COMPUTER INFORMATION SYSTEMS: COMPUTER NETWORK ADMINISTRATOR

Associate of Applied Science

About the Program

The Computer Information Systems Network Administrator Associate of Applied Science degree program is designed to provide a solid foundation in the fundamental skills that are generally required to analyze system requirements and design solutions or, to support and manage the application of technology resources.

The Computer Network Administrator concentration prepares students as network systems administrators who can design, install, and support an organizations LAN (local-area network), network segment, Internet, or intranet system. Network systems administrators provide day-to-day on-site administrative support for software users in a variety of work environments, including professional offices, small businesses, government, and large corporations. They maintain network hardware and software, analyze problems, and monitor the network to ensure its availability to system users. These professionals gather data to identify customer needs and then use that information to identify, interpret, and evaluate system and network requirements. Network systems administrators also plan, coordinate, and implement network security measures.

Description: Provide day-to-day on-site administrative support for software users in a variety of work environments.

Program Goals

- To teach students foundation skills and to apply that knowledge to meet the needs of the computer information systems field.
- Provide general education coursework with technical competence required in IT skills for programmers and analysts and other aspects of the profession.

Continued on next page.

COMPUTER INFORMATION SYSTEMS: COMPUTER NETWORK ADMINISTRATOR

continued

Program Outcomes

- Students will be able to demonstrate proficiency and applied knowledge required for use of Windows client operating systems in a network environment.
- Demonstrate proficiency and applied knowledge in various Windows server services implemented in a network environment.
- Demonstrate proficiency and applied knowledge in working with common network devices such as hubs, switches, routers, firewalls, and network cabling.
- Demonstrate proficiency in managing resources including folders, files and printers in a network environment.
- Demonstrate proficiency in creating and managing user accounts, groups and permissions in a domain environment.
- Effective use of written, oral, verbal and interpersonal communication skills operating as a member of a diverse team of individual support interacting with a broad range of audiences.
- An understanding of professional, ethical, legal, security and social issues and responsibilities related to the profession.

- Fulfill all WCCCD admission requirements.
- Declare program intent on the WCCCD admission application or change program intent at the campus admission office.
- Fulfill course placement requirements based on COMPASS test.
- Obtain an Educational Development Plan of Work, outlining the student's plan for program completion from an academic advisor.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Admission Requirements

Students are admitted to the program each semester. Students must have the program approval, a completed application, and other required information submitted by the due date. If there are openings after the application deadline, any remaining openings will be filled on a "first-come" basis. To be admitted into the CIS program students must:

Computer Network Administrator: Associate of Applied Science

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
CIS 110	Introduction to Computer Information Systems	4
ENG 119	English I	3
BUS 225	Computer Application in Business	3
Elective:	Humanities	3
SEMESTER TOTAL		13
SEMESTER 2		
CIS 210	Introduction to UNIX Operating Systems	3
CIS 240	Networking Essentials	3
CT 210	CompTIA A+	6
SEMESTER TOTAL		12
SEMESTER 3		
Elective:	Social Science	3
CT 211	Computer Networking I	4
Elective:	English	3
SPH 101	Fundamentals of Speech	3
SEMESTER TOTAL		13
SEMESTER 4		
CIS 237	Cisco CCNA	7
Elective:	Other	3
MAT 113	Intermediate Algebra	3
SEMESTER TOTAL		13
SEMESTER 5		
CIS 243	Network Security Fundamentals	3
PS 101	American Government	3
Elective:	Natural Science w/Lab	4
Elective:	Other	3
SEMESTER TOTAL		13
CIS: NETWORK ADMINISTRATOR		
PROGRAM TOTAL		64

Note: Program total hours may not include prerequisites.

COMPUTER INFORMATION SYSTEMS: SYSTEM ADMINISTRATOR

Associate of Applied Science

About the Program

Program concentrations are designed to meet the educational needs of most segments of the IT field in a client-server environment, and microprocessor platform along with web and server applications.

Description: They maintain network hardware and software, analyze problems, and monitor the network to ensure its availability.

Program Goals

- Demonstrate and applied understanding of using variety operating systems to access a variety of software.
- Effectively solve problems using the appropriate operating system utilities and apply systematic approaches and logic to solving problems.
- Effectively and efficiently plan, install configure and manage resources i.e. connecting and running applications; monitoring, optimize and troubleshoot network software and hardware.
- Demonstrates the ability in the areas of media and topologies, protocols and standards, network implementation and network support
- Demonstrate competence in areas such as preventative maintenance, networking, security and troubleshooting in a variety of hardware and software.

Program Outcomes

- Students will be able to apply knowledge and understanding of different operating systems toward determining the type of software or hardware necessary to complete an objective.
- Demonstrate and applied understanding of using an operating system to access a variety of software and access information.

Continued on next page.

COMPUTER INFORMATION SYSTEMS: SYSTEM ADMINISTRATOR continued

- Effectively solve problems using the appropriate operating system utilities and apply systematic approaches and logic to solving problems.
- Effectively and efficiently plan, install configure and manage resources i.e. connecting and running applications; monitoring, optimize and troubleshoot network software and hardware.
- Effective use of written, oral, verbal and interpersonal communication skills operating as a member of a diverse team of individual support interacting with a broad range of audiences.
- An understanding of professional, ethical, legal, security and social issues and responsibilities.
- Demonstrate an applied understanding of processes that support the delivery and management of information systems within a specific application environment.

Admission Requirements

Students are admitted to the program each semester. Students must have the program approval, a completed application, and other required information submitted by the due date. If there are openings after the application deadline, any remaining openings will be filled on a “first-come” basis. To be admitted into the CIS program students must:

- Fulfill all WCCCD admission requirements.
- Declare program intent on the WCCCD admission application or change program intent at the campus admission office.
- Fulfill course placement requirements based on COMPASS test.
- Obtain an Educational Development Plan of Work, outlining the student’s plan for program completion from an academic advisor.

Degree Requirements

- Students must complete all course work with a grade of “C” or better to meet graduation requirements.

System Administrator:

Associate of Applied Science

Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
CIS 110	Introduction to Computer Information Systems	4
ENG 119	English I	3
BUS 225	Computer Applications in Business	3
Elective:	Humanities	3
SEMESTER TOTAL		13
SEMESTER 2		
CT 210	Comp TIA A+	6
CIS 210	Introduction to UNIX Operating Systems	3
CIS 212	LINUX	4
CIS 240	Networking Essentials	3
SEMESTER TOTAL		16
SEMESTER 3		
CT 211	Computer Networking I	4
Elective:	English	3
SPH 101	Fundamentals of Speech	3
PS 101	American Government	3
SEMESTER TOTAL		13
SEMESTER 4		
CT 213	Networking II	4
Elective:	Social Science	3
MAT 113	Intermediate Algebra	3
Elective:	Other	3
SEMESTER TOTAL		13
SEMESTER 5		
CT 215	Networking III	4
Elective:	Natural Science Lab	4
Elective:	Other	3
SEMESTER TOTAL		11
CIS: SYSTEM ADMINISTRATOR		
PROGRAM TOTAL		66

Note: Program total hours may not include prerequisites.

COMPUTER INFORMATION SYSTEMS: VIDEO GAME DESIGN & ANIMATION

- College Certificate
Associate of Applied Science

About the Program

The Computer Information Systems Video Game Design and Animation Associate of Applied Science degree and College Certificate programs are designed to provide a solid foundation in the fundamental skills that are generally required meet the needs of the video game design, animation and programming field.

Description: Creation and design of video games and the animation included within.

This program offers:

Associate of Applied Science: **64** credit hours
College Certificate: **34** credit hours

Program Goals

- To teach students foundation skills and to apply that knowledge to meet the needs of the video game design, animation and programming field.
- To familiarize students with the core programming language skills necessary for game development.

Program Outcomes

- Students will be able to produce quality work in a video game design and animation environment.
- Demonstrate proficiency in core programming language skills in game development.
- Effective use of written, oral, verbal and interpersonal communication skills operating as a member of a diverse team of individual support interacting with a broad range of audiences.
- An understanding of professional, ethical, legal, security and social issues and responsibilities.
- Demonstrate an applied understanding of processes that support the design, animation and production environment.

Certificate Goals

- To provide students a basic foundation to the video game design, animation and programming field.

Certificate Outcomes

- Students will be able to produce quality work in a video game design and animation environment.
- Effective use of written, oral, verbal and interpersonal communication skills operating as a member of a diverse team of individual support interacting with a broad range of audiences.
- Demonstrate an applied understanding of processes that support the design, animation and production environment.

Admission Requirements

Students are admitted to the program each semester. Students must have the program approval, a completed application, and other required information submitted by the due date. If there are openings after the application deadline, any remaining openings will be filled on a “first-come” basis. To be admitted into the CIS program students must:

- Fulfill all WCCCD admission requirements.
- Declare program intent on the WCCCD admission application or change program intent at the campus admission office.
- Fulfill course placement requirements based on COMPASS test.
- Obtain an Educational Development Plan of Work, outlining the student’s plan for program completion from an academic advisor.

Prerequisite Work

- Prior to beginning the Video Game Design and Animation concentration of the Computer Information Systems program, students must have computer competencies which include the ability to key text at a minimum rate of 35 words per minute. These necessary skills can be obtained from your life experiences or by taking any of the following courses: Keyboarding, Keyboarding Fundamentals and Intermediate Keyboarding.

COMPUTER INFORMATION SYSTEMS: VIDEO GAME DESIGN & ANIMATION continued

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Video Game Design and Animation Certificate Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
CIS 110	Introduction to Computer Information Systems	4
VGD 268	Computer Games Foundations . . .	3
ART 115	Basic Drawing for Animation . . .	3
DMP 101	Story Elements for a Digital Environment	3
SEMESTER TOTAL		.13

SEMESTER 2

CIS 266	Introduction to Graphic Design . . .	3
VGD 269	Introduction to 3D Graphics & Animation	4
SEMESTER TOTAL		.7

SEMESTER 3

VGD 270	3D Character Development & Animation	4
VGD 271	Introduction to 3D Design	4
VGD 272	Texturing Fundamentals	4
VGD 999	Computer Game Project	2
SEMESTER TOTAL		.14
PROGRAM TOTAL		.34

Note: Certificate total hours may not include prerequisites.

VIDEO GAME DESIGN & ANIMATION

AAS Degree

Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
CIS 110	Introduction to Computer Information Systems	4
VGD 268	Computer Games Foundations . . .	3
ART 115	Basic Drawing for Games	3
ENG 119	English I	3
SEMESTER TOTAL		.13

SEMESTER 2

DMP 101	Story Elements for a Digital Environment	3
CIS 266	Introduction to Graphic Design	3
BUS 225	Computer Application in Business	3
MAT 155	College Algebra	3
SEMESTER TOTAL		.12

SEMESTER 3

VGD 269	Introduction to 3D Graphics & Animation	3
SPH 101	Fundamentals of Speech	3
Elective:	English	3
Elective:	Social Sciences	3
SEMESTER TOTAL		.12

SEMESTER 4

VGD 271	Introduction to 3D Design	4
VGD 270	3D Character Development & Animation	4
VGD 272	Texturing Fundamentals	4
Elective:	Other	3
SEMESTER TOTAL		.15

SEMESTER 5

VGD 999	Video Game Project	2
Elective:	Natural Science w/Lab	4
PS 101	American Government	3
Elective:	Other	3
SEMESTER TOTAL		.12

VGD & ANIMATION

PROGRAM TOTAL		.64
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Note: Program total hours may not include prerequisites.

COMPUTER INFORMATION SYSTEMS: WEBMASTER ADMINISTRATOR

Associate of Applied Science

About the Program

The Computer Information Systems Webmaster Administrator Associate of Applied Science degree program is designed to provide a solid foundation in the fundamental skills that are generally required to analyze system requirements and design solutions or, to support and manage the application of technology resources.

The degree concentration provides the technical knowledge, skills and preparation to effectively configure, manage, deploy, design and manage the enterprise of TCP/IP networks; deploy e-business and network security solutions.

Description: Webmaster Administrator directs the planning, development, maintenance, and administration of a web site.

Program Goals

- To teach students foundation skills and to apply that knowledge to meet the needs of the computer information systems field.
- Provide general education coursework with technical competence required in IT skills for programmers and analysts and other aspects of the profession.

Program Outcomes

- Analyze and identify client side and server side implementation and use scripting to design and implement dynamic websites.
- Effectively and efficiently plan, install configure and manage resources i.e. connecting and running applications; monitoring, optimize and troubleshoot network software and hardware
- Demonstrate knowledge and skills in configuring, managing and deploying e-business solutions servers.

- Demonstrate knowledge and skills in defining network architecture; identifying infrastructure components; monitoring and analyzing network performance
- Demonstrate knowledge designing, managing and troubleshooting TCP/IP networks.
- Demonstrate knowledge and skills in implementing e-business security policies; identifying security threats and managing the deployment of security solutions
- Demonstrate and applied understanding of Unix operating systems
- Demonstrate knowledge of database design and fundamentals on SQL using the latest database management system

Admission Requirements

Students are admitted to the program each semester. Students must have the program approval, a completed application, and other required information submitted by the due date. If there are openings after the application deadline, any remaining openings will be filled on a "first-come" basis.

- To be admitted into the CIS program students must:
- Fulfill all WCCCD admission requirements.
- Declare program intent on the WCCCD admission application or change program intent at the campus admission office.
- Fulfill course placement requirements based on COMPASS test.
- Obtain an Educational Development Plan of Work, outlining the student's plan for program completion from an academic advisor.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Continued on next page.

COMPUTER INFORMATION SYSTEMS: WEBMASTER ADMINISTRATOR continued

Webmaster Administrator:

Associate of Applied Science

Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
CIS 110	Introduction to Computer Information Systems	4
ENG 119	English I	3
BUS 225	Computer Applications in Business	3
CIS 112	Structured Design	3
SEMESTER TOTAL		13
SEMESTER 2		
CIS 210	Introduction to UNIX Operating Systems	3
CIS 240	Networking Essentials	3
CIS 241	Internet Foundations	4
Electives: Humanities		3
SEMESTER TOTAL		13
SEMESTER 3		
CIS 244	TCP/IP Concepts and Practices	3
Electives: English		3
SPH 101	Fundamentals of Speech	3
Elective: Social Science		3
SEMESTER TOTAL		12
SEMESTER 4		
CIS 242	Web Administration	3
MAT 113	Intermediate Algebra	3
PS 101	American Government	3
Elective: Other		3
SEMESTER TOTAL		12
SEMESTER 5		
CIS 243	Network Security Fundamentals	3
CIS 285	Introduction to Database Concepts	3
Elective: Natural Science w/Lab		4
Elective: Other		3
SEMESTER TOTAL		13
CIS WEBMASTER ADMINISTRATIVE PROGRAM TOTAL		63

Note: Program total hours may not include prerequisites.

CRIMINAL JUSTICE: LAW ENFORCEMENT ADMINISTRATION AND CORRECTIONS

Associate of Applied Science

About the Program

The Criminal Justice Law Enforcement Administration and Corrections Associate of Applied Science degree programs are designed to provide the academic and professional training necessary for careers in Law Enforcement. The Law Enforcement Administration option is designed to prepare students for entry or advancement in the criminal justice system. The Corrections option prepares students for employment in correctional institutions or fields related to probation and parole.

This program offers two degree concentrations:

1. Law Enforcement Administration Associate of Applied Science: **61** credit hours
2. Corrections Associate of Applied Science: **61** credit hours

Program Goals

- To teach students the principles of community law enforcement and corrections vocation.
- To instruct students on how to apply critical thinking and analytical problem solving in the law enforcement profession.

Program Outcomes

- Students will be able to apply academic knowledge to a field of training program designed to assimilate one into a policing vocation.
- Demonstrate critical thinking decision making and problem solving competence as it applies to the vocation.
- Comprehend, evaluate and synthesize information related to the area of responsibility by demonstrating expertise.

- Utilize effective verbal and written communication with the public, staff and administration by documenting activities, maintaining databases and effective performance.
- Demonstrate knowledge of and apply ethical values, cultural awareness and technological skills when making appropriate decisions related to the vocation.

Admission Requirements

Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Declare intent to enter the Criminal Justice Program on the WCCCD Application for Admission or change intent at the Admission Office.
- Fulfill all course placement requirements based on COMPASS test.
- Obtain an Educational Development Plan (Plan of Work), outlining the student’s plan for program completion.

Degree Requirements

- Students must complete all course work with a grade of “C” or better to meet graduation requirements.

Criminal Justice: Law Enforcement Administration

Associate of Applied Science

Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
CJS 100	Introduction to Criminal Justice . . .	3
ENG 119	English I	3
PS 101	American Government	3
	—OR—	
AAS 131	American Government and the African American Struggle	3
HUS 105	Group Expression for Self-Growth I	3
Elective:	Natural Science w/Lab	4
	SEMESTER TOTAL	16

SEMESTER 2

LEA 201	Introduction to Law Enforcement	3
ENG 120	English II	3
AAS 237	Illegal Drug Traffic and the African- American Community . . .	3
LEA 210	Highway and Traffic Control . . .	3
Elective:	Humanities	3
	SEMESTER TOTAL	15

SEMESTER 3

LEA 230	Fundamentals of Criminal Investigation	3
LEA 231	Criminal Law and Justice I	3
LEA 250	Social Problems in Law Enforcement	3
EMT 105	Medical First Responder	3
Elective:	Humanities	3
	SEMESTER TOTAL	15

SEMESTER 4

LEA 225	Law Enforcement Administration: Seminar I	2
LEA 226	Law Enforcement Administration: Practicum	4
LEA 232	Criminal Law and Justice II	3
LEA 235	Race Relations for Law Enforcement	3
LEA 253	Law Enforcement Administration: Seminar II	3
	SEMESTER TOTAL	15

CRIMINAL JUSTICE: LAW

ENFORCEMENT PROGRAM TOTAL61

Note: Program total hours may not include prerequisites.

CRIMINAL JUSTICE: CORRECTIONS continued

Criminal Justice: Corrections
Associate of Applied Science
Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
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SEMESTER 1

CJS 100	Introduction to Criminal Justice3
ENG 119	English I3
PS 101	American Government3

—OR—

AAS 131	American Government and the African American Struggle . . . . .	.3
HUS 105	Group Expression for Self-Growth I . . . . .	.3
Elective:	Natural Science . . . . .	.4

SEMESTER TOTAL16

SEMESTER 2

ENG 120	English II . . . . .	.3
COR 100	Introduction to Corrections . . . . .	.3
COR 101	Introduction to Juvenile Justice . . .	.3
COR 105	Introduction to Correctional Counseling3

Elective:	Humanities3
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SEMESTER TOTAL15

SEMESTER 3

AAS 237	Illegal Drug Traffic and the African-American Community3
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COR 110	Introduction to Deviant Behavior3
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COR 200	Social Science for Correctional Personnel3
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COR 205	Institution Corrections Personnel3
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Elective:	Humanities3
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SEMESTER TOTAL15

SEMESTER 4

COR 210	Correctional Institutions and Facilities3
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COR 215	Correctional Field Work3
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COR 218	Race Relations for Correctional Personnel3
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COR 255	Legal Issues in Corrections3
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EMT 105	Medical First Responder3
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SEMESTER TOTAL15

CRIMINAL JUSTICE: CORRECTIONS

PROGRAM TOTAL61

Note: Program total hours may not include prerequisites.

DENTAL ASSISTING

- College Certificate

About the Program

The Dental Assisting College Certificate program provides students with the necessary training to perform the duties of a dental assistant, including assisting the dentist (chair side), providing patient education, performing laboratory procedures, exposing and processing x-rays and performing office management tasks such as billing and scheduling appointments.

In addition, the dental assistant who becomes licensed can provide expanded functions as delegated by Michigan law. Instruction runs concurrently with the laboratory instruction throughout the program. Students gain clinical experience in clinical facilities and dental offices. Aptitudes that will be helpful to students are an ability to pay attention to detail, following instructions, work quickly and independently, be responsible for personal and office organization, interacting well with people.

Upon completion of the program, students are eligible to take the Dental Assisting National Board Examination to become a Certified Dental Assistant (CDA). In addition, they are eligible to take the State of Michigan's Registered Dental Assistant Examination to become a licensed Registered Dental Assistant (RDA).

The program in Dental Assisting is accredited by the Commission on Dental Accreditation. The Commission is a specialized accrediting body recognized by the Commission on Recognition of Post-Secondary Accreditation and the United States Department of Education.

College Certificate Goals

- To teach and prepare students as dental assistants who are professional and ethical members of the dental care health team.
- Sustain a dental assisting program that encompasses contemporary dental and dental assisting practices.

College Certificate Outcomes

- Students will be able to detail, plan and demonstrate the ability to perform comprehensive and routine procedures assisting the dentist with patient treatment
- Describe and explain Radiographic proficiency related to exposure, processing, mounting and evaluation.
- Demonstrate with competency material manipulation e.g. selection, classification, safe handling and disposal.
- Understand and articulate proper infection control procedures to include instrument & room processing to prevent disease transmission according to OSHA compliance standards.
- Understand and demonstrate proficiency in computer data entry, scheduling, records management and writing skills.
- Understand, articulate and practice the regulations governing the legal and ethical boundaries of the profession as they apply to ADA Code of ethics and HIPAA guidelines.

Admission Requirements

Admission is based upon a "first-come" basis and spaces are limited. The program begins each Fall semester and part-time students are accepted on a space availability basis. Students must:

- Fulfill all WCCCD admission requirements.
- Possess a high school diploma or GED.
- Request an official high school and college transcripts to be sent to the Dental Assisting Program office.
- Must be 18 years of age or older.
- Declare intent to enter the Dental Assisting Program on the WCCCD Application for Admission form or change intent at the Admission's Office.
- Declare intent to enter the Dental Assistant Program by submitting an Allied Health Application.
- Demonstrate reading and math comprehension at Freshman English and Math levels via the COMPASS test. Based on the results of the test pre-requisite courses may be required.

Continued on next page.

DENTAL ASSISTING continued

After acceptance and before clinical participation students must show:

- Documentation of current immunizations or immunity for tetanus, MMR and Varicella.
- Receive the Hepatitis B vaccination or declare intent to receive or decline the vaccination.
- Must test negative on a TB test.
- Documentation of current medical examination.
- Complete CPR training for the Health Care Provider (A CPR course is offered by the College).
- Obtain a Criminal Background Check (through the program).
- Documentation of dental examination.
- Meet with the Dental Assisting Program Director.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Dental Assisting:

College Certificate Requirements
Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
<u>SEMESTER 1</u>		
DA 104	Dental Materials	3
DA 106	Applied Sciences	4
DA 107	Introduction to Expanded Functions	2
DA 110	Clinical Dental Assisting	3
DA 115	Preventive Dentistry	1
DEN 200	Dental Radiology Theory	2
DEN 201	Dental Radiology Lab	1
SEMESTER TOTAL		16
<u>SEMESTER 2</u>		
DA 117	Clinical Practice I	4
DA 120	Dental Specialties	2
DA 126	Pathology, Pharmacology and Medical Dental Emergencies ...	3
DA 127	Dental Office Management	2
DA 129	Legal, Ethical and Communication Issues	2
DA 202	Expanded Functions for the RDA	3
SEMESTER TOTAL		16
<u>SEMESTER 3</u>		
DA 125	Clinical Practice II	5
SEMESTER TOTAL		5
CERTIFICATE TOTAL		37**

Note: Program total hours may not include prerequisites.

*** This number may be less. Graduates of high school vocational-technical dental assisting programs and on-the-job trained dental assistants are eligible for advanced credit hours through the Prior Experience and Required Knowledge program (PERK). Contact the program office for additional information.*

DENTAL HYGIENE

Associate of Science

About the Program

The Dental Hygiene Associate of Science degree program at Wayne County Community College District is a prominent career for individuals interested in working as an important part of the dental healthcare team. The dental hygienist learns specialized clinical skills providing direct patient care and may be responsible for community distribution of information related to the prevention of oral diseases and the maintenance of oral health. The demand for dental services will continue to grow due to the success of preventive dentistry in reducing the incidence of oral diseases. Dentists will need to employ more dental hygienists to meet the increased demand for dental services.

Dental Hygienists are important members of the dental health care team. Their primary duties include oral prophylaxis, recording medical/dental history, diagnostic data collection, dental charting, oral cancer screening, oral examinations, treatment planning, root planning, expose, develop and interpret dental radiographs, provide fluoride treatments, apply dental sealants, teach patients proper oral hygiene techniques, counsel patients about plaque control, develop individualized at home oral hygiene programs, counsel patients on the importance of good nutrition for maintaining optimal oral health and perform other clinical dental hygiene services. The Dental Hygiene program is designed to prepare students to become competent oral health clinicians and educators. Admission to the program is limited and competitive. Upon completion of this program, students are eligible to take the National Dental Hygiene and Northeast Regional Board Examinations. The Michigan Board of Dentistry may deny dental hygiene licensure to an applicant who has been convicted of a crime or is addicted to drugs or alcohol.

This program offers:

Associate of Science Degree: 82 credit hours

Program Goals

- To teach and prepare students to assume responsibility of caring for the dental patient in the prevention of dental disease in a clinical setting.
- To prepare students to successfully pass the state and national licensing examinations, as prescribed by the State Board of Dentistry, with proficiency scores that qualifies the graduate for licensure as a Registered Dental Hygienist (RDH).

Program Outcomes

- Students will be able to systematically collect, analyze and document data on the general, oral and psychosocial health status of a variety of clients using methods consistent with medicolegal principles.
- Use critical decision making skills to reach conclusions about the client's comprehensive dental hygiene needs based on all available assessment data.
- Collaborate with the client and / or other health professionals to formulate a mutual dental hygiene treatment plan.
- Formulate a treatment plan, which involves steps in a preventative program. Prevention services are achieved and re-evaluation performed to assess further corrective action.
- Provide specialized treatment that includes preventive and therapeutic services designed to achieve and maintain oral health.
- Evaluate the effectiveness of the implemented clinical, preventive and educational services.
- Provide dental hygiene care to promote client health and wellness using critical thinking and problem solving using an evidence-based approach.
- Provide planned educational services using interpersonal communication skills and educational strategies to promote optimal health.

Continued on next page.

DENTAL HYGIENE continued

Admission Requirements

Admission is competitive and based on previous academic performance, test scores, letters of recommendation, an interview and fulfillment of admission requirements. Deadline for application to the program is June 1st and admission is granted prior to the Fall semester.

Students must complete the following:

- Fulfill all WCCCD admission requirements
- Possess a high school diploma or GED
- Declare intent to enter the Dental Hygiene program by submitting an Allied Health Application
- Demonstrate reading comprehension at Freshman English level via the COMPASS test after acceptance and before clinical participation students must show:
- Documentation of current immunizations or immunity for tetanus, MMR and Varicella.
- Receive the Hepatitis B vaccination or declare intent to receive or decline the vaccination
- Must test negative on a TB test
- Complete CPR training (A CPR course is offered by the College)
- Obtain a Criminal Background Check
- Documentation of a standardized dental and health examination

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Dental Hygiene: Associate of Science Degree Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
PREREQUISITE COURSES		
ENG 119	English I	3
ENG 120	English II	3
BIO 155	Introductory Biology	4
BIO 240	Human Anatomy and Physiology I	4
BIO 250	Human Anatomy and Physiology II	4
BIO 295	Microbiology	4
CHM 105	Introductory Chemistry	4
CHM 155	Survey of Organic and Biochemistry	4
DEN 100	Professional Development	3
PHL 201	Introduction to Philosophy	3
SPH 101	Fundamentals of Speech	3
PSY 101	Introductory Psychology	3
SOC 100	Introduction to Sociology	3
PS 101	American Government	3
HUM	Humanities Elective	3
PREREQUISITES TOTAL		51

SEMESTER 1 (FALL)

DHY 101	Fundamentals of Dental Hygiene	3
DHY 110	Oral Anatomy & Physiology	3
DHY 120	Clinical Techniques	3
DEN 112	Medical & Dental Emergencies	2
DT 130	Fundamentals of Nutrition	3
SEMESTER TOTAL		14

SEMESTER 2 (SPRING)

DHY 111	Oral Histology and Embryology	3
DHY 129	Clinical Dental Hygiene I: Lecture	2
DHY 130	Clinical Dental Hygiene I: Lab	3
DHY 221	Dental Biomaterials	3
DEN 200	Dental Radiology Theory	2
DEN 201	Dental Radiology Lab	1
SEMESTER TOTAL		14

SEMESTER 3 (SUMMER)

DHY 131 Clinical Dental Hygiene II:
Lecture2
 DHY 132 Clinical Dental Hygiene II: Lab ..3
 DHY 211 Pharmacology3
 DHY 213 Periodontology2
 DHY 227 Radiology II1
SEMESTER TOTAL11

SEMESTER 4 (FALL)

DHY 121 Oral Pathology3
 DHY 209 Clinical Dental Hygiene III:
Lecture2
 DHY 210 Clinical Dental Hygiene III:
Lab5
 DHY 214 Local Anesthesia and Pain
Management3
 DHY 223 Dental Health Education3
SEMESTER TOTAL16

SEMESTER 5 (SPRING)

DHY 231 Community Dentistry4
 DHY 219 Clinical Dental Hygiene IV:
Lecture2
 DHY 220 Clinical Dental Hygiene IV:
Lab5
 DHY 225 Management of Special
Patients3
SEMESTER TOTAL14

SEMESTER 6 (SUMMER)

DHY 226 Advanced Periodontology1
 DHY 229 Clinical Dental Hygiene V:
Lecture2
 DHY 230 Clinical Dental Hygiene V: Lab ..5
 DHY 233 Dental Hygiene Seminar2
 ALH 230 Medical Ethics3
SEMESTER TOTAL13
PROGRAM TOTAL82

Note: Program totals may not include prerequisites.

**DENTAL LABORATORY
TECHNICIAN**

- College Certificate

About the Program

The Dental Laboratory Technology College Certificate program at Wayne County Community College District is a four semester certificate program with the option for continuing education. The full-time program can be completed by attending classes four days a week for four semesters. The curriculum covers the skills necessary to design and fabricate dental prosthetic restorations. The Dental Laboratory Technician works with a variety of materials, waxes, metal alloys and porcelain to fabricate restorations. As part of their education, students are placed in onsite laboratory practicums where they can incorporate theory with practice. Graduate students may find employment in commercial dental laboratories, private dental practices or dental schools. Students may also open their own dental laboratory, which offers them personal business opportunities.

College Certificate Goals

- To teach and prepare students as dental laboratory technicians who are professional and ethical members of the dental care health team.
- To teach graduates to apply knowledge of dental anatomy and materials in the fabrication and production of clinically acceptable prosthetic devices.

College Certificate Outcomes

- Students will be able to design, fabricate, sculpt, construct and repair fixed and removable dental prostheses providing an essential support service for the dental profession.
- Use precious and non-precious metals, acrylic resins and porcelain as basic materials in dental laboratory work.

- Perform dental laboratory administration tasks with proficiency.
- Inspect and perform fabrication equipment and make minor repairs.
- Demonstrate critical thinking as a foundation for decision making
- Exhibit effective written, oral and interpersonal communication skills.
- Understand, articulate and practice the regulations governing the legal and ethical boundaries of the profession as they apply to HIPAA procedures.

Admission Requirements

Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Possess a high school diploma or GED
- Declare intent to enter the Dental Laboratory Technology program by submitting an Allied Health Application.
- Demonstrate reading comprehension at Freshman English level via the COMPASS test.

After acceptance and before clinical participation students must show:

- Documentation of current immunizations or immunity for tetanus, MMR and Varicella.
- Receive the Hepatitis B vaccination or declare intent to receive or decline the vaccination
- Must test negative on a TB test

Certificate Requirements

- Students must complete all course work with a grade of “C” or better to meet graduation requirements.

**Dental Laboratory Technology:
College Certificate
Recommended Sequence of Courses**

PREREQUISITE COURSES

DEN 100	Professional Development	.....3
DLT 101	Introduction to Dental Laboratory Technology	.....3
TOTAL PREREQUISITES		.....6

CR. No.	COURSE TITLE	CREDITS
<u>SEMESTER 1 (FALL)</u>		
DLT 110	Basic Anatomy and Tooth Morphology	.....3
DLT 115	Basic Crown and Bridge Techniques	.....4
DLT 120	Basic Occlusion for Dental Laboratory Technology	.....3
DLT 125	Basic Dental Laboratory Technology Practicum	.....2
SEMESTER TOTAL		.....12
<u>SEMESTER 2 (SPRING)</u>		
DLT 130	Advanced Anatomy and Morphology for Dental Technicians	.....3
DLT 140	Esthetic Factors for Dental Restoration	.....2
DLT 145	Introduction to Basic Dental Ceramics	.....5
DLT 155	Advanced Dental Laboratory Technology Practicum	.....4
SEMESTER TOTAL		.....14
<u>SEMESTER 3 (SUMMER)</u>		
DLT 165	Dental Laboratory Technology Internship	.....10
SEMESTER TOTAL		.....10
CERTIFICATE TOTAL		.....42

Note: Certificate total hours may not include prerequisites.

DIETETIC TECHNOLOGY

Associate of Applied Science

About the Program

The Dietetic Technology Program is an Associate of Applied Science degree program that is currently granted “initial accreditation” status by the Commission on Accreditation for Dietetics Education of the American Dietetic Association (ADA). 120 South Riverside Plaza, Suite 2000 Chicago, IL 60606-6995 (312) 899-0040 ext 5400

It is designed to prepare technicians with entry level competency in clinical nutrition, community nutrition and foodservice management. WCCCD’s Dietetic Technicians are employed in health care, business, industry and the community. Successful completion of the program enables graduates to establish eligibility to take the registration examination administered by the Commission on Dietetic Registration (CDR).

Additionally, this program is a Manage First partner sponsored by the Educational Foundation of the National Restaurant Association. Eligible students may take national examinations and receive certificates for designated courses.

Program Goals

- To teach and prepare students for dietetic technician positions in foodservice management and/or medical nutrition therapy.

Program Outcomes

- Students will be able to apply knowledge of body systems, medical data and nutrition research to develop nutrition strategies for clients in foodservice management and/or medical nutrition therapy.
- Use appropriate medical data, knowledge of body systems and evidence based research to design and implement nutrition care plans, conduct nutrition screenings, nutrition assessments and make appropriate referrals monitoring diverse individuals, populations and community

- groups within the scope of the practice.
- Apply supervisory concepts to food production including procurement, distribution/service and menu development.
- Demonstrate applied knowledge of mathematics to develop and analyze recipes, formulas and diets.
- Use appropriate written, verbal and interpersonal communication skills, medical terminology and technology when interacting with patients, clients, family members and staff.
- Understand, articulate and perform to the professional and ethical care standards and regulations governing the profession.

Admission Requirements

Admission is competitive and is based on previous academic performance, COMPASS and HOBET test scores, and the completion of all prerequisite courses with a grade of “C” or better.

To be admitted into the Dietetic Technology Program students must complete the following:

- The Dietetic Technology program requires that students complete a competency exam at the end of each program course with 80% or higher.
- Declare program intent on the WCCCD Application for Admission or change program intent at the Campus Admissions Office.
- Schedule an interview with the Faculty Discipline Coordinator at (313) 943-4054.
- Submit a program application with a declaration of intent for your career option.
- Submit a transcript (copy) or copies of grades earned for transfer and any courses completed at WCCCD
- All courses toward the degree program must be completed with a grade of “C” or better. The deadline for applications for Fall admission is July 15; Spring admissions deadline is December 15. The program admissions committee will review applications. Students will be notified by mail within one month of the admission committee’s decision.

Continued on next page.

DIETETIC TECHNOLOGY

continued

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Dietetic Technology:

Associate of Applied Science

Recommended Sequence of Courses**PREREQUISITE COURSES**

BIO 155	Introductory Biology	.....4
DT 111	Dietetics Orientation	.....2
ENG 119	English I	.....3
BUS 225	Computer Applications in Business	.....3
	—OR—	
MAT 110	Business Mathematics	.....3
	PREREQUISITES TOTAL	.....12

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1 (FALL)		
DT 130	Fundamentals of Nutrition	.....3
FSM 115	Food Safety & Sanitation	.....2
FSM 105	Principles of Foodservice Systems	.....3*
FSM 140	Principles of Food Preparation	.....2*
FSM 140L	Principles of Food Preparation Laboratory	.....1
SPH 101	Fundamentals of Speech	.....3
	SEMESTER TOTAL	.....14

SEMESTER 2 (SPRING)

ENG 134	Technical Communication	.....3
FSM 145	Quantity Food Production	.....3*
FSM 146	Quantity Food Production Practicum	.....4
FSM 220	Food & Beverage Cost Control	...3*
DT 210	Nutrition Assessment Laboratory	.....2
	SEMESTER TOTAL	.....15

SEMESTER 3 (SUMMER)

BIO 250	Human Anatomy and Physiology II	.....4
PSY 101	Introductory Psychology	.....3
ANT 154	Introduction to Cultural Anthropology	.....3
	SEMESTER TOTAL	.....10

SEMESTER 4 (FALL)

FSM 230	Purchasing for Foodservice Systems	.....3
DT 212	Community Nutrition	.....3
DT 213	Nutrition Practicum I	.....4
MKT 200	Principles of Marketing	.....3
	—OR—	
LS 204	Occupational Safety and Health	.3
PS 101	American Government	.....3
	SEMESTER TOTAL	.....16

SEMESTER 5 (SPRING)

FSM 250	Management of Foodservice Systems	.....3*
FSM 255	Management of Foodservice Systems Practicum	.....4
DT 252	Clinical Nutrition	.....3
DT 253	Clinical Nutrition Practicum II	...4
DT 261	Dietetics Seminar	.....1
	SEMESTER TOTAL	.....15
	PROGRAM TOTAL	.....82

Note: Program total hours may not include prerequisites.

*Manage First certification courses

DIGITAL MEDIA PRODUCTION

- College Certificate
Associate of Applied Science

About the Program

The Digital Media Production Associate of Applied Science degree and College Certificate program will provide students with a broad survey of the digital production tools. The students will gain a theoretical grasp of the implications of digital mass communications through various digital media production courses and hands-on experience in digital video and sound production, web design layout and design. The program may be pursued as a full-time or part-time study.

This program offers:

Associate of Applied Science: **61** credit hours
College Certificate: **33** credit hours

Program Goals

- To teach and provide students with a foundation in the field of Digital Media Productions as a precursor for a declared four-year degree.
- To produce students that can work with and visualize the direction of digital media.

Program Outcomes

- Students will be able to effectively use industry-standard motion media editing software applications in digital video production e.g. preproduction, production and post-production.
- Analyze the relationship of aesthetics, content, user needs and/or interactivity of projects for implementing digital media.
- Apply knowledge of story structure to synthesize a design, incorporate storyboards and flow chart techniques using good design principles and contemporary digital technology for motion media projects.
- Create a production plan and schedule that meets client needs, appropriately utilizes resources and operates timely and efficiently within budget constraints.
- Demonstrate an understanding of legal

regulations, industry ethics, production schedules and budgets to effectively function as a contributing member of the production team.

- Use listening and knowledge of technical terms/industry jargon to effectively communicate both verbally and in writing with clients, colleagues and other industry professionals.

Certificate Goals

- To provide student's a basic foundation in digital media production.
- Provide a foundation for student's to develop competency in developing media projects utilizing digital media technology.

Certificate Outcomes

- Students will be able to create art and design projects utilizing digital media technology software.
- Demonstrate competency in developing media projects that incorporate web design and development, computer graphics and digital video.
- Demonstrate proficiency in editing, streaming media, web animation, motion graphics, and dimensional animation.

Admission Requirements

- The student is required to do the following:
- Declare intent to enter the Digital Media Production program on the WCCCD Admission Application or change intent at the Admissions Office.
- Obtain an Education Development Plan (Plan of Work) outlining the student's plan for program completion from an academic advisor.
- Complete 23 required credits and 7 electives credits from the Digital Media program electives list.
- Fulfill all WCCCD admission requirements.
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer.

Continued on next page.

DIGITAL MEDIA PRODUCTION continued

Prerequisite Work

- Prior to beginning the Major Requirements students are required to test at the level or complete English 119 and be computer literate or complete OIS 101.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Digital Media Production: College Certificate Recommended Sequence of Courses:

CR. No.	COURSE TITLE	CREDITS
<u>SEMESTER 1</u>		
BUS 228	Internet Web Page Design for Business Applications	3
DMP 101	Story Elements for a Digital Environment	3
SPH 105	Improving the Speaking Voice . . .	3
PRM 101	Project Management	3
SEMESTER TOTAL		12
<u>SEMESTER 2</u>		
CIS 266	Introduction to Graphic Design . . .	3
CTE 103	Writing for the Media	3
CTE 111	Television Programming	3
DMP 102	Digital Video Production 1	3
SEMESTER TOTAL		12
<u>SEMESTER 3</u>		
CIS 267	Understanding and Developing Multimedia	3
DMP 103	Digital Video Production II	3
DMP 107	Introduction to Audio Production	3
SEMESTER TOTAL		9
CERTIFICATE TOTAL		33

Note: Certificate total hours may not include prerequisites.

Digital Media Production:

Associate of Applied Science (A.A.S.)

Recommended Sequence of Courses:

CR. No.	COURSE TITLE	CREDITS
<u>SEMESTER 1</u>		
ART 101	Drawing I	3
DMP 101	Story Elements for a Digital Environment	3
ENG 119	English I	3
HUM 101	Introduction to Visual Arts	3
SEMESTER TOTAL		12
<u>SEMESTER 2</u>		
CIS 110	Introduction to Computer Information Systems	4
DMP 102	Digital Video Production I	3
ENG 120	English II	3
PRM 101	Project Management	3
SEMESTER TOTAL		13
<u>SEMESTER 3</u>		
BUS 228	Internet Web Page Design for Business Applications	3
CIS 266	Introduction to Graphic Design . . .	3
DMP 103	Digital Video Production II	3
SPH 105	Improving the Speaking Voice . . .	3
SEMESTER TOTAL		12
<u>SEMESTER 4</u>		
CIS 267	Understanding and Developing Multimedia	3
CTE 103	Writing for Media	3
DMP 104	Digital Audio Production and Broadcasting	3
HUM 231	Introduction to Film	3
SEMESTER TOTAL		12
<u>SEMESTER 5</u>		
CTE 111	Television Programming	3
DMP 105	Media Programming	3
DMP 107	Introduction to Audio Production	3
PS 101	American Government	3
SEMESTER TOTAL		12
PROGRAM TOTAL		61

Note: Program total hours may not include prerequisites.

EARLY CHILDHOOD EDUCATION: CHILD DEVELOPMENT ASSOCIATE (CDA)

- College Certificate
Associate of Applied Science

About the Program

The Early Childhood Education Program offers a College Certificate as a Child Development Associate (CDA) and an Associate of Applied Science degree in Early Childhood Education. The program at Wayne County Community College District prepares students to work as child care administrators and to be teacher's caregivers in early childhood settings. It combines hands-on fieldwork in area centers with related academic work at the College.

The CDA Training program is designed for the childcare worker wishing to become a Child Development Associate (CDA). The CDA Credential is independently awarded by the National Council for Professional Recognition to those demonstrating competence in their work with children in early education and childcare programs. Formal training is required for this credential.

Child Development Associate (CDA) - Focuses on child development methods and strategies to motivate learning in the five developmental areas. Graduates become responsible for the care and education of children up to five years old by creating and maintaining a safe and healthy learning environment, guiding behavior, planning curricula, implementing learning activities, and working cooperatively with staff and parents. Success in the field depends upon the student's knowledge of early childhood development and the application of those principles, the design of learning activities and the environment, having a caring attitude and respect for children and their parents, along with being flexible, having good judgment, being dependable and effective communication skills.

This program offers:

Credential Certificate: **18-21** credit hours
Early Childhood Education Associate of Applied Science: **71** credit hours

** Selected WCCCD courses will transfer to some colleges and universities to meet minor requirements for an Elementary Education Certification — Early Childhood Endorsement. (See a counselor or academic advisor for more information)*

Child Development Associate (CDA): Early Childhood Program Goals

- To prepare students individual credentialing towards the State of Michigan's Early Childhood Education Permit.
- To provide students with a foundation in child development theory to examine program philosophy goals, classroom design, teacher/child interaction, curriculum planning and implementation, assessment of the young child, involvement of the family/community as well as issues of diversity.
- To teach students methods of formulating lesson plans that fosters children's personal and social, physical, cognitive and creative development.
- To teach students elements of designing and assessing a learning environment using teaching strategies based upon child development and learning theory.

Early Childhood Program Outcomes

- Students will be able to successfully pass the State of Michigan's Early Childhood Education Permit exam with a passing score of 70% or higher.
- Demonstrate knowledge of child development theory and its application to Early Care and Education by identifying key developmental theorists and recognizing children's developmental stages.

Continued on next page.

EARLY CHILDHOOD EDUCATION: CHILD DEVELOPMENT ASSOCIATE (CDA) *continued*

- Demonstrate competence in facilitating the development of an individual child's stages of progression that promotes physical, cognitive and or socio-emotional development.
- Understand, articulate and practice the regulations governing legal and ethical boundaries of the profession.

Child Development Associate (CDA) Certificate Goals

- To prepare students individual credentialing towards the State of Michigan's Early Childhood Education Permit.

Child Development Associate (CDA) Certificate Outcomes

- Demonstrate, establish and maintain a safe and healthy learning environment
- Understand, articulate and practice the regulations governing legal and ethical boundaries of the profession.

Admission Requirements

To be admitted into the Child Care program a student must:

- Fulfill all WCCCD admission requirements.
- Declare program intent on the WCCCD admission application or change program intent at the campus admission office.
- Fulfill course placement requirements based on COMPASS test.
- Submit a Program application to the Campus Academic Officer before the ninth week of the fall or spring semesters
- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Child Development Associate (CDA): College Certificate Recommended Sequence of Courses

REQUIRED PREREQUISITE COURSES

CCT 101	Introduction to Early Childhood Care3
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CDA CREDENTIAL CERTIFICATE

REQUIRED COURSES

CCT 104	Methods and Techniques in Child Care: Infant and Toddler Development4
CCT 106	Methods and Techniques: Preschool Child Development	..4
CCT 120	Parent-Child Teacher Relationship	.....3
CCT 210	Special Populations	.....3
CCT 230	Program Management and Supervision	.....3
CCT 260	Portfolio Preparation	.....1

CREDENTIAL CERTIFICATE

TOTAL CREDITS21

Note: Certificate totals may not include prerequisite work.

Early Childhood Education Associate of Applied Science Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
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PREREQUISITE COURSES

BUS 225	Computer Applications in Business3
CCT 101	Introduction to Early Childhood Care3
EMT 101	First Aid	.....2
ENG 119	English I	.....3
HUS 135	Professionalism in Human Services	.....3
PSY 101	Introductory Psychology	.....3
PREREQUISITES TOTAL		.....17

GENERAL EDUCATION

ENG 120	English II	.....3
PS 101	American Government	.....3
SPH 105	Improving the Speaking Voice	..3
SOC 230	Ethnic Minorities	.....3
Elective:	Natural Science w/Lab	.....4
GENERAL EDUCATION TOTAL		.....16

CAREER COURSES

ENG 285	Children’s Literature	3 +
	—AND—	
CCT 106	Methods and Techniques in Child Care: Preschool Child Development	4 +
CCT 257	Infant and Toddler Literature	3 +
	—AND—	
CCT 104	Methods and Techniques in Child Care: Infants and Toddler Development	4 +
CCT 111	Child Assessment Techniques	3
CCT 120	Parent- Child – Teacher Relationships	3
CCT 157	Child Care Practicum I	4
CCT 210	Special Population	3
CCT 227	Child Care Practicum II	4
CCT 230	Program Management and Supervision	3
CCT 260	Portfolio-Methods and Techniques	1
PSY 220	Child Growth and Development	3
	CAREER COURSE TOTAL	38
	EARLY CHILDHOOD EDUCATION A.A.S. PROGRAM TOTAL	71

Note: Program total hours may not include prerequisites.

+ *The following courses must be taken together*
Students who enroll in CCT 104 must enroll in CCT 257.
Students who enroll in CCT 106 must enroll in ENG 285.

**ELECTRICAL ELECTRONICS
ENGINEERING TECHNOLOGY**

- College Certificate
- Associate of Applied Science Degree

About the Program

The Electrical Electronics Engineering Technology Associate of Applied Science and College Certificate degree program prepares students for a wide range of job opportunities in the installation and maintenance of electronic equipment in manufacturing, research, development, medicine and communications.

The Electrical Electronics Engineering Technology program prepares students for various International Society of Certified Technician (ISCET) certification exams.

This program offers:

1. Electrical Electronics Engineering Technology
A.A.S. Degree: **66** credit hours
2. Electrical Electronics Engineering
Technology College Certificate: **32** credit
hours

Concentrations in the Electrical Electronics Engineering Technology include:

- Computer Technology A.A.S. Degree:
65 credit hours
- Industrial Electronics & Control Technology
A.A.S. Degree: 64 credit hours
- Telecommunications Technology A.A.S.
Degree: 64 credit hours

Program Goals

- To assure that students are provided educational experiences in the areas of electrical and electronics installation and maintenance.
- To teach students the functionality of computer hardware and software components maintenance and safety.
- Prepare students to successfully pass the International Society of Certified Technician (ISCET) certification exams.

Continued on next page.

ELECTRICAL ELECTRONICS ENGINEERING TECHNOLOGY continued

Program Outcomes

- Students will be able to successfully pass the International Society of Certified Technician (ISCET) certification exams with a passing score of 70% or better.
- Demonstrate proficiency in reading and interpreting electrical drawings, electronic schematics and building and machinery blueprints.
- Repair, maintain, install, upgrade, lay out and modify industrial electrical/electronic equipment and manufacturing control systems.
- Identify, troubleshoot and repair hardware and software problems.
- Effectively communicate through verbal, written and drawing documentation in a team environment.

Certificate Goals

Students will be able to successfully pass the International Society of Certified Technician (ISCET) certification exams with a passing score of 70% or better.

To provide students a foundation in electrical and electronics installation and maintenance.

Certificate Outcomes

- Prepare students to successfully pass the International Society of Certified Technician (ISCET) certification exams with a passing score of 70% or better.
- Proficiently make basic installation, repair and maintenance.
- Communicate effectively through verbal, written and drawing documentation in a team environment.

Admission Requirements

- Individuals interested in the Electrical Electronics Engineering Technology program are required to fulfill the following requirements:

- Fulfill all WCCCD admission requirements.
- Declare intent to enter this program on the WCCCD Application for Admission or change intent at the Admissions Office..
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer during the semester they are enrolled in EE 101 Direct Current Fundamentals – 3 credit hours.

Degree Requirements

- Students must complete all course work with a grade of “C” or better to meet graduation requirements.

Electrical Electronics Engineering Technology: College Certificate Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
EE 101	Direct Current Fundamentals . . .	4
EE 107	Mathematics for Electrical/ Electronics I	4
EE 105	Electronics Fabrication & Design	2
ENG 119	English I	3
CT 203	Digital Logic I	4
SEMESTER TOTAL		17

SEMESTER 2

CT 205	Introduction to Microprocessors	4
EE 102	Alternate Current Fundamentals	4
EE 111	Solid State Fundamentals	3
EE 115	Mathematics for Electrical/ Electronics II	4
SEMESTER TOTAL		15
CERTIFICATE TOTAL		32

Note: Certificate total hours may not include prerequisites.

**Electrical Electronics Engineering Technology:
Associate of Applied Science Degree
Recommended Sequence of Courses**

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
EE 101	Direct Current Fundamentals	4
EE 107	Mathematics for Electrical/ Electronics I	4
EE 105	Electronics Fabrication & Design	2
ENG 119	English I	3
CT 203	Digital Logic I	4
SEMESTER TOTAL		17
SEMESTER 2		
CT 205	Introduction to Microprocessors	4
EE 102	Alternate Current Fundamentals	4
EE 111	Solid State Fundamentals	3
EE 115	Mathematics for Electrical/ Electronics II	4
SEMESTER TOTAL		15
SEMESTER 3		
Elective:	Natural Science	3
IEC 203	Electrical Machinery & Controls	3
TCM 200	Introduction to Telecommunications	3
TCM 203	Communications I	3
EE 205	Linear Integrated Circuits	2
EE 117	Mathematics for Electrical/Electronics III	2
SEMESTER TOTAL		16
SEMESTER 4		
ENG 120	English	3
Elective:	Electronics	5
PHY 235	General Physics I	4
PS 101	American Government	3
Elective:	Humanities	3
SEMESTER TOTAL		18
PROGRAM TOTAL		66

Note: Program total hours may not include prerequisites.

**ELECTRICAL ELECTRONICS
ENGINEERING TECHNOLOGY:
COMPUTER TECHNOLOGY**

Associate of Applied Science Degree

About the Program

The Electrical/Electronics Engineering Technology, Computer Technology, Associate of Applied Science degree program prepares students for several IT industry careers by providing in-depth exposure to computer hardware and operating systems. Students learn the functionality of hardware and software components as well as suggested best practices in maintenance, and safety issues. Through hands on activities and labs, students learn how to assemble and configure a computer, install operating systems and software, and troubleshoot hardware and software problems. This program helps students prepare for CompTIA’s A+ certification, Microsoft Certified System Engineer, and Microsoft Certified Systems Administrators exams.

This program offers:

Associate of Applied Science: 65 credit hours

Program Goals

- To assure that students are provided educational experiences in the areas of electrical and electronic computer technology.
- To teach students the functionality of computer hardware and software components maintenance and safety.
- To produce students who can critically think and troubleshoot hardware and software problems.
- To prepare students to successfully pass the CompTIA’s A+ certification, Microsoft Certified System Engineer, and Microsoft Certified Systems Administrators exams.

ELECTRICAL ELECTRONICS ENGINEERING TECHNOLOGY: COMPUTER TECHNOLOGY

continued

Program Outcomes

- Students will be able to successfully pass the CompTIA's A+ certification, Microsoft Certified System Engineer, and Microsoft Certified Systems Administrators exams with a passing score of 70% or better.
- Identify, describe and explain the steps and procedures for setting up and managing a Windows Server Active Directory Environment including identification of the Policies and Procedures associated with implementation.
- Analyze, identify and effectively implement the steps in installing and configuring Internet Security and Acceleration Server (ISA) and various access control policies and firewall rules.
- Identify, troubleshoot and repair hardware and software problems.

Admission Requirements

Individuals interested in the Computer Technology program are required to fulfill the following requirements:

- Fulfill all WCCCD admission requirements.
- Declare intent to enter this program on the WCCCD Application for Admission or change intent at the Admissions Office.
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer during the semester they are enrolled in EE 101 Direct Current Fundamentals – 3 credit hours.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Electrical/Electronics Engineering Technology:
Computer Technology Concentration
Associate of Applied Science (A.A.S.)
Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
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SEMESTER 1

CT 203	Digital Logic I	4
CT 205	Introduction to Microprocessors	4
EE 101	Direct Current Fundamentals . . .	4
ENG 119	English I	3
SEMESTER TOTAL		15

SEMESTER 2

CT 207	Digital Logic II	3
ENG 134	Technical Communications	3
EE 102	Alternate Current Fundamentals	4
EE 107	Mathematics for Electrical/ Electronics I	4
SEMESTER TOTAL		14

SEMESTER 3

CT 209	Computer Repair	4
EE 105	Electronics Fabrication & Design	2
EE 115	Mathematics for Electrical/ Electronics II	4
Elective:	Natural Science elective	3
SEMESTER TOTAL		13

SEMESTER 4

CT 211	Computer Networking I	4
EE 111	Solid State Fundamentals	3
PS 101	American Government	3
TCM 200	Introduction to Telecommunications	3
SEMESTER TOTAL		13

SEMESTER 5

CT 213	Computer Networking II	4
EE 205	Linear Integrated Circuits	2
PHY 235	General Physics I	4
SEMESTER TOTAL		10
PROGRAM TOTAL		65

Note: Program total hours may not include prerequisites.

ELECTRICAL ELECTRONICS ENGINEERING TECHNOLOGY: INDUSTRIAL ELECTRONICS & CONTROL TECHNOLOGY

Associate of Applied Science Degree

About the Program

The Industrial Electronics and Control Technology Concentration, Associate of Applied Science degree program is ideal for students interested in pursuing careers working with the latest electronic, computer and industrial control technologies. This challenging program provides an exceptionally strong foundation in electronics theory supported by extensive hands-on experience through accompanying labs. Topics include amplifier and digital circuitry, programmable logic, robotics, microprocessors, instrumentation, simulation, troubleshooting and industrial automation. Real world theory and applications are emphasized throughout the program.

Aerospace, commercial, consumer, industrial, medical, security, and transportation technologies depend on electronic systems. The operation, implementation, and design of such fields require knowledgeable technicians and technologists. Industrial Electronics Technology graduates are employed in the design, testing, installation, and troubleshooting of industrial process control systems, robotics devices, communications systems and sophisticated instrumentation.

This program offers:

Associate of Applied Science: **64** credit hours

Program Goals

To teach and prepare students for career fields associated with the design, development, implementation, application, manufacturing, and maintenance of electrical and electronic systems. To provide students with a broad foundation in digital circuitry, program logic, robotics, and industrial automation.

Program Outcomes

- Students will be able to identify and solve technology problems related to the development, manufacturing, installation and service of computer integrated manufacturing systems, semiconductor and microelectronic manufacturing equipment, process control equipment, robotic and other electro-mechanical systems.
- Demonstrate the ability to analyze, design, implement and maintain instrumentation, control, and communication and radio-frequency systems.
- Demonstrate analysis and design proficiency in electrical circuits and analog/digital/microprocessor electronics.
- Analyze, identify and troubleshoot motor control circuits utilizing electrical diagrams.
- Identify, explain and demonstrate structured techniques used to program logic circuitry.

Admission Requirements

Individuals interested in the Industrial Electronics and Controls Technology program are required to fulfill the following requirements:

- College admission requirements.
- Declare their intent to enter the Industrial Electronics and Controls Technology program on the WCCCD Application for Admission Office or change their intent at the Admission Office.
- Course placement requirements based on COMPASS test results.
- Students must complete WCCCD Program Application during the semester they are enrolled in EE 101 Direct Current Fundamentals, 4 credit hours and submit to the Campus Academic Officer.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Continued on next page.

EEE TECHNOLOGY: INDUSTRIAL ELECTRONICS & CONTROL TECHNOLOGY

continued

Industrial Electronics and Control Technology:
Associate of Applied Science (A.A.S.)
Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
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SEMESTER 1

CT 203	Digital Logic I	4
Elective:	Humanities elective	3
EE 101	Direct Current Fundamentals	4
ENG 119	English I	3
SEMESTER TOTAL		14

SEMESTER 2

ENG 134	Technical Communications	3
EE 102	Alternate Current Fundamentals	4
EE 107	Mathematics for Electrical/Electronics I	4
CT 205	Introduction to Microprocessors	4
SEMESTER TOTAL		15

SEMESTER 3

EE 105	Electronics Fabrication & Design	2
EE 115	Mathematics for Electrical/Electronics II	4
IEC 203	Electrical Machinery & Controls	3
Elective:	Natural Science Elective	3
SEMESTER TOTAL		12

SEMESTER 4

EE 111	Solid State Fundamentals	3
IEC 202	Introduction to Robotics	3
IEC 207	Hydraulics & Pneumatics	3
PS 101	American Government	3
SEMESTER TOTAL		12

SEMESTER 5

EE 205	Linear Integrated Circuits	2
IEC 208	Programmable Logic Controllers	3
PHY 235	General Physics I	4
Elective:	Electronics elective	2
SEMESTER TOTAL		11
PROGRAM TOTAL		64

Note: Program total hours may not include prerequisites.

ELECTRICAL ELECTRONICS ENGINEERING TECHNOLOGY: TELECOMMUNICATIONS TECHNOLOGY

Associate of Applied Science Degree

About the Program

The Telecommunications Technology program seeks to prepare informed, responsible professionals for leadership roles in the electronic information industries. The program stresses the social, cultural and economic impact of electronic media.

This major is designed for students interested in all electronic media, including broadcasting, cable, satellite, internet and telephone industries. Telecommunications dominates many facets of our lives, including how we: communicate, conduct business, entertain and inform ourselves, and participate in democracy. The telecommunications curriculum explores the structure and operation of these industries as well as laws and policies that regulate their use. Graduates go on to careers in radio, broadcast cable and satellite networks; internet service providers; wired and wireless telephone companies; and other related industries.

This program offers:

Associate of Applied Science: **64** credit hours

Program Goals

- To teach students basic proficiency in the application of electric circuits, computer programming, associate software, analog and digital electronics, voice and data communications.
- To provide students with a broad foundation in designing and implementing tele-communications systems.

Program Outcomes

- Students will be able to demonstrate proficiency in the application of electric circuits, computer programming, associate software, analog and digital electronics, voice and data communications.
- Demonstrate the ability to analyze, design and implement telecommunications systems.

Admission Requirements

Individuals interested in the Telecommunications Technology program are required to fulfill the following requirements:

- Fulfill all WCCCD admission requirements.
- Declare intent to enter this program on the WCCCD Application for Admission or change intent at the Admissions Office.
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer during the semester they are enrolled in EE 101 Direct Current Fundamentals – 4 credit hours.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

EEE TECHNOLOGY: INDUSTRIAL ELECTRONICS & CONTROL TECHNOLOGY continued

EE: Telecommunications Technology
Concentration

Associate of Applied Science (A.A.S.)

Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
---------	--------------	---------

SEMESTER 1

EE 101	Direct Current Fundamentals . . .	4
EE 107	Math for Electrical/ Electronics I	4
EE 105	Electronics Fabrication & Design	2
CT 203	Digital Logic I	4
ENG 119	English I	3
SEMESTER TOTAL		17

SEMESTER 2

EE 102	Alternate Current Fundamentals	4
EE 115	Math for Electrical/ Electronics II	4
EE 111	Solid State Fundamentals	3
TCM 200	Introduction to Telecommunications	3
SEMESTER TOTAL		14

SEMESTER 3

CT 205	Introduction to Microprocessors	4
TCM 202	Fiber Optics Communications . . .	3
TCM 203	Communications I	3
PS 101	American Government	3
EE 205	Linear Integrated Circuits	2
ENG 134	Technical Communications	3
SEMESTER TOTAL		18

SEMESTER 5

TCM 206	Basic Switching and Signaling . . .	4
PHY 235	General Physics I	4
Electives: Electronics		4
Electives: Humanities		3
SEMESTER TOTAL		15
PROGRAM TOTAL		64

Note: Program total hours may not include prerequisites.

EMERGENCY MEDICAL TECHNOLOGY

- College Certificate
Associate of Applied Science Degree

About the Program

The Emergency Medical Technology (EMT) Associate of Applied Science degree and College Certificate of Completion curriculum stresses the integration of knowledge and skills required to competently perform pre-hospital basic, limited, and advanced life support. Wayne County Community College District is a State of Michigan, Michigan Department of Community Health (MDCH) EMS & Trauma Systems approved Education Sponsor. Therefore, students that successfully meet the completion criteria for Medical First Responder, Basic EMT, EMT-Specialist or Paramedic are eligible for Emergency Medical Technology (EMT) Program certification and the National Registry for EMT's certification examination necessary for and Michigan licensure as a EMS Professional.

This program offers the following:

Certificate of Completion: Medical First Responder = 3 credit hours

Certificate of Completion: Basic Emergency Medical Technician (Basic EMT) = 9 credit hours

Certificate of Completion: EMT Specialist = 7 credit hours

Certificate of Completion: Paramedic = 53 credit hours

College Certificate: Emergency Medical Technology = 30 credit hours

Associate of Applied Science Degree: Emergency Medical Technology 72 credit hours

Medical First Responder: A point of contact as a first responder in a medical emergency.

Basic EMT: For persons directly involved or intending to become involved in Emergency Care Services (e.g. ambulance employees, fire department EMT's).

EMT-Specialist: For individuals beginning their paramedic training.

Paramedic: This certificate program is designed for individuals who desire employment on paramedic ambulances, fire department ALS units, or hospital emergency rooms requiring paramedic skills.

Program Goals

- To teach and prepare students to comprehend, apply and integrate the cognitive and critical thinking essential to function as an EMT professional.
- To serve as a vital link in the chain of the health care team.
- To deliver the knowledge and skills necessary to provide medical care
- To prevent and reduce mortality and morbidity due illness and injury for emergency patients in the out-of-hospital setting.

Program Outcomes

- Students will be able to demonstrate appropriate level of technical capability and proficiency with psychomotor skills and assessment.
- Recognize the nature and seriousness of the patient's condition or extent of injuries to assess requirements for emergency medical care.
- Administer appropriate emergency medical care based on assessment findings of the patient's condition.
- Properly and safely lift, move, position and handle the patient to minimize discomfort and prevent further injury.
- Provide a service in an environment requiring special skills and knowledge in such areas as communications, transportation and record keeping.
- Perform safely and effectively the expectations of the position description.
- Commitment to life-long learning

Continued on next page.

EMERGENCY MEDICAL TECHNOLOGY continued

Admission Requirements

Students are admitted to the program each year for the Fall, Spring and Summer semesters. Students must have the Program’s approval, a completed application, and other required information submitted by the due date. If there are openings after the application deadline, any remaining openings will be filled on a first come basis to qualified applicants. Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Successfully complete a minimum of 12 college credits with a “C” or better and/or have COMPASS scores that fulfill program requirements.
- Declare intent to enter the Emergency Medical Technology program on the WCCCD Application for Admission.
- Must be 18 years of age or older.
- Must complete physical exam and other health requirements.

Based upon Michigan Law, students applying for admission to the EMT program will be subject to a criminal background check, the results of which could preclude an applicant from admission to Wayne County Community College District’s EMT program on the basis of any of the following:

- A felony conviction or conviction for an attempt or conspiracy to commit a felony within the past fifteen (15) years.
- Any misdemeanor conviction involving abuse, neglect, assault, battery or criminal sexual conduct within the past fifteen (15) years.
- Any misdemeanor conviction involving fraud or theft

Degree Requirements

- Students must complete all course work with a grade of “C” or better to meet graduation requirements.

EMT: Certificate of Completion – Medical First Responder
 EMT 105 Medical First Responder3
CERTIFICATE OF COMPLETION
TOTAL:3

EMT: Certificate of Completion – Basic Emergency Medical Technician (Basic EMT)
 EMT 114 Basic EMT I4
 EMT 124 Basic EMT II4
 EMT 126 Basic EMT Clinical Experience ..1
CERTIFICATE OF COMPLETION
TOTAL9

EMT: Certificate of Completion – EMT Specialist
 EMT 211 EMT-Specialist4
 EMT 217 EMT-Specialist Clinical Experience3
CERTIFICATE OF COMPLETION
TOTAL7

EMT: Certificate of Completion – Paramedic
 EMT 218 Emergency Medicine Preparatory5
 EMT 221 Paramedic I10
 EMT 231 Paramedic II10
 EMT 236 Paramedic Clinical Experience I6
 EMT 241 Paramedic III3
 EMT 242 Paramedic IV2
 EMT 246 Paramedic Clinical Experience II6
 EMT 243 Paramedic V2
 EMT 244 Paramedic VI3
 EMT 256 Paramedic Clinical Experience III6
 EMT 264 Paramedic Clinical Experience III6
CERTIFICATE OF COMPLETION
TOTAL53

**Emergency Medical Technology:
College Certificate**

**Recommended Sequence of Full-time
Courses**

EMT 114	Basic EMT I	4
EMT 124	Basic EMT II	4
EMT 126	Basic EMT Clinical Experience	1

- AND -

CAREER COURSES:

(Any 21 credits from the following courses)

EMT 105	Medical First Responder	3
EMT 211	EMT-Specialist	4
EMT 217	EMT-Specialist Clinical Experience	3
EMT 218	Emergency Medicine Preparatory	5
EMT 221	Paramedic I	10
EMT 231	Paramedic II	10
EMT 236	Paramedic Clinical Experience I	6
EMT 241	Paramedic III	3
EMT 242	Paramedic IV	2
EMT 243	Paramedic V	2
EMT 244	Paramedic VI	3
EMT 246	Paramedic Clinical Experience II	6
EMT 256	Paramedic Clinical Experience III	6

EMT COLLEGE CERTIFICATE TOTAL .30

** Certificate totals may not include prerequisite work.*

**Emergency Medical Technology:
Associate of Applied Science**

Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
EMT 114	Basic EMT I	4
EMT 124	Basic EMT II	4
EMT 126	Basic Clinical Experience	1
ENG 119	English I	3
SEMESTER TOTAL		12

SEMESTER 2

EMT 211	EMT Specialist	4
EMT 217	EMT Specialist Clinical Experience	3
BIO 155	Introductory Biology	4
SPH 101	Fundamentals of Speech	3
SEMESTER TOTAL		14

SEMESTER 3

ENG 120	English II	3
SOC 100	Introduction to Sociology	3
PS 101	American Government	3
SEMESTER TOTAL		9

SEMESTER 4

EMT 218	Emergency Medicine Prep	5
EMT 221	Paramedic I	10
SEMESTER TOTAL		15

SEMESTER 5

EMT 231	Paramedic II	10
EMT 236	Paramedic Clinical Experience I	6
SEMESTER TOTAL		16

SEMESTER 6

EMT 241	Paramedic III	3
EMT 242	Paramedic IV	2
EMT 246	Paramedic Clinical Experience II	6
SEMESTER TOTAL		11

SEMESTER 7

EMT 243	Paramedic V	2
EMT 244	Paramedic VI	3
EMT 256	Paramedic Clinical Field Internship	6
Elective: Other		3
SEMESTER TOTAL		14
PROGRAM TOTAL		91

Note: Program total hours may not include prerequisites.

EMERGENCY ROOM MULTI-SKILL HEALTHCARE TECHNOLOGY

- College Certificate
Associate of Applied Science Degree

About the Program

The Emergency Room Multi-Skill Health Care Technology (ERT) Associate of Applied Science Degree and College Certificate program is designed to prepare the student to work within the hospital and urgent health care environment. Students will find employment opportunities with various hospital emergency departments, special care units and urgent care centers. Emergency Room Technicians receive specialized training in hospital procedures and protocols. Practical skills include insertion of Foley catheters, EKG, phlebotomy, 12 lead cardiac monitoring, sterile procedures, insertion of nasal gastric tubes and many other skills.

This program offers:

Associate of Applied Science: **64** credit hours
College Certificate: **30** credit hours

Program Goals

- To teach and prepare students for advanced responsibilities in the emergency room assisting nurses and health care professionals in providing basic patient care.

Program Outcomes

- Students will be able to demonstrate appropriate level of technical capability and proficiency with psychomotor skills and assessment as delineated in basic patient care practices in an emergency room setting.
- Apply therapeutic and professional communication skills when working with patients, families, colleagues and other health care providers and members of the community.
- To provide the Basic EMT with the principle and the techniques necessary to provide additional patient care within a hospital,

urgent care, or primary health care environment.

- Prepare graduates to successfully obtain employment in a hospital, urgent care or primary health care environment.
- Support the profession by preparing graduates who are competent Emergency Room Multi-Skilled Technicians and as members of the health care team.

Admission Requirements

Students are admitted to the program each year for the Fall and Spring semesters. Must have the Program's approval, a completed application, and other required information submitted by the required due date. If there are openings after the application deadline any remaining openings will be filled on a first come basis to qualified applicants.

- Students are required to do the following:
- Fulfill all WCCCD admission requirements
- Successfully complete a minimum of 12 college credits with a "C" or better and/or COMPASS scores that fulfill program requirements.
- Declare intent to enter the Emergency Medical Technology on the WCCCD Application for Admission.
- Must be 18 years of age or older.
- Must complete physical exam and other health requirements.
- Complete and pass background check.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

**Emergency Room / Multi-Skilled Healthcare
Technology Program**
College Certificate Requirements:

CR. No.	COURSE TITLE	CREDITS
EMT 114	Basic EMT I	4
EMT 124	Basic EMT II	4
EMT 126	Basic EMT Clinical Experience ...	1
ERT 210	Emergency Room Technology ...	6
ERT 215	Emergency Room Technician Clinical	6
CERTIFICATE REQUIREMENTS		
SUBTOTAL		21

CAREER COURSES

(Any 9 from the following courses)

EMT 211	EMT Specialist	4
EMT 217	EMT Specialist Clinical Experience	3
BIO 240	Human Anatomy & Physiology I	4
PS 101	American Government	3
ALH 105	Medical Math	3
BIO 240	Anatomy & Physiology I	4
ENG 120	English II	3
ENG 119	English I	3
BIO 155	Introductory to Biology	4
SOC 100	Introduction to Sociology	3
CERTIFICATE TOTAL		30

Note: Certificate total hours may not include prerequisites.

**Emergency Room Multi Skill Healthcare
Technology Program**
Associate of Applied Science:
Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
<u>SEMESTER 1</u>		
EMT 114	Basic EMT I	4
EMT 124	Basic EMT II	4
EMT 126	Basic EMT Clinical Experience ...	1
ENG 119	English I	3
SEMESTER TOTAL		12

SEMESTER 2

ERT 210	Emergency Room 1	6
ERT 215	Emergency Room Clinical Experience	6
SEMESTER TOTAL		12

SEMESTER 3

ENG 120	English II	3
BIO 155	Introduction to Biology	4
SOC 100	Introduction to Sociology	3
Elective: Humanities		3
SEMESTER TOTAL		13

SEMESTER 4

EMT 211	EMT Specialist	4
EMT 217	EMT Specialist	3
BIO 240	Anatomy & Physiology I	4
PS 101	American Government	3
SEMESTER TOTAL		14

SEMESTER 5

ALH 105	Medical Math	3
BIO 250	Human Anatomy & Physiology II	4
Elective:		3
ALH 214	Pharmacology	3
SEMESTER TOTAL		13

PROGRAM TOTAL

Note: Total hours may not include prerequisites.

ENTREPRENEURSHIP

- College Certificate

About the Program

The Entrepreneurship College Certificate program is designed for those individuals who have, or desire to have, their own business. Emphasis is on successfully creating and sustaining a competitive advantage in starting, managing and growing a small business. This program focuses on the preparation needed for small business ownership.

College Certificate Goals

- To teach students basic principles, concepts and procedures necessary to start a business and/or grow an existing small business.
- To provide students a foundation of strategic planning, decision making, critical thinking, communication skills and resources in starting and/or growing an existing business.

College Certificate Outcomes

- Students will be able to apply knowledge of what it takes to start a new business including the basics of finance, marketing and management.
- Demonstrate and apply leadership and workplace relationship skills when communicating with customers, employees, suppliers, etc. specific to the field.
- Understand and apply a working knowledge of legal issues of operating a small business.
- Understand and demonstrate knowledge in completing a comprehensive business plan that will enable the business to secure adequate funding.
- Effective use of written, oral, listening and electronic communication skills in interactions within the office environment.

Admission Requirements

Students are required to do the following:

- Possess a high school diploma or GED
- Fulfill all WCCCD admission requirements
- Declare intent to enter this program on the WCCCD Application for Admission or change intent at the Admissions Office.
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer.

College Certificate Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Entrepreneurship: College Certificate Recommended Sequence of Courses

CAREER COURSES REQUIRED

SEMESTER 1

ENT 100	Introduction to Entrepreneurship	.....3
BUS 175	Small Business Management	...3
BL 201	Business Law I	.....4
BUS 177	Small Business Financing	.....3
SEMESTER TOTAL		.....13

SEMESTER 2

ENT 205	Operations Management for Small Business	.....3
BUS 225	Computer Applications in Business	.....3
MKT 200	Principles of Marketing	.....3
SEMESTER TOTAL		.....9

SEMESTER 3

ENT 210	Human Resource Management for Small Business	.....3
BUS 240	Business Communications	.....3
BUS 221	Business Statistics	.....3
CIS 250	E-Commerce Strategies	.....3
SEMESTER TOTAL		.....12
CERTIFICATE TOTAL		.....34

Note: Program totals may not include prerequisites.

FACILITY MAINTENANCE

- College Certificate
- Associate of Applied Science Degree

About the Program

The Facility Maintenance Associate of Applied Science degree and College Certificate program prepares the student for immediate employment as a facility maintenance technician, maintenance and stationary engineer, and facility maintenance manager at health care institutions, large office towers, apartment complexes, professional buildings, multiuse facilities, plants, government and educational building, etc.

Students will be able to perform work pertaining to carpentry, plumbing, ground maintenance, electrical, general maintenance of heating, ventilation and air conditioning and refrigeration, (HVA/R) and operation and complete maintenance of boiler plants. The program also prepares students to take local and State of Michigan examinations for obtaining license(s) as Mechanical Maintenance and Mechanics Education and Certification for Health care (MECH) State of Michigan. The certificate will fulfill the competency requirements for the Joint Commission on Accreditation of Hospital Organization (JCAHO) for facility maintenance training and background may be eligible to waive certain course.

This program offers:

Associate of Applied Science: **60** credit hours
College Certificate: **30** credit hours

Program Goals

- To teach students to proficiency in performing electrical and HVAC/R (heating, ventilating, air conditioning and refrigeration) systems maintenance and repairs in multi-purpose buildings and facilities.

Program Outcomes

- Students will be able to demonstrate proficient use of hand tools, equipment and gauges commonly used in the repair and troubleshooting of commercial HVAC/R (heating, ventilating, air conditioning and refrigeration) systems.
- Describe, demonstrate and apply the principles of operation of basic components and systems used in meeting specific needs in conditioning air, heating air, providing ventilating and refrigerating objects.
- Interpret and apply the EPA regulatory laws in properly handling refrigerants and other environmentally hazardous materials used with HVAC/R systems.
- Demonstrate the proper selection and application of HVAC/R components in maintenance of a commercial system.
- Solve basic technical problems encountered in commercial refrigeration, cooling and heating equipment.
- Effectively demonstrate competent verbal communication skills with individuals and teams.

Certificate Goals

- To provide students a basic foundation in performing electrical and HVAC/R (heating, ventilating, air conditioning and refrigeration) systems maintenance and repairs.

Certificate Outcomes

- Demonstrate proficient use tools, equipment and gauges commonly used in the repair and troubleshooting of commercial HVAC/R (heating, ventilating, air conditioning and refrigeration) systems.
- Demonstrate applied competency in the proper selection and application of HVAC/R components in maintenance of a commercial system.
- Solve basic technical problems encountered in commercial refrigeration, cooling and heating equipment.

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FACILITY MAINTENANCE
continued

Admission Requirements

Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Declare intent to enter this program on the WCCCD Application for Admission or change intent at the Admissions Office.
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Facility Maintenance: College Certificate
Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
ENG 119	English I	3
MAT 121	Technical Mathematics I	3
FM 101	Basic Facility Maintenance	3
FM 102	Plumbing & Pipe Fitting	3
SEMESTER TOTAL		12

SEMESTER 2

CAREER COURSES

EE 103	Electrical	3
FM 103	Carpentry	3
FM 104	General Maintenance	3
SEMESTER TOTAL		9

SEMESTER 3

Elective:	HVA Course	3
HVA 201	Introduction to Boiler Plant Maintenance	3
FM 105	Grounds Maintenance	3
SEMESTER TOTAL		9
CERTIFICATE TOTAL		30

Note: Certificate total hours may not include prerequisites.

Facility Maintenance: Associate of Applied Science
Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
ENG 119	English I	3
MAT 121	Technical Mathematics I	3
FM 101	Basic Facility Maintenance	3
FM 102	Plumbing & Pipe Fitting	3
SEMESTER TOTAL		12

SEMESTER 2

MAT 122	Technical Mathematics II	3
ENG 134	Technical Communication	3
FM 103	Carpentry	3
FM 104	General Maintenance	3
SEMESTER TOTAL		12

SEMESTER 3

PS 101	American Government	3
FM 105	Grounds Maintenance	3
HVA 201	Introduction To Boiler Plant Maintenance	3
HVA 202	Steam I	3
SEMESTER TOTAL		12

SEMESTER 4

FM 106	Safety and Support Services	3
HVA 204	Boiler Room Accessories	3
Elective:	Other	6
SEMESTER TOTAL		12

SEMESTER 5

FM 299	Facility Maintenance Co-op	3
HVA 206	Refrigeration Operations: Exam Preparation	3
Elective:	Natural Science or Social Science	3
Elective:	HVA Course	3
SEMESTER TOTAL		12
PROGRAM TOTAL		60

Note: Program total hours may not include prerequisites.

FIRE PROTECTION TECHNOLOGY

- College Certificate
- Associate of Applied Science Degree

About the Program

The Fire Protection Technology Associate of Applied Science degree program addresses the constant change and growing complexities of modern living and the environment as it pertains to fire suppression. There is a demand for college-trained people in the various fields of Fire Protection. The degree addresses the needs of a person wanting to be an entry level firefighter, those desiring advancement within their fire career as well as those individuals seeking fire related jobs within companies. The program adheres to the National Fire Academy's Fire and Emergency Services Higher Education (FESHE) model curriculum.

Admission Requirements

Students are admitted to the program each year for the Fall, Spring and Summer semesters. Students must have the Program's approval, a completed application, and other required information submitted by the due date. If there are openings after the application deadline, any remaining openings will be filled on a first come basis to qualified applicants.

Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Successfully complete a minimum of 12 college credits with a "C" or better and/or have COMPASS scores that fulfill program requirements.

This program offers:

- Associate of Applied Science: Fire Administration **62** credit hours
- Associate of Applied Science: Fire Suppression **62** credit hours
- College Certificate: Fire Protection Technology **30** credit hours

Program Goals

- To instruct students on the competencies and skills implored in the principles of fire development, cause and prevention.
- To teach students advanced principles of fire chemistry, arson and investigation and fire health and safety according to the National Fire Protection Association (NFPA) guidelines.
- To prepare entry level students to successfully pass the State of Michigan Fire Fighter Certification exam with a proficiency score of 70% or higher.

Program Outcomes

- Students will be able to articulate and apply the principles of fire control through the utilization of personnel, equipment and extinguishing agents in fire management.
- Demonstrate an understanding of the principles of fire development, cause and prevention.
- Demonstrate a knowledge of hazardous materials and successful emergency scene operations.
- Utilize knowledge of building construction principles, fire protection systems, and fire prevention codes to affect a safer community.
- Demonstrate a working knowledge of fire ground strategy and tactics.
- Effective use written, oral, listening and electronic communications consistent with the fire service and related professional environment.
- Understand and articulate the regulations governing legal and ethical boundaries of the profession.
- Provide students with general education courses to competently and effectively use written/oral communication, computation, governmental systems, general science and humanities skills.

Continued on next page.

FIRE PROTECTION TECHNOLOGY *continued*

Certificate Goals

- To provide basic instruction on the competencies and skills in the principles of fire protection technology.

Certificate Specialty Degree Program Outcomes

- Demonstrate basic and advance fire fighter competencies and skills.
- Demonstrate knowledge of fire protection systems.
- Demonstrate knowledge of hazardous materials.
- Identify elements of building construction and how fire will effect construction.
- Demonstrate basic communication skills.
- Exhibit professional and ethical behavior consistent with the profession.

Admission Requirements

Students are admitted to the program each year for the Fall, Spring and Summer semesters. Students entering the Fire Suppression track must have the Program Director’s approval, a completed application, and other required information submitted by the due date. If there are openings after the application deadline, they will be filled on a “first-come” basis by qualified applicants.

Students are required to complete the following:

- Fulfill all WCCCD admission requirements.
- Possess a high school diploma or GED and/or successfully complete prerequisite courses with a grade of “C” or better.
- Declare intent to enter the Fire Protection Technology program on the WCCCD admission application.
- Fulfill course placement requirements based on COMPASS test OR have completed 12 credits or more of college courses with a grade of “C” or better.

- Must be 18 years of age or older on the first day of class for Fire Suppression.
- Access to the Internet.
- Ability to access a Fire Department. (does not require employment or membership, only the ability to contact for information, if necessary).

Fire Protection Technology: College Certificate Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
FPT 110	Fire Fighter I	.8
FPT 115	Fire Fighter I Lab	.5
FPT 150	Principles of Emergency Services	.3
SEMESTER TOTAL		.16

SEMESTER 2		
FPT 120	Fire Fighter II	.5
FPT 125	Fire Fighter II Lab	.3
Elective: FPT		.6
SEMESTER TOTAL		.14
CERTIFICATE TOTAL		.30

Note: Certificate total hours may not include prerequisites.

Fire Protection Technology: Fire Administration
Associate of Applied Science
Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
<u>SEMESTER 1</u>		
FPT 150	Principles of Emergency Services	3
BUS 225	Computer Applications in Business	3
Elective:	FPT Courses	3
ENG 119	English I	3
FPT 160	Fire Behavior and Combustion ..	3
SEMESTER TOTAL		15

SEMESTER 2

FPT 155	Fire Prevention	3
FPT 225	Principles of Fire & Emergency Services Safety & Survival	3
ENG 120	English II	3
SOC 103	Social Problems	3
Elective:	FPT Courses	3
SEMESTER TOTAL		15

SEMESTER 3

FPT 215	Building Construction for the Fire Service	3
PS 101	American Government	3
MAT 112	Elementary Algebra	3
BIO 155	Introduction to Biology	4
PSY 260	Social Psychology	3
SEMESTER TOTAL		16

SEMESTER 4

FPT 175	Fire Protection Systems	3
CHM 105	Introductory Chemistry	4
Elective:	FPT Courses	9
SEMESTER TOTAL		16
PROGRAM TOTAL		62

Note: Program total hours may not include prerequisites.

Fire Protection Technology: Fire Suppression
Associate of Applied Science
Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
<u>SEMESTER 1</u>		
FPT 110	Fire Fighter I	8
FPT 115	Fire Fighter I Lab	5
FPT 150	Principles of Emergency Services	3
SEMESTER TOTAL		16

SEMESTER 2

FPT 120	Fire Fighter II	5
FPT 125	Fire Fighter II Lab	3
ENG 119	English 1	3
Elective:	FPT	6
SEMESTER TOTAL		14

SEMESTER 3

ENG 120	English II	3
SOC 103	Social Problems	3
BIO 155	Introduction to Biology	4
PSY 260	Social Psychology	3
BUS 225	Computer Applications in Business	3
SEMESTER TOTAL		16

SEMESTER 4

FPT 225	Principles of Fire & Emergency Services Safety & Survival	3
CHM 105	Introductory Chemistry	4
PS 101	American Government	3
MAT 112	Elementary Algebra	3
SEMESTER TOTAL		16
PROGRAM TOTAL		62

Note: Program total hours may not include prerequisites.

FOODSERVICE SYSTEMS MANAGEMENT

- College Certificate
Associate of Applied Science Degree

About the Program

The Foodservice Systems Management Associate of Applied Science degree and College Certificate program offers career opportunities across a broad spectrum of options that includes schools, hotels and restaurants, hospitals, nursing homes, extended care and assisted living communities, correction facilities, casinos, resorts, etc. Wherever people eat in groups, there is an opportunity for a position as a foodservice manager. The Foodservice Systems Management program is designed to train the beginning student, as well as those presently employed individual who is seeking advancement in the foodservice industry. Prepare yourself for a management position by gaining the knowledge and skills in volume food preparation, menu design; cost control, HACCP purchasing and management of human and material resources. Graduates qualify to take the examination for the Foodservice Management Professional (FMP) credential and level-one certification through the American School Foodservices Association (ASFSA).

Program Goals

- To teach and prepare students to comprehend, apply and integrate principles of foodservice production and management.

Program Outcomes

- Students will be able to demonstrate a mastery of the knowledge, techniques, skills and standards in foodservice management.
- Effectively integrate and apply foodservice occupational specific competencies e.g. product and menu development, facilities design and marketing within a problem solving context.
- Demonstrate accuracy in applying competencies in purchasing, cost control management and labor cost control.

- Demonstrate knowledge and application of sanitation, safety and personal hygiene.
- Demonstrate ability to work as a team member in a group setting towards a common goal.
- Effective use of written, oral, listening and electronic communication in a foodservice management environment.

Certificate Goals

- Students will be able to proficiently apply foodservice sanitation principals as it relates to the profession.
- Demonstrate the proper application and understanding of cooking methods.
- Demonstrate an applied understanding of calculating costs and apply procedures in order to run a cost effective foodservice establishment.

Certificate Outcomes

- Demonstrate the proper application and understanding of cooking methods.
- Demonstrate an applied understanding of calculating costs and apply procedures in order to run a cost effective foodservice establishment.
- Demonstrate ability to work as a team member in a group setting towards a common goal.
- Effective use of written, oral, listening and electronic communication in a foodservice management environment.

Admission Requirements

Admission to certificate or short-term training courses is granted on a "first come" basis. Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Possess a high school diploma or GED
- Fulfill course placement requirements based on COMPASS test results
- Complete any required prerequisite courses with a grade of "C" or better.

In addition, students who wish to complete the requirements for the Associate of Applied Science degree must do the following:

- Declare intent to enter the Foodservice Systems Management program on the WCCCD admission application.
- Schedule an interview with the Discipline Chairperson
- Pass required sections of the Health Occupation Basic Entrance Test (HOBET)
- Submit a Program Application form with a declaration of intent for your career option.
- Submit a transcript (copy) of grades earned for transfer and any courses completed at WCCCD
- Complete required sections of the Health Occupation Basic Entrance Test (HOBET)
- All courses toward the degree program must be completed with a grade of "C" or better.

The deadline for applications for Fall admission is July 15; Spring admissions deadline is December 15. The program admissions committee will review applications. Students will be notified by mail within one month of the admission committee's decision.

**Foodservice Systems Management:
College Certificate
Recommended Sequence of Courses**

CR. No.	COURSE TITLE	CREDITS
<u>SEMESTER 1</u>		
FSM 105	Principles of Foodservice Systems/Practicum	3
FSM 130	Menu Planning and Nutrition ...	2
FSM 140	Principles of Food Preparation ..	2
FSM 140L	Principles of Food Preparation Lab	1
FSM 146	Quantity Food Production: Practicum I	4
SEMESTER TOTAL		12
<u>SEMESTER 2</u>		
FSM 115	Food Safety and Sanitation	2
FSM 220	Food & Beverage Cost Control ...	3
FSM 230	Purchasing for Foodservice Systems	3
FSM 235	Foodservice Practicum II	4
SEMESTER TOTAL		12
<u>SEMESTER 3</u>		
FSM 240	Computer Applications in Foodservice Lab	3
FSM 250	Management of Foodservice Systems	3
FSM 255	Management of Foodservice System Practicum	4
SEMESTER TOTAL		10
CERTIFICATE TOTAL		34

Note: Certificate total hours may not include prerequisites.

Continued on next page.

FOODSERVICE SYSTEMS MANAGEMENT continued

Foodservice Systems Management: Associate of Applied Science Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
ANT 154	Introduction to Cultural Anthropology	3
ENG 119	English I	3
ENG 134	Technical Communications	4
BIO 155	Introductory Biology	4
MAT 110	Business Mathematics	3
—OR—		
BUS 225	Computer Applications in Business	3
SPH 101	Fundamentals of Speech	3
PS 101	American Government	3
PSY 101	Introduction to Psychology	3
CAREER COURSES		
FSM 105	Principles of Foodservice Systems/Practicum	3
FSM 115	Food Safety and Sanitation	2
FSM 130	Menu Planning and Nutrition	2
FSM 140	Principles of Food Preparation	2
FSM 140L	Principles of Food Preparation Lab	1
FSM 146	Quantity Food Production: Practicum	4
FSM 220	Food & Beverage Cost Control	3
FSM 230	Purchasing for Foodservice Systems	3
FSM 235	Foodservice Practicum II	4
FSM 240	Computer Applications in Foodservice/Lab	3
FSM 250	Management of Foodservice Systems	3
FSM 255	Management of Foodservice Systems Practicum III	4
LS 204	Occupational Health & Safety	3
—OR—		
MKT 200	Principles of Marketing	3
PROGRAM TOTAL . . . . .		.63

Note: Program total hours may not include prerequisites.

FORENSIC PHOTOGRAPHY

- College Certificate

About the Program

The Forensic Photography College Certificate program is designed to provide students with the technical skills necessary to photographically preserve crime scenes and items of evidence, from both technical and legal standpoints. The Forensic Photography program provides students with the necessary skills needed in the principles of composition, focus, exposure, color theory, and lighting. The program enables students to work in front of the camera, photography studio, and computer based processing lab. The program addresses the need for an alternative career track for students that work in crime scene investigation, criminal justice, homeland security, fire safety, a well as, other evidence gathering related occupations. There is a great demand for individuals that have the skills and talents as a photographer or a computer based digital imaging specialist.

College Certificate Goals

- To provide students with the general principles involved in the scientific approaches involved in the recognition, documentation and evidence production of forensic photography.
- To expose students to the legal constraints and ethical issues of the criminal justice system.
- To provide students with basic training and hands-on experience related to the fundamental techniques of forensic photography as it relates to career tracks including criminal justice, homeland security and others.

College Certificate Outcomes

- Students will be able to analyze, interpret and demonstrate the anthropological ability to properly collect, preserve and document specimens via forensic photography.

- Demonstrate an applied understanding of the role of the forensic entomologist in the moral and legal systems of our society.
- Identify, detail and explain the process for preparing case reports with a 70% proficiency rate or higher.

Certificate Requirement

- Students must complete all course work with a grade of “C” or better to meet graduation requirements.

Forensic Photography: College Certificate Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
<u>SEMESTER 1</u>		
VDP 110	Introduction to Digital Photography	3
VDP 115	Digital Photo Imaging I	3
CJS 100	Introduction to Criminal Justice	3
SEMESTER TOTAL		9
<u>SEMESTER 2</u>		
LEA 201	Introduction to Law Enforcement	3
SOC 100	Introduction to Sociology	3
VDP 120	Forensic Photography	3
SEMESTER TOTAL		9
<u>SEMESTER 3</u>		
LEA 230	Fundamentals of Criminal Investigation	3
VDP 210	Studio Photography I	3
VDP 235	Photojournalism	3
VDP 255	Forensic Photography Capstone Portfolio Project	3
SEMESTER TOTAL		12
CERTIFICATE TOTAL		30

Note: Certificate total hours may not include prerequisites.

GEOHERMAL SYSTEMS TECHNOLOGY

- College Certificate

About the Program

The Geothermal Systems Technology Certificate is designed to provide students with theoretical knowledge and practical application experiences necessary for a sustainable career in the Heating, Ventilation and Air Conditioning, (HVAC) industry where ground source heat energy is used for heating and cooling the interior of a building. Students acquire hands-on skills in troubleshooting, maintenance, installation, operation, and repair and replacement of related equipment.

Students will focus on exterior field work and interior mechanical equipment installations. Exterior work includes boreholes, ground heat exchangers, header systems, and excavation. Interior work includes pressure testing, manifolds and connections to the ground source heat pump equipment. Student will also be introduced to load calculations and blueprint reading for designing geothermal systems.

Certificate credits may be combined with additional coursework to enhance the traditional HVAC (Heating, Ventilation & Air Conditioning) degree, transfer and associate programs at WCCCD. Certificate credits also may be combined with additional training, job experience and/or professional examinations to qualify for certification by national renewable energy institutions. Students completing the WCCCD Geothermal Systems Technology Certificate Program are eligible for certification with the International Ground Source Heat Pump Association as an Accredited Installer.

Incumbent HVAC workers and other technical professionals are encouraged to investigate how a Geothermal REHC Certificate may relate to their current work or business practices.

Continued on next page.

GEOHERMAL SYSTEMS TECHNOLOGY continued

College Certificate Goals

- To teach and provide students with the knowledge and skills for entry-level employment opportunities as technicians in the Heating, Ventilation and Air Conditioning, (HVAC) industry.
- To provide current practitioners with continued learning education in renewable energy/energy efficiency field as a precursor towards a two-year associates degree or four-year baccalaureate degree program.

College Certificate Outcomes

- Students will be able to demonstrate basic principles of energy efficiency and conservation in the areas of Heating, Ventilation and Air Conditioning, (HVAC) industry.
- Identify, troubleshoot, repair and maintain proper equipment efficiency in the efficient maintenance, installation, operation, repair and replacement of related equipment.

Admission Requirements

Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer.

Degree Requirements

- Students must complete all course work with a grade of “C” or better to meet graduation requirements.

**Geothermal Systems Technology:
College Certificate
Recommended Sequence of Courses**

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
HVA 105	Power Energy – Air Conditioning II	4
GTT 220	GHEX Accreditation Exam Prep	4
HVA 104	Power Energy – Air Conditioning I	3
SED 120	Residential and Commercial Sustainable Design	3
SEMESTER TOTAL		14
SEMESTER 2		
GTT 201	Geothermal REHC Technology	3
SED 100	Principles of Sustainable Environmental Design	3
GTT 105	Applications of Geothermal System	4
HVA 101	Basic Refrigeration	4
SEMESTER TOTAL		14
SEMESTER 3		
HVA 102	Hermetic Systems	2
GTT 100	Principles of Thermogeology	4
MATH 121	Technical Mathematics I	3
RET 100	Renewable Energy/Alternative Energy Principles	4
SEMESTER TOTAL		13
CERTIFICATE TOTAL		41

Note: Certificate total hours may not include prerequisites.

GERONTOLOGY

- College Certificate
- Associate of Applied Science Degree

About the Program

The Gerontology Associate of Applied Science Degree and College Certificate programs are designed to prepare students for direct service occupations in the care of seniors. Students are trained for positions in counseling, case management and program administration. The job opportunities are available in diverse locations, such as housing complexes, nursing and congregate care facilities, adult day care centers and mental and health agencies. The program explores the normal processes of aging and related social, legal and economic issues.

Program Goals

- To prepare students to competently and ethically serve the gerontology community as a highly skilled care provider.
- To provide students with a multidisciplinary approach to understanding aging from a social, psychological, economic, physical and applied practice perspective.

Program Outcomes

- Students will have knowledge of the health and biological aspects of aging, wellness strategies, and chronic illnesses common to the elderly.
- Understanding and knowledge regarding mental health as related to aging, later life transitions, mental illness and treatment.
- Work effectively as an advanced care provider with diverse individuals and/or groups of older adults with cognitive decline, dementia and other challenging behavioral and cognitive conditions in long-term care, adult care, home and community settings.
- Demonstrate knowledge of critical thinking skills when applying best practice services and intervention techniques for dealing with challenging cognitive and behavioral issues.

- Effectively use written, oral and listening skills when following care plans, providing appropriate documentation and working collaboratively with all stakeholders' e.g. multidisciplinary teams, medical and healthcare professionals, family and community members.
- Understand, articulate and adhere to the professional and ethical care standards and regulations governing the profession.

Certificate Goals

- To proficiently prepare students to competently and ethically serve the gerontology community as a highly skilled care provider.

Certificate Outcomes

- Students will have an understanding and knowledge regarding mental health as it relates to aging, later life transitions, mental illness and treatment.
- Effectively use written, oral and listening skills when following care plans, providing appropriate documentation and working collaboratively with all stakeholders' e.g. multidisciplinary teams, medical and healthcare professionals, family and community members.
- Understand, articulate and adhere to the professional and ethical care standards and regulations governing the profession.

Admission Requirements

Students are admitted to the program each year for the Fall, Spring and Summer semesters. Students must have the Programs' approval, a completed application, and other required information submitted by the due date. If there are openings after the application deadline, any remaining openings will be filled on a "first-come" basis to qualified applicants. Students are required to do the following:

Continued on next page.

GERONTOLOGY continued

- Fulfill all WCCCD admission requirements
- Declare intent to enter the Gerontology Program on the WCCCD Application for Admission or change intent at the Admissions office.
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Applications during the semester they are enrolled in the GER 110, Introduction to Study of Aging course and submit to the Campus Academic Officer.

Degree Requirements

- Students must complete all course work with a grade of “C” or better to meet graduation requirements.

Gerontology: College Certificate Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
GER 110	Introduction to the Study of Aging	3
GER 115	Program/Services to the Aged . . .	3
GER 120	Health and Physical Processes of Aging	3
GER 125	Mental Health and Aging	3
SEMESTER TOTAL		.12
SEMESTER 2		
GER 130	Counseling and Communication .3	
GER 140	Legal Issues of Aging	3
GER 155	Seminar for Gerontology: Field Placement I	2
GER 156	Gerontology Field Placement I . .	4
SEMESTER TOTAL		.12
CERTIFICATE TOTAL		.24

Note: Certificate total hours may not include prerequisites.

Gerontology: Associate of Applied Science Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
ENG 119	English I	3
GER 110	Introduction to Study of Aging . .3	
GER 115	Program/Services to the Aged . .3	
PS 101	American Government	3
SEMESTER TOTAL		.12
SEMESTER 2		
GER 120	Health and Physical Processes of Aging	3
GER 125	Mental Health and the Aging . . .3	
ENG 120	English II	3
SOC 100	Introduction to Sociology	3
SEMESTER TOTAL		.12
SEMESTER 3		
GER 130	Counseling and Communication	3
SPH 101	Fundamentals of Speech	3
OIS 100	Keyboarding	3
PSY 101	Introductory Psychology	3
SEMESTER TOTAL		.12
SEMESTER 4		
GER 140	Legal Issues of Aging	3
RL 110	Recreational Leadership Techniques	3
BUS 150	Introduction to Business	3
EMT 101	First Aid	2
Elective:	Humanities	3
SEMESTER TOTAL		.14
SEMESTER 5		
GER 155	Seminar for Gerontology: Field Placement I	2
GER 156	Gerontology Field Placement I . .	4
Elective:	Natural Science	4
SEMESTER TOTAL		.10
PROGRAM TOTAL		.60

Note: Program total hours may not include prerequisites.

GRAPHIC DESIGN TECHNOLOGY

- College Certificate

About the Program

The Graphic Design Technology College Certificate program has been developed to prepare students for entry level positions in a variety of industries that require computer aided desktop publishing and graphic design applications. This program gives each student a solid foundation in basic concepts, and parallel today's latest graphic design technology. After receiving the foundations in art, computer literacy and basic math, the student will receive extensive training in all aspects of Adobe Creative Suite 2.

College Certificate Goals

- To develop student's oral, written and visual communication skills in graphic design technology.
- To provide a basic foundation of the principles of computer aided desktop publishing design in print and visual media.

College Certificate Outcomes

- Students will be able to demonstrate sound principles of basic visual perception evident in their graphic design work.
- Define, identify and produce denotative and connotative messages in graphic designs, logos, illustrations and photographs.
- Define, identify and implement design strategy and critical thinking techniques for visual problem solving in visual communication that addresses client needs.
- Demonstrate proficiency in various graphic design, publishing and Web design technologies.

Admission Requirements

- Fulfill all WCCCD admissions requirements.
- Possess a high school diploma or GED.
- Submit a transcript (copy) of grades earned for transfer in any course completed at WCCCD.
- Submit a Program Application form with a declaration of intent for the career option in Graphic Design.
- Fulfill course placement requirements based on the COMPASS Test.

Certificate Requirements:

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Graphic Design Technology:

College Certificate

Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
ART 101	Drawing I	3
CIS 110	Introduction to Computer Information Systems	4
HUM 101	Introduction to Visual Arts	3
PRN 101	Introduction to Print Technology	3
SEMESTER TOTAL		13
SEMESTER 2		
ART 111	Design I	3
CIS 266	Introduction to Graphic Design . .	3
DMP 105	Media Programming	3
OIS 227	Desktop Publishing I	3
SEMESTER TOTAL		12
SEMESTER 3		
ART 112	Design II	3
MAT 100	Basic Mathematics	3
OIS 228	Desktop Publishing II	3
PRM 101	Project Management	3
SEMESTER TOTAL		12
CERTIFICATE TOTAL		37

Note: Certificate total hours may not include prerequisites.

HEALTHCARE RENEWABLE ENERGY

- College Certificate

About the Program

The Healthcare Renewable Energy College Certificate is designed to provide students with the theoretical knowledge necessary for a career in energy management and renewable energy technologies as applied to the healthcare industry. Students acquire hands-on skills in troubleshooting, maintenance, installation, operation and repair and replacement of related equipment. The program addresses the need for an alternative career track for students to pursue careers in the healthcare renewable energy field. The certificate requires a minimum of 31 credits of coursework. Students may choose from online and face-to-face courses in several areas of emphasis including, photovoltaic, solar thermal, and wind.

Certificate credits may be combined with additional coursework to enhance traditional Allied Health diploma, degree, transfer and associate programs at WCCCD. The credits also may be combined with additional training, job experience and/or professional examinations to qualify for certification by national renewable energy institutions.

Incumbent Allied Health workers and other technical professionals are also encouraged to investigate how a Renewable Energy Certificate may relate to their current work or business practices.

College Certificate Goals

- To teach and provide students with the knowledge and skills for entry-level employment opportunities as healthcare technicians in the allied healthcare industry.
- To provide students currently employed in the healthcare industry with knowledge and skills relevant to healthcare technology as well as a broader understanding of the scientific, economic and political context of the industry.

- To provide current practitioners with continued learning education in renewable energy/energy efficiency field as a precursor towards a two-year associates degree or four-year baccalaureate degree program.

College Certificate Outcomes

- Students will be able to demonstrate basic principles of energy efficiency and conservation in health occupations and other areas of allied health.
- Identify, troubleshoot and repair and maintain proper equipment efficiency in allied health equipment and programs.

Admission Requirements

Students are required to do the following:

- Fulfill all WCCCD admissions requirements.
- Declare intent to enter the Health Care Renewable Energy Certificate program by completing an allied health program application and
- Indicate intent on the college application form.
- Fulfill course placement requirements based on the COMPASS test.
- Fulfill all prerequisites with a grade of "C" or better
- Must be 18 years of age and possess a high school diploma or GED (copy required).
- Meet with and submit all documentation to Health Care Renewable Energy Certificate Program Coordinator/Advisor
- Complete Background check

Certificate Requirements

- Students must maintain an overall grade point average of 2.5 and a minimum grade of "C" or better in all core course work in order to meet graduation requirements.

Healthcare Renewable Energy:
College Certificate
Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
HCE 101	Introduction to Healthcare Renewable Energy Issues	3
RET 100	Renewable Energy/Alternative Energy Principles	4
GTT 201	Geothermal Technology	3
SEMESTER TOTAL		10
SEMESTER 2		
HCE 110	Introduction to Photovoltaic (Solar Electric) Technology	4
HCE 115	Fundamentals of Wind Energy	4
SED 100	Principles of Sustainable Environmental Design	3
SEMESTER TOTAL		11
SEMESTER 3		
HCE 120	Sustainable Designs and Green Building	4
HCE 200	Energy Conservation and Efficiency	3
SED 200	LEED Certification Exam Preparation	3
SEMESTER TOTAL		10
CERTIFICATE TOTAL		31

Note: Certificate total hours may not include prerequisites.

**HEATING, VENTILATION, AIR
CONDITIONING (HVAC)**

- College Certificate
Associate of Applied Science Degree

About the Program

The Heating, Ventilation and Air Conditioning (HVAC) Associate of Applied Science degree and College Certificate degree program provides an opportunity for students to develop their skills and competencies for entry-level positions in a variety of related fields. The curriculum focuses on the ability to maintain, install and repair climate control devices in residential, industrial and commercial buildings. The program provides students with training in the layout and design of cooling and heating systems, the use of the latest tools, gauges and testing equipment used in the field, troubleshooting and inspection of equipment. The program prepares students for state and local licensing exams. Students with prior HVAC training and experience background may be eligible to waive certain courses.

This program offers:

Associate of Applied Science: **67** credit hours
College Certificate: **30** credit hours

Program Goals

- To teach students the principles and technical application of installing heating, air and cooling systems according to Energy Service Company (ESCO) industry standards.

Program Outcomes

- Students will be able to exhibit knowledge of basic principles of electricity, electrical current, circuitry and air conditioning devices.
- Complete the Environmental Protection Agency certification to handle refrigerants.
- Describe and apply refrigeration theory and refrigeration cycle, troubleshoot, diagnose and repair sealed systems.

Continued on next page.

HEATING, VENTILATION, AIR CONDITIONING (HVAC) continued

- Demonstrate proper application and use of tools, test equipment, safety procedures, safety techniques of basic shop tools used in the refrigeration and air condition industry.
- Apply mathematical, reading, and communication skills essential to the HVAC service industry.
- Apply and describe the sequence of operation for industrial systems.
- Exhibit knowledge and hands-on ability to perform electrical repairs in an efficient and safe manner.
- Exhibit knowledge and hands-on ability to perform soldering and brazing techniques in a safe manner.
- Exhibit knowledge of safety and equipment used in HVAC field.
- Distinguish quality standards of products commonly used in professional HVAC operations and install HVAC equipment compliant with local codes.

Certificate Goals

- Provide students a foundation of the basic principles associate with installing heating, air and cooling systems according to Energy Service Company (ESCO) industry standards.

Certificate Outcomes

- Students will be able demonstrate knowledge of basic principles of electricity, electrical current, circuitry and air conditioning devices.
- Describe and apply refrigeration theory and refrigeration cycle, troubleshoot, diagnose and repair sealed systems.
- Demonstrate proper application and use of tools, test equipment, safety procedures, safety techniques of basic shop tools used in the refrigeration and air condition industry.
- Exhibit knowledge of safety and equipment used in HVAC field.

Admission Requirements

Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Declare intent to enter the HVAC Program on the WCCCD Application for Admission or change intent at the Admissions office.
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application during the semester they are enrolled in any HVA course to the Campus Academic Officer.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Heating, Ventilation and Air Conditioning Program: College Certificate Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
HVA 101	Basic Refrigeration	4
HVA 102	Hermetic Systems	2
HVA 106	Basic Heating	4
HVA 107	Heating Controls	2
SEMESTER TOTAL		12

SEMESTER 2

CAREER COURSES

(Select 12 credit hours from the Career Course List below)

SEMESTER TOTAL	12
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SEMESTER 3

CAREER COURSES

(Select 6 credit hours from the Career Course List below)

SEMESTER TOTAL	6
CERTIFICATE TOTAL	30

Note: Certificate total hours may not include prerequisites.

CAREER COURSE LIST

HVA 103	Power Energy - Commercial Refrigeration	2
HVA 104	Power Energy - Air Conditioning I	4
HVA 105	Power Energy - Air Conditioning II	4
HVA 108	Refrigeration Controls	4
HVA 109	Ventilating and Duct Fabrication	4
HVA 110	Forced Air and Hydronic Heating	4
HVA 111	Applied Electricity in Air Conditioning and Heating	3
HVA 112	Refrigerant Recovery, Recycling and Reclamation	2
HVA 113	Refrigeration Code and Regulations	2
HVA 114	Heating Code and Regulations	2
HVA 201	Introduction to Boiler Plant Maintenance	3
HVA 202	Steam I	3
HVA 203	Steam II	3
HVA 204	Boiler Room Accessories	3

Heating, Ventilation and Air Conditioning
Program: Associate of Applied Science
Recommended Sequence of Courses

CR. No. COURSE TITLE CREDITS

SEMESTER 1

HVA 101	Basic Refrigeration	4
HVA 102	Hermetic Systems	2
HVA 106	Basic Heating	4
HVA 107	Heating Control	2
ENG 119	English I	3
SEMESTER TOTAL		15

SEMESTER 2

HVA 103	Power Energy - Commercial Refrigeration	2
HVA 108	Refrigeration Controls	4
HVA 104	Power Energy - Air Conditioning I	4
HVA 105	Power Energy - Air Conditioning II	4
SEMESTER TOTAL		14

SEMESTER 3

HVA 112	Refrigerant Recovery, Recycling and Reclamation	2
HVA 113	Refrigeration: Code and Regulations	2
HVA 114	Heating Code and Regulations	2
PS 101	American Government	3
Elective:	English	3
SEMESTER TOTAL		12

SEMESTER 4

HVA 110	Forced Air and Hydronic Heating	4
HVA 111	Applied Electricity in Air Conditioning and Heating	3
HVA 201	Introduction to Boiler Plant Maintenance	3
Elective:	HVA or DRT Course	3
SEMESTER TOTAL		13

SEMESTER 5

Elective:	HVA or DRT Course	3
Elective:	Natural Science with a Lab	4
Elective:	Social Science	3
Elective:	Humanities	3
SEMESTER TOTAL		13
PROGRAM TOTAL		67

Note: Program total hours may not include prerequisites.

HEAVY EQUIPMENT MAINTENANCE TECHNOLOGY

- College Certificate
Associate of Applied Science

About the Program

The Heavy Equipment Maintenance Technology Associate of Applied Science degree and College Certificate programs are for today's diesel industry. Trucking is a growing industry in the U.S., and all areas of the diesel industry are experiencing shortages of qualified technicians. Students learn to repair engines, transmissions and drivelines. Students will study electrical, electronic, hydraulic, fuel, brake, air conditioning, transport and refrigeration systems. The curriculum includes suspension adjustment, wheel alignments, the performance of maintenance and tune-ups.

This program offers two options:

Associate of Applied Science: **66-67** credit hours
College Certificate: **30** credit hours

Program Goals

- To teach and prepare students as diesel and heavy equipment repair technicians.

Program Outcomes

- Students will be able to apply the critical thinking, technical and applied skills training to the repair of diesel and heavy ground vehicles.
- Identify function, read diagrams and manufacturer specifications, inspect, diagnose problems, replace/repair and service all major components of heavy duty equipment and vehicles.
- Integrate knowledge from diverse areas to develop effective diagnostic and repair strategies involving complex systems for heavy equipment and machinery
- Understand and articulate the regulations governing Occupational Safety and Health Administration (OSHA) standards and demonstrate safety procedures relating to the individual, pedestrian and equipment safety.

- Utilize effective use verbal and written communication skills as a team member.
- Prepare students for successful completion to pass national exams, related to the profession, with a 70% proficiency rate or higher.

Certificate Goals

- To provide students a basic foundation in diesel and heavy equipment repair.

Certificate Outcomes

- Demonstrate technical and applied skills in the repair of diesel and heavy ground vehicles.
- Identify function, read diagrams and manufacturer specifications, inspect, diagnose problems, replace/repair and service all major components of heavy duty equipment and vehicles.
- Understand and articulate the regulations governing Occupational Safety and Health Administration (OSHA) standards and demonstrate safety procedures relating to the individual, pedestrian and equipment safety.
- Prepare students for successful completion to pass national exams, related to the profession, with a 70% proficiency rate or higher.

Admission Requirements

Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Declare a program intent on the WCCCD admission application or change the program intent at the campus admission office.
- Fulfill course placement requirements based on COMPASS test.
- Students must complete requirements WCCCD program admission applications during the semester they are enrolled in any of the HEM courses and turn in the program admissions application to the Campus Academic Officer.

Degree Requirements

- Students must complete all course work with a grade of “C” or better to meet graduation requirements.

Heavy Equipment Maintenance Technology: College Certificate

Recommended Sequence of Courses

CAREER COURSES

(Any 30 credits from the following Career Course List)

HEM 101	Diesel Engine I	5
HEM 110	Diesel Engine II	5
HEM 111	Suspension & Steering	6
HEM 112	Brakes	7
HEM 116	Vehicle (Mobile) Hydraulics	3
HEM 224	Drive Train Fieldwork Experience	2
HEM 225	Heating, Ventilation & Air Conditioning	2
HEM 121	Electrical/Electronic System I	5
HEM 122	Electrical/Electronic System II	5
HEM 123	Preventive Maintenance	7
HEM 124	Drive Train	7
HEM 125	Heating, Ventilation & A/C	6
HEM 200	Diesel Engine III	5
HEM 202	Electrical/Electronic System III	5
HEM 210	Diesel Engine Fieldwork Experience	2
HEM 211	Suspension & Steering Fieldwork	2
HEM 212	Brakes Fieldwork Experience	2
HEM 222	Electrical/Electronic Systems Fieldwork Experience	2
HEM 223	Preventive Maintenance Fieldwork Experience	2
CERTIFICATE TOTAL		.30

Note: Certificate total hours may not include prerequisites.

Heavy Equipment Maintenance Technology: Associate of Applied Science Recommended Sequence of Courses

CR. No. COURSE TITLE CREDITS

SEMESTER 1

HEM 101	Diesel Engine I	5
HEM 121	Electrical/Electronic System I	5
ENG 119	English I	3
SEMESTER TOTAL		13

SEMESTER 2

HEM 110	Diesel Engine II	5
HEM 122	Electrical/Electronic System II	5
Elective:	English	3
SEMESTER TOTAL		13

SEMESTER 3

HEM 200	Diesel Engine III	5
HEM 112	Brakes	7
PS 101	American Government	3
SEMESTER TOTAL		15

SEMESTER 4

Elective:	HEM Career Course	7
Elective:	HEM Career Course	5
Elective:	Humanities	3
SEMESTER TOTAL		15

SEMESTER 5

Elective:	HEM Career Course	2
Elective:	HEM Career Course	2
Elective:	Natural Science Requirement	4
Elective:	Social Science Requirement	3
SEMESTER TOTAL		11
PROGRAM TOTAL		67

Note: Program total hours may not include prerequisites.

HEMODIALYSIS PATIENT CARE SPECIALIST

- College Certificate

About the Program

The Hemodialysis Patient Care Specialist College Certificate program is offered as a certificate option for students admitted into the HPCS program.

Students will be trained to help patients with chronic kidney disease (CKD) receive safe and effective dialysis. Students will learn what dialysis, how it was developed, how to ensure high-quality care for patients and how to perform and carry out their duties in a professional manner.

A student's educational experience includes both classroom course work (didactic) and practical (clinical) instruction in a peri-operative environment. Upon successful completion of the Hemodialysis Patient Care Specialist Program, students will receive a certificate of completion from WCCCD and be eligible to sit for the national certification exam.

Note: Enrollment in the Hemodialysis Patient Care Specialist Program is limited to 15 students per year due to the number of clinical - learner positions available at each of the clinical settings.

Career Potential

Hemodialysis Patient Care Specialist in either a hospital or out-patient center including ambulatory surgical centers.

Certificate Goals

- To prepare students for patient care roles in a Hemodialysis unit.

Certificate Outcomes

- Students will be able to assist in the care of patients undergoing Hemodialysis treatment under the proper supervision of an attending health care professional.
- Students will be able to apply proper techniques to successfully handle and monitor patients undergoing Hemodialysis therapy.
- Proficiently perform basic laboratory testing procedures under appropriate supervision.
- Effectively utilize appropriate personal protective devices and techniques to operate safely in a healthcare environment.
- Effectively use computer software programs and technology, in a healthcare setting, to accomplish tasks of the profession.
- Effective use of written, oral and interpersonal communication skills when interacting with patients, clients and healthcare professionals.
- Understand, articulate and adhere to all ethical standards, moral and legal practices governing the profession.

Admission Requirements

Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Hemodialysis Patient Care Specialist: College Certificate

Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
CERTIFICATE PREREQUISITES		
ENG 119	English I	3
BUS 225	Computer Application in Business	3
EMT 105	Medical First Responder	3
PLB 100	Phlebotomy Fundamentals	3
SEMESTER TOTAL		12
SEMESTER 1		
HMD 110	Hemodialysis Terms & Principals	3
HMD 120	Anatomy and Physiology of the Kidney & Urinary System	3
HMD 130	Surgical Principles of Peritoneal & Vascular Access	3
SEMESTER TOTAL		9
SEMESTER 2		
HMD 140	Hemodialysis Patient Care Management	3
HMD 150	Hemodialysis Machine Setup & Maintenance (Laboratory)	4
ALH 230	Medical Ethics	3
SEMESTER TOTAL		10
SEMESTER 3		
HMD 160	Hemodialysis Clinical Pharmacology	3
HMD 170	Hemodialysis Clinical Practicum (360 contact hours)	9
SEMESTER TOTAL		9
CERTIFICATE TOTAL		40
* Certificate total hours may not include prerequisites.		

HOMELAND SECURITY

- College Certificate

About the Program

The Homeland Security College Certificate Program is designed to provide a comprehensive overview of the roots of terrorism and various international and national historic examples to understand this complex problem. Focusing on converting theory and awareness into pragmatic strategies designed to help practitioners develop informed responses to the threat of terrorism. The program will emphasis on the public, private, and legal responses to this threat and specific skills designed to help students respond strategically to real situation emergencies. Students will apply their knowledge and skills to develop specific plans at the local level to enhance public awareness and local security.

The Homeland Certificate Program in Homeland Security is designed for managers, administrators, officers and those responsible for developing and implementing strategies and procedures in Homeland Security.

College Certificate Goals

- To educate and prepare students and in-service emergency management providers on how to mitigate human physical consequences of natural and technological disasters.
- To teach and provide a general foundation of the field of homeland security management as a precursor towards the associate in applied science degree.

Continued on next page.

HOMELAND SECURITY continued

College Certificate Outcomes

- Students will be able to apply critical thinking and decision-making concepts to emergency and disaster management issues.
- Demonstrate knowledge of critical thinking concepts to adapt intervention and assessment skills to support and supervise comprehensive, integrated and effective management in the event of natural, system-wide, or human-induced crisis.
- Develop competence in applying a code of behavior consistent with the professional attitudes and ethical standards expected of homeland security management professionals.
- Demonstrate an understanding of the importance of maintaining effective communication and collaborative relationships with all federal, state and local criminal justice organizations, human service agencies, area communities and community-based organizations.

Admission Requirements

Students are admitted to the program each semester. Students must have program approval, a completed application, and other required information submitted by the due date. If there are openings after the application deadline, remaining openings will be filled on a “first-come” basis.

To be admitted into the Homeland Security certificate program Students must:

- Fulfill all WCCCD admission requirements.
- Declare program intent on the WCCCD admission application or change program intent at the campus admission office.
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD program admission applications during the semester they are first HLS course and then submit the program application to the Campus Chief Academic Officer.

Certificate Requirements

- Students must complete all course work with a grade of “C” or better to meet graduation requirements.

Homeland Security Certificate Program Recommended Sequence of Courses

SEMESTER 1

HLS 100	Introduction to Homeland Security	3
HLS 101	Introduction to Terrorism	3
HLS 201	Introduction to Intelligence	3
HLS 202	Homeland Security Emergency Management	3
HLS 203	Counterterrorism for First Responders	3
SEMESTER TOTAL		15

SEMESTER 2

CAREER COURSES

(Select 15 credit hours from the list below)

CJS 100	Introduction to Criminal Justice . . .	3
LEA 201	Introduction to Law Enforcement	3
LEA 230	Introduction to Criminal Investigation	3
EMT 105	Medical First Responder	3
FPT 150	Principles of Emergency Service . . .	3
HLS 102	Business and Industry Crisis Management	3
HLS 103	Emergency Management Principles and Application for Tourism, Hospitality and Travel Management Industries	3
HLS 104	Terrorism and Emergency Management Course	3
HLS 105	Hazards Risk Management	3
SEMESTER TOTAL		15
CERTIFICATE TOTAL		30

Note: Certificate total hours may not include prerequisites.

HOTEL AND RESTAURANT MANAGEMENT

- College Certificate

About the Program

The Hotel and Restaurant Management College Certificate program prepares students for immediate employment in the hotel industry. Students will learn about the different departments within the hotel. The areas of front desk, food and beverage, housekeeping, facility management, catering and sales will be explored. The course objectives are reached by the use of case analysis, technology, leadership and marketing training. The Hotel and Restaurant Management Program is designed to prepare students for a broad range of positions across the hospitality industry. This is a **31** credit hour college certificate.

College Certificate Goals

- To prepare students for careers in the hospitality field by providing a foundation for advancement and professional development.

College Certificate Outcomes

- Students will be able to perform all entry-level functions in the rooms division, housekeeping area and food and beverage service departments.
- Apply knowledge of the hospitality industry, within a specific career track within the industry, and demonstrate the unique professional requirements pursuant to a successful career.
- Communicate effectively using written, oral and nonverbal skills including the use of technology in the gathering and presenting of information.
- Interpret and analyze information to engage critical thinking and problem solving with regard to business performance of hospitality operations and budgeting.
- Understand, articulate and demonstrate the

practice of ethical, legal and safe professional behavior.

- Demonstrate effective and competent use of necessary computer and software systems specific to the industry.
- Knowledge and application of accounting principles, including, but not limited to budgets, labor, menu planning and inventories.
- Demonstrate knowledge of and proficiency in completing security audits.
- Demonstrates and presents an image of a self-confident, knowledgeable employee with excellent interpersonal skills interacting with guests, clients, and colleagues.

Admission Requirements

Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Possess a high school diploma or GED.
- Submit a transcript (copy) of grades earned for transfer in any course completed at WCCCD.
- Declare intent to enter this program on the WCCCD Application for Admission or change intent at the Admissions Office.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer.
- Fulfill course placement requirements based on COMPASS test.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

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HOTEL AND RESTAURANT MANAGEMENT continued

Hotel and Restaurant Management:
College Certificate
Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
HTM 105	Introduction to Hotel & Restaurant Management	3
ACC 110	Principles of Accounting	4
MKT 200	Principles of Marketing	3
HTM 210	Customer Service Management	3
SEMESTER TOTAL		13
SEMESTER 2		
HTM 106	Hotel & Restaurant Management	3
BUS 225	Computer Applications in Business	3
HTM 200	Hotel and Restaurant Operations	3
SEMESTER TOTAL		9
SEMESTER 3		
HTM 225	Special Events and Catering Management	3
HTM 299	Hotel Management Practicum ...	3
FSM 115	Food Safety and Sanitation	3
SEMESTER TOTAL		9
CERTIFICATE TOTAL CREDITS		31

Note: Certificate total hours may not include prerequisites.

INDUSTRIAL COMPUTER GRAPHICS TECHNOLOGY

• College Certificate
Associate of Applied Science Degree

About the Program

The Industrial Computer Graphics Technology program provides students with career-based training in mechanical design using computer-aided drafting/design technology. To provide the necessary technical education base, the program also includes education and training in applied technical mathematics, engineering drawing, and geometric dimensioning and tolerance skills. Basic training in computer technology is included to prepare students for the two-dimensional, three-dimensional and solid modeling computer-aided design technology in the program.

All technical manufacturing and engineering design in today's high-technology business and industry uses computer-based, computer-aided design technologies that integrate the design, engineering and manufacturing design analysis, and manufacturing of complex products and product parts, subassemblies, and assemblies into a single, technically coherent process.

The Industrial Computer Graphics Technology program provides the skills and knowledge required for entry-level employment in industrial drafting, computer-aided drafting, and mechanical design fields. Emphasis is placed on the applications, procedures and techniques of principles involved in industrial drafting and design techniques. Areas include layouts and detailing in product design, tool design, die design, machine design, and advanced computer-aided design. Laboratory work in an integral part of the program for all technical courses.

This program offers:

Associate of Applied Science: 63 credit hours

College Certificate: 30 credit hours

Program Goals

- To provide students a foundation of the basic principles of mechanical design technology utilizing computer integration in the manufacturing industry.
- To teach students knowledge in producing engineering drawings related to manufacturing.

Program Outcomes

- Students will be able to utilize computer based simulation and programming tools for system design and analysis.
- Demonstrate and apply knowledge of machines' principles and operation, tools and materials, requisite mathematics and physics, to select operations parameters in order to program, setup, and operate production manufacturing equipment.
- Demonstrate and apply knowledge of machines' principles and operation, tools and materials, requisite mathematics and physics, to select operations parameters to troubleshoot and diagnose both numerically/computer numerically (NC/CNC) controlled machines and programmable logic controlled (PLC) equipment.
- Demonstrate and apply knowledge of material science, machining tolerances, blueprint/schematics, and hands on skills in welding, burning, pipefitting, rigging, the use of basic hand tools and mobile equipment for the fabrication of designed parts incorporating accepted industry methods.
- Demonstrate knowledge and application of the principles of drafting, the communication of ideas, designs and visualization skills as the language of the engineering field, including the creation and interpretation of drawings using proper

dimensioning and tolerancing for size and geometry, use of computer-aided drawing programs to incorporate proper industry acceptable standards and conventions.

- Apply the basic principles of equipment maintenance, troubleshooting and problem solving techniques to maintain industrial machines that ensures the production of quality products.
- Incorporate safety awareness, principles and practices of machine safety, environmental safety, chemical safety and persona/employee protection.

Certificate Goals

- To provide students a basic foundation of the principles of mechanical design technology in the manufacturing industry.

Certificate Outcomes

- Demonstrate and apply knowledge of machines' principles and operation, tools and materials to program, setup, and operate production manufacturing equipment.
- Demonstrate and apply knowledge of machines' principles and operation, tools and materials, requisite mathematics and physics, to select operations parameters to troubleshoot and diagnose both numerically/computer numerically (NC/CNC) controlled machines and programmable logic controlled (PLC) equipment.
- Apply the basic principles of equipment maintenance, troubleshooting and problem solving techniques to maintain industrial machines that ensures the production of quality products.
- Incorporate safety awareness, principles and practices of machine safety, environmental safety, chemical safety and persona/employee protection.

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INDUSTRIAL COMPUTER GRAPHICS TECHNOLOGY

continued

Admission Requirements

Individuals interested in the Industrial Computer Graphics Technology program are required to fulfill the following requirements:

- Fulfill all WCCCD college admission requirements
- Declare intent to enter the Computer Graphics Technology program on the WCCCD Application for Admission or change intent at the Admissions Office.
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer during the semester they are enrolled in CAD 101, Fundamentals of Computer Aided Drafting (4 credits) or CAD 110, Introduction to NX CAD/CAM (4 credits).

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Industrial Computer Graphics Technology: College Certificate Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
DRT 101	Blueprint Reading	3
CAD 101	Fundamentals of Computer Aided Drafting	4
----OR----		
CAD 110	Introduction to NX CAD/CAM	4
MAT 121	Technical Mathematics I	3
MAN 110	Manufacturing Processes I	3
SEMESTER TOTAL		13

SEMESTER 2

DRT 102	Fundamentals of Mechanical Drawing	4
CAD 102	Advanced Computer Aided Drafting	4
----OR----		
CAD 222	NX Solids Modeling	4
ENG 119	English I	3
SEMESTER TOTAL		11

SEMESTER 3

DRT 112	Technical Drawing Applications	3
DRT 113	Descriptive Geometry	3
SEMESTER TOTAL		6
CERTIFICATE TOTAL		30

Note: Certificate total hours may not include prerequisites.

Industrial Computer Graphics Technology: Associate of Applied Science Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
DRT 101	Blueprint Reading	3
CAD 101	Fundamentals of Computer Aided Drafting	4
----OR----		
CAD 110	Introduction to Unigraphics CAD/CAM	4
MAT 121	Technical Mathematics I	3
Elective: Other	. . . . .	4
MAN 110	Manufacturing Processes I	3
SEMESTER TOTAL		17

SEMESTER 2

DRT 102	Fundamentals of Mechanical Drawing	4
Elective: Other	. . . . .	3
CAD 102	Advanced Computer Aided Drafting	4
----OR----		
CAD 222	Unigraphics Solids Modeling	4
ENG 119	English I	3
SEMESTER TOTAL		14

SEMESTER 3

DRT 112	Technical Drawing Applications	.3
DRT 113	Descriptive Geometry	.3
CAD 121	Tool & Fixture Detailing	.4
CAD 203	CAD Applications	.4
	----OR----	
CAD 224	Unigraphics Assembly/ Components/Drafting	.4
MAT 122	Technical Mathematics II	.3
SEMESTER TOTAL		.17

SEMESTER 4

CAD 211	Die Design and Panel Tipping	.4
DRT 115	Geometric Dimensioning Tolerancing	.2
ENG 134	Technical Communications	.3
PS 101	American Government	.3
Elective:	Humanities	.3
SEMESTER TOTAL		.15
PROGRAM TOTAL		.63

**Total hours may not include prerequisites.*

INTERNATIONAL BUSINESS

- College Certificate

About the Program

The International Business College Certificate program provides students with the technical skills for entry-level positions as specialists in exporting and importing for the significant and growing international trade community. Most students pursue a career in import-export trading, international transportation and logistics, global supply chain management, international marketing, or various international business support services. The program offers courses that can prepare students to take the National Association of Small Business International Trade Educators Certified Global Business Professional Exam.

College Certificate Goals

- To teach students an applied knowledge of global concepts to assist an organizations international strategy.
- To prepare students to successfully pass the National Association of Small Business International Trade Educators Certified Global Business Professional Exam.

College Certificate Outcomes

- Students will be able to apply knowledge of global concepts including geography, current affairs, history, travel and infrastructures to assist an organization's international strategy.
- To prepare students to successfully pass the National Association of Small Business International Trade Educators Certified Global Business Professional Exam with proficiency score of 70% or higher.
- Use listening, verbal, non-verbal, written and appropriate cross-cultural communication skills utilizing appropriate technology with internal and external stakeholders to meet an organization's global objectives.

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INTERNATIONAL BUSINESS continued

- Effectively utilize personal management skills such as project management, organization, leadership, professionalism, networking and time management to meet or exceed an organization's global objectives.
- Use various international systems, certification, standards and software to maximize the efficiency of today's global trade environment.
- Use listening, verbal, non-verbal, written and appropriate cross-cultural communication skills utilizing appropriate technology with internal and external stakeholders to meet an organization's global objectives.

Admission Requirements

Students are admitted to the program each year for the Fall, Spring and Summer semesters. Students must have the Programs' approval, a completed application, and other required information submitted by the due date. If there are openings after the application deadline, any remaining openings will be filled on a "first-come" basis to qualified applicants. Students are required to do the following:

- Fulfill all WCCCD admission requirements.
- Declare intent to enter the International Business Program.
- Fulfill course placement requirements based on the COMPASS test.
- Must be 18 years of age and possess a high school diploma or GED (copy required).

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

International Business: College Certificate Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
BUS 240	Business Communication	3
MAT 110	Business Mathematics	3
ENG 119	English I	3
SEMESTER TOTAL		9

SEMESTER 2

BUS 225	Computer Application in Business	3
ACC 110	Principals of Accounting I	3
BUS 150	Introduction to Business	3
SEMESTER TOTAL		9

SEMESTER 3

BUS 155	Intro to International Business and Trade	3
MBT 210	International Management	3
GEO 202	World Regional Geography	3
SEMESTER TOTAL		9
CERTIFICATE TOTAL		27

Note: Certificate total hours may not include prerequisites.

LIBRARY TECHNOLOGY

- College Certificate

About the Program

The Library Technology Certificate program prepares students for employment in the library industry. Students will learn about the different departments, library types and issues within library science. The areas of service including circulation, reference and technical services will all be explored. The course objectives are reached by the use of case analysis, research papers, technology, tours and group projects. This program offers: WCCCD certificate – 30 credit hours.

College Certificate Goals

- To provide skills for paraprofessional technicians in library and information services as a foundation of exploring the elements within library science and the community it serves.
- To enable students to critically explore and understand the roles of information technologies and resources as it relates to information access, retrieval and dissemination.

College Certificate Outcomes

- Students will be able to evaluate oral, written, graphic and electronic communication used in library and information services.
- Apply knowledge of basic technology skills including online computer automation systems; productivity software, Internet, and database searching.
- Identify, define and describe basic reference, information resource and referral procedures.
- Demonstrate mastery of, apply critical thinking solutions to and explain basic library classification systems, their use and how to catalog and retrieve materials.
- Analyze and evaluate information and utilize a variety of resources in making decisions or solving problems.
- Demonstrate appropriate methods and

techniques for material processing, storage and preservation.

Admission Requirements

- Fulfill all WCCCD admissions requirements.
- Declare intent to enter this program on the WCCCD Application for Admission or change intent at the Admissions Office.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer.
- Fulfill course placement requirements based on the COMPASS Test.

Certificate Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Library Technology: College Certificate Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
BUS 225	Computer Applications in Business	3
ENG 119	English I	3
LBT 100	Introduction to Libraries and Service	3
SEMESTER TOTAL		9
SEMESTER 2		
ENG 120	English II	3
LBT 105	Library Technical Services and Acquisitions	3
LBT 200	Evaluating Information Sources ..	3
LBT 210	Library Technology	3
SEMESTER TOTAL		12
SEMESTER 3		
ENG 285	Children's Literature	3
LBT 215	Introduction to Media Management and Service	3
LBT 220	Library Internship	3
SPH 101	Fundamentals of Speech	3
SEMESTER TOTAL		12
PROGRAM TOTAL		33

Note: Certificate total hours may not include prerequisites.

LOGISTICS MANAGEMENT

- College Certificate

About the Program

Logistics Management College Certificate program is a unique business management program that prepares graduates for employment in the areas of logistics management, inventory control, materials management, and distribution. The field of logistics management includes occupations such as supervisors and/or managers of transportation, storage, and/or distribution; helpers, laborers, and/or hand material movers; and transportation / machine and vehicle material movers.

The program combines core education courses with specific occupational courses in the area of customer service, supervision, supply chain management and logistics which are designed to provide an overview of the process from product idea conception to the delivery of the product to the consumer.

College Certificate Goals

- To provide foundational understanding of the logistics support process as it pertains to product management and consumer distribution.

College Certificate Outcomes

- Students will be able to utilize purchasing vocabulary and marketing concepts related to source selection, pricing, quality, and negotiating strategies to effectively procure goods and services.
- Demonstrate, establish and maintain systems to track and control inventory.
- Evaluate and effectively translate oral, written and electronic communication in a variety of business and manufacturing environments.

Admission Requirements

Students are admitted to the program each year for the Fall, Spring, and Summer semesters. Students must have the Director's approval, a completed application, and other required information submitted by the due date. If there are openings after the application deadline, they will be filled on a "first come" basis by qualified applicants.

- Fulfill all WCCCD admission requirements.
- Declare intent to enter the Logistics Management Technology program on the WCCCD Application for Admission.
- Must be 18 years old on the first day of class.
- Fulfill course placement requirements based on COMPASS test or completed 12 credits or more of college courses with a grade of a "C" or better.

Certificate Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

**Logistics Management: College Certificate
Recommended Sequence of Courses**

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
BUS 150	Introduction to Business	3
LOG 101	Introduction to Logistics	3
MGT 205	Management Principles	3
MKT 200	Principles of Marketing	3
SEMESTER TOTAL		12
SEMESTER 2		
CIS 110	Introduction to Computer Information Systems	4
LOG 102	Purchasing	3
LOG 103	Introduction to Supply Chain Management	3
LOG 104	Materials Management	3
SEMESTER TOTAL		13
SEMESTER 3		
LOG 105	Inventory and Warehouse Management	3
LOG 110	Transportation and Distribution .	3
LOG 200	International Logistics	3
SEMESTER TOTAL		9
CERTIFICATE TOTAL		34

Note: Certificate total hours may not include prerequisites.

MACHINE TOOL TECHNOLOGY

- College Certificate
- Associate of Applied Science Degree

About the Program

The Machine Tool Technology Associate of Applied Science degree and College Certificate programs are designed for students who will be employed in metal manufacturing related occupations. Program content will cover orientation to manufacturing, industrial blueprint reading, basic math, measurement, bench work and material science. Industrial safety will be emphasized. Operation of lathes, mills, saws, drill presses and other machine tools will be included.

This program offers:

Associate of Applied Science: **64** credit hours
College Certificate: **32** credit hours

Program Goals

- To prepare students for employment in the manufacturing and machine tool industry through applied knowledge of machine capabilities, material properties and computer assisted design/computer assisted manufacturing (CAD/CAM) software and its applications.
- To teach students the basic principles of industrial safety as it applies to tool operations.
- To prepare students for individual credentialing by recognized skill standards established by companies involved in various metal manufacturing trades.

Program Outcomes

- Students will be able to read, interpret and apply blueprints for production and inspection of manufactured work pieces with a 70% or better accuracy rate.
- Demonstrate setup and operation of conventional machine tools.
- Describe and demonstrate the correct application and use of precision measuring equipment commonly found in a manufacturing setting.

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MACHINE TOOL TECHNOLOGY
continued

- Accurately perform technical math calculations (algebra, trigonometry) to establish machining conditions.
- Plan and produce accurate work pieces on a manual drill press, manual engine lathe and milling machine to required blueprint specifications using common industry methods.
- Demonstrate, explain and apply CNC/CAD/CAM machine tools and software to produce work pieces to required blueprint specifications.
- Read and comprehend technical manuals and written work instructions.
- Describe and apply occupational health and safety standards (OSHA) related to the safe work habits related to the machine tool and manufacturing industry.
- Evaluate machined components utilizing current ASME standards.

Certificate Goals

- To teach students the basic principles of industrial safety as it applies to tool operations.
- To prepare students for individual credentialing by recognized skill standards established by companies involved in various metal manufacturing trades.

Certificate Outcomes

- Students will be able to read, interpret and apply blueprints for production and inspection of manufactured work pieces with a 70% or better accuracy rate.
- Demonstrate setup and operation of conventional machine tools.
- Describe and demonstrate the correct application and use of precision measuring equipment commonly found in a manufacturing setting.
- Read and comprehend technical manuals and written work instructions.

- Describe and apply occupational health and safety standards (OSHA) related to the safe work habits related to the machine tool and manufacturing industry.
- Evaluate machined components utilizing current ASME standards.

Admission Requirements

Individuals interested in the Machine Tool Technology program are required to fulfill the following requirements:

- Complete all College Admission Requirements.
- Declare their intent to enter the Machine Tool Technology program on the WCCCD Application for Admission or change their intent within the Admission Office.
- Course placement requirements based on COMPASS test results.
- Students must complete WCCCD Program Application during the semester they are enrolled in MAN 100, Shop Equipment & Tools and submit to the Campus Academic Officer.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Machine Tool Technology: College Certificate Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
DRT 101	Blueprint Reading	3
ENG 119	English I	3
MAN 100	Shop Equipment & Tools	3
CAD 101	Fundamentals of Computer Aided Drafting	4
SEMESTER TOTAL		13
SEMESTER 2		
DRT 102	Fundamentals of Mechanical Drawing	4
MAN 110	Manufacturing Processes I	3
MAT 121	Technical Mathematics I	3
NC 111	Numerical Control Concepts	3
SEMESTER TOTAL		13

SEMESTER 3

MAT 122	Technical Mathematics II	3
NC 222	CNC Machining & Programming I	3
SEMESTER TOTAL		6
CERTIFICATE TOTAL		32

Note: Certificate total hours may not include prerequisites.

Machine Tool Technology:**Associate of Applied Science Degree****Recommended Sequence of Courses****SEMESTER 1**

DRT 101	Blueprint Reading	3
ENG 119	English I	3
MAN 100	Shop Equipment & Tools	3
NC 111	Numerical Control Concepts	3
SEMESTER TOTAL		12

SEMESTER 2

DRT 102	Fundamentals of Mechanical Drawing	4
ENG 134	Technical Communications	3
MAN 110	Manufacturing Processes I	3
NC 222	CNC Machining & Programming I	3
SEMESTER TOTAL		13

SEMESTER 3

DRT 115	Geometric Dimensioning Tolerancing	2
MAN 210	Nontraditional Manufacturing	3
MAT 121	Technical Mathematics I	3
NC 230	CNC Machining Center Operations & Graphics I	3
PS 101	American Government	3
SEMESTER TOTAL		14

SEMESTER 4

CAD 101	Fundamentals of Computer- Aided Drafting	4
MAT 122	Technical Mathematics II	3
MHT 260	Machine Shop I	4
Elective:	DRT, MHT or NC	3
SEMESTER TOTAL		14

SEMESTER 5

Elective:	DRT, MHT or NC	3
MHT 270	Machine Shop II	4
Elective:	Natural Science with a Lab	4
LS 204	Occupational Safety & Health	3
SEMESTER TOTAL		14
PROGRAM TOTAL		67

Note: Program total hours may not include prerequisites.

MANUFACTURING TECHNOLOGY

Associate of Applied Science Degree

About the Program

The Manufacturing Technology Associate of Applied Science program provides instruction that allows students to become familiar with and use the tools, materials, and processes needed in the manufacturing phase of industry. Students are also exposed to occupations in the manufacturing field. Program courses cover structure of industry, elements of manufacturing, mass production and automation, primary metals industry, casting metal, forging and forming metal, measuring and layout (English and/or metric), machining and finishing metal, fastening and finishing metal, cutting and shaping, assembling and finishing, and opportunities in manufacturing. Each unit includes specific objectives, student competencies and related student activities.

Program Goals

- To teach the skills necessary for the interpretation of blueprints and efficient production of manufactured parts using both numerically/computer numerically (NC/CNC) controlled production manufacturing machines and programmable logic controlled (PLC) equipment.

Program Outcomes

- Students will be able to demonstrate and apply knowledge of machining principles to operate, troubleshoot, diagnose both numerically/computer numerically (NC/CNC) controlled production manufacturing machines and programmable logic controlled (PLC) equipment.
- Read, interpret and apply knowledge of blueprint reading for production and inspection of manufactured work pieces with a 70% or better accuracy rate.

- Demonstrate applied knowledge of material science, use of basic hand tools and mobile equipment for the fabrication of designed parts incorporating accepted industry methods.
- Demonstrate applied knowledge of drafting principles, interpretation of drawings and use of computer-aided drawing programs to incorporate proper industry acceptable standards and conventions.
- Perform diagnostic troubleshooting and problem solving techniques to repair and maintain industrial machines that ensures the production of quality products.
- Utilize quality systems, principles, concepts and measurement and statistical tools and technology to improve quality control production and processes.
- Effective use of written, oral and interpersonal communication skills operating as a member of a diverse team of individual support and management.
- Incorporate the safety principles, practices and standards regulations as governed by the profession.

Admission Requirements

Individuals interested in the Manufacturing Technology program are required to fulfill the following requirements:

- College admission requirements.
- Declare their intent to enter the Manufacturing Technology program on the WCCCD Admission Application or change their intent within the admission office.
- Course placement requirements based on COMPASS test results.
- Students must complete WCCCD Program Admission application during the semester they are enrolled in MAN 100, Shop Equipment & Tools and submit to the Campus Academic Officer.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Manufacturing Technology:
Associate of Applied Science
Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
MAN 100	Shop Equipment & Tools	3
NC 111	Numerical Control Concepts . . .	3
DRT 101	Blueprint Reading	3
MAT 121	Technical Mathematics I	3
ENG 119	English I	3
SEMESTER TOTAL		15
SEMESTER 2		
MAN 110	Manufacturing Processes I	3
DRT 102	Fundamentals of Mechanical Drawing	4
CAD 101	Fundamentals of Computer Aided Drafting	4
MAT 122	Technical Mathematics II	3
NC 222	CNC Machining & Programming I	3
SEMESTER TOTAL		17
SEMESTER 3		
NC 231	CNC Turning Center Operation & Graphics I	3
DRT 115	Geometric Dimensioning and Tolerancing	2
IEC 202	Introduction to Robotics	3
IEC 208	Programmable Logic Controllers	3
ENG 134	Technical Communications	3
SEMESTER TOTAL		14
SEMESTER 4		
MAN 200	Quality & Inspection	3
MAN 210	Nontraditional Manufacturing . . .	3
LS 204	Occupational Safety & Health . . .	3
PS 101	American Government	3
MAN 120	Survey of Material Science	3
Elective:	Natural Science OR Social Science	3
SEMESTER TOTAL		18
PROGRAM TOTAL		64

Note: Program total hours may not include prerequisites.

MECHATRONICS TECHNOLOGY

- College Certificate

About the Program

The Mechatronics Technology College Certificate is designed to prepare technicians through cross-training to work in the diverse fields of mechanical, electrical, and industrial automation. Mechatronics technology and industrial automation is a combination of mechanical systems, electrical systems, fluid power control systems and computer control technology with sensors, transducers and actuators which are integrated to perform some facet of manufacturing. Robot sensors, conveyor systems and software are all components of Computer Integrated Manufacturing (CIM) which is an outcome of Mechatronics. Students with this diverse set of skills are better prepared for the evolving manufacturing industry and will be trained to manufacture a product or perform a task with minimal human intervention through automation that best meets the changing needs of a global economy.

Students who complete the program are prepared for work in a variety of industries to include food processing, pulp and paper metals manufacturing and automated warehousing.

Certificate Goals

- To prepare students for employment in the manufacturing industry through applied knowledge of manufacturing a product and/or perform a task with minimal human intervention through automation.

Certificate Outcomes

- Students will be able demonstrate their knowledge and application of mechanical systems, electrical systems, thermal systems and computer control technology to manufacturing technology design problems.
- Identify and demonstrate the ability to analyze and interpret the behavior of a physical system through experimentation.

Continued on next page.

MECHATRONICS TECHNOLOGY
continued

- Utilize computer software and hardware tools to create, predict and develop solutions to manufacturing industrial engineering problems.
- Design, model and manufacture components, systems and/or processes necessary to meet product specifications for a competitive industrial industry.

Admission Requirements

Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer.

Degree Requirements

- Students must complete all course work with a grade of “C” or better to meet graduation requirements.

Mechatronics Technology: College Certificate Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
CT 203	Digital Logic	4
CT 205	Introduction to Microprocessors	3
EE 101	Circuit Analysis and Application I	4
EE 102	Circuit Analysis and Application II	4
SEMESTER TOTAL		15

SEMESTER 2

EE 107	Math for E/E I	4
EE 111	Solid State Devices	3
EE 115	Math for E/E II	4
MCT 202	Mechatronics I – Introduction to Robotics	3
MCT 203	Mechatronics II – Electrical Machinery and Control	3
SEMESTER TOTAL		17

SEMESTER 3

MCT 207	Mechatronics III – Introduction to Hydraulics and Pneumatics	2
MCT 208	Mechatronics IV – Programmable Logic Controllers	3
MCT 212	Mechatronics V – Advanced Robotics	3
MCT 215	Mechatronics VI – Advanced Programmable Logic Controllers	3
SEMESTER TOTAL		11
CERTIFICATE TOTAL		43

Note: Certificate total hours may not include prerequisites.

MENTAL HEALTH

- College Certificate
Associate of Science Degree

About the Program

The Mental Health Associate of Science degree and College Certificate programs studies the fundamentals of mental health with a concentration in such areas as group process, social science, psychopathology and preventive and rehabilitative therapies. Clinical and classroom training familiarizes students with the delivery of services to adult clients. Students also study interviewing techniques and the dynamics of interpersonal relationships. The curriculum is designed for those who desire employment in human service settings.

This program offers:

Associate of Applied Science: 66 credit hours
College Certificate: 47 credit hours

Program Goals

- To prepare students to effectively serve Human Service clients and/or support human service agencies as paraprofessionals.

Program Outcomes

- Students will be able to demonstrate an applied understanding of the mental health profession to include trends in the delivery of human services and effective practices.
- Articulate and understand the history, principles and practices of human service as it applies to the mental health profession.
- Understand the conditions that promote or limit optimal human functioning for individuals, groups, the family, organizations, communities, society and their interaction.
- Demonstrate and apply theories of group dynamics and the role of art and creativity in group and expressive arts therapies.
- Analyze concerns and identify appropriate strategies, services or intervention strategies when developing proper case evaluation plans.
- Effectively communicate in written, verbal

and interpersonal skills when managing information and utilizing data to support client services.

- Understand, articulate and adhere to the professional and ethical care standards and regulations governing the human services profession.

Certificate Goals

- Provide a basic foundation for students to serve Human Service clients and/or support human service agencies as paraprofessionals.

Certificate Outcomes

- Students will be able to demonstrate an applied understanding of the mental health profession to include trends in the delivery of human services and effective practices.
- Identify, analyze and suggest appropriate strategies, services or intervention strategies when developing proper case evaluation plans.
- Effectively communicate in written, verbal and interpersonal skills when managing information and utilizing data to support client services.

Admission Requirements

Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

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MENTAL HEALTH

continued

**Mental Health: College Certificate
Recommended Sequence of Courses**

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
ENG 119	English I	3
HUS 105	Group Expression For Self Growth I	3
HUS 110	Introduction to Human Services	3
PSY 101	Introductory Psychology	3
SEMESTER TOTAL		.12
SEMESTER 2		
HUS 120	Group and Social Process I	3
HUS 135	Professionalism in Human Services	3
MEH 110	Individual & Group Techniques I	3
HUS 206	Recreational & Creative Activities	3
---OR---		
RL 110	Recreational Leadership Techniques	3
SEMESTER TOTAL		.12
SEMESTER 3		
HUS 220	Group and Social Process II	3
MEH 140	Mental Health Legal Information	3
MEH 144	Field Work I: Placement	4
MEH 210	Individual and Group Techniques II	3
SEMESTER TOTAL		.13
SEMESTER 4		
HUS 235	Life-styles of Aging	3
---OR---		
GER 125	Mental Health and the Aging	3
MEH 226	Field Work II: Agency Placement	4
MEH 240	Psychopathology & Behavior I	3
SEMESTER TOTAL		.10
CERTIFICATE TOTAL		.47

Note: Certificate total hours may not include prerequisites.

**Mental Health: Associate of Science
Recommended Sequence of Courses**

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
ENG 119	English I	3
HUS 105	Group Expression For Self Growth I	3
HUS 110	Introduction to Human Services	3
PSY 101	Introductory Psychology	3
SEMESTER TOTAL		.12
SEMESTER 2		
HUS 120	Group and Social Process I	3
HUS 135	Professionalism in Human Services	3
MEH 110	Individual & Group Techniques I	3
HUS 206	Recreational & Creative Activities	3
---OR---		
RL 110	Recreational Leadership Techniques	3
SEMESTER TOTAL		.12
SEMESTER 3		
HUS 220	Group and Social Process II	3
MEH 140	Mental Health Legal Information	3
MEH 144	Field Work I: Placement	4
MEH 210	Individual and Group Techniques II	3
SEMESTER TOTAL		.13
SEMESTER 4		
HUS 235	Life-styles of Aging	3
---OR---		
GER 125	Mental Health and the Aging	3
MEH 226	Field Work II: Agency Placement	4
MEH 240	Psychopathology & Behavior I	3
ENG 120	English II	3
SEMESTER TOTAL		.13
SEMESTER 5		
AAS 131	American Government and the African-American Struggle	3
SPH 101	Fundamentals of Speech	3
Elective:	Humanities	3
Elective:	Natural Science w/Lab	4
Elective:	Social Science	3
SEMESTER TOTAL		.16
PROGRAM TOTAL		.66

Note: Program total hours may not include prerequisites.

NUMERICAL CONTROL TECHNOLOGY

Associate of Applied Science Degree

About the Program

The Numerical Control Technology Associate of Applied Science degree program prepares students for entry level positions as CNC operators or programmers. Progressive, technologically modern companies need well-trained operators and programmers. Students learn modern technological methods of computer numerical control (CNC) machine tool operation, as well as in writing and editing of CNC machine programs. They also learn practical skills such as: machine setup, cutter diameter and length compensation setting, and on-site modification of existing programs. This program offers extensive hands-on machine shop training demanded by industry.

Program Goals

- To prepare students for professional employment in the product development and manufacturing field.
- To instruct students on how to apply critical thinking and analytical problem solving as a machine and tools operator and/or programmer.

Program Outcomes

- Students will be able to accurately interpret and apply blueprint readings.
- Accurately and efficiently operate, write and edit CNC machine programs with a 70% or higher proficiency rate.
- Demonstrate basic knowledge of manufacturing processes.
- Integrate CNC programming and computer-aided drafting graphics and drawings.

Admission Requirements

Individuals interested in the Numerical Control Technology program are required to fulfill the following requirements:

- Complete all College admission requirements.
- Declare their intent to enter the Numerical Control Technology program on the WCCCD Application for Admission or change their intent within the Admission Office.
- Course placement requirements based on COMPASS test results.
- Students must complete WCCCD Program Application during the semester they are enrolled in NC 111, Numerical Control Concepts and submit to the Campus Academic Officer.

Degree Requirements

- Students must complete all core coursework with a grade of "C" or better to meet graduation requirements.

Continued on next page.

NUMERICAL CONTROL TECHNOLOGY continued

Numerical Control Technology:
Associate of Applied Science Degree
Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
DRT 101	Blueprint Reading	3
ENG 119	English I	3
MAN 100	Shop Equipment & Tools	3
NC 111	Numerical Control Concepts	3
SEMESTER TOTAL		12

SEMESTER 2

DRT 102	Fundamentals of Mechanical Drawing	4
ENG 134	Technical Communications	3
MAN 110	Manufacturing Processes I	3
NC 222	CNC Machining & Programming I	3
SEMESTER TOTAL		13

SEMESTER 3

MAT 121	Technical Mathematics I	3
NC 230	CNC Machining Center Operation & Graphics I	3
NC 231	CNC Turning Center Operation & Graphics I	3
PS 101	American Government	3
SEMESTER TOTAL		12

SEMESTER 4

CAD 101	Fundamental of Computer Aided Drafting	4
DRT 115	Geometric Dimensioning Tolerancing	2
NC 234	CNC Machining & Programming II	3
NC 235	CNC Machining & Graphics II	3
SEMESTER TOTAL		12

SEMESTER 5

Elective: Other	6
NC 240	CNC Turning Center Operation & Graphics II
Elective: Natural Science	3
—OR—	
Social Science	3

SEMESTER TOTAL12

PROGRAM TOTAL61

Note: Program total hours may not include prerequisites.

NURSING

Associate of Applied Science Degree

About the Program

The Nursing program at WCCCD offers an Associate of Applied Science degree in Nursing. Graduates of the Nursing program are eligible to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN). Program requirements include specific courses in the nursing major and general education. The Nursing program is designed to prepare graduates to provide nursing care as staff nurses in a variety of health care settings.

Program Goals

The goal of the nursing program is to produce accountable, adaptable generalists who are prepared to successfully take the NCLEX-RN exam and function as registered nurses in diverse care settings.

Program Outcomes

- Students will be able practice nursing with professional accountability.
- Demonstrate communication competency in professional interactions.
- Manage health care resources and use the nursing process to meet the health needs of clients.
- Demonstrate clinical reasoning when planning care for our individuals, families and groups.
- Integrate caring constructs into professional nursing activities.
- Integrate teaching and learning principles into health promotion activities for individuals, families and groups.
- Collaborate with health care team members to promote health of individuals, families and groups.
- Integrate knowledge from nursing and general education courses when providing nursing care to individuals, families and groups throughout the lifespan.
- Outcomes listed are not all-inclusive and are subject to change based on accreditation requirements.

Admission Requirements

Admission is competitive. Selection is based on previous academic performance, test scores, letters of recommendation and fulfillment of admission requirements by deadlines. Students entering this program are required to have either a high school diploma or a General Education Development diploma (GED). Prerequisite courses, the Test of Established Academic Skills (TEAS) and all other admission procedures must be completed before applying to the Nursing Program. This test is offered at WCCCD. Test scores are considered valid for 2 years if scores meet current requirements. The Nursing program admits students twice a year in the Spring and Fall.

Students are required to do the following:

- Fulfill all WCCCD admission requirements.
- Fulfill Nursing Program requirements.
- Pass a background check, drug screen and other health requirements.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Continued on next page.

NURSING continuedNursing: Associate of Applied Science Degree
Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
PREREQUISITE COURSES		
ENG 119	English I	3
BIO 240	Human Anatomy & Physiology I	4
BIO 250	Human Anatomy & Physiology II	4
BIO 295	Microbiology	4
PSY 101	Introductory Psychology	3
PREREQUISITE TOTAL		18

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
DT 130	Introduction to Nutrition	3
HSC 100	Medical Measurements & Mathematics	1
NUR 110	Nursing Foundations – Lecture	2
NUR 111	Nursing Foundations – Lab	2
NUR 118	Physical Assessment	1
NUR 112	Medical/Surgical Nursing I – Lecture and Clinical	4
SEMESTER TOTAL		13

SEMESTER 2

BIO 252	Pathophysiology	4
NUR 114	Obstetric Nursing – Lecture and Clinical	3
NUR 116	Medical/Surgical Nursing II Lecture and Clinical	4
NUR 119	Pharmacology	2
SEMESTER TOTAL		13

SEMESTER 3

PSY 200	Lifespan Development	3
SOC 100	Introduction to Sociology	3
NUR 210	Psychiatric Nursing – Lecture and Clinical	3
NUR 212	Medical/Surgical Nursing III Lecture and Clinical	4
NUR 218	Nursing Issues	1
SEMESTER TOTAL		14

SEMESTER 4

ENG 120	English II	3
Elective:	American Government	3
NUR 214	Pediatric Nursing – Lecture and Clinical	3
NUR 216	Medical/Surgical Nursing IV Lecture and Clinical	4
NUR 219	Nursing Transitions	1
SEMESTER TOTAL		14
PROGRAM TOTAL		72

Note: Program total hours may not include prerequisites.

** Program totals do not include remedial courses.*

OFFICE INFORMATION SYSTEMS: E-BUSINESS

- College Certificate
- Associate of Applied Science Degree

About the Program

The Office Information Systems E-Business Associate of Applied Science degree and College Certificate programs are designed to prepare students for successful careers as administrative assistants, in an E-Business environment. The program will prepare students to be proficient in the use of advanced computer programs, are capable of assuming some decision-making responsibilities, and are qualified to manage a business Web site. Students in e-Business develop a breadth of knowledge related to developing an e-business, including business-to-business (B2B) and business to customer (B2C) initiatives, and understanding the key e-business technologies.

Students are introduced to a variety of topics including assessing technical infrastructure requirements, understanding the impact of evolving legal and regulatory issues, strategies for obtaining funding, management, marketing and selling.

Description: The students obtain the skill needed to understand the e-commerce world, create e-commerce web sites and conduct business online.

This program offers:

- E-Business: Associate of Applied Science: **61** credit hours
- E-Business: College Certificate: **27** credit hours

Program Goals

- To teach student's fundamental marketing and management strategies pertaining to e-business.
- To teach students proficiency in operating key e-business technologies.
- To provide students knowledge of the financial, legal and regulatory issues in e-business.

Program Outcomes

- Students will be able to demonstrate knowledge and competency in marketing and management strategies of e-business.
- Understand and demonstrate proficiency in operating software and equipment related to e-business.
- Demonstrate competency in applying Internet and Web search engine tools for locating information for selected projects.
- Articulate and apply knowledge of marketing and management principles and the ethical, legal and regulatory compliance of e-business practices.
- Demonstrate appropriate competency in interpersonal skills and attitudes for working in a business office environment.

Certificate Goals

- To teach fundamental marketing and management concepts pertaining to e-business

Certificate Outcomes

- Understand issues related to e-business.
- Compare and contrast e-business with traditional business.
- Identify, classify and demonstrate management activities for e-business.
- Identify legal and ethical issues for e-business.

Admission Requirements:

Students are required to do the following:

- Obtain an Education Development Plan (Plan of Work), outlining the student's plan for program completion from an academic advisor.
- Complete 15 credits of required program courses, including BUS 150 or BUS 225.
- Fulfill all WCCCD admission requirements
- Declare intent to enter this program on the WCCCD Application for Admission or change intent at the Admissions Office.
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer.

Continued on next page.

OFFICE INFORMATION SYSTEMS: E-BUSINESS *continued*

Prerequisite Work

Prior to beginning the OIS courses, students must have computer competencies, which include the ability to key text at a minimum rate of 35 words per minute. These skills can be obtained from your life experiences or by completing the following courses such as: OIS 100, OIS 101 and OIS 102.

Program Requirements

- Students for the Office Information Systems program must have the academic preparedness and commitment to meet the rigorous course work for the program.
- Students must follow the Recommended Sequence of Courses AND achieve a grade of "C" or better in all program courses to progress through the program.

**Office Information Systems: E-Business
OIS: E-Business College Certificate
Recommended Sequence of Courses**

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
BUS 150	Introduction to Business	3
CIS 110	Introduction to Computer Information Systems	4
CIS 241	Internet Foundations	4
BL 201	Business Law	4
SEMESTER TOTAL		.15

SEMESTER 2

CIS 250	E-Commerce Strategies and Practices	3
MGT 205	Management Principles	3
MKT 200	Principles of Marketing	3
BUS 228	Internet Web Page Design for Business Applications	3
SEMESTER TOTAL		.12
CERTIFICATE TOTAL		.27

Note: Certificate total hours may not include prerequisites.

**OIS E-Business – Associate of Applied Science Degree
Recommended Sequence of Courses**

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
ENG 119	English I	3
CIS 110	Introduction to Computer Information Systems	4
BUS 150	Introduction to Business	3
SPH 101	Fundamentals of Speech	3
MAT 113	Intermediate Algebra	3
SEMESTER TOTAL		.16

SEMESTER 2

CIS 241	Internet Foundations	4
BUS 225	Computer Application in Business	3
MGT 205	Management Principles	3
PS 101	American Government	3
Elective:	English	3
SEMESTER TOTAL		.16

SEMESTER 3

BUS 228	Internet Web Page Design for Business Applications	3
BL 201	Business Law I	4
Elective:	Social Science	3
Elective:	Other	3
Elective:	Humanities	3
SEMESTER TOTAL		.16

SEMESTER 4

CIS 250	E-Commerce Strategies and Practices	3
MKT 200	Principles of Marketing	3
Elective:	Natural Science w/Lab	4
Elective:	Other	3
SEMESTER TOTAL		.13
PROGRAM TOTAL		.61

Note: Program total hours may not include prerequisites.

OFFICE INFORMATION SYSTEMS: OFFICE SPECIALIST

- College Certificate
- Associate of Applied Science Degree

About the Program

The Office Information Systems Office Specialist Associate of Applied Science degree and College Certificate programs are designed to prepare students for a variety of certifications in the computer related industries. Students currently employed in this field can obtain the skills needed to advance in management positions in their career.

This program offers:

Office Specialist Associate of Applied Science: **61** credit hours
Office Specialist College Certificate: **30** credit hours

Program Goals

- To prepare students as skilled office information specialist, proficient in the operation of state-of-the-art equipment and software.
- To teach students to appropriately utilize and accomplish work-related tasks accurately and proficiently in an office environment.
- To provide students knowledge of the finance and legal aspects of the office environment.
- To provide the foundation to prepare students to successfully pass the Microsoft Office Specialist certification exam administered by an independent Microsoft Office contractor.

Program Outcomes

- Students will be able to successfully pass the Microsoft Office Specialist certification exam, given by an independent Microsoft Office contractor, with a proficiency score of 70% or higher.
- Understand and demonstrate proficiency in applying basic application of Microsoft Office suite applications to manage information and solve problems.

- Demonstrate appropriate competency in interpersonal skills and attitudes for working in a business office environment.
- Select, use and implement Internet and Web search engine tools for locating information for selected projects.
- Apply critical thinking skills to solve problems through creative and appropriate methods.

Certificate Goals

- To prepare students to be proficient in and understand the functionality of Microsoft Office suite applications to manage information and solve problems.

Certificate Outcomes

- Understand and demonstrate competency in applying basic application of Microsoft Office suite applications.
- Apply critical thinking skills to solve problems through creative and appropriate methods.
- Demonstrate knowledge of and ability to implement Internet and Web search engine tools for locating information.

Admission Requirements

Students are required to do the following:

- Obtain an Education Development Plan (Plan of Work), outlining the student's plan for program completion from an academic advisor.
- Complete 15 credits of required program courses, including BUS 150 or BUS 225.
- Fulfill all WCCCD admission requirements
- Declare intent to enter this program on the WCCCD Application for Admission or change intent at the Admissions Office.
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer.

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OFFICE INFORMATION SYSTEMS: OFFICE SPECIALIST
continued

Prerequisite Work

- Prior to beginning the OIS courses, students must have computer competencies, which include the ability to key text at a minimum rate of 35 words per minute. These skills can be obtained from your life experiences or by completing the following courses such as: OIS 100, OIS 101 and OIS 102.

Program Requirements

- Students for the Office Information Systems program must have the academic preparedness and commitment to meet the rigorous course work for the program.
- Students must follow the Recommended Sequence of Courses AND achieve a grade of "C" or better in all program courses to progress through the program.

Office Information Systems: Office Specialist College Certificate

Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
BUS 150	Introduction to Business	3
OIS 227	Desktop Publishing I	3
BUS 225	Business Applications	3
BUS 240	Business Communications	3
OIS 280	Office Administration and Professional Development	3
SEMESTER TOTAL		.15

SEMESTER 2

OIS 228	Desktop Publishing II	3
OIS 251	Microsoft Word Specialist	3
OIS 252	Microsoft Excel Specialist	3
OIS 253	Microsoft PowerPoint Specialist .3	
OIS 254	Microsoft Access Specialist	3
SEMESTER TOTAL		.15
CERTIFICATE TOTAL		.30

Note: Certificate total hours may not include prerequisites.

OIS: Office Specialist: Associate of Applied Science Degree
Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
ENG 119	English I	3
BUS 225	Computer Application in Business	3
BUS 150	Introduction to Business	3
SPH 101	Fundamentals of Speech	3
MAT 113	Intermediate Algebra	3
SEMESTER TOTAL		.15

SEMESTER 2

OIS 227	Desktop Publishing I	3
OIS 280	Office Administration and Professional Development	3
PS 101	American Government	3
Elective:	Social Science	3
Elective:	English	3
SEMESTER TOTAL		.15

SEMESTER 3

OIS 251	Microsoft Word Specialist	3
OIS 252	Microsoft Excel Specialist	3
OIS 228	Desktop Publishing II	3
BUS 240	Business Communication	3
Elective:	. . . . .	3
SEMESTER TOTAL		.15

SEMESTER 4

OIS 253	Microsoft PowerPoint Specialist .3	
OIS 254	Microsoft Access Specialist	3
Elective:	Natural Science w/Lab	4
Elective:	Humanities	3
Elective:	Other	3
SEMESTER TOTAL		.16
PROGRAM TOTAL		.61

Note: Program total hours may not include prerequisites.

PARALEGAL TECHNOLOGY

Associate of Applied Science Degree

About the Program

The Paralegal Technology Associate of Applied Science degree program provides students with the educational background and training required to become a paralegal, legal assistant or legal aide, able to assist a licensed attorney in providing legal services to their clients. The program provides the knowledge and skills regarding the legal system and substantive and procedural law necessary to perform many routine legal processes under the supervision of a licensed attorney.

Program Goals

- To teach students to articulate the needs and goals of clients relevant to the skills required for a paralegal assistant meeting current and future needs and practices.
- Provide students with an understanding of the roles and functions of paralegals in law firms and occupational settings.

Program Outcomes

Students will be able to:

- Define and properly use terminology relating to areas of legal practice including civil, criminal, family, probate and estate, property, tort and business organizations.
- Apply knowledge, critical thinking and skills in legal research, writing, concepts and terminology to interpret and process simple legal documents.
- Critically evaluate and identify legal problems and procedures in various areas of substantive laws.
- Evaluate and respond appropriately to situations requiring legal, moral and ethical judgment, evidence, facts and legal issues.
- Ability to use electronic software programs and technology, relevant to the profession, to conduct research and develop strategies for legal interpretation.

- Understand, articulate and adhere to the ethical regulations and guidelines governing the legal profession.

Admission Requirements

- To be admitted into the Paralegal Technology program students must:
- Fulfill all WCCCD admission requirements.
- Declare program intent on the WCCCD admission application or change program intent at the campus admission office.
- Fulfill course placement requirements based on the COMPASS test.
- Complete and submit the WCCCD Program admission application to the PLT Faculty Discipline Chair or designee.
- Complete the following courses at WCCCD or obtain equivalent transfer credit for the following courses: ENG 119, PS 101, BUS 225, and SPH 101.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Continued on next page.

PARALEGAL TECHNOLOGY

continued

Paralegal Technology:

Associate of Applied Science

Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
ENG 119	English I	3
MAT 113	Intermediate Algebra	3
PLT 105	Legal Interviews and Investigation	3
PLT 120	Legal Research Writing I	3
PLT 135	Professional Responsibility/ Legal Ethics	3
SEMESTER TOTAL		15
SEMESTER 2		
ENG 120	English II	3
SPH 101	Fundamentals of Speech	3
—OR—		
SPH 105	Improving the Speaking Voice . . .	3
PLT 130	Law Office Procedures and Management	3
PLT 140	Business Organization and Corporation Law I	3
PLT 150	Legal Comp & Research II	3
SEMESTER TOTAL		15
SEMESTER 3		
Elective:	Humanities	3
PS 101	American Government	3
PLT 160	General Practice Survey	3
PLT 170	Probate Law and Practice	3
PLT 210	Administrative Law and Procedure	3
Elective:	Social Science	3
SEMESTER TOTAL		18
SEMESTER 4		
Elective:	Natural Science with Lab	4
PLT 220	Criminal Law Practice and Procedure	3
PLT 245	Debtor Relief & Creditor Rights	3
Elective:	Other	6
SEMESTER TOTAL		16
PROGRAM TOTAL		64

Note: Program total hours may not include prerequisites.

PERFORMING ARTS: THEATER

Associate of Arts Degree

About the Program

The Performing Arts-Theatre program offers an Associate of Arts degree to students who want to transfer to a four-year institution of higher learning and for employment and personal enrichment. Students are grounded in the fundamentals of theatre.

Program Goals

- To provide a base curriculum for students desiring an educational and professional career in the Performing Arts.

Program Outcomes

- Demonstrate an understanding of stage production, direction and lighting
- Develop the ability to think critically
- Develop the ability to analyze written and visual texts
- Express in written and spoken form applying multiple theoretical perspectives.

Program Admission Requirements

Students are required to fulfill the following requirements:

- Fulfill all WCCCD admission requirements.
- Declare intent to enter this program on the WCCCD Application for Admission or change intent at the campus Admissions Office.
- Fulfill course placement requirements based on the COMPASS test.
- Students must complete WCCCD Program Application and submit them to the Campus Academic Officer.

Degree Requirements

- Students must complete all core coursework with a grade of "C" or better to meet graduation requirements.

Performing Arts-Theatre: Associate of Arts Degree Requirements

Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
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SEMESTER 1

Elective:	3
ENG 119	English I	3
HUM 102	Introduction to the Performing Arts	3
PSY 101	Introductory Psychology	3
SEMESTER TOTAL	.....	12

SEMESTER 2

ENG 120	English II	3
HUM 141	Introduction to the Theatre	3
Elective:	Math or Science	4
PHL 201	Introduction to Philosophy	3
SEMESTER TOTAL	.....	13

SEMESTER 3

PS 101	American Government	3
ENG 233	Introduction to Drama	3
Elective:	Natural Science	4
SPH 105	Improving the Speaking Voice ..	3
SEMESTER TOTAL	.....	13

SEMESTER 4

Elective:	.....	3
ENG 240	Introduction to Shakespeare	3
HUM 211	Music Appreciation	3
SPH 111	Interpretive Readings	3
THEA 151	Introduction to Acting	3
SEMESTER TOTAL	.....	15

SEMESTER 5

ENG 280	Creative Writing	3
SPH 161	Play Production	3
THEA 152	Stagecraft and Lighting	3
SEMESTER TOTAL	.....	9
PROGRAM TOTAL	.....	62

Note: Program total hours may not include prerequisites.

PHARMACY TECHNOLOGY

- College Certificate
Associate of Applied Science Degree

About the Program

The Pharmacy Technology Associate of Applied Science degree and College Certificate programs are designed to prepare students for entry-level positions in general pharmaceutical services under the supervision of a licensed pharmacist. The pharmacy technician's responsibilities may include the preparation of medicines and assisting the pharmacist with the dispensing of medicines in accordance with standard procedures, laws, transcription of physicians orders, preparation of intravenous medications, maintaining inventory and patient profiles, and preparing bulk formulations.

The Pharmacy Technology Associate of Applied Science degree is a two-year degree program that allows for transfer to a four-year institution that offers a Bachelor of Science degree in pharmaceutical sciences. Students may choose to complete the certificate program accredited by the American society of Health System Pharmacists, secure employment, and/or continue their education.

This program offers:

Associate of Applied Science: **86** credit hours
College Certificate: **32** credit hours

Program Goals

- To teach students the policies and procedures governing hospital, retail and industrial pharmacy, to function and perform routine technical and clerical duties as a certified Pharmacy Technician.

Continued on next page.

PHARMACY TECHNOLOGY

continued

Program Outcomes

- Students will be able to demonstrate and apply knowledge of scientific concepts of anatomy, physiology and pharmacology as a pharmacy technician.
- Students must pass coursework with a score of 80% or higher in order to be placed at clinical sites.
- Perform accurate mathematical calculations necessary for the preparation and dispensing of a pharmaceutical product.
- Effectively use computer software and technology, relevant to the pharmacy professional, to gather data, produce documents and process orders.
- Effective use of written, oral and interpersonal communication skills when interacting with a diverse population of healthcare professionals and patients.
- Understand, articulate and adhere to all ethical standards, moral and legal practices governing the profession.
- The student may choose to take the national certification exam given by the Pharmacy Technician Certification Board as an option.

Certificate Goals

- To provide students a foundation into the policies and procedures governing pharmacies, to function and perform routine technical and clerical duties as a Pharmacist Technician.

Certificate Outcomes

- Students will proficiently pass coursework with a score of 80% or higher in order to be placed at clinical sites.
- Perform accurate mathematical calculations necessary for the preparation and dispensing of a pharmaceutical product.
- Effectively use computer software and technology, relevant to the pharmacy profession, to gather data, produce documents and process orders.

- Effective use of written, oral and interpersonal communication skills when interacting with a diverse population of healthcare professionals and patients.

Admission Requirements

Admission is competitive and based on academic performance, test scores and personal interviews. A limited number of students are admitted to the program each semester. Applications and other required information must be submitted prior to the start of class. Formal admission status must be achieved prior to enrollment. Passing the Pharmacy Technician Assessment Test (PTAT) with a score of 85% is necessary for all potential Pharmacy Technician students. To be admitted into the Pharmacy Technology Program, students must complete the following:

- Fulfill all WCCCD admission requirements.
- Possess a high school diploma or GED.
- Declare program intent on the WCCCD admission application or change program intent in the campus admissions office.
- Complete the Pharmacy Technician Admission application and turn in the application to the Campus Academic Officer.
- Fulfill course placement requirements based on the COMPASS Test.
- Submit two letters of reference: professional or personal.
- Show proof of TB test.
- Meet with a Pharmacy Technology Program representative.
- Pass Pharmacy Technician Assessment Test (PTAT) with a score of 85% or higher.
- Successfully complete a criminal background check. (Source will be specified).

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Pharmacy Technology: College Certificate Recommended Sequence of Courses

SEMESTER 1

PHT 105	Orientation to Pharmacy Technology	5
PHT 110	Institutional & Community Pharmacy	5
PHT 120	Drug Distribution Systems	5
SEMESTER TOTAL		15

SEMESTER 2

PHT 130	Pharmaceutical Calculations & Drug Preparation	5
PHT 155	Pharmacy Technology Practicum	7
PHT 210	Pharmacy Computer Systems ..	5
SEMESTER TOTAL		17
CERTIFICATE TOTAL		32

Note: Certificate total hours may not include prerequisites.

Pharmacy Technology: Associate of Applied Science Degree

Recommended Sequence of Courses

GENERAL EDUCATION COURSES

ENG 119	English I	3
ENG 120	English II	3
—OR—		
ENG 270	Professional & Technical Report Writing	3
BIO 155	Introductory Biology	4
BIO 240	Human Anatomy & Physiology I	4
BIO 250	Human Anatomy & Physiology II	4
BIO 252	Pathophysiology	4
BIO 295	Microbiology	4
BUS 225	Computer Applications in Business	3
CHM 136	General Chemistry I	4
CHM 145	General Chemistry II	4
ECO 101	Principles of Economics I	3
MAT 155	College Algebra	4
MAT 156	Trigonometry	4
PHL 211	Introduction to Logic	3
PS 101	American Government	3
GENERAL EDUCATION TOTAL		54

CAREER COURSES

SEMESTER 1

PHT 105	Orientation to Pharmacy Technology	5
PHT 110	Institutional & Community Pharmacy	5
PHT 120	Drug Distribution Systems	5
SEMESTER TOTAL		15

SEMESTER 2

PHT 130	Pharmaceutical Calculations & Drug Preparation	5
PHT 155	Pharmacy Technology Practicum	7
PHT 210	Pharmacy Computer Systems ..	5
SEMESTER TOTAL		17
PROGRAM TOTAL		86

Note: Program total hours may not include prerequisites.

PHLEBOTOMY TECHNICIAN

- College Certificate

About the Program

The Phlebotomy Technician College Certificate program introduces students to the chief responsibility's of the position to include drawing blood and conducting other specimen collections. The phlebotomist must recognize any conditions that might alter collections, correlate types of lab tests to the written diagnosis, and communicate with both the laboratory and the patients to provide the best care possible. Graduates of the phlebotomy program will be competent in multiple skills of specimen collection, have a strong medical terminology background and possess excellent interpersonal skills.

College Certificate Goals

- To provide students with the applied knowledge and technical skills to collect and process various blood, specimen and lab collections and procedures.
- To prepare students to successfully pass the national certification exam as a registered phlebotomist.

College Certificate Outcomes

- Students will be able to apply proper phlebotomy technique to successfully collect, handle and process blood specimens including venipuncture and capillary punctures.
- Proficiently perform basic laboratory testing procedures under appropriate supervision.
- Effectively utilize appropriate personal protective devices and techniques to operate safely in a healthcare environment.
- Effectively use computer software programs and technology, in a healthcare setting, to accomplish tasks of the profession.
- Effective use of written, oral and interpersonal communication skills when interacting with patients, clients and healthcare professionals.

- Understand, articulate and adhere to all ethical standards, moral and legal practices governing the profession.
- Exhibit proficiency in successfully completing the national certification exam as a phlebotomist with a 75% or better proficiency rate.

Admission Requirements

Students are required to complete the following:

- Fulfill all WCCCD admissions requirements.
- Declare intent to enter the Phlebotomy program by completing an allied health program application and indicate intent on the college application form.
- Fulfill course placement requirements based on the COMPASS test.
- Must be 18 years of age and possess a high school diploma or GED (copy required).

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.
- All science classes must be completed within (5) five years.

Phlebotomy Technology: College Certificate Recommended Sequence of Courses

SEMESTER 1 (FALL)

ALH 110	Medical Terminology	.....3
PLB 100	Introduction to Phlebotomy	.....3
SEMESTER TOTAL		.....6

SEMESTER 2 (SPRING)

ALH 230	Medical Ethics	.....3
PLB 105	Introduction to Phlebotomy II Practicum	.....3**
SEMESTER TOTAL		.....6

SEMESTER 3 (SUMMER)

ALH 115	Medical Computer Systems	.....3
BIO 125	Biology for Non-Science Majors	..4
—OR—		
BIO 155	Introductory Biology	.....4
PLB 110	Pediatric Phlebotomy	.....3
SEMESTER TOTAL		.....10
PROGRAM TOTAL		.....22

Note: Certificate total hours may not include prerequisites.

***Prerequisite for course*

PRE-ENGINEERING

Associate of Science Degree

About the Program

The Pre-Engineering Associate of Science degree program is designed to provide the first two-years of an engineering program whose credits will transfer to a four-year college of engineering program. Adjustments in the listed recommended program may be necessary to meet the requirements of other colleges or universities for special fields of engineering. Students should contact the institution they intend to transfer to ensure that they will have the necessary courses to transfer.

Program Goals

- To provide the foundation and prepare engineering science majors to transfer to a four-year baccalaureate degree program.

Program Outcomes

- Students will be able to understand the basic principles of the physical sciences.
- Demonstrate an understanding of the major concepts of differential and integrated calculus.
- Prepare, write, document and describe a computer program.
- Complete the general education courses in satisfaction of the associate degree requirements with a 70% or higher course average.

Admission Requirements

Students are required to fulfill the following requirements:

- Fulfill all WCCCD admission requirements
- Declare intent to enter the Pre-Engineering program on WCCCD Admission Application or change intent at the Admissions Office.
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application during the second semester in which they are enrolled and submit to the Campus Academic Officer.

Continued on next page.

PRE-ENGINEERING continued**Degree Requirements**

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

**Pre-Engineering Program Associate of Science
Recommended Sequence of Courses****CR. No. COURSE TITLE CREDITS****SEMESTER 1**

CHM 136	General Chemistry I	4
ENG 119	English I	3
MAT 171	Calculus I	4
Elective:	Social Science	3
SEMESTER TOTAL		14

SEMESTER 2

CIS 209	C Programming Language	4
ENG 120	English II	3
MAT 172	Calculus II	4
Elective:	Humanities	3
SEMESTER TOTAL		14

SEMESTER 3

MAT 271	Analytic Geometry & Calculus III	4
Elective:	Natural Science	4
PHY 265	Physics for Scientists and Engineers I	4
SEMESTER TOTAL		12

SEMESTER 4

Elective:	Humanities	3
MAT 272	Linear Algebra	4
PHY 275	Physics for Scientists and Engineers II	4
SPH 101	Fundamentals of Speech	3
SEMESTER TOTAL		14

SEMESTER 5

MAT 273	Differential Equations	4
PS 101	American Government	3
Elective:	Social Science	3
SEMESTER TOTAL		10
PROGRAM TOTAL		64

Note: Program total hours may not include prerequisites.

PRE-MORTUARY SCIENCE

Associate of Applied Science Degree

About the Program

Pre-Mortuary Science Associate of Applied Science degree program prepares students for entrance into a mortuary science program and an eventual career as a mortician. This program is designed in accordance with the Mortuary Science program at Wayne State University, which is the only institution in Michigan that prepares students for State certification in mortuary science. Because entrance into the WSU program is competitive, a minimum requirement for application is completion of at least 68 credit hours with a grade of 'C' or better as outlined in the WSU graduate bulletin.

Program Goals

- To educate and develop students in all phases of funeral service to meet and exceed the standards of care in dealing with health, safety and welfare associated in the preparation and care of the deceased.
- To provide a general in a Pre-Mortuary Science Associate of Applied Science studies as the precursor for a declared four-year degree

Program Outcomes

- Students will be able to successfully complete the Pre-Mortuary Associate of Applied Science program of study with a "C" average or higher as a foundation to transfer to WSU or other four-year baccalaureate institutions.
- Develop and demonstrate proficient and the technical skills in the ethical care and welfare of human remains.
- Articulate, apply and practice federal, state and local regulatory guidelines to situations pertaining to the mortuary science profession.
- Demonstrate applied knowledge of funeral service emphasizing and exhibiting high ethical, moral, community and personnel performance and integrity standards as they apply to the profession.

Admission Requirements

Students are required to fulfill the following requirements:

- Fulfill all WCCCD admission requirements
- Declare intent to enter the Pre-Mortuary Science Program on the WCCCD admission application or change intent at the campus admission office
- Fulfill course placement requirements based on COMPASS test
- Students must complete WCCCD Program admission and submit to the Campus Academic Administrator
- Complete prerequisite coursework with a "C" or better and a grade point average (GPA) of 2.50 on a 4.00 scale

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Pre-Mortuary Science: Associate of Applied Science

Recommended Sequence of Courses

SEMESTER 1

ENG 119	English I	.....3
SOC 100	Introduction to Sociology	.....3
BIO 155	Introductory Biology	.....4
Elective:	Humanities	.....3
SEMESTER TOTAL		.....13

SEMESTER 2

ENG 120	English II	.....3
SOC 120	Death and Dying	.....3
BIO 240	Human Anatomy and Physiology I	.....4
BUS 150	Introduction to Business	.....3
SEMESTER TOTAL		.....13

Continued on next page.

PRE-MORTUARY SCIENCE

continued

SEMESTER 3

SPH 101	Fundamentals of Speech	.....3
ACC 110	Principles of Accounting I	.....4
BIO 250	Human Anatomy and Physiology II	.....4
BUS 240	Business Communications	.....3
SEMESTER TOTAL		.....14

SEMESTER 4

CHM 105	Introduction to Chemistry	.....4
BIO 295	Microbiology	.....4
BUS 225	Computer Applications in Business	.....3
PHL 221	Ethics	.....3
SEMESTER TOTAL		.....14

SEMESTER 5

CHM 155	Survey Organic and Biochemistry	.....4
PS 101	American Government	.....3
BL 201	Business Law	.....4
Elective:	Other	.....3
SEMESTER TOTAL		.....14
PROGRAM TOTAL		.....68

Note: Program total hours may not include prerequisites.

PRE-PHYSICIAN ASSISTANT

Associate of Applied Science Degree

About the Program

The Pre-Physician Assistant program is designed to prepare students for transfer to a Physician Assistant program at a four-year college or university. The curriculum is academically rigorous and provides the knowledge base necessary to complete the baccalaureate degree and continue to the master's degree level physician assistant curriculum.

This program offers:

1. Associate of Applied Science: **61** credit hours

Program Goals

- To prepare the student with the knowledge and foundation in preparation of a four year baccalaureate degree.
- To prepare a student as an entry level Paramedic.
- To serve as a vital link in the chain of the health care team.
- To deliver the knowledge and skills necessary to provide medical care
- To prevent and reduce mortality and morbidity due illness and injury for emergency patients in the out-of-hospital setting.

Program Outcomes

- Recognize the nature and seriousness of the patient's condition or extent of injuries to assess requirements for emergency medical care.
- Administer appropriate emergency medical care based on assessment findings of the patient's condition.
- Properly and safely lift, move, position and handle the patient to minimize discomfort and prevent further injury.
- Provide a service in an environment requiring special skills and knowledge in such areas as communications, transportation and record keeping.
- Perform safely and effectively the expectations of the position description.
- Commitment to life-long learning.

Admission Requirements

Students are admitted to the program each year for the Fall, Spring and Summer semesters. Students must have the Program's approval, a completed application, and other required information submitted by the due date. If there are openings after the application deadline, any remaining openings will be filled on a first come basis to qualified applicants.

Students are required to do the following:

- Fulfill all WCCCD admission requirements.
- Successfully complete a minimum of 12 college credits with a "C" or better and/or COMPASS scores that fulfill program requirements.
- Declare intent to enter the Emergency Medical Technology on the WCCCD Application for Admission.
- Must be 18 years of age or older.
- Must complete physical exam and other health requirements.
- Complete background check.

Based upon Michigan Law

Students applying for admission to the Pre-Physician Assistant Program will be subject to a criminal background check, the results of which could preclude an applicant from admission to Wayne County Community College District's Pre-Physician Assistant Program on the basis of any of the following:

- A felony conviction or conviction for an attempt or conspiracy to commit a felony within the past 15 years.
- Any misdemeanor conviction involving abuse, neglect, assault, battery or criminal sexual conduct within the past 10 years.
- Any misdemeanor conviction involving fraud or theft against a vulnerable

Degree Requirements

Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Pre-Physician Assistant: Associate of Applied Science

Recommended Sequence of Courses

SEMESTER 1

ALH 110	Medical Terminology	.....3
ENG 119	English I	.....3
Elective:	Humanities	.....3
SOC 100	Introduction to Sociology	.....3
SEMESTER TOTAL		.....12

SEMESTER 2

ALH 230	Ethics for Allied Health	.....3
BIO 155	Introductory Biology	.....4
ENG 120	English II	.....3
Elective:	Social Science	.....3
SEMESTER TOTAL		.....13

SEMESTER 3

BIO 240	Human Anatomy and Physiology 4	
CHM 136	General Chemistry	.....4
DT 130	Fundamentals of Nutrition	.....3
SPH 101	Fundamentals of Speech	.....3
SEMESTER TOTAL		.....14

SEMESTER 4

BIO 250	Human Anatomy and Physiology II	.....4
CHM 145	General Chemistry II	.....4
Elective:	Humanities	.....3
PS 101	American Government	.....3
SEMESTER TOTAL		.....14

SEMESTER 5

BIO 295	Microbiology	.....4
CHM 155	Survey Organic and Biochemistry	.....4
SEMESTER TOTAL		..... 8
PROGRAM TOTAL		.....61

Note: Program total hours may not include prerequisites.

Special Note: Students without health care experience are recommended to participate in Emergency Medical Technology certificate programs in addition to Pre-Physician Assistant transfer degree curriculum.

PRE-SOCIAL WORK

Associate of Arts Degree

About the Program

The Pre-Social Work Associate of Arts degree program provides a broad based two year Associate of Arts (A.A.) degree curriculum. The Pre-Social Work program is designed to:

- Provide a foundation in liberal arts coursework leading to a BSW degree at select four-year institutions.
- Prepare students for culturally competent, ethical, effective and accountable generalist social work practice.
- Provide academic support for the successful completion of the Pre-Social Work Associate of Arts degree while preparing for future educational and employment opportunities.
- Instill a knowledge base of the basic foundations of social work practice: purpose and mission, sanctions, values and ethics, knowledge and methods and skills.

Program Goals

- To teach students to use the Social Work Mission while improving the social functioning and well-being of clients.
- To teach students the Code of Ethics according to the National Association of Social Workers.
- To instill in students the value and knowledge of advocacy for their clients.

Program Outcomes

- Students will be able to implement themes of the Social Work Mission while assessing clients.
- Students will be able to navigate through the Code of Ethics, while employing the most appropriate ethics.
- Students will learn about various social programs, services, activities, agencies, organizations, and institutions which will be useful in advocating for clients.

Admission Requirements

Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Complete all prerequisite requirements
- Possess a high school diploma or GED
- Declare intent to enter the Pre-Social Work Program on the WCCCD Application for Admission
- Fulfill course placement requirements based on COMPASS test.
- Complete prerequisite courses with a grade "C" or better
- Submit a human service program application to the assistant dean or designate who administers the Pre-Social Work Program before the ninth week of the Fall or Winter semesters.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer.
- Complete an Individual Education Plan

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Pre-Social Work: Associate of Arts Degree
Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
ENG 119	English I	3
MAT 155	College Algebra	4
PS 101	American Government	3
SOC 103	Social Problems	3
SEMESTER TOTAL		13
SEMESTER 2		
ENG 120	English II	3
MAT 156	Trigonometry	4
PSY 101	Introductory Psychology	3
SW 101	Introduction to Field Practice of Social Work – Practicum	5
SEMESTER TOTAL		15
SEMESTER 3		
ANT 152	Introduction to General Anthropology	3
Elective:	Foreign Language 100	4
HUM 101	Introduction to the Visual Arts	3
----OR----		
HUM 102	Introduction to the Performing Arts	3
SEMESTER TOTAL		10
SEMESTER 4		
SOC 230	Ethnic Minorities	3
Elective:	Foreign Language 100	4
ECO 101	Principles of Economics I	3
PSY 220	Child Growth and Development	3
SEMESTER TOTAL		13
SEMESTER 5		
BIO 155	Introductory Biology	4
PHL 211	Introduction to Logic	3
Elective:	Foreign Language 100	4
SPH 101	Fundamentals of Speech	3
SEMESTER TOTAL		14
PROGRAM TOTAL		65

Note: Program total hours may not include prerequisites.

PROJECT MANAGEMENT

- College Certificate

About the Program

The Project Management Certificate will provide students with the information and skills necessary to secure an entry level position managing projects in business and industries such as IT, business, health care and others. The courses will provide the required contact hours and information needed to take the Project Management Professional (PMP) exam. Upon completion of the certificate program students will understand beginning, intermediate and advance project management software.

Students will learn skills necessary for the occupational positions which include, but are not limited to: Associate Project Manager, Project Manager, Program Manager, Scheduling Technician, and IT Specialist/Project Manager.

College Certificate Goals

- To provide students with a basic foundation of theory and practice of project management as it relates to project management positions in business, IT, healthcare and others.

College Certificate Outcomes

- Students will be able to initiate, plan, execute, monitor, control and close a specified project to completion.
- Meet the educational requirements to become certified by taking the Project Management Professional (PMP) exam with a 70% or higher proficiency score.
- Identify, describe and explain appropriate techniques for oral, written and electronic communication vehicles when communicating with team members and stakeholders.

Continued on next page.

PROJECT MANAGEMENT

continued

Degree Requirements

- Students must complete all course work with a grade of “C” or better to meet graduation requirements.

Project Management: College Certificate Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
BUS 150	Introduction to Business	3
CIS 110	Introduction to Computer Information System Services	4
PRM 101	Introduction to Project Management	3
SEMESTER TOTAL		10
SEMESTER 2		
BUS 240	Business Communication	3
CIS 112	Structured Designed	3
PRM 105	Project Management Tools	3
SEMESTER TOTAL		9
SEMESTER 3		
CIS 203	Visual Basic	3
PRM 210	Intermediate Project Management Methods	3
PRM 215	IT Project Management	3
SEMESTER TOTAL		9
SEMESTER 4		
CIS 285	Introduction to Database Concepts	3
MAT 155	College Algebra	3
PRM 220	Advanced Concepts in Project Management	3
SEMESTER TOTAL		10
CERTIFICATE TOTAL		38

Note: Certificate total hours may not include prerequisites.

SURGICAL TECHNOLOGY

Associate of Applied Science Degree

About the Program

The Surgical Technology Associate of Applied Science degree is accredited by the Association of Surgical Technologist (AST). The curriculum is designed to enable the student to perform a variety of duties, as well as provide technical support to the surgical team in the operating room before, during and after surgery. The surgical technologist is trained to maintain a sterile and safe surgical environment. Duties may include, but are not limited to, preparing sterile supplies; equipment, instruments, and drapes for surgical procedures, assisting the surgical team with gowning and gloving, and positioning patients for surgery, passing instruments, sponges, sutures and other supplies to the surgeon or the assistant, preparing specimens for laboratory analysis, sterilizing equipment, etc.

The Surgical Technology program offers the following options:

1. Surgical Technology Associate of Applied Science Degree: **68** credit hours
2. Accelerated Alternative Delivery (AAD)
3. Central Service Technician Certificate: **10** credit hours
4. First Assistant College Certificate: **28** credit hours

Program Goals

- To prepare students with the knowledge and technical skills to effectively perform as a team member of the surgical team unit under the direct supervision of a doctor or registered nurse.
- To prepare students to proficiently exercise the duties and responsibilities including peri-operative preparation, equipment supply, sterilization and post-operative procedures.
- To prepare students to successfully pass the National Certifying Examination for Surgical Technologists.

Program Outcomes

- Students will be able to demonstrate and apply technical competency as it applies to the surgical technician profession.
- Exhibit proficiency in successfully completing the National Certifying Examination for Surgical Technologists with a 80% or better proficiency rate.
- Demonstrate expertise in the application of sterile and aseptic technique.
- Apply principles of pharmacology as related to the Surgical Technologist.
- Demonstrate critical thinking skills during peri-operative procedural management according to the facility policies, procedures and surgeon preferences.
- Perform competently in the Scrub and Circulator role in accordance with AST standards.
- Maximize patient safety by facilitating a safe surgical environment.
- Demonstrate self-direction and responsibility for maintaining surgical competency.
- Effective use of written, oral and interpersonal communication skills operating as a member of a diverse team of medical professionals.
- Incorporate the safety principles, practices and standards regulations as governed by the profession.

Admission Requirements

To be admitted into the Surgical Technology program, students are required to complete the following:

- Fulfill all WCCCD admission requirements.
- Be 18 years of age or older and have a high school diploma or GED
- If required, fulfill course placement requirements based on the COMPASS scores.
- Declare intent to enroll in the Surgical Technician program by submitting an Allied Health Department application to the program director.
- Submit physical examination results on a WCCCD form.
- Show proof of, or intent to receive Hepatitis

B immunization or declare intent to decline the immunization upon admission.

- Complete all prerequisites with a grade of “B” or better.
- Pass required sections of the Health Occupations Basic Entrance Test (HOBET) or Test of Essential Academic Skills (TEAS).
- Submit official transcripts from previous institutions.
- Submit three letters of recommendation: two professional and one personal.
- Meet with the Program Director to review and complete paperwork.

Note: If COMPASS scores are lower in any area, provide a transcript of the recommended course(s) completed with a “B” or better. All program applications are reviewed by the Surgical Technology Department Admissions Committee. Students who have completed the Central Service Technician program prior to application to the Surgical Technology Program are given preference. Students must submit all paperwork by July 15th for the start of the Fall Semester. Students beginning the program in the Spring Semester should submit all paperwork by November 15th. The COMPASS minimum passing composite score is 60. The reading comprehension sections must be at least 50. Test scores are considered valid for two (2) years if scores meet current requirements. *Check the appropriate campus location for adherence to the above submission dates.*

Based upon Michigan Law

Students applying for admission to the Surgical Technology Program will be subject to a criminal background check, the results of which could preclude an applicant from admission to Wayne County Community College District’s Surgical Technology Program on the basis of any of the following:

- A felony conviction, or conviction for an attempt or conspiracy to commit a felony within the past 15 years.
- Any misdemeanor conviction involving abuse, neglect, assault, battery or criminal sexual conduct within the past 10 years.
- Any misdemeanor conviction involving fraud or theft against a vulnerable

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SURGICAL TECHNOLOGY

continued

Degree Requirements

- Students must complete all course work with a grade of "B" or better to meet graduation requirements.

Surgical Technology: Associate of Applied Science Degree**Recommended Sequence of Courses****PREREQUISITE COURSES**

ENG 119	English I	.....3
ENG 120	English II	.....3
BIO 155	Introductory Biology	.....4 *
BIO 240	Human Anatomy & Physiology I	.....4
BIO 250	Human Anatomy & Physiology II	.....4
BIO 295	Microbiology	.....4
PSY 101	Introductory Psychology	.....3
ALH 110	Terminology for Health Professions	.....3
SUR 100	Orientation to Surgical Technology	.....3
PREREQUISITE TOTAL		.....27

SEMESTER 1

PS 101	American Government	.....3
ALH 230	Ethics for Allied Health	.....3
SUR 110	Surgical Technology Principles	..3
SUR 120	Surgical Specialties & Techniques I	.....4
SUR 125	Surgical Technology Clinical I	..4
SEMESTER TOTAL		.....17

SEMESTER 2

ALH 115	Medical Computer Systems	.....3
SUR 130	Surgical Specialties & Techniques II	.....4
SUR 140	Surgical Pharmacology	.....3
SUR 145	Surgical Technology Clinical II	..4
SEMESTER TOTAL		.....14

SEMESTER 3

SUR 155	Surgical Technology Clinical III	..6
SUR 160	Surgical Seminar and Certification Preparatory	.....4
SEMESTER TOTAL		.....10

PROGRAM TOTAL**68**

Note: Program total hours may not include prerequisites.

Program totals do not include remedial courses.

** Only if needed.*

SURGICAL TECHNOLOGY: ACCELERATED ALTERNATE DELIVERY

- College Certificate

About the Program

The purpose of the Surgical Technology Accelerated Alternate Deliver (AAD) Program is to prepare professionals working in the Surgical Technology field to sit for the Accreditation Review Committee on Education in Surgical Technology's national certification examination. The instructional format for this program is online delivery. The Surgical Technologist delivers care in the operating room before, during and after surgery as a member of the surgery team (Surgeon, Surgical First Assistant, Anesthesiologist, Registered Nurse and other surgical personnel). The Surgical Technologist's primary responsibility is to maintain a sterile field in the operating room.

The Surgical Technologist must be constantly vigilant to make sure that every member of the surgical team follows aseptic procedures. Duties of a Surgical Technologist include: Setting up sterile supplies, equipment, instruments and drapes for surgical procedures; preparing specimens for laboratory analysis.

Certificate Goals

- To prepare students with the knowledge and technical skills to effectively perform as a team member of the surgical team unit under the direct supervision of a doctor or registered nurse.
- To prepare students to proficiently exercise the duties and responsibilities including peri-operative preparation, equipment supply, sterilization and post-operative procedures.
- To prepare students to successfully pass the National Certifying Examination for Surgical Technologists.

Certificate Outcomes

- Students will be able to demonstrate and apply technical competency as it applies to the surgical technician profession.
- Exhibit proficiency in successfully completing the National Certifying Examination for Surgical Technologists with a 80% or better proficiency rate.
- Demonstrate expertise in the application of sterile and aseptic technique.
- Apply principles of pharmacology as related to the Surgical Technologist.
- Demonstrate critical thinking skills during peri-operative procedural management according to the facility policies, procedures and surgeon preferences.
- Perform competently in the Scrub and Circulator role in accordance with AST standards.
- Maximize patient safety by facilitating a safe surgical environment.
- Demonstrate self-direction and responsibility for maintaining surgical competency.
- Effective use of written, oral and interpersonal communication skills operating as a member of a diverse team of medical professionals.
- Incorporate the safety principles, practices and standards regulations as governed by the profession.

Admission Requirements

An applicant for Surgical Technology Accelerated Alternate Delivery (ADD) Certificate Program is required to:

- Fill out a Wayne County Community College District admission application.
- Submit two letters of recommendation from current or former supervisors attesting to competency in surgical technology.
- Complete an online course provided by Distance Learning Department of Wayne County Community College District. Contact distance.learning@wcccd.edu or (313) 496-2734 for more information.
- Show proof of a current CPR card.

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SURGICAL TECHNOLOGY: ACCELERATED ALTERNATE DELIVERY continued

Submit documentation verifying clinical experiences for at least 125 surgical procedures in the first scrub role or that two of the last four years of OR experience were performed in the first scrub role. Upon submission of the documentation, a student will prepare the appropriate paperwork so that experiential credit can be granted as part of the AAD curriculum. Credit will be recorded on the student's academic record, without a grade as follows:

- Surgical Technology (SUR) 125 – Surgical Technology Clinical I – 4 credits hours. Experiential learning credit is given to a student who has participated in 30 surgery cases, primarily in the specialty areas of general surgery; gynecology and obstetrics surgery; orthopedic surgery; vascular surgeries; and endoscopic surgery).
- Surgical Technology (SUR) 145 – Surgical Technology Clinical II – 4 credits hours. Experiential learning credit is given to a student who has participated in 30 surgery cases, primarily in the specialty areas of general surgery; and neck and thyroid surgery).
- Surgical Technology (SUR) 155 – Surgical Technology Clinical III – 6 credit hours. Experiential learning credit is given to a student who has participated in 65 surgery cases, primarily in the specialty areas of orthopedic surgery; thoracic surgery; cardiovascular surgery; neurological surgery; plastic/reconstruction surgery; endoscopic surgery; geriatric/pediatric surgery; and dental surgery).

(NOTE: A Student who is applying for this experiential credit is required to pay a processing fee. The student is also required to pay a fee for each course of an amount that is equal to half the normal tuition for the courses he or she is seeking credit for).

Degree Requirements

- Students must complete all course work with a grade of "B" or better to meet graduation requirements.

SURGICAL TECHNOLOGY: CENTRAL SERVICE TECHNICIAN

- College Certificate

About the Program

The Surgical Technology Central Service Technician College Certificate is accredited by the Association of Surgical Technologist (AST). The curriculum is designed to enable the students to perform a variety of duties, as well as provide technical support to the surgical team in the operating room before, during and after surgery.

The Central Service Technician is responsible for the procurement of surgical supplies and equipment. Central Service Technicians provide support to all patient care services in the health care facility. They are responsible for decontaminating, cleaning, processing, assembly, sterilizing, storing and distributing the medical supplies needed in patient care, especially during surgery.

With the ever-expanding technological advancements in medical supplies, instrumentation, medical devices and equipment, highly trained individuals are needed in the field of central service. Central service technicians are trained in principles, methods and control of sterilization processes; and the cleaning, processing, packaging, distributing, storing and inventory control of sterile supply, instruments, trays and equipment.

College Certificate Goals

- To prepare students with knowledge and technical skills to effectively perform duties that may include, but are not limited to principals, methods and control of sterilization processes; cleaning, processing, packaging, distributing, storing and inventory control of sterile supply, instruments, tray and equipment.
- To prepare students to successfully pass the National Certifying Examination for a Central Service Technician.

College Certificate Outcomes

- Exhibit proficiency in successfully completing the National Certifying Examination for Central Service Technicians with a 80% or better proficiency rate.
- Demonstrate expertise in the application of sterile and aseptic technique.
- Demonstrate self-direction and responsibility for maintaining central sterilization competency.
- Effective use of written, oral and interpersonal communication skills operating as a member of a diverse team of medical professionals.
- Incorporate the safety principles, practices and standards regulations as governed by the profession.

Admission Requirements

- To be admitted into the Central Service Technician program, students are required to complete the following:
- Fulfill all WCCCD admission requirements.
- Be 18 years of age or older and have a high school diploma or GED
- If required, fulfill course placement requirements based on the COMPASS scores.
- Declare intent to enroll in the Surgical Technician program by submitting an Allied Health Department application to the program director.
- Submit physical examination results on a WCCCD form.
- Show proof of, or intent to receive Hepatitis B immunization or declare intent to decline the immunization upon admission.
- Complete all prerequisites with a grade of "B" or better.
- Pass required sections of the Health Occupations Basic Entrance Test (HOBET).
- Submit official transcripts from previous institutions.
- Submit three letters of recommendation: two professional and one personal.
- Meet with the Program Director to review and complete paperwork.

Note: If COMPASS scores are lower in any area, provide a transcript of the recommended course(s) completed with a "B" or better. All program applications are reviewed by the Surgical Technology Department Admissions Committee. Students who have completed the Central Service Technician program prior to application to the Surgical Technology Program are given preference.

- Students must submit all paperwork by July 15th for the start of the Fall Semester, or by November 15th for the start of the Spring Semester, or by March 15th for the start of the summer semester. The COMPASS minimum passing composite score is 60. The reading comprehension sections must be at least 50. Test scores are considered valid for two (2) years if scores meet current requirements.

Based upon Michigan Law

Students applying for admission to the Central Service Technician Program will be subject to a criminal background check, the results of which could preclude an applicant from admission to Wayne County Community College District's Surgical Technology Program on the basis of any of the following:

- A felony conviction or conviction for an attempt or conspiracy to commit a felony within the past 15 years.
- Any misdemeanor conviction involving abuse, neglect, assault, battery or criminal sexual conduct within the past 10 years.
- Any misdemeanor conviction involving fraud or theft against a vulnerable

Degree Requirements

- Students must complete all course work with a grade of "B" or better to meet graduation requirements.

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**SURGICAL TECHNOLOGY:
CENTRAL SERVICE
TECHNICIAN continued**

Surgical Technology: Central Service
Technical Program College Certificate
Recommended Sequence of Courses

SEMESTER 1

SUR 100	Orientation to Surgical Technology	3
SUR 101	Central Service Technician	3
SEMESTER TOTAL		6

SEMESTER 2

SUR 102	Central Service Technician Lab and Clinical	4
SEMESTER TOTAL		4
PROGRAM TOTAL		10

Note: Certificate total hours may not include prerequisites.

**SURGICAL TECHNOLOGY:
SURGICAL FIRST ASSISTANT**

- College Certificate

About the Program

The Surgical First Assistant (SFA) College Certificate program is offered as one of four career options for students admitted into the Surgical Technology program. Enrollment in the program is limited due to the number of clinical-learner positions available at each of the clinical settings. A student’s educational experience in the program includes both classroom course work (didactic) and practical (clinical) instruction in a peri-operative environment. Upon successful completion of the SFA Certificate program, students will receive a Certificate of Completion and will be eligible to sit for the national certification examination.

A Surgical First Assistant works under the direction and supervision of the surgeon and in accordance with hospital policy and appropriate laws and regulations. The SFA provides aid in exposure, homeostasis, and other technical functions that help the surgeon carry out a safe operation with optimal results for the patient. A SFA must be knowledgeable in surgical procedures and the use of surgical instruments on tissues.

College Certificate Goals

- To prepare students with the knowledge and technical skills to effectively perform as a team member of the surgical team unit under the direct supervision of a doctor or registered nurse.
- To prepare students to proficiently exercise the duties and responsibilities including peri-operative preparation and post-operative procedures.
- To prepare students to successfully pass the National Certification Examination for Surgical First Assistants.

College Certificate Outcomes

- Students will be able to demonstrate and apply technical competency as it applies to the duties and technical responsibilities of the position.
- Exhibit proficiency in successfully completing the National Certification Examination for Surgical First Assistants with a 80% or better proficiency rate.
- Demonstrate critical thinking skills during peri-operative and post-operative procedural management according to the facility policies, procedures and surgeon preferences.
- Operate all equipment safely, effectively and efficiently while using appropriate protocols.
- Demonstrate self-direction and responsibility for maintaining surgical competency.
- Accurately and effectively demonstrate information literacy skills, written, oral and interpersonal communication skills operating as a member of a diverse team of medical professionals.
- Incorporate the safety principles, practices and ethical standards and regulations as governed by the profession.

Admission Requirements

To be admitted into the Surgical First Assistant program, students must complete the following requirements for admissions prior to acceptance into the program:

- Must complete criminal background check, physical exam, HBV shots, TB test and other health requirements.
- Fulfill course placement requirements based on COMPASS test.
- Pre-requisite courses may be required depending upon COMPASS assessment.
- Students must complete WCCCD Allied Health application.
- Current CPR/BLS certification
- Submit official transcripts from previous institutions.

- Certified surgical technologist (CST), or certified nurse-operating room (CNOR), or physician assistant – current certified (PA-C).
- Proof of liability insurance covering health care activities
- Proof of proficiency in Microbiology, Pharmacology, Anatomy and Physiology.
- Proof of computer literacy
- Work history from employers
- Submit three letters of recommendation: two professional and one personal
- Proof of immunization against Hepatitis B or waiver
- Interview with the Program Director

All program applications are reviewed by Surgical Technology Department Admission Committee. Students must submit all paperwork by November 15th for the start of the Spring Semester.

The Surgical First Assistant program offers a College Certificate and may be completed in 45 instructional weeks. The certificate option is designed to prepare students with necessary skills required for a broad range of surgical specialist positions.

College Certificate Requirements

- Students must complete all course work with a grade of "B" or better to meet graduation requirements.

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SURGICAL TECHNOLOGY: SURGICAL FIRST ASSISTANT

continued

Surgical Technology: Surgical First Assistant
College Certificate

Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
BIO 252	Pathophysiology	4
SFA 200	Fundamentals of Surgical First Assisting	3
SFA 210	Advance Surgical Pharmacology	3
SEMESTER TOTAL		10
SEMESTER 2		
SFA 253	Surgical Anatomy	4
SFA 220	Surgical Patient Management ...	3
SFA 230	Surgical First Assistant Techniques	3
SEMESTER TOTAL		10
SEMESTER 3		
SFA 235	Clinical Preceptorship	8
SEMESTER TOTAL		8
CERTIFICATE TOTAL		28

*Note: Certificate total hours may not include
prerequisites.*

SUSTAINABLE ENVIRONMENTAL DESIGN: BUILDING AND SITES

- College Certificate

About the Program

The Sustainable Environmental Design Sustainable Buildings and Sites College Certificate is designed to prepare students for careers that integrate sustainable construction applications in a variety of business, allied health and industrial environments. Students will gain knowledge on principles of sustainable practices in agriculture, alternative energy, business, construction, energy usage and natural resource management. This curriculum prepares students to fully understand the Leadership in Energy and Environmental Design (LEED) green building rating system which is the standard for environmentally sustainable construction.

Graduates of the certificate program may complement their studies by pursuing an Associate of Applied Science degree in Sustainable Environmental Design offered at Wayne County Community College District. The associate's degree serves as a precursor to students pursuing a four-year baccalaureate degree. The increased expansion of green career's include; Green Engineering and Renewable Energy Production, Sustainable Urban Planning and Design, Sustainable Interior Design, and Sustainable Building Construction.

College Certificate Goals

- Prepare students to understand the moral and ethical implications of environmental design decisions that impact land use, the environment and society as a whole.
- Prepare students to enter a rapidly changing and growing workforce of Green Technology professionals in the Renewable Energy and Sustainable Construction.

- Allow students with work experience in related fields (such as HVAC, Construction Project Management, Architecture, Landscape Architecture, Interior Design and Energy Development) the opportunity to obtain needed knowledge and skills in sustainable design and energy efficiency.
- Prepare practicing professionals or individuals in career change situations to gain needed knowledge in order to sit for the U.S. Building Council’s Leadership in Energy and Environmental Design Accredited Professional (LEEDAP) exam.

College Certificate Outcomes

- Demonstrate knowledge of basic concepts and principles of sustainable design, green building practices and alternative energy production.
- Apply critical and analytical thinking skills to determine where sustainable designs, technologies and practices are appropriate and effective.
- Demonstrate the concept of green building basics and how to move from traditional practices towards sustainable design principles.
- Analyze and evaluate energy use patterns for residential and commercial buildings.
- Apply critical thinking and problem solving skills to measure, monitor and recommend actions to reduce and innovate energy in commercial settings.

Admission Requirements

Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer.

Degree Requirements

- Students must complete all course work with a grade of “C” or better to meet graduation requirements.

**Sustainable Environmental Design:
Sustainable Buildings and Sites College
Certificate**

Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
<u>SEMESTER 1</u>		
SED 100	Principles of Sustainable Environmental Design	3
SED 120	Residential and Commercial Sustainable Design	3
SEMESTER TOTAL		6
<u>SEMESTER 2</u>		
SED 140	Sustainable Materials	3
SED 142	Sustainable Sites	3
SED 144	Ecologically Aware Interiors	3
SEMESTER TOTAL		9
<u>SEMESTER 3</u>		
SED 146	Sustainable Project Management	3
SED 148	Sustainable Systems	3
SED 160	Sustainable Community Principles	3
SEMESTER TOTAL		9
<u>SEMESTER 4</u>		
SED 200	LEED Certification Exam Preparation	3
SED 220	Sustainable Environmental Design Capstone	6
SEMESTER TOTAL		9
CERTIFICATE TOTAL		33

Note: Certificate total hours may not include prerequisites.

TEACHER EDUCATION: ELEMENTARY EDUCATION

Associate of Arts Degree

About the Program

The Teacher Education Associate of Arts degree in elementary education offers career opportunities to complete the first two years of the baccalaureate degree requirements leading to teacher certification in special, elementary and secondary education. The program is designed to prepare prospective teachers to be innovative role models and leaders in academic environments. In order to acquire the skills and abilities necessary for excellence in teaching, students will participate in classes, fieldwork, support services and workshops.

Program Goals

- To prepare students with the knowledge and foundation necessary as the precursor for a declared four-year degree in Elementary Teacher Education.
- To teach students the social, philosophical, historical perspectives and best practices in educational methodology that impact elementary education.

Program Outcomes

- Students will be able to describe the policies, issues, and trends in the field of elementary education.
- Analyze and identify major historical events in education and its impact with current educational trends.
- Identify the psychological, cognitive, emotional, and physical characteristics of typically developing children, children with disabilities, and children who are culturally and linguistically diverse.
- Demonstrate knowledge of and critically evaluate current instructional practices in elementary education to compare and contrast instructional strategies based on students' learning style.

- Design and implement individual development learning plans that include cognitive processes associated with critical thinking, creative thinking, problem solving, invention, memorization and recall that are appropriate for all students across the learning continuum.
- Identify and explain the models of classroom and behavior management.
- Identify strategies for working and advocating for families of culturally and linguistically diverse (CLD) students and students with disabilities in order to facilitate a child's educational program.
- Identify community resources serving students with special needs and their families.
- Demonstrate excellent written, verbal, critical thinking, and problem solving skills, which will allow them to effectively make connections between prior knowledge/experience and new learning.

Admission Requirements

Students are required to complete the following:

- Fulfill all WCCCD admissions requirements.
- Declare intent to enter the TEP by completing a TEP intent application form.
- Fulfill course placement requirements based on the COMPASS test.
- Successfully complete 18 credit hours by taking these courses (or approved equivalents) with a minimum grade of C or better, including:
 - ENG 110 English I
 - HIS 249 U.S. History I 1607-1865
or -
HIS 250 U.S. History II 1865 to Present
 - MAT 113 Intermediate Algebra
 - PS 101 American Government
 - PSY 101 Introductory Psychology
 - SPH 101 Fundamentals of Speech
 - Earn and maintain a minimum overall 2.5 grade point average.

- Submit a completed TEP application for admission along with other supporting documentation as specified in the application.
- Schedule a personal interview with a TEP staff member.
- Participate in a TEP orientation workshop.

Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Teacher Education: Associate of Arts Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
ENG 119	English I	3
ENG 120	English II	3
ENG 285	Children's Literature	3
Elective:	English	3
GEG 202	World Geography	3
GEL 210	Physical Geology	4
	—OR—	
CHM 105	Introduction to Chemistry	4
HIS 151	World Civilization I: Prehistory to 1650	3
	—OR—	
HIS 152	World Civilization II: 1650 to Present	3
HIS 249	History of the United States I	3
	—OR—	
HIS 250	History of the United States II	3
HUM 101	Introduction to the Visual Arts	3
	—OR—	
HUM 102	Introduction to the Performing Arts	3
MAT 113	Intermediate Algebra	3
MAT 128	Math for Elementary Teachers I	3

PS 101	American Government	3
PSY 101	Introductory Psychology	3
SPH 101	Fundamentals of Speech	3
PHL 211	Introduction to Logic	3
ED 110	Introduction to Education with Practicum	4
ED 111	Introduction to Teaching Education and Practicum Secondary	4
ED 202	Earth Science with Practicum (Program admission or approval)	4
BIO 151	Human Ecology	4
OIS 100	Keyboarding	3
EMT 101	First Aid	2
MAT 129	Math for Elementary Teachers II	3
	PROGRAM TOTAL	70

Note: Program total hours may not include prerequisites. MAT 155/156 may also be required by a transfer institution. CIS 110 or BUS 225 may be substituted when computer proficiency and transferability warrant. ED 110 program admission or approval needed.

VETERINARY TECHNOLOGY

Associate of Applied Science Degree

About the Program

The Veterinary Technology Program (VTP) offers a well-rounded two year curriculum in veterinary technology. It has the full accreditation status of the American Veterinary Medical Association. Graduates are eligible to take state and national examinations to become Licensed Veterinary Technicians (LVT). Subjects of study include anatomy and physiology of animals, small animal hospital techniques, laboratory animal medicine, small animal disease, large animal medicine, regulatory veterinary medicine, anesthesiology, radiology, surgical assisting, pharmacology, and clinical pathology (hematology, urinalysis, and parasitology). The program offers hands-on experience with a wide variety of animals including dogs, cats, rats, mice, hamsters, ferrets, gerbils, rabbits, chickens, horses, sheep, guinea pigs, goats, and cattle. For student's convenience, classes for the program are held on weekday evenings to accommodate those who work while attending college. The non-VTP courses may be taken at any WCCCD campus. The program is located at Wayne State University in the Applebaum College of Pharmacy and Health Sciences Building.

Program Goals

- To provide students with entry-level skills in veterinary technology allowing them to enter the field in a wide variety of areas.

Program Outcomes

- Students will be able to provide proficient services to support the health and well-being of animals.
- Identify and understand the pharmacology and effects of drugs and therapeutic substances in various animal species.
- Understand the role and responsibilities in operating and maintaining a veterinary facility.

- Apply organizational principles and practices that provide quality veterinary care and client service.
- Demonstrate knowledge of, ensure compliance with and act in a professional and ethical manner in accordance with State and Federal regulations, American Veterinary Medical Association (AVMA) and National Association of Veterinary Technicians in America (NAVTA) guidelines.

Admission Requirements

Admission is granted through a selection process prior to the Fall semester. The program staff will review all applications of admission and will interview qualifying candidates. Written confirmation of admission will be issued to the applicant.

To be admitted into the Veterinary Technology Program students must:

- Declare program intent on the WCCCD admission application or change program intent in the campus admissions office.
- Complete a program application packet by July 1st of the year you are planning to enter the program. (Includes essay, health form, proof of health insurance)
- Receive a grade of "C" or better in prerequisite courses.
- Fulfill course placement requirements based upon the COMPASS test results. (MAT 105 may be waived based upon the COMPASS test score.)
- Submit transcript of prerequisite coursework, and proof of high school graduation or GED to the program office.
- Applicants are required to spend a minimum of 15 hours in a work or volunteer situation within veterinary clinics, humane societies, nature centers, farms or other animal related areas where veterinary technicians may be observed in a work environment.

Degree Requirements

- Students must complete all course work with a grade of “C” or better to meet graduation requirements.

Veterinary Technology: Associate of Applied Science**Recommended Sequence of Courses****CR. No. COURSE TITLE CREDITS****SEMESTER 1**

VTP 103	Laboratory Animal Medicine – Lecture	2
VTP 104	Laboratory Animal Medicine – Laboratory	2
VTP 123*	Veterinary Technology Practicum I	4
Elective:	Humanities or Social Science . . .	3
CHM 105	Introduction to Chemistry – Lec/Lab	4
SEMESTER TOTAL		15

SEMESTER 2

VTP 105	Small Animal Technology I – Lecture	2
VTP 106	Small Animal Technology I – Laboratory	2
VTP 107	Small Animal Disease – Lecture . .	3
VTP 108	Clinical Pathology – Lec/Lab . . .	2
VTP 233	Veterinary Technology Practicum II	4 *
SEMESTER TOTAL		13

SEMESTER 3

VTP 201	Small Animal Technology II – Lecture	2
VTP 202	Small Animal Technology II – Laboratory	2
ENG 120	English II —OR—	3
ENG 134	Technical Communications	3
BIO 295	Microbiology	4
PS 101	American Government	3
SEMESTER TOTAL		14

SEMESTER 4

VTP 209	Large Animal Medicine – Lecture	2
VTP 210	Large Animal Medicine – Laboratory	2
VTP 211	Regulatory Veterinary Medicine	1
VTP 212	Issues in Veterinary Technology . .	5
VTP 243	Veterinary Technology Practicum III	2 *
VTP 300	Veterinary Technology Practicum IV (Optional)	1

SEMESTER TOTAL12-13**PROGRAM TOTAL67-68***Note: Program total hours may not include prerequisites.*

**In addition to regularly scheduled classes, three practical experience classes are required. Each of these courses requires 128 – 180 hours of applied veterinary technology in veterinary hospitals and laboratories. The practical courses are also offered during the Summer semester. This semester may be used to ease the course load if necessary between the first and second year.*

WATER AND ENVIRONMENTAL TECHNOLOGY

- College Certificate

About the Program

The Water Environment Technology Program (WET) College Certificate Program offers the intellectual exposure and on-the-job experience, required to operate and manage a wide range of water-treatment technologies. The program recognizes that the efficient application of water-treatment technologies is essential for the survival of earth's population and ecosystems, and that the technologist is largely responsible for the day-to-day compliance with treatment requirements. WET students study water and wastewater treatment processes, and are introduced to topics that include water chemistry, microbiology, toxicity and pollution prevention. Coursework and hands-on experience in utility equipment maintenance completes the technical program.

Completion of the program will help prepare graduates to write the entry level water and wastewater certification examinations administered by the Michigan Department of Environmental Quality.

Certificate Goals

- To prepare students with an understanding of methods related to the production of clean water and pollution control.

Certificate Outcomes

- Students will be able to demonstrate an applied understanding of the basic principles of pollution assessment, management and control related to water quality.
- Demonstrate knowledge of the main types and categories of pollution treatment processes and treatment systems.
- Demonstrate critical thinking skills when applying knowledge of common water and wastewater production facilities related to pollution control.

- To prepare students for individual credentialing by the Michigan Department of Environmental Quality (MDEQ) wastewater certification examinations with a 70% or better proficiency rate.
- Understand and articulate knowledge of occupational health and safety standards and requirements related to environmental laws, statutes and regulations that govern water quality.

Admission Requirements

Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Water and Environmental Technology: College Certificate

Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
CHM 105	Introduction to Chemistry	3
MAT 121	Technical Math	3
WET 101	Water Treatment Technologies . . .	3
WET 102	Waste Water Treatment Technologies	3
SEMESTER TOTAL		12

SEMESTER 2

BUS 225 Computer Applications in Business3
 WET 210 Advanced Waste Water Treatment Technologies3
 WET 212 Advanced Water Treatment Technologies3
 WET 215 Water Quality Analysis and WET Instrumentation3
SEMESTER TOTAL12

SEMESTER 3

WET 220 Water Quality Analysis and Microbiology3
 WET 224 Water/Waste Water Utility Equipment Maintenance2
 WET 265 Practicum3
SEMESTER TOTAL8
CERTIFICATE TOTAL32

Note: Certificate total hours may not include prerequisites.

WELDING TECHNOLOGY

- College Certificate
 Associate of Applied Science Degree

About the Program

The Welding Technology Associate of Applied Science degree and College Certificate programs are designed to provide students with in-depth instruction in the field of welding. Core program courses provide students with experience related to design, theory and use of welding equipment. Course learning objectives include: an introduction to welding; safe welding practices; identification of metals; oxygen fuel gas welding; oxygen fuel gas cutting; shielded metal arc welding; gas tungsten arc welding; gas metal arc welding; and fabrication. Each welding course consists of an introduction; competencies; general performance goals/objectives; specific performance objectives and mastery criteria.

This program offers:

Associate of Applied Science: **61** credit hours
 College Certificate: **33** credit hours

Program Goals

- To teach students proficiency and apply technical skills required in fabrication, construction, maintenance, apprenticeship and other metal working industries.
- To prepare students to successfully register and pass the certification exam for Welders.

Program Outcomes

- Students will be able to demonstrate competence in solving weld design problems and creating welding joints and steel welds by applying American Welding Society economic justification and weld connection performance measures and methods.
- Exhibit proficiency in successfully completing the certification exam for Welders with a proficiency score of 75% or better.

Continued on next page.

WELDING TECHNOLOGY

continued

- Demonstrate competence and applied knowledge of the welding, brazing and cutting processes and technology: -OAW 10/07 -OAC -SMAW -GMAW -GTAW -PAC -Robotics.
- Demonstrate proficiency in blueprint reading, weld symbol interpretation, basic metallurgy and math reasoning applied to layout and fabrication techniques
- Demonstrate subject mastery and skill in welding and cutting processes by averaging 70% on respective program post-tests.
- Apply critical thinking, mathematical reasoning to the welding process.
- Incorporate the safety principles, practices, standards and regulations as governed by the profession.
- Effective use of written, oral, interpersonal and listening skills operating as a member of a diverse team.

Certificate Goals

- To teach students proficiency and apply technical skills required in fabrication, construction, maintenance, apprenticeship and other metal working industries.

Certificate Outcomes

- Students will be able to demonstrate competence in solving weld design problems and creating welding joints and steel welds by applying American Welding Society economic justification and weld connection performance measures and methods.

Admission Requirements

Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Fulfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer.

Degree Requirements

- Students must complete all course work with a grade of "C" or better to meet graduation requirements.

Welding Technology: College Certificate Recommended Sequence of Courses

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
ENG 119	English I	3
MAT 121	Technical Mathematics I	3
DRT 101	Blueprint Reading	3
WLT 101	Welding & Fabrication I	4
WLT 102	Welding & Fabrication II	4
SEMESTER TOTAL		17

SEMESTER 2

MAN 120	Survey of Material Science	3
MAT 122	Technical Mathematics II	3
MAN 100	Shop Equipment & Tools	3
Elective:	. . . . .	3
DRT 102	Fundamentals of Mechanical Drawing	4
SEMESTER TOTAL		16
CERTIFICATE TOTAL		33

Note: Certificate total hours may not include prerequisites.

Welding Technology:**Associate of Applied Science****Recommended Sequence of Courses****CR. No. COURSE TITLE CREDITS****SEMESTER 1**

ENG 119	English I	3
MAT 121	Technical Mathematics I	3
DRT 101	Blueprint Reading	3
WLT 101	Welding & Fabrication I	4
WLT 102	Welding & Fabrication II	4
SEMESTER TOTAL		17

SEMESTER 2

MAN 120	Survey of Material Science	3
MAT 122	Technical Mathematics II	3
MAN 100	Shop Equipment & Tools	3
DRT 102	Fundamentals of Mechanical Drawing	4
WLT 103	Welding & Fabrication III	4
SEMESTER TOTAL		17

SEMESTER 3

WLT 208	Pipe Welding	4
LS 204	Occupational Safety & Health	3
ENG 134	Technical Communications	3
Elective:		4
SEMESTER TOTAL		14

SEMESTER 4

PS 101	American Government	3
Elective:		3
WLT 210	Certificate Welding Practices	4
Elective:	Natural Science	3
—OR—		
	Humanities	3
SEMESTER TOTAL		13

PROGRAM TOTAL .61*Note: Program total hours may not include prerequisites.*

COURSE DESCRIPTIONS

ACCOUNTING (ACC)

ACC 100 3 C/45 CH

Introduction to Accounting

Fundamental accounting techniques as related to small business firms. The accounting equation and account classification, journalizing, posting, adjustments and preparation of financial statements. For students desiring a single course in accounting or for students who need to strengthen a limited background prior to pursuing ACC 110.

ACC 105 3 C/45 CH

Income Tax Accounting

Practical approach to fundamental tax laws affecting individuals. Development of proficiency in the preparation of individual, federal, state and municipal tax returns. Some attention given to partnership and corporate returns.

ACC 110 4 C/60 CH

Principles of Accounting I

Current accounting theories and practices, presented from a financial and managerial viewpoint. Journal and ledger techniques, working papers, financial statements, inventory evaluation, depreciation methods, financial resources and cost/revenue matching.

ACC 111 4 C/60 CH

Principles of Accounting II

Prerequisite: ACC 110

Partnership and corporate accounting, including bonds. Financial statement analysis. Cash flow, manufacturing and cost accounting.

ACC 112 3 C/45 CH

Computerized Accounting Software

Prerequisite: ACC 110

Designed to introduce the student to applying their accounting knowledge to at least two software programs used by bookkeepers, accountants and other accounting personnel in the industry. Software programs that could be used in this course include Peachtree and Quick Books Pro. The class is taught in

a computer classroom with 75% - 85% of the course being hands-on. Accounting skills applied to the software programs utilized include accrual accounting, non-customer cash receipts, sales and cash receipts, payroll expenses, journal entries, etc.

ACC 210 3 C/45 CH

Intermediate Accounting I

Prerequisite: ACC 111

In depth study of accounting theory, analysis of stockholder's equity (capital stock, retained earnings, dividends) and assets cash, receivables, inventories, investments.

ACC 211 3 C/45 CH

Intermediate Accounting II

Prerequisite: ACC 210

Analysis of fixed assets, liabilities, and reserves, statements, reorganizations, income tax allocations, pension, accounting, parent and subsidiary accounting, and business combinations.

ADDICTION STUDIES (ADD)

ADD 102 3 C/45 CH

Addictions Counseling: Theories and Techniques

Prerequisite: ADD 110

This course provides theory and skill acquisition by utilizing intervention strategies designed to obtain therapeutic information, support recovery, and prevent relapse.

ADD 110 3 C/45 CH

Introduction to Addiction

This course explores the physical, emotional, psychological, and cultural aspects of the addictive process. Emphasis is placed on addiction to food, sex, alcohol, drugs, work, gambling, and relationships. This course provides foundational knowledge for counseling persons with addictive disorders. The student is introduced to working definitions of substance abuse, addiction, chemical dependency, and process addiction. Competencies and requirements for MCBAP & IC&RC certification are explained.

ADD 130 3 C/45 CH
Assessment, Diagnosis and Treatment of Addictions

This is the first course in the methods sequence with the primary focus being on human service delivery to individual clients. Attention will be given to the development and enhancement of professional skills in social history taking, diagnostic assessment, and the relation of assessment to treatment planning/intervention with clients from various, diverse populations, and populations at risk.

ADD 135 4 C/60 CH
Addiction Field Practicum Methods Seminar I

This is the second clinical course required for the addiction counseling program. Students will have the opportunity to work in community clinical settings that serve clients with addiction problems. They will gain first-hand experience and develop clinical competency in group facilitation, case-management, and system approaches to addiction treatment in a community setting. The course will consist of seminar and clinical experiences. Students will have supervision on-site, and then de-brief their experiences in class, sharing both their learning and their challenges. Students will also prepare for state certification and employment.

ADD 214 3 C/45 CH
Pharmacology of Addiction

This course will acquaint the student with psychological, physiological, and sociological effects of mood altering substances and behaviors and their implications for the addiction process are discussed. Emphasis on pharmacological effects of tolerance, dependency/withdrawal, cross addiction, and drug addiction are discussed.

ADD 235 4 C/60 CH
Addiction Field Practicum/Methods Seminar II

This is the second clinical course required for the addiction counseling program. Students will have the opportunity to work in community clinical settings that serve clients with addiction problems. They will gain first-hand experience and develop clinical competency in group facilitation, case-management, and system approaches to addiction treatment in a

community setting. The course will consist of seminar and clinical experiences. Students will have supervision on-site, and then de-brief their experiences in class, sharing both their learning and their challenges. Students will also prepare for state certification and employment.

AFRICAN-AMERICAN STUDIES (AAS)

AAS 120 3 C/45 CH
Sociology and the African-American Community

A survey of basic sociological concepts and theories of social organization from the African-American perspective. Emphasis on the nature of society and the factors affecting the development of culture; groups, and African-American institutions.

AAS 131 4 C/45 CH
American Government & African-American Struggle

Structure and function of American government. Critical inspection of city, state, and federal government operations and their responsiveness to the needs of African-Americans and other minorities.

AAS 140 3 C/45 CH
The Psychology of the African-American Experience

Fundamental concepts and principles of psychology from the African-American perspective. Emphasis on behavioral elements affecting black and white relations, and on linkages between the behavior of traditional and contemporary African people. The role of the black family in the struggle for equality and liberation is explored.

AAS 150 3 C/45 CH
African-American People in Michigan History

A course designed to give the student an historical perspective of the development of Michigan with emphasis on the accomplishments and roles the African-American has played in the development of the State and the surrounding region.

AFRICAN-AMERICAN STUDIES (AAS) continued

AAS 175 3 C/45 CH

History of African-American Music

This course traces the development of African-American music in America. An analysis of African music and its influence on the western world as well as the contributions and development of the blues, gospel, jazz and classical artists, such as Mahalia Jackson, Marion Anderson, William Grant Still, Charlie Parker, John Coltrane, Duke Ellington, etc.

AAS 180 3 C/45 CH

Introduction to African Politics

Examination of dynamics of African politics and nation-building and a comparison of various post-colonial African governments.

AAS 237 3 C/45 CH

Illegal Drug Traffic and the African-American Community

Overview of illegal drug traffic and its impact upon the African-American community and the majority community, as well as the criminal justice system. Concentration on the development and functions of local and federal programs, the role of law enforcement and the courts, the rights of the accused, the trafficker and the current situation in the United States.

AAS 253 3 C/45 CH

African Caribbean Literature

Study of African Caribbean literature encompassing the West Indian islands and adjacent countries South America; Guyana, Suriname, French Guiana and Belize in Central America. Emphasis will be on the linguistic and cultural influences on the prose and poetry of Caribbean literature.

ALLIED HEALTH (ALH)

ALH 105 3 C/45 CH

Medical Math

Prerequisite: MAT 100 or placement test

Mathematical concepts for the health profession. Application of mathematical principles relative to computations/calculations in the health professions.

ALH 110 3 C/45 CH

Medical Terminology

Introduction to the terminology of health professions. Usage, definition, pronunciation and spelling of terms common to the health professions. Computerized study guides and audio cassette tapes are used to enhance student learning.

ALH 115 3 C/45 CH

Medical Computer Systems

Exploration of computer systems used in the health care industry. Laboratory included.

ALH 214 3 C/45 CH

Pharmacology

Introduction to Pharmacology

ALH 230 3 C/45 CH

Medical Ethics

Ethical principles and consideration for the allied health professional. Guidelines for practice and conduct relative to legal, moral and ethical duties and responsibilities.

ALH 240 3 C/45 CH

Health & Wellness Services in the Community

This course is designed to provide students with an introduction to community health. Community health issues and the causes of health inequality will be examined. Power relations among racial, social, cultural and economic groups will also be discussed.

ALH 250 3 C/45 CH

Community Health Issues

This course will examine social, behavioral and environmental community health-related issues and the controversies that surround them. Group and class presentation work will be emphasized.

ALH 260 3 C/45 CH

Community Health Resources

This course examines health issues in the community in terms of organization, resources, programming, and special populations. Field trip experiences designed to connect and integrate theory with specific activities in a “real” environment are required in this course.

AMERICAN SIGN LANGUAGE (ASL)

ASL 101 3 C/45 CH

American Sign Language I

This introductory course is designed to develop the basic skills of American Sign Language. It consists of a preparatory phase to attune students to communication in the manual-visual mode, followed by instruction and practice in vocabulary, sentence structure, elementary conversation, and literature.

ASL 102 3 C/45 CH

Structure of American Sign Language

An examination of ASL phonetics, phonology, morphology, syntax and semantics is reviewed. Linguistic facial expressions and uses of physical space in verb agreement, aspectual morphology, and classifier constructions; an exploration of acquisition, psycholinguistics and historical change will also be discussed. Class activities include drills where students will analyze their own production of ASL phonological parameters.

ASL 103 3 C/45 CH

Visual Gesture Communication

This class will provide a means of bypassing vocabulary and strict grammar rules of language and aiming directly at other very important components of effective communication. These include 1) cohesion - the sequencing of relevant pieces of communication so that they hang together and make sense, 2) monologic discourse - the rules of building sequences to a point of climax and resolution in narratives; 3) dialogic discourse - the rules of turn taking and interrupting in dialogic discourse; 4) stylistics - the confidence, character and personality expressed while communicating.

ASL 104 3 C/45 CH

Introduction to ASL Finger Spelling

Students will develop an increased facility in recognizing and producing finger spelled words and numbers in context. Students view and study rapid and lexicalized forms of finger spelled words, acronyms and number systems through developmentally sequenced exercises to develop skills necessary to produce linguistic items in their expressive signing.

ASL105 3 C/45 CH

Orientation to Deafness

This class is an overview of deafness that encompasses three major topics: the nature and experience of deafness; the education of deaf children and adults; and the adult deaf community. Medical, educational, psychological, social, and vocational aspects are considered.

ASL107 4 C/60 CH

Introduction to the American Deaf Culture

This class is designed to introduce the students to the Deaf community as a complex and diverse community with a rich heritage and prosperous future. This course focuses on three aspects of the deaf community and culture: 1) historical perspectives and cultural norms within the Deaf community, 2) diversity within the Deaf community and 3) artistic expression and humor.

ASL 201 4 C/60 CH

American Sign Language II

A continuation of the basic study of the language and culture of the deaf community, this course builds on the receptive and expressive sign vocabulary, the use of signing space, non-manual components of ASL grammar including facial expression and body postures, and introduction to conversational regulators. This class is an overview of deafness that encompasses three major topics: the nature and experience of deafness; the education of deaf children and adults; and the adult deaf community.

Continued on next page.

AMERICAN SIGN LANGUAGE (ASL) continued

ASL 204 4 C/60 CH Interpreting I

This class is an overview of the interpreting process and current models. It introduces the skills necessary to achieve message equivalency in interpreting. The student will identify interpreting process models and will apply these models to text analysis. The student will differentiate contextual factors affecting language usage in the interpreting process, and will begin to demonstrate an ability to produce dynamic equivalence from source language to target language.

ASL 205 3 C/45 CH Field Experience in Sign Language

Students will be placed in a practicum experience, which is external to the college, in a specialized field of service involving a written agreement between the educational institution and a business or industry. Mentored and supervised by a workplace employee, the student achieves objectives that are developed and documented by the college that are directly related to specific occupational outcomes. This may be a paid or unpaid experience.

ANTHROPOLOGY (ANT)

ANT 150 3 C/45 CH Introduction to Global Studies

This is an international study course that provides students an opportunity to explore many aspects of globalization as a driving force in human life. This interactive class is designed to engage students in a public intellectual conversation that contributes to our common life together and to our understanding of the wider world. This course prepares students for travel overseas after which two to three weeks are spent in the cultural context of a country with opportunities to participate in research, journal writing, creative projects and group sessions. Travel destinations will vary.

ANT 152 3 C/45 CH Introduction to General Anthropology

The physical and cultural nature and development of humans in relationship to their environment. Race and human variation, archaeology and its uses, the nature and function of culture and the relevance and application of anthropology in modern society.

ANT 153 4 C/ 60 CH Introduction to Physical Anthropology

A study of humans from a biological perspective: genetics, comparative behavior of human and nonhuman primates, human growth and development, the concept of "race" and racial variation, fossil evidence concerning human evolution. (Satisfies non-lab natural science requirement.)

ANT 154 3 C/45 CH Introduction to Cultural Anthropology

A comparative study of different cultures and lifestyles throughout the world. From a cross-cultural perspective, such concepts as kinship, sex roles, taboos, food and eating customs, folklore, magic and religious practices are studied.

ANT 201 3 C/45 CH Urban Life and Culture

Prerequisite: One Course in ANT or SOC

Using the city and its cultural settings as a classroom and field laboratory, this course is designed to help students develop an awareness and understanding of the nature and diversity of cultural patterns and lifestyles within urban America in general and metropolitan Detroit in particular. Various ethnic, religious, social and sexual life-styles and traditions are studied through field experiences and cultural informants.

ANT 210 3 C/45 CH Anthropology of Sex and Culture

Prerequisite: One Course in ANT or SOC

A cross cultural study of the range, diversity and cultural basis of human sexual behavior in the world and contemporary American Society.

ARABIC (ARA)**ARA 101** 4 C/60 CH**Introduction to Arabic I***Prerequisite: ARA 100 or equivalency test*

Grammatical construction, vocabulary, simple idioms, oral and written drills to illustrate the linguistic pattern of the Arabic language.

ARA 102 4 C/60 CH**Introductory Arabic II***Prerequisite: ARA 101*

Continuing the study of grammatical construction, vocabulary, simple idioms, oral and written drills to illustrate the linguistic pattern of the Arabic language.

ARA 105 4 C/60 CH**Conversational Arabic I***Prerequisite: ARA 102 or departmental approval*

Application of skills learned in ARA 101 and 102 to conversation and dialogue. Attention given to various links between modern classical Arabic and the spoken language.

ARA 106 4 C/60 CH**Conversational Arabic II***Prerequisite: ARA 102 or departmental approval*

Application of skills learned in ARA 101 and 102 to conversation and dialogue. Attention given to various links between modern classical Arabic and the spoken language with particular stress on media, broadcast and various dialects (May be taken independently of ARA 105).

ARA 201 4 C/60 CH**Intermediate Arabic I***Prerequisites: ARA 101, ARA 102*

An in-depth study of grammatical construction, composition and idioms with emphasis on the use of modern Arabic language in literature, newspaper and radio.

ARA 202 4 C/60 CH**Intermediate Arabic II***Prerequisite: ARA 201*

An extended development of Arabic 201.

ART (ART)**ART 101** 3 C/90 CH**Drawing I***Supplies Cost Extra*

Introduction to perspective, composition, rendering and other fundamental techniques and elements of drawing. Explores the potentials working with various media with emphasis on drawing, value, perspective, rendering, proportion, color, and composition. All of the subject matter areas including still life, the figure and landscape are explored.

ART 102 3 C/90 CH**Drawing II***Supplies Cost Extra**Prerequisite: ART 101*

An introduction to advanced techniques in drawing. Explores the potentials working with various media with emphasis on drawing, value, perspective, rendering, proportion, color, and composition. All of the subject matter areas including still life, the figure and landscape are explored. Greater emphasis on personal expression.

ART 103 3 C/90 CH**Drawing III***Supplies Cost Extra**Prerequisite: ART 102*

This course explores the potentials working with various media with emphasis on drawing, value, perspective, rendering, proportion, color, and composition. All of the subject matter areas including still life, the figure and landscape are explored. Greater emphasis on personal expression.

ART 111 3 C/90 CH**Design I***Supplies Cost Extra*

An introduction to Design and Composition. An exploration of line, value, texture, shape and space, color and mass through lectures, demonstrations and assignments related to these design elements through various projects.

Continued on next page.

ART (ART) continued**ART 112** 3 C/90 CH**Design II***Supplies Cost Extra**Prerequisite: ART 111*

An introduction to Two Dimensional Design and Composition. An exploration of line, value, texture, shape and space, color and mass through a series of lecture/demonstrations and "Hands-On" assignments. Various elements and materials including glass, wood, metals, ceramic and other materials will be investigated through various projects.

ART 115 3 C/45 CH**Basic drawing for Animation**

This course will introduce students to the fundamental principles of drawing and drawing for animation. The student will learn the basics skill for drawing principles with an emphasis in game development providing the foundation for understanding and creating animation. Topics are how to draw: animals, human anatomy, natural setting and drawing effectively for animation. The student will develop the essential drawing skill necessary to be a successful animator.

ART 121 3 C/90 CH**Painting I***Supplies Cost Extra*

An introduction to opaque media painting. Explores the potentials of painting media with emphasis on drawing, value handling, color, and composition. All of the subject matter areas including still life, the figure and landscape are explored.

ART 122 3 C/90 CH**Painting II***Supplies Cost Extra**Prerequisite: ART 121*

Continuation of ART 121 with emphasis upon new techniques and materials and more complex subject matter. Explores the potentials of painting media with emphasis on drawing, value handling, color, and composition. All of the subject matter areas including still life, the figure and landscape are explored.

ART 123 3 C/90 CH**Painting III***Supplies Cost Extra**Prerequisite: ART 122*

Continuation of ART 122 with emphasis upon personal expression. Composition, individual painting techniques and development of a painting portfolio will be important aspects of the course.

ART 131 3 C/90 CH**Ceramics I***Lab fee*

Introduction to fundamental techniques of creating ceramics. Course covers hand-constructed clay objects, glaze preparation, glaze application, the kiln and firing. Supplies cost extra. (Meets six hours per week)

ART 132 3 C/90 CH**Ceramics II***Lab fee**Prerequisite: ART 131*

Continuation of ART 131 with emphasis upon the use of the potter's wheel and related skills. Supplies cost extra. (Meets six hours per week)

ART 151 3 C/90 CH**Sculpture I***Lab fee*

Introduction to the fundamental techniques of sculpture. (Meets six hours per week)

ART 152 3 C/90 CH**Sculpture II***Lab fee**Prerequisite: ART 151*

Continuation of ART 151 with emphasis upon new techniques and materials. (Meets six hours per week)

ART 171 3 C/90 CH**Printmaking I***Lab fee*

Introduction to basic printmaking, multi-color silkscreen printing, relief printing and engraving.

ART 172 3 C/90 CH
Printmaking II

Lab fee

Prerequisite: ART 171

Additional printmaking methods including multi-color reductive woodcut and linecut, multi-etched etching, photo silk screen and paper lithography.

ART 173 3 C/90 CH
Printmaking III

Lab fee

Prerequisite: ART 172

Advanced printmaking techniques and methods including stone lithography, photo silk screen, collagraph and other printing processes.

ART 174 3 C/90 CH
Printmaking IV

Lab fee

Prerequisite: ART 173

Emphasis will be placed on individual expression and concentration in one or two printmaking methods.

ASTRONOMY (AST)

AST 101 3 C/45 CH
Astronomy I: New Solar System

A survey course including a study of the solar system, stars and constellations as well as some topics of current astronomical interest.

AUTOMOTIVE SERVICE TECHNOLOGY (AUT)

AUT 114 3 C/60 CH
Electrical/Electronic Systems I

Lab fee

Prerequisite: Program Approval

This course is a required course in the Automotive Technology certificate and associate degree programs. This fundamental course provides students with the necessary skills and understanding to identify,

describe, and locate basic parts of major electrical/electronic automotive systems. Electrical theory, operating principles, construction, and maintenance of various components will be applied in this class. Introduction to on-vehicle testing procedures and inspection of electrical components will be performed by students. There will be discussion and testing of on-board computers included. ASE certification requirements will be introduced in this course.

AUT 115 3 C/60 CH
Electrical/Electronic Systems II

Lab fee

Prerequisite: AUT 114

This course is a required course in the Automotive Technology certificate and associate degree programs. This course provides students with the necessary skills and understanding to system construction and operations. Electrical theory, operating principles, construction, maintenance and repair of various components are included in the class. On-vehicle testing, inspection, and diagnoses will be performed by students. There will be discussion and testing of on-board diagnostic computers stressed in this course. In addition, ASE certification disciplines will be stressed and applied in this course.

AUT 116 3 C/60 CH
Electrical/Electronic Systems III

Lab fee

Prerequisites: AUT 114, AUT 115

This course is a required course in the Automotive Technology certificate and associate degree programs. This advanced course provides students with the necessary skills and understanding of system diagnosis and repair. The student will perform vehicle testing, diagnoses and repair. Students will be expected to perform the necessary service of OBD I & II vehicles with the use of scan tools and analyzers. In addition, ASE certification testing procedures will be implemented and applied in this course.

Continued on next page.

AUTOMOTIVE SERVICE TECHNOLOGY (AUT) continued

AUT 117 3 C/60 CH Electrical/Electronic Systems IV

Lab fee

Prerequisites: AUT 114, AUT 115, AUT 116

This course is a required course in the Automotive Technology certificate and associate degree programs. This advanced course provides students with the necessary skills and understanding of advanced Inspection, diagnosis & repair of electrical/electronics in automotive vehicles. The student will perform advanced diagnosing, vehicle testing and repair on today's automobiles using the latest testing equipment. Students will perform the necessary service on OBD I & II vehicles with the use of scan tools and analyzers. In addition, sample ASE certification tests and procedures will be implemented and strongly applied in this course.

AUT 118 3 C/60 CH Engine Performance I

Lab fee

Prerequisites: AUT 114, AUT 115, AUT 116, AUT 117

This introductory course is designed to help the student identify engine and computer control systems on the modern automobile. Basic troubleshooting procedures will be used to diagnose the engines electrical, ignition, fuel and emissions systems. Other areas such as ASE certification techniques will also be introduced in this course.

AUT 119 3 C/60 CH Engine Performance II

Lab fee

*Prerequisites: AUT114, AUT115, AUT 116, AUT 117,
AUT 118*

This course is a continuation of AUT 118 and is designed to help the student identify the complex engine and computer control systems on the modern automobile. Basic troubleshooting procedures will be used to diagnose the engines electrical, ignition, fuel and emissions systems. Other areas such as ASE certification techniques will also be introduced in this course.

AUT 120 3 C/60 CH Brakes I

Lab fee

Prerequisites: AUT114, AUT115, AUT 116, AUT 117

This course is designed to provide students with the necessary skills and understanding to research, diagnose, repair and maintain the automotive braking systems. In addition, it will provide the necessary skills to be prepared for the ASE certification brakes exam. Hydraulic theory, brake operating principles, anti-locking brake theory & systems, construction maintenance, and inspection will be performed by the student.

AUT 121 3 C/60 CH Steering & Suspension I

Lab fee

Prerequisites: AUT114, AUT115, AUT 116, AUT 117

This course is designed to introduce the student to basic components and operations of the automotive suspension & steering systems. Troubleshooting, inspection, and diagnosing of suspension & steering problems will be applied in this course. The student is expected to perform these techniques to show competency in this area. In addition, ASE principles for certification will be highly stressed and applied in this course.

AUT 122 4 C/75 CH Automatic Transmission & Transaxle I

Lab fee

*Prerequisites: AUT114, AUT115, AUT 116, AUT 117,
AUT 126, AUT 209*

This course is designed to provide students with the necessary skills and understanding to research, diagnose, repair, overhaul and maintain automatic transmissions, operating principles, hydraulics, power flow, testing and overhaul procedures for transmissions and transaxles. On-vehicle inspection, diagnosis and repair are performed by the student.

AUT 124 4 C/75 CH
Engine Repair I

Lab fee

Prerequisites: AUT114, AUT115, AUT 116, AUT 117

Engine repair is the study of basic theory, design, service, and diagnosis of live automotive engines. Practical application of diagnosis, removal, inspection, measurement, repair, installation, and safety procedures will also be taught.

AUT 125 3 C/60 CH
Heating and Air Conditioning I

Lab fee

Prerequisites: AUT114, AUT115, AUT 116, AUT 117

This course is designed to provide students with the necessary skills and understanding to research, diagnose, repair and maintain the automotive Heating, Ventilation, and Air Conditioning systems. In addition, it will provide the necessary skills to be prepared for the ASE certification exam.

AUT 126 3 C/60 CH
Manual Drive Train & Axles

Lab fee

Prerequisites: AUT114, AUT115, AUT 116, AUT 117

This course is designed to provide students with the necessary skills and understanding to identify basic characteristics and components of the manual drive train and axle design. On-vehicle inspection, diagnosis, and repair are performed by the student. Identification of special tools used on these systems will also be explained. In addition, ASE principles for certification will be introduced to the student.

AUT 150 4 C/60 CH
Introduction to Alternative Fuels

Prerequisite: AUT 117

Students will use various sources in the alternative fueled vehicle industry to learn what alternative fuels are available, which include an overview of alternative fuel engine technology, compressed natural gas technology, electronic diagnostic and integration methods, system specific electronics, emission testing, cylinder inspection, and driver orientation/safety/vehicle inspection.

AUT 151 4 C/60 CH
Light Duty Diesel Engines

Prerequisite: AUT 117

This course covers the operation of light duty diesel engines. Students will diagnosis and repair mechanical and electronic fuel injection systems, aid induction and exhaust systems, and perform general engine diagnosis according to engine manufacturer standards.

AUT 152 4 C/60 CH
Introduction to Electric and Fuel Cells

Prerequisite: AUT 117

This course is designed to help prepare the student to enter the automotive repair and service industry in the area of alternative fuels and advance technology vehicle. It is an intensive study of vehicle electric and fuel cell theory, application, installation, diagnosis, service and safety regulations.

AUT 153 4 C/60 CH
Introduction to Gaseous Fuels

Prerequisite: AUT 117

This course is designed to help prepare the student to enter the auto repair and service industry in the area of alternative fuels and advanced technology vehicles. It is an intensive study of three gaseous fuels - natural gas, propane and hydrogen. Theory, application, installation, diagnosis and safety regulations will be covered.

AUT 154 4 C/60 CH
Introduction to Hybrid Fuel Technology

Prerequisite: AUT 117

This course covers the fundamentals of hybrid vehicle technology. The course is intended to give the student an understanding of the types of hybrid vehicles, hybrid vehicle components, how hybrid vehicles operate and basic service procedures; this will enable the student to obtain employment as an advanced technology vehicle technician.

Continued on next page.

AUTOMOTIVE SERVICE TECHNOLOGY (AUT) continued

AUT 200 **3 C/60 CH** **Engine Performance III**

Lab fee

*Prerequisites: AUT114, AUT115, AUT116, AUT117,
AUT 118, AUT119*

This intermediate course is designed to help the student diagnose and repair the complex engine and computer control systems on the modern automobile. Basic diagnostic procedures will be used to troubleshoot and diagnose the engines electrical, ignition, fuel and emissions systems. Other areas such as ASE certification techniques will also be utilized in this course.

AUT 201 **3 C/60 CH** **Engine Performance IV**

Lab fee

*Prerequisites: AUT114, AUT115, AUT 116, AUT 117,
AUT 118, AUT 119, AUT 200*

This advanced course is designed to provide the student with hands-on techniques to inspection, diagnose and repair of complex engine and computer control systems on modern automobiles. Advanced diagnostic procedures will be used to troubleshoot and diagnose the engines electrical, ignition, fuel and emissions systems. An understanding of employment opportunities, "pertaining to engine performance", will be discussed. While utilizing these tasks, ASE certification principles will be highly stressed and applied in this course.

AUT 203 **3 C/60 CH** **Brakes II**

Lab fee

*Prerequisites: AUT114, AUT115, AUT 116, AUT 117,
AUT 120*

This course is a continuation of Brakes I and will be used to exercise the student's abilities to perform theory, diagnosis and operations of automotive braking systems. The student will inspect, remove & replace braking system components, perform machining techniques, overhaul and repair braking

systems. This automotive brakes class is a combination of (70%) laboratory experiences and (30%) lecture. Every student will be expected to participate in lab exercises and will be evaluated on an individual basis. The ASE certification requirements will be highly stressed in this course.

AUT 204 **2 C/45 CH** **Steering & Suspension II**

Lab fee

*Prerequisites: AUT114, AUT115, AUT 116, AUT 117,
AUT 121*

This course is a continuation course of Steering and Suspension I. This course is designed to provide the student with the knowledge and skills to inspect, diagnose and perform repair procedures on automotive steering and suspension systems, as well as introduction to basic inspection and diagnosing of steering and suspension problems will be applied in this course. Identification of special tools used on these systems will also be explained. In addition, ASE principles for certification will be introduced to the student.

AUT 206 **3 C/60 CH** **Automatic Transmission & Transaxle II**

Lab fee

*Prerequisites: AUT114, AUT115, AUT 116, AUT 117,
AUT 126, AUT 209, AUT 122*

This course is a continuation of Automatic Transmission and Transaxle I and will be used to exercise the student's abilities to perform research, diagnose, repair, overhaul and maintain automatic transmissions, operating principles, hydraulics, power flow, testing and overhaul procedures for transmissions and transaxles. On-vehicle inspection, diagnosis and repair are performed by the student.

AUT 207 **3 C/60 CH** **Engine Repair II**

Lab fee

*Prerequisites: AUT114, AUT115, AUT 116, AUT 117,
AUT 124*

This course is a continuation of Engine Repair I and will be used to exercise the student's abilities to perform theory, diagnosis and operations of

automotive engines. Students measure, inspect, recondition, disassemble, and assemble various engine components.

AUT 208 **3 C/60 CH**
Heating, Ventilation, & Air Conditioning II

Lab fee

Prerequisites: AUT114, AUT115, AUT 116, AUT 117, AUT 125

This course is a continuation of Heating, Ventilation, and Air Conditioning I and will be used to exercise the student's abilities to perform theory, diagnosis and operations of automotive heating, ventilation, and air conditioning systems. In addition, it will provide the necessary skills to be prepared for the ASE certification exam.

AUT 209 **2 C/45 CH**
Manual Drive Train & Axles II

Lab fee

Prerequisites: AUT114, AUT115, AUT 116, AUT 117, AUT 126

This course is a continuation of AUT 126 and is designed to provide students with the necessary skills and understanding to diagnose, disassemble, and reassemble a manual transmission. On-vehicle inspection, diagnosis, and repair are performed by the student.

AVIATION TECHNOLOGY: AIR SCIENCE (ATP)

ATP 101 **8 C/120 CH**
Introduction to Aviation I

The Introduction to Aviation is comprised of the following four components: Aircraft History, Mathematics, Aircraft Drawings and Physics. Students will learn basic computer and software application, study skills and the history of aviation with early balloons and gliders through modern transport jet aircrafts. An introduction to basic math formulas used by aviation technicians in performing daily tasks and elements necessary for effective understanding and interpretation of aircraft drawings will also be reviewed.

ATP 102 **8 C/120 CH**

Introduction to Aviation II

This course will provide a solid foundation in the Federal Aviation Administration's (FAA) acceptable publications to include maintenance manuals, privileges and limitations of an Airframe and Powerplant license. Additional subjects include weight and balance, tools, safety and grounds operations and fluid lines and fittings skills based on industry standard practices.

ATP 103 **8 C/120 CH**

Basic Electricity

Students will be introduced to electrical theory and principles, and their application to aircraft systems. Aircraft electrical circuit diagrams, including solid state devices and logic functions, DC/AC circuit operation and electrical fundamentals will prepare the student for advanced electrical functions and troubleshooting.

ATP 104 **8 C/120 CH**

Materials, Fuel, Fire and Corrosion

Students will learn and practice the process for cleaning aircraft parts and structures as well as methods employed to protect them from corrosion. Additional topics include aircraft repair and maintenance, aircraft fuel systems and all associated components and fire detection warning and protection systems related to the airframe and powerplant.

AVIATION TECHNOLOGY: AIRFRAME (AFM)

AFM 201 **8 C/120 CH**

Basic Sheet Metal

Students receive a general introduction to the FAA's requirements for sheet metal fabrication and repair.

Continued on next page.

AVIATION TECHNOLOGY: AIRFRAME (AFM) continued

AFM 202 8 C/120 CH Non-Metallic Structures and Finishes

This course is designed to introduce the student to composite materials used in aircraft construction. Rules regarding installation of aircraft registration numbers will also be reviewed.

AFM 203 8 C/120 CH Airframe Electrical

This course will familiarize the student with basic airframe and powerplant electrical installation and troubleshooting.

AFM 204 8 C/120 CH Aircraft Navigation and Communications

This course will instruct students on the theory of all instruments and instrument systems used for flight navigation of an aircraft to include inspection, installation, service and FAA regulations.

AFM 205 8 C/120 CH Assembly and Rigging and Aircraft Systems

An in-depth study of cabin atmosphere control systems, assembly rigging hydraulics and pneumatics will be covered.

AFM 206 8 C/120 CH Landing Gear Systems and Airframe Inspections

Students will learn aircraft landing gear systems, position and warning systems and airframe inspection.

AVIATION TECHNOLOGY: POWERPLANT (PPM)

PPM 201 8 C/120 CH Reciprocating Engine Operation

Students will learn the theory and operation of reciprocating engine theory, powerplant instrument systems and reciprocating engine fuel metering systems.

PPM 202 8 C/120 CH Reciprocating Engine Systems

Students will learn "how to" identify, inspect, troubleshoot and service powerplant systems, engine induction, exhaust and ignition systems.

PPM 203 8 C/120 CH Reciprocating Engine Overhaul and Troubleshooting

This course will provide theory and hands-on experience on reciprocating engine inspection, troubleshooting and overhaul systems.

PPM 204 8 C/120 CH Propellers and Turbine Engine Operation

Students will learn the theory of aircraft propellers and be introduced to the future technician to gas turbine engines from the development of gas turbines and jet propulsion followed by a study of the major sections of a typical gas turbine engine.

PPM 205 8 C/120 CH Turbine Engine Designs, Accessories and Instruments

This course is designed to develop an understanding of turbine engine accessories and design used on aircrafts to include turbojet, turbofan and turboprop engines.

PPM 206 8 C/120 CH Turbine Engine Overhaul and Troubleshooting

Students will be introduced to the maintenance and inspections required for turbine engines. Students will also practice the systemic identification of problems that develop in turbine engines including intake, compressor, ignition, combustion, power, exhaust, bleed air and fuel.

BIOLOGY (BIO)

BIO 125 4 C/60 CH

Biology for Non-Science Majors

Lab fee

A lecture and laboratory course designed for students who have had little or no prior instruction in biology. Four major topic areas will be studied; (1) ecology; (2) cells and genetics; (3) human biology; and (4) hands-on biological methods. Course highlights include using the Internet to reinforce biological concepts and engaging in exciting laboratory-based and lecture-based activities. Strategies to help students apply biology to their everyday life will also be emphasized.

BIO 151 4 C/60 CH

Human Ecology

Lab fee

A course which develops interrelationships among living things and their environment, with emphasis on these interrelationships in the human community including environmental organization, life processes and conservation in everyday life. The student will be encouraged to offer solutions for environmental problems created by technology.

BIO 155 4 C/60

Introductory Biology

Lab fee

Lecture and laboratory introductory course for the non-science as well as the pre-professional transfer student. Biological concepts covering the chemical and cellular basis of life will be presented, including such topics as cell structure and function, DNA, bioenergetics, reproduction, metabolic principles, genetics, plant and animal anatomy, ecology and evolution. (Meets six hours per week; four hours lecture and two hours laboratory.)

BIO 165 4 C/60 CH

Botany

Lab fee

Prerequisite: BIO 155

Lecture and laboratory course emphasizing principles of plant biology, including a survey of the plant kingdom with representative life cycles and

relationships between plant groups. Emphasis is placed on the development, anatomy, physiology and evolution of gymnosperms and angiosperms. (Meets six hours per week; four hours lecture and two hours laboratory)

BIO 175 4 C/ 60 HL/30 HLB

Zoology

Lab fee

Prerequisite: BIO 155

Principles of animal biology as they apply to major animal phyla. A survey of the animal kingdom with emphasis on evolutionary and comparative relationships of the various phyla. A comparative study of major animal phyla emphasizing anatomy, physiology and ecological principles. (Meets six hours per week; four hours lecture and two hours laboratory)

BIO 204 4 C/60 CH

Life Science for Elementary School Teachers

Lab fee: \$20.00

Prerequisite: ED 111 and BIO 125

Lecture and laboratory course dealing with life science concepts and the variety of strategies used to teach these concepts in elementary schools. Current State of Michigan life science teaching objectives and associated learning activities will be emphasized. In addition, students will develop a life science lesson and teach it to children in an elementary (K-8) school.

BIO 240 4 C/60 HL/30 HLB

Human Anatomy & Physiology I

Lab fee

Prerequisite: BIO 155

Lecture and laboratory course on the structure and function of the human body. The cellular, tissue, organ and systems levels are considered. Emphasis is on the integumentary, skeletal, muscular and nervous systems including the special senses. The laboratory supplements the lecture with the use of microscopes to study the four basic tissues. The use of the torso, models, articulated/disarticulated skeletons, dissection of sheep brain and bovine eyes are used to study the other systems. (Meets six hours per week; four hours lecture and two hours laboratory)

BIOLOGY (BIO) continued**BIO 250** 4 C/ 60 HL/30 HLB
Human Anatomy & Physiology II*Lab fee**Prerequisite: BIO 240*

Lecture and laboratory course that is a continuation of the systems found in the human body: circulatory, respiratory, digestion, metabolism, urinary, endocrine & reproductive systems. Body fluid, electrolytes & acid/base balance are also included. The laboratory supplements the lecture topics with the use of the torso, dissection of bovine heart models, charts and slides. (Meets six hours per week; four hours lecture and two hours laboratory)

BIO 252 4 C/60 CH
Pathophysiology F, Sp, Sm*Lab fee**Prerequisite: BIO 250*

This course is designed to introduce mechanism and manifestation of different human diseases. The basic science of pathology is concerned with the etiology and pathogenesis of disease. Essential information is provided for understanding the diagnosis of disease in the clinical setting.

BIO 295 4 C/60 HL/30 HLB
Microbiology F, Sp, Sm*Lab fee**Prerequisite: BIO 155*

Lecture and laboratory course studying the biology of microorganisms. Lecture topics survey the microbes, their uniqueness of cell structure and function, growth, physiological characteristics, genetics, physical and chemical control and selected communicable diseases. The laboratory emphasizes the use of the microscope, staining procedures, cultural and physiological techniques, use of keys to identify representatives of the various microbes. (Meets six hours per week; four hours lecture and two hours laboratory)

BUSINESS (BUS)**BUS 112** 3 C/45 CH
Personal Business Affairs F, Sp, Sm

Phases of business activity in which the individual or family is normally involved: consumer rights, banking, taxation, among others.

BUS 150 3 C/45 CH
Introduction to Business F, Sp, Sm

An examination of the legal, economic and organizational environments in which modern business operates, including the global dimension of business. A survey approach to the functional areas of business-accounting, information systems, research, finance, management, supervision, human resources and marketing and how they relate to the overall organization.

BUS 175 3 C/45 CH
Small Business Management F, Sp

General business concepts with special application to small businesses. Detailed treatment of credit practices, franchising, location, inventory and other topics particularly crucial in a small business setting. Cases will be used to develop the student's analytical.

BUS 177 3 C/45 CH
Small Business Financing Sp*Prerequisite: BUS 150*

This course is a survey of financing policy for small business. Purchase discounts, borrowing, credit purchases, finance charges, consumer credit, financial management, financial statements, financial ratios and equity leverage are included.

BUS 221 3 C/45 CH
Business Statistics F, Sp, Sm*Prerequisite: MAT 113*

Methods of gathering and presenting statistical data. Basic concepts of probability, sampling and tests of significance for decision making are emphasized.

BUS 225 3 C/45 CH
Computer Application in Business F, Sp, Sm

A study of the computer environment and practice of selected applications on the personal computer. Specific topics include Microsoft applications, the use of word processing with hands-on applications using Microsoft Word, spreadsheets with hands-on applications using Microsoft Access. Other topics of current interest in information processing and office automation will be discussed (Course is 75-80% hands-on).

BUS 228 3 C/45 CH
Internet Web Page Design F, Sp, Sm

Prerequisite: OIS 101 Recommended, BUS 225 or CIS 110
 A study of the Internet focusing on Web Page Design for Business Applications using software programs such as Microsoft FrontPage as well as the HTML (Hypertext Markup Language). Course content is designed to provide students with hands-on applications using the above software tools.

BUS 240 3 C/45 CH
Business Communications F, Sp, Sm

Prerequisite: ENG 120

An examination of the basic elements of oral and written communications applying basic skills already acquired in the business setting. A study and practice of writing letters, memoranda, short papers and a research paper drawing on business sources. Oral Presentations are required.

BUSINESS LAW (BL)

BL 201 4 C/60 CH
Business Law I F, Sp, Sm

A survey of the American legal system designed to develop an understanding of the fundamentals of business law. Classes are conducted by using text and actual case studies for the purpose of observing the development and application of legal principles in a business activity. Topics covered include the nature of law, courts and court procedures, crimes and torts, contracts, sales and negotiable instruments.

CAREER AND PROFESSIONAL DEVELOPMENT (CPD)

CPD 100 1 C/15 CH
Career and Professional Development F, Sp, Sm

A course designed to assist students in making career choices. Development of self-confidence, motivation, human relation skills and stress reduction in the classroom and the work place are emphasized. Study skills, time management and conflict resolution are emphasized.

CHEMISTRY (CHM)

CHM 105 4 C/60 HL/30 HLB
Introduction to Chemistry F, Sp, Sm

Lab fee

An introductory lecture and laboratory course in chemistry for persons without any previous high school chemistry or for those with an inadequate background for CHM 136. Topics include properties of matter, atomic theory and structure, chemical bonds, nomenclature, composition of compounds, chemical equations and calculations from chemical equations and stoichiometry (meets six hours per week; four hours lecture and two hours laboratory).

CHM 136 4 C/60 HL/30 HLB
General Chemistry I F, Sp, Sm

Lab fee

Prerequisites: CHM 105, MAT 112

First lecture and laboratory course in a two semester general chemistry sequence. It includes a study of stoichiometry, solutions and concentrations of solutions, the gaseous state, molecular geometry and chemical bonding theory, reactions in aqueous solutions and a descriptive study of liquids and solids (meets six hours per week; four hours lecture and two hours laboratory).

Continued on next page.

CHEMISTRY (CHM) continued**CHM 145** 4/ 60 HL/30 HLB
General Chemistry II F, Sp, Sm*Lab fee**Prerequisite: CHM 136*

This is the second lecture and laboratory course in a two-semester general chemistry sequence. It includes a study of chemical kinetics, chemical equilibrium, acid-base concepts, acid-base equilibria solubility and complexation equilibria, thermodynamics and electrochemistry (meets six hours per week; four hours lecture and two hours laboratory).

CHM 155 4 C/60 HL/30 HL
Survey Organic & Biochemistry F, Sp, Sm*Lab fee**Prerequisites: CHM 105 or CHM 136*

A lecture and laboratory course introducing the student to elementary structural organic chemistry as it relates to understanding biochemical reactions. The structure and function of protein, carbohydrates, lipids and nucleic acids are presented. The major metabolic pathways are explored. The role of food nutrition in optimizing metabolism and energy production is discussed (meets six hours per week; four hours lecture and two hours laboratory).

CHM 250 4 C/60 CH
Organic Chemistry I*Prerequisite: CHM 145 Corequisite: CHM 252*

First lecture course of a one-year sequence in organic chemistry designed for chemistry majors and for students planning to attend professional schools. Topics include introduction to the nomenclature of organic compounds, stereochemistry, reaction intermediates, spectroscopy, kinetics, and thermodynamics (meets four hours per week).

CHM 252 4 C/60 CH
Organic Chemistry II*Prerequisite: CHM 250 Corequisite: CHM 255*

Second course of a one-year sequence in organic chemistry designed for chemistry majors and for students planning to attend professional schools.

Topics include aromatic structures and nomenclature, a more extensive study of reaction mechanisms and synthesis. The chemical basis of biological compounds will also be introduced (meets four hours per week).

CHM 255 4 C/90 HLB
Laboratory for Organic Chemistry I & II*Lab fee**Prerequisite: CHM 250 Corequisite: CHM 252*

Preparations, properties, and identification of organic compounds provide the student with basic laboratory skills in organic chemistry (meets six hours per week; six hours laboratory).

CHILD CARE TRAINING (CCT)
EARLY CHILDHOOD
EDUCATION**CCT 101** 3 C/45 CH
Introduction to F, Sp, Sm
Early Childhood Care

This is a survey class which will acquaint students with an understanding of early childhood and early childhood education programs. Theories and practices in early childhood curricula; the development of a multicultural approach to learning, pedagogy, and child management; national and state standards for licensing of programs; and NAEYC (National Association for the Education of Young Children) recommendations for child development are explored. Class recommended for those who are meeting the State of Michigan Child Care Directors' 12 credit hours requirement.

CCT 104 4 C/60 CH
Methods & Techniques in F, Sp, Sm
Child Care: Infant & Toddler Development

Prerequisites: CCT 101 or permission to enroll, EMT 101, ENG 119, HUS 105 or PSY 101, program admittance, police clearances, FIA clearance, immunizations, physical exam and food handler's card

Students will explore methods that meet the needs and stimulate the development of infants and toddlers. Students will learn various child management

techniques that ensure an environment that is socially, emotionally, communicatively, cognitively, creatively and physically supportive. A multicultural approach to learning is emphasized. Students will be required to complete 45 hour field experience in an infant and toddler setting. Course will meet partial requirements in preparation for the CDA assessment. (One credit hour for practicum and three credit hours for in-class time.) Class recommended for those completing the State of Michigan Child Care Directors' 12 credit hours requirement and will work with infants and toddlers. AAS degree students enrolled in CCT 104 must complete CCT 257.

CCT 106 **4 C/60 CH**
Methods & Techniques **F, Sp, Sm**
Pre-School Development

Prerequisites: CCT 101 or permission to enroll, ENG 119, HUS 105, PSY 101, EMT 101 program admittance, police clearances, FIA clearances, immunizations physical exam and food handler's card

Students will explore methods that meet the needs and stimulate the development of preschool children ages 2 1/2 to 5. Students will learn various child management techniques that ensure an environment that is socially, communicatively, emotionally, cognitively, creatively and physically supportive. A multicultural approach to learning is emphasized. Students will be required to complete a 45 hour field experience in a preschool setting. Course will meet requirements in preparation of the CDA assessment. (One credit hour for practicum and three credit hours of in-class time.) Class is not interchangeable, nor will it be substituted for CCT 105. Class recommended for those who are meeting the State of Michigan Child Care Directors' 12 credit hours requirement and will work with preschoolers. Students enrolled in CCT 106 must enroll in ENG 285.

CCT 111 **3 C/45 CH**
Child Assessment Techniques: **F, Sp, Sm**
Child Development Associate

Prerequisites: CCT 101, EMT 101, ENG 119, HUS 105, PSY 101

Students will explore tools and techniques utilized in the evaluation of cognitive, creative, communicative, emotional, social and physical development of children birth through five years of age. The course will explore standardized measures and observational techniques to meet CDA course requirement. Class is not interchangeable, nor can it be substituted for CCT 110.

CCT 120 **3 C/45 CH**
Parent-Child Teacher Relationship **Sp, Sm**

Prerequisites: HUS 105 and CCT 101 or permission to enroll, ENG 119, PSY 101, ENG 285 or CCT 257 and EMT 101

Students will explore methods and techniques that maintain an open, friendly and cooperative relationship with parents; encourage parental involvement, and support the children's relationship with her or his family. Class recommended for those who are meeting the State of Michigan Child Care Directors' 12 credit hours requirement.

CCT 157 **4 C/164 CH**
Child Care Practicum & Seminar I **F, Sp**

Prerequisites: ENG 119, HUS 105, HUS 135, CCT 101, CCT 104 or CCT 106, PSY 101 and EMT 101

A supervised practical learning experience in which students work with children (infant and toddlers or preschool ages) in actual facilities under the direction of certified professional staff. Students preparing for the CDA certification will use the field placement to prepare for assessment. Students will meet with their instructor on a weekly basis for a seminar. Class is not interchangeable, nor will it be substituted for CCT 156.

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CHILD CARE TRAINING (CCT) EARLY CHILDHOOD EDUCATION continued

CCT 210 3 C/45 CH Special Populations F, Sp

Prerequisites: CCT 101, EMT 101, ENG 119, HUS 105,
PSY 101 program admittance

A survey class with an emphasis on the identification of the cognitive, communicative, creative, emotional, physical and social growth of infants, toddlers and preschoolers with special needs, accelerated, physical, and emotional; and methods used in the address of these needs to stimulate development. Class will aid CDA students in the completion of the CDA portfolio.

CCT 220 3 C/45 CH Children, Instruction and the Media F, Sm

Prerequisites: ENG 119, HUS 105, HUS 135, CCT 101,
CCT 104 or CCT 106, PSY 101 and
EMT 101

A curriculum design course, students will learn to design curriculum and use content analytical methods to examine various forms of media (i.e., audio recorders, CDs, computers, display boards, film, overhead transparencies, radio, tape recorders, television, text, video and visuals), and utilize media to augment and enhance classroom curricula. Class recommended for those meeting the State of Michigan Child Care Directors' 12 credit hours requirement.

CCT 227 4 C/ 164 CH Child Care Practicum & Seminar II F, Sp

Prerequisites: CCT 101, CCT 157 EMT 101, ENG 119,
HUS 105, HUS 135, PSY 101, program
admittance

A supervised practical learning experience in which students work with children (infants and toddlers or preschool ages) in actual facilities under the direction of certified professional staff. Students preparing for the CDA certification will use the field placement to prepare for CDA assessment. Students will meet with their instructor on a weekly basis for a seminar. Class is not interchangeable, nor will it be substituted for CCT 226.

CCT 230 3 C/45 CH Program Management & Supervision F, Sp

Prerequisites: PSY 101, HUS 105, ENG 119, CCT 101
and EMT 101

This course will focus on the administrative program management, and supervision fundamental to the operation of early childhood programs and centers. Includes establishment of an organizational system, budget development and controls, licensing, business proposal writing, staffing, staff evaluation and supervision. CDA course requirement. Class recommended for those who are meeting the State of Michigan Child Care Directors' 12 credit hours requirement.

CCT 257 3 C/45 CH Infant Literature; Birth to 36 Months F, Sp, Sm

Prerequisites: ENG 119, CCT 101, PSY 101

The "Infant Literature" course is designed in response to developing literature foundations among infants and toddlers ages two weeks to 36 months, and identifies methods to assist parents. Recommended for CDA students who are seeking certificate upgrade. CCT 104 students must also enroll in this class.

CCT 260 1 C/15 CH Portfolio - Methods and Techniques F, Sp, Sm

Prerequisites: CCT 101, 104, 106, 110, 120, 157, 210, 220,
230 and ENG 119.

Students will construct a portfolio using data collected from previous course work and/or practical experiences. The portfolio can be used to meet CDA requirements. It can serve as a demonstration of knowledge and experience when applying to university and for employment.

CHINESE (CHN)

CHN 101 4 C/60 CH Introduction to Chinese Language F, Sp, Sm

This course is designed for beginning students and aimed at developing the four skills of listening to, speaking, reading, and writing Chinese. Emphasis is on grammatical constructions, vocabulary, basic idioms, and phonetics. Special emphasis will be on development of conversational Chinese.

COMMUNITY COLLEGE ORIENTATION (CCO)

CCO 100 1 C/15 CH **Community College Orientation** F, Sp, Sm

This course is designed to assist new students in making a successful adaptation to the college environment and enhancing basic study skills. The course emphasis is on improving students' academic, social and interpersonal skills through introduction to the life and study skills essential for academic success. This course is designed to increase student's awareness and use of resources both within and outside of the college (meets two hours per week for seven and one-half weeks).

COMPUTER INFORMATION SYSTEMS (CIS)

CIS 110 4 C/ 60 CH **Introduction to Computer Information Systems**

Designed as a first course for Computer Information Systems majors which will introduce the vocabulary and concepts of computer hardware and software. The computer information industry, career paths, systems, concepts, societal impacts and ethical issues will be discussed.

CIS 112 3 C/45 CH **Structured Design**

Corequisite: CIS 110

Designed to introduce problem solving methods, algorithm development and designing, coding, debugging and documenting programs using techniques of top-down, structured programming style.

CIS 203 3 C/45 CH **Visual Basic Programming Language**

Prerequisites: CIS 110, CIS 112

This course is designed to introduce the student to Visual Basic programming language. This course covers Visual Basic concepts, tools, and programming

methodology to create user friendly Microsoft Windows Application.

CIS 207 4 C/60 CH **Java Programming Language**

Prerequisites: CIS 110, CIS 112

This course is designed to introduce the student to Java programming including providing the knowledge and skills necessary for object-oriented programming. The student will learn how to program in JAVA which includes its syntax, its environment and its support for graphical user interface.

CIS 209 4 C/60 CH **C Programming Language**

Prerequisites: CIS 110, CIS 112

This course is designed to develop an understanding of the C programming language. C is a general-purpose programming language widely used in both systems programming and application programming. Student will solve programming assignments using C what is a programming known for its brevity of expression, modern control flow and data structures, and a rich set of operators.

CIS 210 3 C/45 CH **Introduction to Unix Operating Systems**

Prerequisites: CIS 110

This course is designed as a first course for computer information systems majors, and novice Unix users with computer skills but no experience with any operating system. This course is a comprehensive overview of the Unix Operating System, and the environment in which it functions. Students will use the college's desktop computers, ubiquitous network, and Unix Server to facilitate their understanding.

Continued on next page.

COMPUTER INFORMATION SYSTEMS (CIS) continued

CIS 212 4 C/60 CH Linux

Prerequisites: CIS 110, CIS 210

In this course students will define and identify origins, benefits, drawbacks, and uses of the Linux operating system. The students will log in, enter commands, shut down and restart your Linux workstation, create and configure users and groups, and manage the file system. The students will use Linux text editors and redirection to create and modify files, archive files with tar, cpio, and other commands. The students will work in the X Window environment, manage print services, and add and update packages through package management utilities.

CIS 213 3 C/45 CH Web Design Methodology and Technology

Prerequisites: CIS 110, CIS 241

This course teaches students how to create and manage Web sites with Multimedia tools such as Macromedia Dreamweaver and Flash, FrontPage, Dynamic HTML, and various multimedia and CSS standards. Students will also implement strategies to develop third-generation Web sites, evaluate design tools, discuss future technology standards, and explore the incompatibility issues surrounding current browsers. This course also focuses on theory, design and Web construction.

CIS 223 3 C/45 CH COBOL I

Prerequisites: CIS 110, CIS 112

Cobol I is designed to enable the students to learn the COBOL programming language from algorithm development and designing to coding, debugging, and documenting programs using structured programming methodologies.

CIS 237 7 C/105 CH Cisco CCNA

Prerequisites: CIS 110, CIS 240

In this class the students will broaden their working knowledge of routing protocols. Through hands on

work with Cisco switches and routers the student will install, configure and operate small networks

CIS 240 3 C/45 CH Networking Essentials

Prerequisite: CIS 110

This course will be an introduction to network concepts. The students will describe the features and functions of networking components, and possesses the knowledge and skills needed to install, configure and troubleshoot basic networking hardware. Protocols and standards, network implementation, and network support are also covered in this course.

CIS 241 4 C/60 CH Internet Foundations

Prerequisite: CIS 110

This course teaches students about internet connection methods, protocols, hypertext markup language, along with networking technologies. Students will learn about how websites are developed, wireless networking, and networking troubleshooting.

CIS 242 3 C/45 CH Web Administration

Prerequisites: CIS 110, CIS 210, CIS 244

This class is a comprehensive course that teaches students how to install a website and keep it in up and running. Students will also learn how to keep the hosting server working in different operating systems. At the end of this course, students will be able to provide essential services for anyone interested in establishing an effective e-business presence.

CIS 243 3 C/45 CH Network Security Fundamentals

Prerequisites: CIS 110, CIS 210, CIS 240

This course will teach students the latest security industry recommendations and how to properly protect servers from attacks in a variety of settings. Students will learn how to keep servers reconfigure the operating system to fully protect it, and scan hosts for known security problems. By the end of the course, students will have a solid understanding of the security architectures used by Windows and Linux.

CIS 244 3 C/45 CH
TCP/IP Concepts and Practices

Prerequisites: CIS 110, CIS 240

In this course the students will learn Transmission Control Protocol/Internet Protocol (TCP/IP) key concepts and protocols. Network routing, network troubleshooting and network management also will be addressed.

CIS 245 3 C/45 CH
Wireless Networking

Prerequisites: CIS 110, CIS 240

This course will introduce the student to wireless networking over a range of applications, from local area networks to broadband wide area network links. Students will be able to describe the advantages and disadvantages of wireless communication in general, and understand the difference between radio and infrared. The course will cover WLANs, configuration and security problems.

CIS 246 4 C/60 CH
Oracle Database Administrator I

Prerequisite: CIS 285

In this course the student will gain a conceptual understanding of the Oracle database and how its components work and interact with one another. Students will learn how to create a working database and properly manage it including performance monitoring, database security, user management, and backup/recovery techniques.

CIS 247 4 C/60 CH
Oracle Database Administrator II

Prerequisite: CIS 246

In this class, the students will learn how to configure an Oracle database for multilingual applications. Students will practice various methods of recovering the database, using RMAN, SQL, and Flashback technology. Tools to monitor database performance and improve database performance.

CIS 248 3 C/45 CH
Computer Support II

Prerequisites: CIS 110, CIS 240, CT 211

In this class the student will learn how to resolve end-

user operating systems problems by phone or, by connecting to the system remotely. It also gives the students skills needed to support end-users from Microsoft windows in a corporate environment or at home.

CIS 249 3 C/45 CH
Computer Support I

Prerequisites: CIS 110, CIS 240, CT 211

In this course the student will over view the operating systems concept and how to troubleshoot windows. The students will also learn how to answer end-user questions and troubleshoot security settings.

CIS 250 3 C/45 CH
E-Commerce Strategies and Practices

Prerequisites: CIS 110, CIS 241

The E-Commerce Strategy and Practices course teaches students how to conduct business online and how to manage the technological issues associated with constructing an electronic-commerce website. Students will implement a genuine transaction-enabled business-to-consumer website, examine strategies and products available for building electronic-commerce sites, examine how such sites are managed, and explore how they can complement an existing business infrastructure. Students get hands-on experience implementing the technology to engage cardholders, merchants, issuers, payment gateways and other parties in electronic transactions.

CIS 258 4 C/60 CH
JavaScript /PERL

Prerequisites: CIS 110, CIS 112

This course teaches developers JavaScript Fundamentals and how to use the features of the JavaScript language. Students will also learn how to write JavaScript programs, script for the JavaScript object model, control program flow, validate forms, animate images, target frames, and create cookies.

Continued on next page.

COMPUTER INFORMATION SYSTEMS (CIS) continued

CIS 259 4 C/60 CH C++ Object Oriented Programming Language

Prerequisite: CIS 209

Designed to foster an understanding of object oriented programming and to develop a working knowledge of the C++ programming language, this course stresses the use of objects and designing and implementing individual classes using C++. Students will be using computers to solve programming assignment which practice the syntax of C++.

CIS 260 3 C/45 CH System Analysis and Design

Prerequisites: CIS 110, CIS 112

This course is designed to introduce the systems design process in designing systems using project management techniques. Emphasis is placed on systems concepts and systematic thinking. Major topics include the basic tools and methods of traditional systems development, traditional analysis, design, and implementation through the data flow analysis and systems development life cycle approach, and methods for structured analysis and design.

CIS 266 3 C/45 CH Introduction to Graphic Design

Prerequisite: CIS 110

This course is designed to enhance the computer skills of those using graphics programs to prepare images for the Web or for print in 2D. Students will learn to enhance and create digital images using Photoshop; optimize images for speed of download; place and manipulate type in an image; work with layers and masks; use filters for special effects; work with background images and transparent gifs; create image maps; use Image Ready to create animations, slices, web photo gallery, and rollovers.

CIS 267 3 C/45 CH Understanding and Developing Multimedia

Prerequisite: CIS 110

Recommended: CIS 266

Students in this course will create dynamic media that communicates effectively through the use of sound, images, motion, and text. The students in this course will also examine in detail the concepts and tools necessary for producing their own interactive projects using a number of professional authoring tools, including Macromedia Flash and Dreamweaver.

CIS 285 3 C/45 CH Introduction to Database Concepts

Prerequisites: CIS 203, CIS 209, CIS 223, or CIS 259

This course is designed to introduce the student to the concepts of database design. The student will learn the fundamentals of SQL (Structure Query Language) using one of the most popular database management systems available today: Oracle8. The student will learn to create, query, update and change tables in database using SQL commands, as well as create reports, use forms, and embed SQL commands in another programming

COMPUTER TECHNOLOGY (CT)

CT 203 4 C/75 CH Digital Logic I

Lab fee

This course covers Boolean algebra, operation of digital combinational gates, flip-flop circuitry, shift registers and clock circuits and design combinational and sequential circuits. Laboratory is an essential phase of this course, which emphasizes the use of logic probes, logic pulsers and logic clips on gating circuits, flip-flops, counters, shift registers and multiplexers and demultiplexers.

CT 205 4 C/75 CH Introduction to Microprocessors

Lab fee

Prerequisite: CIS 110

An introduction to microprocessor systems, instruction sets, algorithm development and detail

description of microprocessor system hardware. The instruction set of Motorola and Intel family microprocessors are used to write various application programs. Laboratory experience involves program generation and interfacing.

CT 207 **3 C/60 CH**
Digital Logic II

Prerequisite: CT 203

An advanced course in digital electronics as applied in the modern digital computer. This course covers the various types of memories, ALU's, interfacing (A/D and D/A), conventional codes and large-scale shift register memories. Laboratory is an essential phase of this course which includes digital counters, multiplexers, memories and multivibrators. Techniques of interfacing and input/output devices are examined.

CT 209 **4 C/90 CH**
Computer Repair

Prerequisite: CIS 110 or CT 205

This course is designed to provide an in-depth study of various areas that are related to servicing computers and peripheral devices. Areas of study include assembly, disassembly of computers, upgrading hardware, troubleshooting hardware, installation and troubleshooting of operating systems such as DOS, Windows 9x, Windows 2000 and Windows XP. This course prepares students for the A+ certification exams.

CT 210 **6 C/90 CH**
Comptia A+

Prerequisite: CIS 110

The student will gain the experience required to build, troubleshoot and repair current microcomputer systems. Student takes a close look at all of the major competency in microcomputer technology to gain a thorough understanding of how the components work together and the symptoms when they do not. By performing hands-on configurations, the student will gain experience with as multitude of input/output port devices such as video, sound, network interfaces, USB, IDE serial, and parallel just name a few.

CT 211 **4 C/60 CH**
Computer Networking I

Prerequisite: CT 209

This course covers Managing and Maintaining a Microsoft Windows Server 2003 Environment. Topics include: creating and managing users and groups; administrating server and web resources; managing hardware, access to files, disk and data storage, backup and disaster and basic security.

CT 213 **4 C/60 CH**
Computer Networking II

Prerequisite: CT 211

Installing, Configuring, and Administering Microsoft Windows XP Professional. Also include users, group, profiles and policies, security and access controls, network protocols, internetworking with groups, printing and faxing, performance tuning, application support, booting, registry, fault tolerance, and troubleshooting of Windows XP

CT 215 **4 C/60 CH**
Computer Networking III

Prerequisite: CT 211

This course covers Implementing, Managing, and Maintaining a Microsoft Windows Server 2003 Network Infrastructure. Topics include: networking overview; IP addressing; implementing and managing DHCP, DNS, WINS; configuring name resolution; remote access; routing and security templates and network traffic.

CT 217 **4 C/60 CH**
Computer Networking IV

Prerequisite: CT 215

This course covers introduction to Microsoft Windows Directory Services Infrastructure. Topics include active directory overview, planning the active directory structure, directory sites, replication, groups, policies and certificates, planning and implementing active directory connectors, upgrading to Windows NT domain models to active directory.

CORRECTIONS (COR)

COR 100 3 C/45 CH Introduction to Corrections F, Sp, Sm

Introduction to the history, theory and practice of corrections. The role of probation, parole, prisoner rights in correctional institutions and community based corrections. Course needed to satisfy the requirements to become a State of Michigan Corrections Officer. Before students enroll in COR 100 they should have completed the ENG 115 requirements designated by the COMPASS examination.

COR 101 3 C/45 CH Introduction to Juvenile Justice F, Sp, Sm

Prerequisite: COR 100

Overview of the juvenile justice system; its history, philosophy and interrelationship with other components in the criminal justice system. Evaluation of major court decisions effecting juvenile rights and specific diversion programs. Course is recommended for those enrolled in the "Registered Social Work Technician" program and desire to work with juveniles in the criminal justice system.

COR 105 3 C/45 CH Introduction to Correctional Counseling F, Sp, Sm

Prerequisite: COR 100

The course will differentiate between normal and criminal behavior. Discussions will include psychological influences as it relates to behavior as well as the role of environment and the family on behavior. Various correctional intervention strategies will be discussed. Course needed to satisfy the requirements to become a State of Michigan Corrections Officer.

COR 110 3 C/45 CH Introduction to Deviant Behavior F, Sp, Sm

Prerequisite: COR 105

Definitions and characteristics of behavior classified as deviant. Overview of theories and schools of thought for understanding deviant behaviors and their diagnosis, discrimination of minorities in Michigan, and formation of attitudes, ethics and values.

COR 200 3 C/45 CH Social Science for Correctional Personnel F, Sp

Prerequisite: COR 100

The course will define the personal, psychological and environmental meanings of culture in contemporary society. The impact and meaning of discrimination will be discussed. The student will be expected to identify ways in which the various environments impact the development of attitude formation. Professional responses in the correctional setting will be discussed.

COR 205 3 C/45 CH Institution Corrections Personnel F, Sp

Prerequisite: COR 100 and COR 105

This course will review the history and philosophy of correctional institutions' personnel and human growth and development. Study of institutional administration, management, supervision and personnel in parole, probation, community intervention strategies, treatment and control. Overview of specific problems of substance, medical and mental abuse. Course needed to satisfy the requirements to become a State of Michigan Corrections Officer.

COR 210 3 C/45 CH Correctional Institution Facilities F, Sp

Prerequisite: COR 100 and COR 105

An in-depth study of the purpose of prisons and correctional institutions. There will be discussion of the management and organization of correctional institutions with specific description of traditional job roles. Custodial care and safety/ security issues will be discussed as well as other institutional concerns in reference to incarceration. Course needed to satisfy the requirements to become a State of Michigan Corrections Officer.

COR 215 3 C/45 CH Correctional Fieldwork F, Sp

Prerequisite: COR 200

This course will examine interpersonal relationships in correctional systems and the dynamics of attitude change. The course is a supervised work experience in a correctional setting under the direction of a faculty adviser and a field supervisor, in which students will maintain a log of their work activity and meet weekly with their advisor.

COR 218 3 C/45 CH
Race Relations - COR Personnel F, Sp

Prerequisite: COR 200

Examines racial tensions as they relate to correctional personnel, including emphasis on case histories of institutional problems and psychological games. Confrontation tactics for attitude change, economic oppression and competition, educational deprivation and social injustices and their relationship to institutional actions are discussed. Examines the woman's identity, and life choices and position in society in relation to correctional work in the criminal justice system.

COR 255 3 C/45 CH
Legal Issues in Corrections F, Sp

Prerequisite: COR 200

This course is an overview of the major legal issues, trends and the political and social dimensions of convictions. An analysis of constitutional law, courts decisions, current legislation of the federal and state law affecting prisons and the judicial proceedings. Examines a forum for the legal rights of prisoners and the responsibilities of the legal system and the adjudication of juveniles and the alternatives to incarceration. Course needed to satisfy the requirements to become a State of Michigan Corrections Officer.

CRIMINAL JUSTICE (CJS)

CJS 100 3 C/45 CH
Introduction to Criminal Justice F, Sp, Sm

This course is an overview of the criminal Justice system, the police, the legislature, the prosecutor, the public defender, the court, corrections, probation and parole techniques that are essential in addition to decision-making within the system. An analysis of the roles, changes and problems of law enforcement in a democratic society will be conducted.

DANCE (DAN)

DAN 101 3 C/45 CH
Modern Dance I F, Sp, Sm
 Training in the technical, rhythmic, and creative elements of contemporary dance.

DAN 102 3 C/45 CH
Modern Dance II F, Sp, Sm

Prerequisite: DAN 101

Continuation of DAN 101 with emphasis on advanced elements of contemporary dance.

DAN 103 3 C/45 CH
Modern Dance III

Prerequisite: DAN 102

Continuation of DAN 102 with emphasis on advanced elements of contemporary dance.

DAN 111 3 C/45 CH
Ballet I

Training in the fundamental techniques and terminology of classical ballet.

DAN 115 3 C/45 CH
African-American Dance

African-American dance combines the dance disciplines of both traditional African dances and modern jazz dance techniques.

DAN 211 3 C/45 CH
Choreography and Performance

Prerequisite: DAN 102 or equivalent

Training in creating large and small group dances with opportunities for performance.

DENTAL (DEN)

DEN 100 3 C/45 CH

Professional Development

An introductory course designed to prepare the dental programs student to become a member of today's dental health team. Along with basic dental terminology, an orientation to the profession of dentistry, the student is instructed in developing skills necessary for success as a member of the dental health team. Emphasis is placed on professional standards, ethics, assertive communication, empathy training, time management, goal setting and job preparation.

DEN 112 2 C/30 CH

Medical and Dental Emergencies

Prerequisite: Program Admission

This course will familiarize the student with common medical emergencies in the dental office. Preventive measures and management of these emergencies will be reviewed. Additionally, information on the basic physiology and pathophysiology occurring with common medical emergencies as well as variations in clinical signs will be presented. Reinforcement occurs throughout the students clinical experiences by real or simulated emergencies. Students upon entering the program are to be certified by the American Heart Association and/or the American Red Cross at the Basic Life Healthcare provider level.

DEN 200 2 C/30 CH

Dental Radiology Theory

This course includes lectures on the nature, effects, and use of radiology in dentistry with special emphasis on radiation hazards and protection.

DEN 201 1 C/30 CH

Dental Radiology Lab

This course concentrates on the practical aspect of exposing, developing, and mounting diagnostic radiographs with emphasis on the two intra-oral techniques: bisecting and paralleling. In addition, students will be able to identify normal radiographs landmarks. It is strongly recommended that this course be taken simultaneously with DEN 200 or after the completion of DEN 200.

DENTAL ASSISTING (DA)

DA 104 3 C/45 CH

Dental Materials

A lecture and laboratory course which provides the student with a fundamental knowledge of the dental materials commonly used in dental practice. Lecture: Presents physical, chemical, and manipulative characteristics of impression materials, cements, bases, cavity liners, cavity varnishes, waxes, composites, gypsum products, metals and resins Laboratory: Prepares students to correctly manipulate these materials. Students also acquire the skill to obtain preliminary impressions and occlusal registrations; pour, trim and polish study casts; fabricate custom impression trays from preliminary impressions; clean and polish removable appliances and prostheses; and fabricate provisional restorations.

DA 106 4 C/60 CH

Applied Sciences

This course provides the student with a basic understanding of the structure and function of the body systems and an in-depth knowledge of oral anatomy including: head and neck anatomy, tooth anatomy and function, and embryology and histology of oral tissues.

DA 107 2 C/30 CH

Introduction to Expanded Functions

This lecture/laboratory is one of the courses designed to prepare the student to sit for the Registered Dental Assistant examination in the State of Michigan Topics to be included, but not limited to: infection control basics, disease transmission, hazardous waste management, placement and removal of non-metallic temporary restorations,

DA 110 3 C/60 CH

Clinical Dental Assisting

This is a lecture and laboratory course with emphasis on clinical infection control procedures and chairside four-handed dental assisting skills. Lecture: Presents concepts of the oral health team including the history of dentistry and the allied dental career fields, dental equipment and maintenance, infection control

management, team positioning, medical histories and vital signs, instrument identification and tray set-ups, basics of four-handed technique (four-handed transfer, tissue retraction, irrigation, illumination, and evacuation), and dental charting. Laboratory: Includes experience in working with and maintaining dental equipment, managing asepsis, infection and hazard control protocol consistent with published professional guidelines; team and patient positioning; completing histories, vital signs and dental charting, and practice in four-handed technique and instrument tray setups.

DA 115 **1 C/15 CH**
Preventive Dentistry

This lecture course provides students with a basic understanding of patient education with an emphasis on individualized oral health counseling. The course includes instruction in the following topics: dietary considerations for oral health, dental plaque and other deposits, disclosing agents, tooth stains and discolorations, fluorides, periodontal tissues, home care for appliances and techniques for the prevention of oral diseases.

DA 117 **4 C/35 CH**
Clinical Practice I

This course is designed to perfect the students' competencies in performing dental assisting functions. Practice is provided in clinical chairside assisting in a dental setting. There is a one hour weekly seminar in conjunction with the field experience to integrate theoretical, laboratory, and clinical instruction and to provide opportunities for students to share their experiences.

DA 120 **2 C/30 CH**
Dental Specialties

Prerequisite: DA 110

This is a lecture course designed to expose the dental assisting student to the dental specialties. Areas covered are oral surgery, endodontics, orthodontics, pediatrics, prosthetics and periodontics.

DA 125 **5 C/75 CH**
Clinical Practice II

Prerequisite: DA 117

This course is a continuation of Clinical Practice I. Students will be assigned to a dental practice settings for continued practice in chairside clinical dental assisting. There is a 15 hour seminar in addition to the field experience.

DA 126 **3 C/45 CH**
Pathology, Pharmacology & Medical/Dental Emergencies

Prerequisite: DA 106

The topics discussed during the course include: emergency carts/kits, administration of oxygen, emergency drugs, allergic reactions, syncope emergencies, circulatory emergencies, respiratory emergencies, epilepsy, diabetes and drug related emergencies. The course provides a basic knowledge of the names, uses, and effects of drugs commonly used in dentistry. The course includes concepts of developmental/growth disturbances, diseases of microbiological origin, injury and repair, metabolic and disease disturbances, and oral manifestations of various diseases and conditions.

DA 127 **2 C/30 CH**
Dental Office Management

Prerequisite: DA 110

This lecture course is an introduction to basic dental practice management procedures. In addition, telephone management, appointment control, maintaining patient treatment records, bookkeeping, inventory and supplies, recall systems, and third party payment plans will be presented.

Continued on next page.

DENTAL ASSISTING (DA) continued

DA 129 2 C/30 CH Legal, Ethical & Communication Issues

Prerequisite: DA 110

This lecture course includes basic concepts in oral and written communication and applied psychology. The purpose of this course is to prepare students to work effectively with patients and the allied health team within the law. Content areas include principles of human behavior, patient anxiety, special patients, coping mechanisms, principles of learning, verbal and nonverbal communications, and listening skills. The course will also explore the state and national dental practice acts as they pertain to members of the dental health team as well as explore the ethical role of team members through role-playing situations. Students will also prepare a resume and job search plan.

DA 202 3 C/45 CH Expanded Functions for the Dental Assistant

Prerequisite: DA 117

This lecture/laboratory course is designed to prepare the student to sit for the RDA examination in the State of Michigan. Expanded functions not already covered as allowed under Michigan law will be taught. Topics include but are not limited to: placement and removal of rubber dam, placement and removal of nonmetallic temporary restorations, removing excess cement from supragingival surfaces of a tooth with non-rotary instruments, applications of anticarcinogenics after prophylaxis, mouth mirror inspection and charting of the oral cavity, sizing of temporary crowns and bands, removal of sutures, and the placement and removal of periodontal dressings.

DENTAL HYGIENE (DHY)

DHY 101 3 C/45 CH Fundamentals of Dental Hygiene

Prerequisite: Program Admission

Corequisite: DHY 120

Fundamentals of dental hygiene is that portion of the

dental hygiene curriculum focused on developing the cognitive, affective and psychomotor skills necessary for delivery of preventive, educational and therapeutic services to the public. This course will prepare the dental hygiene student with cognitive, psychomotor and affective skills for entry into clinical dental hygiene practice. Also this course will expose the student to selected services and skills performed by the dental hygienist. Fundamentals of Dental Hygiene is an introduction to the principles of dental hygiene practice. The students will be presented with topics to prepare them to perform basic skills safely and effectively. Theory of taking a complete medical and dental history, intra/extraoral examination, dental charting, periodontal charting, basic instrumentation, scaling and polishing of the teeth and topical fluoride application will be covered. Students will practice procedures in the clinical course DHY 120. Emphasis will also be placed on professional standards, ethics, effective communication and confidentiality.

DHY 110 3 C/60 CH Oral Anatomy and Physiology

Prerequisite: Program Admission

An introduction to anatomical nomenclature and descriptive gross anatomy of the head, neck, and oral cavity. Topics include tooth morphology, head and neck anatomy and occlusion. Tooth morphology is the area of dental science that deals with the structure and form of the tooth. Head and neck anatomy includes the study of the oral cavity and its surrounding structures, including osteology, muscles, nerves, arterial supply, venous drainage, lymphatics, salivary glands, and sinuses. Occlusion is described as the relationship of the teeth in the maxillary and mandibular arches to each other, focusing on a working knowledge of the dental arch forms, inter- and intra-arch tooth alignment, and intercuspal relationships.

Students are required to complete selected carvings of selected teeth during lab sessions. The first half of the semester will cover in great depth the anatomy of the individual teeth and the functional interrelationship between the individual teeth and the periodontal tissues. During the second half of the semester, the course will concentrate on head and neck anatomy

which will include an in-depth understanding of the skeletal, muscular, vascular, and neural structures of this anatomical region and their individual and interrelating functions.

DHY 111 **3 C/45 CH**
Histology and Oral Embryology

Prerequisites: DHY 101, DHY 110, DHY 120

Histology and Oral Embryology encompasses the development of the oral facial complex including the formation of the enamel, dentin and pulp root formation, the attachment apparatus and the eruption and shedding of the teeth. The course focus is on the ontogeny of humans with emphasis on the development of the maxillofacial area and dental structures. Study will be divided into 3 parts. The first part of the course will cover basic and general histology, such as the study of the cell and its organelles, epithelium, connective tissue, blood and its cellular elements, cartilage, bone, muscle, nerve tissue, etc. The second part of the course will cover the histology of the oral and dental structures, such as the oral epithelium, enamel, dentin, pulp, cementum, alveolar bone, PDL, etc. The third part of the course will cover the embryology of the oral and head and neck structures. This course is a fascinating one that promises to be quite challenging and interesting. In this course, you will study the various tissues and organs and organ systems of the human body from a microscopic view. In other words, gross anatomy deals with structures that can be seen with the naked eye, whereas histology deals with structures that require a microscope (whether light or electron) to visualize. In addition to learning about the microscopic anatomy of the afore-mentioned, you will also learn about these structures from a biochemical point of view. Perhaps even more fascinating is the embryology portion of this course that will teach you the basis for the development of the human being. Again when studying the development of the human, you will learn and study this process from a microscopic and biochemical vantage.

DHY 120 **3 C/90 CH**
Clinical Techniques

Prerequisite: Program Admission

Corequisite: DHY 101

The delivery of comprehensive care is accomplished through adherence to the process of care: assessment of patient needs, formulation of a dental hygiene diagnosis, planning for the prevention and treatment of oral disease, implementation of various dental hygiene interventions (services) and evaluation of both the patient and practitioner efforts and oral health outcomes. Clinical Techniques is designed to develop skills in the techniques utilized for dental hygiene practice. Students will practice techniques on typodonts and student partners. Assessment of competency is performed on student partners. Each topic covered in the didactic course DHY 101 will be practiced and assessed in this course. Clinical practice is provided in collaboration with the clinical dental hygiene faculty through an assessment of patient needs, planning for treatment and disease control. Treatment includes implementation of various clinical dental hygiene services and an evaluation of treatment effectiveness based on the patient/clinic and practitioners efforts. Sequential courses are designed to increase the student's speed and ability. Assessment of student progress in attaining program and clinical competency is ongoing.

DHY 121 **3 C/45 CH**
Oral Pathology

Prerequisites: DHY 110, DHY 111, DHY 131, DHY 132

Oral Pathology will focus on the study of disease and the disease process with an emphasis on the detection, symptoms and treatment of diseases of the oral region and the oral manifestations of systemic diseases.

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DENTAL HYGIENE (DHY) continued

DHY 129 2 C/30 CH Clinical Dental Hygiene I – Lecture

Prerequisites: DHY 101, DHY 120

Corequisite: DHY 130

Clinical dental hygiene is that portion of the dental hygiene curriculum focused on developing the cognitive, affective and psychomotor skills necessary for delivery of preventive, educational and therapeutic services to the public. This course will prepare the dental hygiene student with cognitive, psychomotor and affective skills for entry into clinical dental hygiene practice. Also this course will expose the student to all of the selected services and skills performed by the dental hygienist.

DHY 130 3 C/120 CH Clinical Dental Hygiene I – Lab

Prerequisites: DHY 101, DHY 120

Corequisite: DHY 129

The delivery of comprehensive care is accomplished through adherence to the process of care: assessment of patient needs, formulation of a dental hygiene diagnosis, planning for the prevention and treatment of oral disease, implementation of various dental hygiene interventions (services) and evaluation of both the patient and practitioner efforts and oral health outcomes. Clinical dental hygiene focuses on developing the cognitive, affective and psychomotor skills necessary for the delivery of preventive, educational and therapeutic services to the public. Clinical practice is provided in collaboration with the clinical dental hygiene faculty through an assessment of patient needs, planning for treatment and disease control. Treatment includes implementation of various clinical dental hygiene services and an evaluation of treatment effectiveness based on the patient/clinic and practitioners efforts. Sequential courses are designed to increase the student's speed and ability. Assessment of student progress in attaining program and clinical competency is ongoing.

DHY 131 2 C/30 CH Clinical Dental Hygiene II – Lecture

Prerequisites: DHY 129, DHY 130

Corequisite: DHY 132

Clinical dental hygiene is that portion of the dental hygiene curriculum focused on developing the cognitive, affective and psychomotor skills necessary for delivery of preventive, educational and therapeutic services to the public. The course will prepare the dental hygiene student with cognitive, psychomotor and affective skills for entry into clinical dental hygiene practice. Also this course will expose the student to all of the selected services and skills performed by the dental hygienist. Clinical Dental Hygiene Lecture II will introduce additional topics to enhance the student's ability to provide comprehensive dental hygiene services to clients.

DHY 132 3 C/72 CH Clinical Dental Hygiene II – Lab

Prerequisites: DHY 129, DHY 130

Corequisite: DHY 131

The delivery of comprehensive care is accomplished through adherence to the process of care: assessment of patient needs, formulation of a dental hygiene diagnosis, planning for the prevention and treatment of oral disease, implementation of various dental hygiene interventions (services) and evaluation of both the patient and practitioner efforts and oral health outcomes. Clinical dental hygiene focuses on developing the cognitive, affective and psychomotor skills necessary for the delivery of preventive, educational and therapeutic services to the public. Clinical practice is provided in collaboration with the clinical dental hygiene faculty through an assessment of patient needs, planning for treatment and disease control. Treatment includes implementation of various clinical dental hygiene services and an evaluation of treatment effectiveness based on the patient/clinic and practitioners efforts. Sequential courses are designed to increase the student's speed and ability. Assessment of student progress in attaining program and clinical competency is ongoing.

DHY 209 2 C/30 CH
Clinical Dental Hygiene III – Lecture

Prerequisites: DHY 130, DHY 131, DHY 132

Corequisite: DHY 210

This course is a continuation of Clinical Dental Hygiene II lecture with emphasis on the process of utilizing assessment, diagnosis and planning, implementation, and evaluation and maintenance as they relate to the development and revision of a dental hygiene care plan. In addition, general and dental dietary habits are discussed as part of the overall health of the patient.

DHY 210 5 C/240 CH
Clinical Dental Hygiene III – Lab

Prerequisites: DHY 130, DHY 131, DHY 132

Corequisite: DHY 209

The delivery of comprehensive care is accomplished through adherence to the process of care: assessment of patient needs, formulation of a dental hygiene diagnosis, planning for the prevention and treatment of oral disease, implementation of various dental hygiene interventions (services) and evaluation of both the patient and practitioner efforts and oral health outcomes. Clinical dental hygiene focuses on developing the cognitive, affective and psychomotor skills necessary for the delivery of preventive, educational and therapeutic services to the public. Clinical practice is provided in collaboration with the clinical dental hygiene faculty through an assessment of patient needs, planning for treatment and disease control. Treatment includes implementation of various clinical dental hygiene services and an evaluation of treatment effectiveness based on the patient/clinic and practitioners efforts. Sequential courses are designed to increase the student's speed and ability. Assessment of student progress in attaining program and clinical competency is ongoing.

DHY 211 3 C/45 CH
Pharmacology

Prerequisites: DHY 129, DHY 130

Pharmacology may be defined as the science of drugs. As a biomedical science, pharmacology embraces the physical and chemical properties of drugs, the preparation of pharmaceutical agents, the

pharmacokinetics of drugs, and the effects of drugs on living systems. As a clinical discipline, pharmacology encompasses the therapeutic application of medicines, toxicity, and practical and legal issues pertaining to the development, marketing, and dispensing of drugs. Pharmacology is clearly a complex and dynamic subject with new drugs entering the market place very frequently.

DHY 213 2 C/30 CH
Periodontology

Prerequisites: DHY 129, DHY 130

Periodontology is the scientific study of the periodontium in health and disease. This course covers the diagnosis, treatment, and prevention of pathologic conditions affecting the supporting and surrounding tissues of the teeth, the gingiva, periodontal ligament, alveolar bone and cementum.

DHY 214 3 C/45 CH
Local Anesthesia and Pain Control

Prerequisites: Program Approval, DHY 211, DHY 131, DHY 132

This course is designed to provide students with the basic and current concepts of local anesthetics, nitrous oxide sedation and pain control. Systemic effects, tissue diffusion and the toxicity of anesthetics and dental therapeutic agents used in dentistry will be reviewed. Assessment of the patient's health status, level of apprehension and pain threshold will be included in determining the indications and contraindications of pain control and alleviation of pain. Selection and administration of appropriate anesthetic agents and evaluation of the proper technique will be evaluated. The student will learn to administer local anesthesia, safely, effectively and painlessly. The student will learn to safely administer and monitor nitrous oxide oxygen sedation in the clinical setting in compliance with Michigan Law. Utilization of fail-safe equipment and scavenger systems will be employed.

Continued on next page.

DENTAL HYGIENE (DHY) continued

DHY 219 2 C/30 CH Clinical Dental Hygiene IV – Lecture

Prerequisites: DHY 209, DHY 210

Corequisite: DHY 220

This course is a continuation of Clinical Dental Hygiene III (DHY 209) with an in-depth study of specific medical and dental conditions as they relate to dental hygiene care, including but not limited to: diabetes, asthma, HIV, chemical dependencies, eating disorders, and pregnancy and menopause.

DHY 220 5 C/240 CH Clinical Dental Hygiene IV – Lab

Prerequisites: DHY 209, DHY 210

Corequisite: DHY 219

The delivery of comprehensive care is accomplished through adherence to the process of care: assessment of patient needs, formulation of a dental hygiene diagnosis, planning for the prevention and treatment of oral disease, implementation of various dental hygiene interventions (services) and evaluation of both the patient and practitioner efforts and oral health outcomes. Clinical dental hygiene focuses on developing the cognitive, affective and psychomotor skills necessary for the delivery of preventive, educational and therapeutic services to the public. Clinical practice is provided in collaboration with the clinical dental hygiene faculty through an assessment of patient needs, planning for treatment and disease control. Treatment includes implementation of various clinical dental hygiene services and an evaluation of treatment effectiveness based on the patient/clinic and practitioners efforts. Sequential courses are designed to increase the student's speed and ability. Assessment of student progress in attaining program and clinical competency is ongoing.

DHY 221 3 C/60 CH Dental Biomaterials

Prerequisites: DHY 101, DHY 120

Biomaterials is the science and technology of materials used in dentistry. Chemical, physical and manipulative characteristics of various restorative and procedural materials will be explored in the prevention and treatment of oral disease. Laboratory experiences develop skills in working with these materials. Laboratory experiences develop skills in working with these materials and illustrate the characteristics and uses of dental materials.

DHY 223 3 C/45 CH Dental Health Education

Prerequisites: DHY 130, DHY 131, DHY 132

Dental health education is concerned with the knowledge, attitudes, skills and behaviors necessary to promote oral health and prevent oral disease through educational efforts. This course will explain the principles and theories of education which will enhance the ability of the dental hygiene student as an oral health educator. The approach taken will provide students with the knowledge and skills necessary to meet the needs of community groups as distinct from the traditional clinical approach designed to meet the needs of individual patients. Students are required to assess, plan, implement and evaluate an oral health educational plan giving them a sense of responsibility and commitment toward improving oral health in the community.

DHY 225 3 C/45 CH Management of Special Patients

Prerequisites: DHY 209, DHY 210

Introduces the characteristics and unique dental health needs of patients with medical, physical, mental, social, emotional, the elderly, and selected medical and compromising conditions. Emphasis is placed on modified dental hygiene treatment for these special populations. Dental hygiene care of the individual with special needs deals with the special requirements of persons with developmental and/or acquired conditions.

DHY 226 1 C/15 CH
Advanced Periodontology

Prerequisite: DHY 213

Advanced Periodontology is designed to acquaint the dental hygiene student with the clinical diagnosis and treatment of periodontal diseases with special emphasis on the surgical techniques utilized.

control. Treatment includes implementation of various clinical dental hygiene services and an evaluation of treatment effectiveness based on the patient/clinic and practitioners efforts. Sequential courses are designed to increase the student's speed and ability. Assessment of student progress in attaining program and clinical competency is ongoing.

DHY 227 1 C/15 CH
Radiology II

Prerequisites: DEN 200, DEN 201

Continuation of the science and clinical practice of oral radiography, including radiographic interpretation, normal anatomy on periapical and extraoral films, recognition of abnormalities and the limitations of radiography.

DHY 230-C 2.5 C/40 CH
Clinical Dental Hygiene V – C

Prerequisites: DHY 229, DHY 230

The delivery of comprehensive care is accomplished through adherence to the process of care: assessment of patient needs, formulation of a dental hygiene diagnosis, planning for the prevention and treatment of oral disease, implementation of various dental hygiene interventions (services) and evaluation of both the patient and practitioner efforts and oral health outcomes. Clinical dental hygiene focuses on developing the cognitive, affective and psychomotor skills necessary for the delivery of preventive, educational and therapeutic services to the public. Clinical practice is provided in collaboration with the clinical dental hygiene faculty through an assessment of patient needs, planning for treatment and disease control. Treatment includes implementation of various clinical dental hygiene services and an evaluation of treatment effectiveness based on the patient/clinic and practitioners efforts. Sequential courses are designed to increase the student's speed and ability. Assessment of student progress in attaining program and clinical competency is ongoing.

DHY 229 2 C/30 CH
Clinical Dental Hygiene V – Lecture

Prerequisites: DHY 219, DHY 220

Corequisite: DHY 230

This course is a continuation of Clinical Dental Hygiene IV and offers other aspects of clinical practice. This course also examines the practice of dental hygiene from many aspects including business, career alternatives, job seeking skills, resume' preparation and professional responsibilities.

DHY 230 5 C/144 CH
Clinical Dental Hygiene V – Lab

Prerequisites: DHY 219, DHY 220

Corequisite: DHY 229

The delivery of comprehensive care is accomplished through adherence to the process of care: assessment of patient needs, formulation of a dental hygiene diagnosis, planning for the prevention and treatment of oral disease, implementation of various dental hygiene interventions (services) and evaluation of both the patient and practitioner efforts and oral health outcomes. Clinical dental hygiene focuses on developing the cognitive, affective and psychomotor skills necessary for the delivery of preventive, educational and therapeutic services to the public. Clinical practice is provided in collaboration with the clinical dental hygiene faculty through an assessment of patient needs, planning for treatment and disease

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DENTAL HYGIENE (DHY) continued

DHY 231 4 C/60 CH Community Dentistry

Prerequisites: DHY 209, DHY 210

Community dental health is concerned with the knowledge, attitudes, skills and behaviors necessary to promote oral health and prevent oral disease through community based efforts. This course is designated to introduce students to the basic principles of dental public health and the responsibilities of the dental hygienist in promoting oral health and preventing oral disease in a community. The health care system including the social, political, psychological, cultural and economic forces directing the system will be discussed. Special emphasis is placed on the role of the dental hygienist in community practice as distinct from the traditional clinical private practice; and the theoretical base for assessing, designing, implementing and evaluating community dental health programs. Students are required to assess, plan, implement and evaluate oral health programs giving them a sense of responsibility and commitment toward improving oral health in the community.

DHY 233 2 C/30 CH Dental Hygiene Seminar

Prerequisites: DHY 219, DHY 220

Provide a comprehensive approach and review of the theories and practice of dental hygiene. This course is designed to apprise students of national and regional state board requirements, strengthen test-taking skills and provide an opportunity for review of topic areas evaluated on these board examinations. Guest speakers will provide a review of pertinent subject matter.

DENTAL LABORATORY TECHNOLOGY (DLT)

DLT 101 3 C/45 CH Introduction to Dental Laboratory Technology

An introduction to Dental Laboratory Technology. This course examines the principles of dental laboratory management, the daily operation of the dental laboratory, its equipment, safety procedures, and routine business operation. Included are legal and ethical issues related to the Dental Laboratory. Infection control protocol, infectious diseases and aseptic procedures will be described as it relates to the dental laboratory professional.

DLT 110 3 C/30 CH Basic Anatomy and Tooth Morphology

Prerequisites: DLT 101, DEN 100

A study of the occlusal anatomy and morphology of human dentition. This course will focus primarily on posterior teeth and will also discuss associated bones and musculature. Laboratory sessions are designed to develop waxing skills for application in the crown and bridge specialty area.

DLT 115 4 C/195 CH Basic Crown and Bridge Techniques

A study of the theories and techniques required to fabricate cast crowns and bridges. Laboratory competency is developed in model and die, waxing, investing, casting, finishing, polishing, and corrective soldering techniques.

DLT 120 3 C/60 CH Basic Occlusion for Dental Laboratory Technology

Prerequisites: DLT 101, DEN 100

A study of the basic principles of occlusion as they relate to crown and bridge restorations. Topics include centric occlusion, functional occlusion, and the TMJ.

DLT 125 2 C/30 CH Basic Dental Laboratory Techniques Practicum

Prerequisites: DLT 101, DEN 100

This course is an introduction to the design and fabrication of fixed appliances, such as full crowns,

bridges, inlays and onlays. This course will provide hands-on appliance design requirements, construction and methods of wax pattern fabrication. This course affords the student the opportunity to complete laboratory projects.

DLT 130 **3 C/60 CH**
Advanced Anatomy and Morphology for Dental Technicians

Prerequisite: DLT 110

Primarily a study of the anatomy and morphology of the permanent human dentition will be continued throughout this course. This course will focus on anterior and posterior tooth anatomy and will also discuss basic Head and Neck Anatomy. We will discuss the basics in Osteology, Muscles of Mastication, the TMJ, Muscles of Facial expression, Soft Palate anatomy, Circulatory system of the head and neck, Salivary glands, Nervous system, and Lymphatics and spread of infection. Laboratory sessions are designed to continue to develop waxing skills for application in the crown and bridge specialty area.

DLT 140 **2 C/45 CH**
Esthetic Factors for Dental Restoration (Dental Ceramics)

Prerequisite: DLT 115

A study of the factors that determine the esthetic success of fixed restorations. Laboratory sessions are designed to support the required laboratory performance in Dental Ceramics with a focus on color, shade, size, shape, position, and harmony between natural and restored teeth.

DLT 145 **5 C/195 CH**
Introduction to Basic Dental Ceramics

Prerequisite: DLT 110

A study of the properties, handling characteristics, and applications of dental porcelain as a restorative material. Laboratory sessions are designed to develop competency in the fabrication of porcelain-fused-to-metal restorations.

DLT 155 **4 C/60 CH**
Advanced Dental Laboratory Technology Practicum

Prerequisite: DLT 110

This course is designed to increase the proficiency and productivity of the dental laboratory technology student. The laboratory projects reinforce and build on the basic knowledge and techniques acquired in previous course studies. The student will become proficient in the design and construction of fixed prosthetics.

DLT 165 **10 C/240 CH**
Dental Laboratory Technology Internship

Prerequisite: Completion of all prior DLT coursework

Practical skills are developed and laboratory competency is enhanced through a formal internship experience. Students are assigned to selected commercial and in-house laboratories to work with practicing dental technicians to perfect their skills.

DIETETIC TECHNOLOGY (DT)

DT 111 **2 C/45 CH**
Dietetics Orientation **F, Sm**

Dietetics Orientation is the first course in the program sequence. Students are introduced to the profession of dietetics, the American Dietetic Association, the Code of Ethics and professional conduct. Career opportunities are explored and students are encouraged to define career goals. Other topics include developing a portfolio, reviewing research in professional journals, self-assessment, time management; problem solving skills and study skills are also emphasized.

Continued on next page.

DIETETIC TECHNOLOGY (DT) continued

DT 130 **3C/45 CH**
Fundamentals of Nutrition **F, Sp, Sm**

Prerequisite: BIO 155

Fundamentals of Nutrition provides a sound and concise introduction to the science of human nutrition. Students explore the six essential nutrients and their functions in the body. These functions are developed around three fundamental problems of sustaining human life that nutrition solves: energy, tissue building, and regulation and control. Students are also introduced to the application of these nutrition concepts to normal adults, prenatal, infant, pre-school and elderly populations.

DT 210 **2 C/30 CH**
Nutrition Assessment Laboratory **F**

Prerequisite: DT 130

Students learn various assessment methods and practice techniques for gathering data, integrating the findings and forming nutrition care plans. Practice labs include interactive computer simulations as well as individual client interviews and counseling under the supervision of a registered dietitian. This course is structured as a one-hour seminar and two-hour lab.

DT 212 **3 C/45 CH**
Community Nutrition **Sp**

Corequisite: DT 213

This didactic course explores current nutrition theory regarding the nutritional needs of people in the various phases of life, from birth through the elderly years. Students complete case studies on each life cycle phase. Students learn the public health model and the interdisciplinary approach to assessing the nutrient requirements, developing care plans and delivering sound nutrition advice for clients. Students are required to develop education and training materials. Students use the action research model to initiate change.

DT 213 **4 C/90 CH**
Nutrition Practicum I **Sp**

Corequisite: DT 210

This practicum course offers each student the opportunity to explore the nutritional needs of people in the various phases of life, from birth through the elderly years. Students use the public health model and the interdisciplinary approach to assessing the nutrient requirements, developing care plans and delivering sound nutrition advice for clients. Students are assigned to public health clinics, nursing homes, senior feeding programs, Head Start centers and Detroit Public Schools. Students observe and then practice the techniques of clinical nutrition care. An emphasis is placed on problem identification and problem solving from the perspective of the Dietetic Technician in clinical care. This practicum requires students to participate in 20 on-site sessions and scheduled seminars.

DT 252 **3 C/45 CH**
Clinical Nutrition **F**

Prerequisites: DT 130, BIO 250

Corequisite: DT 253

The principles of assessment for diet modification are taught using a case study approach. Students will integrate food intake, diet analysis, drug interactions, food preferences and laboratory values as they explore various disease etiologies. Disease etiologies include diabetes, cardiovascular problems, gastrointestinal, renal, HIV, and cancer. Computer applications are used to gather and analyze data.

DT 253 **4 C/90 CH**
Clinical Nutrition Practicum II **F**

Corequisite: DT 252

This course provides an opportunity to practice clinical nutrition skills in a health care facility under the guidance of a registered dietitian or a registered dietetic technician for twenty (eight-hour day) sessions. Students will observe the dietitian or dietetic technician in the nutritional care of patients and demonstrate competency in performing the observed task. Emphasis is placed on data collection, nutrition assessment, development of patient care plans, documentation, problem identification and problem solving, from the perspective of the technician in

clinical care. The student will be expected to perform the observed functions in a professional manner. DT 252 should be taken concurrently. Seminar meets for one hour weekly.

DT 261 **1 C**
Dietetics Seminar **Sp**

Prerequisite: Students admitted to the DT program only
 The Dietetics Seminar is designed as the final course in the program sequence. Students will review career goals and pathways. The requirements for professional memberships to promote lifelong learning are discussed. Competency examination review sessions are conducted. Resumes are developed; job opportunities explored and mock interviews prepare the student to transition into the professional arena.

DIGITAL MEDIA PRODUCTION (DMP)

CTE 103 **3 C/45 CH**
Writing for the Media **F, Sp**

Prerequisite: ENG 119
 This course covers basic writing for different audiences and different media outlets. Various writing styles and formats will be studied such as new stories, screenplays, press releases, radio and print advertising, writing for the internet, blogs and websites.

CTE 109 **3 C/45 CH**
Media Marketing

This course gives students a basic understanding of media market strategies and shows how public relations firm interface with the broadcast industry. Students learn the different strategies used by the different media.

CTE 111 **3 C/45 CH**
Television

This course covers techniques utilized by television stations in their programming. Emphasis is placed on commercial, cable and public television facilities and their relationship to the community.

CTE 112 **3 C/45 CH**
Broadcast Operations

This course is an introduction to the theory and techniques of radio programming and production, including the development and design of programming for audio broadcast production. Learners will explore the history of radio and program formats; make decisions about the use of effective words; music and sounds; and apply production techniques by creating and critiquing radio programs, public affairs and documentary programming, commercials, promotional and public service announcements, and music programs.

CTE 113 **3 C/45 CH**
Acting For The Camera

The basic physical and vocal skills required in performing before the camera are explored and developed through exercises improvisations and scene. The course covers acting theory, television and motion picture terminology, and script and role analysis.

DMP 101 **3 C/45 CH**
Story Elements for a Digital Environment

F, Sp

This seminar course explores how meaning, message and story are conveyed through images. Students will learn about storyboarding, story elements and organizations, archetypes, visual and perception theory, the organization of visual elements to create meaning, the history of the image, typography, visual imagery in cinema and the use of the image in digital media today.

DMP 102 **3 C/45 CH**
Digital Video Production I **F, Sp, Sm**

Certification: This course will help the student to prepare Apple Certified Pro in Final Cut Pro exam.

Digital Media Production teaches student basic camera components, project organization and management, basic video production values such as story elements, lighting design, camera use, framing, and camera angles. Students will also learn the fundamentals of digital editing software, file organization and management, sound integration, and DVD creation.

Continued on next page.

DIGITAL MEDIA PRODUCTION (DMP) continued

DMP 103 3 C/45 CH
Digital Video Production II F, Sp, Sm

Prerequisite: DMP 101

Certification: This course will help the student to prepare Apple Certified Pro in Final Cut Pro exam.

Digital Media Production teaches student basic video production values such as scriptwriting, story elements, lighting design, camera use, camera angles, project management and the fundamentals digital video capture and editing basics on Final Cut Pro.

DMP 104 3 C/45 CH
Digital Audio Production and Broadcasting Sp, Sm

Prerequisite: DMP 102

This is a introduction course in digital signal processing, the fundamental elements of digital audio signal processing, such as sinusoids, spectra, the Discrete Fourier Transform (DFT), digital filters, transforms, transfer-function analysis, and basic Fourier analysis in the discrete-time case. The labs focus on practical applications of the theory, with emphasis on working with waveforms and spectra. This course will teach students will produce live web casts (capturing and transmission of live courses) in Windows Media, Real Media, QuickTime and MPEG formats as well as convert traditional video to almost any digital format including CD-ROM and DVD and publish sound files to the web.

DMP 105 3 C/45 CH
Media Programming F, Sp

This class develops media literacy skills, so that students can critique the basic dynamics that shape current media programming and give a clearer perspective of the boundaries between the real world and the simulated media world. This cutting-edge approach, which encourages the acquisition of strong knowledge structures and analytical skills, includes broadcast (television and radio), print, and digital media. The class examines the history of the modern communications industry, the regulatory process that governs what it can do, and the technical process that produces content and scheduling.

DMP 106 3 C/45 CH

Intro to Studio Operations

Introduction to basic studio equipment and its operations.

DMP 107 3 C/45 CH

Intro to Audio Production

Introduction to production skills and techniques.

DMP 108 3 C/45 CH

Programming and Marketing

Discussion of programming techniques used to create radio station format. Audience analysis and research plays a large role in the class.

DMP 109 3 C/45 CH

Advanced Post Production

Prerequisites: DMP 102, DMP 103

The goals of this course are to develop speed, efficiency and flexibility in a deadline-driven post production environment. Exercises in TV and film production are designed to prepare students to work in real-world situations.

DRAFTING (DRT)

DRT 101 3 C/45 CH

Blueprint Reading

F, Sp, Sm

Fundamentals of blueprint reading as applied to specific problems. Designed for pre-engineers, draftsmen, machine operators, machine repairmen, electronic technicians, inspectors and supervisors.

DRT 102 4 C/90 CH

Fundamentals of Mechanical Drawing

F, Sp, Sm

Prerequisite: DRT 101

Fundamentals of Mechanical Drawing Basic course of students with minimal high school experience. Emphasizes use of instruments, introduction to drafting, introduction to drafting practices, geometric construction, lettering, line work, orthographic projection and three-dimensional visualization from two-view drawings, section cutting, auxiliary views and dimensioning systems .

DRT 112 3 C/45 CH
Technical Drawing Applications

Prerequisite: DRT 102

This course is focused on detailed drawings of a variety of parts, based on projection techniques, sectional views, threads and fasteners, dimensional fundamentals and other conventional drawing practices. Students will execute charts and graphs for data display and analysis and practice required instrument skills to produce ink drawings.

DRT 113 3 C/45 CH
Descriptive Geometry Sp

Prerequisite: DRT 102

Occupational oriented solutions to descriptive geometry problems involving points, lines, planes and single and double curved surfaces and their intersections.

DRT 115 2 C/30 CH
Geometric Dimensioning and Tolerancing F, Sp

Prerequisites: DRT 101, DRT 102

The theoretical and practical application of dimensioning and tolerance, as used in the world wide industry for the production of parts. GDT is the standard that defines clear and consistent application for precise interpretation of tolerances on geometric and characteristics. The standard is intended for the more advanced engineer, drafter, product designer, machinists, or inspector. At present, this is a Prerequisite in the Automotive Industry for employment in design, engineering, or manufacturing. Emphasis is placed upon building a solid foundation in understanding dimensioning and tolerance terms, as well as definitions and concepts as stated in ANSI Y 14.5 M 1982 and ASME Y 14.5 M 1994 (two CH).

ECONOMICS (ECO)

ECO 101 3 C/45 CH
Principles of Economics I F, Sp, Sm

This course is the study of macroeconomics. The following topics are discussed: operation of the national economy, unemployment, inflation, money and banking and international economic relations.

ECO 102 3 C/45 CH
Principles of Economics II F, Sp, Sm

Prerequisite: ECO 101

This course is a continuation of Economics 101, Microeconomics. Supply and demand, theory of the firm, price determination and resource allocation is discussed.

ECO 232 3 C/45 CH
Consumer Economics Sp

This course is an analysis of consumer oriented issues; the economics of the cost and availability of consumer credit, insurance options, personal investments, housing and personal income taxation.

ECO 272 3 C/45 CH
Money and Banking F, Sp

Prerequisite: ECO 102

This course is an analysis of the factors influencing bank reserves and the money supply. The ability of the Federal Reserve System to shape these factors; monetary policy and the determination of national income are discussed.

ELECTRICAL/ELECTRONICS (EE)

EE 101 4 C/90 CH
Direct Current Fundamentals F, Sp, Sm

The fundamentals of direct current (DC) as applied to all aspects of the electrical/ electronic field. Direct current electron flow theory, Ohm's Law, series and parallel and compound resistive circuits, network theorems, capacitors, magnetic circuits and inductors will be covered. Students experimentally verify the fundamentals discussed in the course by constructing and testing circuits. Instruments such as multimeters DC power supplied are used.

Continued on next page.

ELECTRICAL/ELECTRONICS (EE) continued

EE 102 4 C/ 90 CH Alternate Current Fundamentals F, Sp

Prerequisite: EE 101

This course deals with fundamental concepts of AC waveforms, effective and average values of both current and voltage, series parallel and compound circuits, inductive and capacitive time circuits, time constants, resonance, passive filters bandwidth, Q of a circuit, polyphase systems and transformers. Instruments such as multimeters, AC power supplies, signal generators, oscilloscopes are used.

EE 103 3 C/45 CH Electrical F

This course covers electrical symbols, schematic diagram, terms, series and parallel circuits, Ohm's Law, repair and operation of single phasemotor and three phase motor controls. Also, lightening-both incandescent and fluorescent, lighting and ballast specifications, safety precaution and troubleshooting techniques, identification of load and control circuits, load common and ground connection. Use of electrical lighting instruments, multimeters, other circuit testing instruments. Ground fault circuit interrupters (GFCI), receptacles and circuit breakers.

EE 105 2 C/45 CH Electronic Fabrication & Design F, Sp

Prerequisite: EE 102

An introduction to electronic fabrication and design techniques. It includes circuit drafting, PCB design and etching, assembly, soldering and use of hand tools. Students are required to build circuits assigned by the instructor.

EE 107 4 C/60 CH Math for E/E I F, Sp, Sm

Prerequisite: MAT 105

Provides detailed coverage of areas of introductory algebra used in electrical engineering.

EE 111 3 C/60 CH Solid State Fundamentals F, Sp, Sm

Prerequisite: EE 101

This course will cover diodes, transistors, power supplies, limiters, clippers, clampers, voltage multipliers, biasing, amplifiers and frequency effects. Students will assemble and test electronic circuits discussed in the course. Instruments such as DC power supplies, multimeters, oscilloscope, signal generators, transistors and diode testers will be used

EE 115 4 C/60 CH Math for E/E II Sp

Prerequisite: EE 107

Simultaneous equations, complex algebra, quadratic equations, trigonometry, vectors, series, derivatives and integrals are used to analyze, AC circuits, filter networks and electronic semiconductor circuits.

EE 205 2 C/45 CH Linear Integrated Circuits F, Sp

Prerequisite: EE 111

This course will cover the fundamental of linear integrated circuits and their application. It will be concentrated on the design analysis of basic op-amps and their applications to comparators, integrators, differentiators, oscillators, amplifiers, timers, function generators, filters and phase circuits. Students will test the above circuits and devices in the lab using DC power supplies, signal generators, multimeters and oscilloscope.

EMERGENCY MEDICAL TECHNOLOGY (EMT)

EMT 101 2 C/30 CH First Aid F, Sp, Sm

This course is designed to provide the citizen responder with the knowledge and skills necessary in an emergency to help sustain life, reduce pain, and minimize the consequences of injury or sudden illness until professional help arrives.

EMT 105 3 C/67.5 CH
Medical First Responder F, Sp, Sm

This course is an overview of emergency medical services, including Basic Life Support (BLS), patient assessment, triage, patient handling and management, bleeding and shock control, management of fractures, childbirth and other medical emergencies. This is a State of Michigan approved course. If all comprehensive written and practical examinations are passed successfully the students are eligible to apply for licensure exams. This program is recommended for police officers, security officers, corrections officer, health professionals, fire fighters, or anyone who may have a duty to act during emergency situations.

EMT 114 4 C/90 CH
Basic EMT I F, Sp, Sm

Prerequisite: Program Admission

Lectures and lab sessions of this course include current principles and techniques in EMS operations, medical/legal issues, anatomy and physiology, patient assessment, respiratory emergencies, oxygen therapy, airway management, cardiovascular disease, CPR, triage, patient handling. This is a State of Michigan approved course. If all comprehensive written and practical examinations and corequisites are completed successfully the students are eligible to apply for licensure exams.

EMT 124 4 C/90 CH
Basic EMT II F, Sp, Sm

Prerequisite: Program Admission

The lectures and lab sessions of this course include principles and techniques in communicable diseases, stress management in EMS, traumatic injuries, abdominal illness, shock, IV maintenance, diabetes, the Central nervous system, rescue, extrication, geriatric, obstetrical, gynecological, pediatrics, environmental emergencies and hazardous materials behavioral emergencies, poisons, and substance abuse. This is a State of Michigan approved course. If all comprehensive written and practical examinations and corequisites are passed successfully the students are eligible to apply for licensure exams.

EMT 126 1 C/30 CH
Basic EMT Clinical Experience F, Sp, Sm

Prerequisite: Program Admission

This course is designed to provide Hospital and EMS experience to EMT Basic students to learn the psychomotor, affective and apply cognitive skills needed for entry level work as an Emergency Medical Technician Basic. These include but are not limited to Patient Assessment, Spinal Immobilization, Bleeding Control, and Donning and doffing of PPE's. This is a State of Michigan approved course. If all comprehensive written and practical examinations and corequisites are completed successfully the students are eligible to apply for licensure exams. Students are required to complete an orientation session prior to attending the clinical experience.

EMT 211 4 C/90 CH
EMT Specialist Sp, Sm

Prerequisite: Program Admission

This course is designed to prepare Basic EMTs who are seeking employment with ALS agencies or hospital emergency departments. The course will emphasis enhancing basic skills, patient assessment, advanced airway management, IV fluid therapy and fluids and electrolytes. This is a State of Michigan approved course. If all comprehensive written and practical examinations and corequisites are completed successfully the students are eligible to apply for licensure exams.

EMT 217 3 C/45 CH
EMT Specialist Clinical Experience Sp, Sm

Prerequisite: Program Admission

This course is designed to provide Hospital and EMS experience for EMT Specialist students in order to learn the psychomotor, affective and apply cognitive skills needed for entry level work as an Emergency Medical Technician Specialist. This is a State of Michigan approved course. If all comprehensive written and practical examinations and corequisites are completed successfully the students are eligible to apply for licensure exams. Students are required to complete an orientation session prior to attending the clinical experience.

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EMERGENCY MEDICAL TECHNOLOGY (EMT) continued

EMT 218 5 C/75 CH
Emergency Medicine Preparatory F

Prerequisite: Program Admission

This course will integrate human anatomy, physiology, pathophysiology and medical math into patient assessment and treatment.

EMT 221 10 C/150 CH
Paramedic I F

Prerequisite: Program Admission

This course will include lecture and lab sessions on EMS systems, the role and responsibilities of the paramedic, medical legal issues, airway management, cardiology, pharmacology, venous access and administration.

EMT 231 10 C/150 CH
Paramedic II Sp

Prerequisite: Program Admission.

This course will include lecture and lab sessions on patient assessment, infectious and communicable diseases, behavioral and psychiatric disorders, pulmonary, gynecology, obstetrics, trauma, environmental conditions, allergies and anaphylaxis, neonatology, pediatrics, and geriatrics.

EMT 236 6 C/135 CH
Paramedic Clinical Exp. I Sp

Prerequisite: Program Admission

This course is designed for EMT Paramedic students to practice the psychomotor skills in a hospital and EMS setting needed for entry level work. These include but are not limited to Medication administration, IV therapy, Cardiac Monitoring, and Airway Management.

EMT 241 3 C/45 CH
Paramedic III Sm

Prerequisite: Program Admission

This course will include lecture on neurology, endocrinology, gastroenterology, renal/urology, toxicology and hematology.

EMT 242 2 C/30 CH
Paramedic IV Sm

Prerequisite: Program Admission

This course will include lecture on ethics, life span development, abuse and assault, patients with special challenges, acute interventions for the chronic care patient, and the well being of the paramedic.

EMT 243 2 C/30 CH
Paramedic V F

Prerequisite: Program Admission

This course will include lecture on ambulance operations, medical incident command, rescue awareness and operations, hazardous materials incidents, illness and injury prevention and crime scene awareness.

EMT 244 3 C/45 CH
Paramedic VI F

Prerequisite: Program Admission

This course will include lecture and lab session on assessment based management.

EMT 246 6 C/90 CH
Paramedic Clinical Exp. III Sm

Prerequisite: Program Admission

This course is designed for paramedic students to practice their assessment skills in a hospital and EMS setting. It is needed for an entry level paramedic. The assessments can include but not limit to patients complaining of Chest Pain, DIB, Abdominal Pain, Syncope and Traumatic Injury.

EMT 256 6 C/30 CH
Paramedic Clinical Field Internship F

Prerequisite: Program Admission

This Internship is designed for paramedic students to apply skills and knowledge from previous classes in an EMS setting to develop into an entry level paramedic.

EMERGENCY ROOM/MULTI-SKILLED HEALTH CARE TECHNOLOGY (ERT)

ERT 210 6 C/90 CH
Emergency Room Technology F, Sp

Prerequisite: Program Admission

This course provides the Basic EMT with the principles and techniques necessary to provide additional patient care within a hospital, urgent care, or primary health care environment.

ERT 215 6 C/135 CH
Emergency Room Tech. Clinical Experience F, Sp

Prerequisite: Program Admission

This course is designed for the Emergency Room Technician student to practice the psychomotor skills in a hospital setting needed for entry level work. These skills may include but are not limited to EKG, phlebotomy, insertion of Foley catheters and sterile procedures.

ENGLISH (ENG)

PLEASE NOTE: ENG 100 is now ENG 111, ENG 101 is now ENG 112, ENG 102 is now ENG 113, ENG 108 is now ENG 114, ENG 109 is now ENG 115, ENG 110 is now ENG 119.

ENG 111 3 C/45 CH
Introduction to Reading Skills F, Sp, Sm

Prerequisite: Admission by referral only through assessment

This is the first course in reading development. It is designed to assist students in developing reading skills and becoming efficient and effective readers. The student concentrates on the major components of reading skills; visual and auditory discrimination, alphabet recognition, word attack, vocabulary and comprehension, the student will apply these skills.

ENG 112 3 C/45 CH
Career and Technical Reading I F, Sp, Sm

Prerequisite: ENG 111

This is an intermediate course in reading, designed to assist students in developing college reading skills and becoming efficient and effective readers. The student concentrates on the major categories of reading skills, comprehension, vocabulary and speed applying these skills in career and technical areas and resources.

ENG 113 3 C/45 CH
Career and Technical Reading II F, Sp, Sm

Prerequisite: ENG 112

This course focuses on the development of effective and efficient reading and study skills for college work. Emphasis is on the acquisition of study habits and skills such as test-taking, note taking, outlining, vocabulary, speed-reading and critical thinking and on the mastery of reading materials of all kinds used in various professional fields and disciplines.

ENG 114 3 C/45 CH
Career and Technical Writing I F, Sp, Sm

This course is designed to assist students in basic writing skills. The student will learn to recognize and produce units of clear writing, beginning with simple, compound and complex sentences. Through the use of reading selections, the student learn to identify and formulate topic sentences and organize groups of sentences into a larger unit of meaning, the paragraph. At the same time, attention is given to the mechanics of sentence formation, grammar, spelling and vocabulary.

ENG 115 3 C/45 CH
Career and Technical Writing II F, Sp, Sm

Prerequisite: ENG 114

This course is designed to assist students in developing writing skills. The student learns to recognize and produce units of written communication. It focuses on the paragraph as the basis for larger units of expression. Beginning with the paragraph, the student progresses to the short essay (three paragraphs) by the end of the semester. Grammar, diction and organization are stressed.

Continued on next page.

ENGLISH (ENG) continued**ENG 119** 3 C/45 CH
English I F, Sp, Sm

This course will provide opportunities for students to work with a variety of forms that will lead to the mastery of effective organization, topic development and appropriate styles, including the development of processes of thoughtful, and analytical reading skills. Written work is required weekly.

ENG 120 3 C/45 CH
English II F, Sp, Sm

Prerequisite: ENG 119

This course provides continued practice for clear expository writing. It is designed for the development of analytical expression and critical literary judgment, and serves as an introduction to research procedures.

ENG 134 3 C/45 CH
Technical Communications F, Sp, Sm

Prerequisite: ENG 119

This course focuses on the identification of the basic elements of written communication in technical fields and the production of communications appropriate to the technical field. Oral communication is also promoted.

ENG 190 3 C/45 CH
Introductory Journalism

Prerequisite: ENG 119

This is the study of news gathering and the writing of simple news stories and features.

ENG 192 3 C/45 CH
Advanced Journalism

Prerequisite: ENG 190

This course is the continued study in news writing with emphasis on special story types - economic news, movies, drama reviews and editorials.

ENG 212 3 C/45 CH
Women in Literature

This course focuses on the woman's roles as it is portrayed in plays, poetry and novels through the last century and the emergence of the female author as an important literary force.

ENG 228 3 C/45 CH
Introduction to Folklore and Mythology

Prerequisite: ENG 120

This course is a general survey of myths and folklore as the primary literature of different cultures.

ENG 231 3 C/45 CH
Introduction to Poetry

Prerequisite: ENG 120

This course is a study of poetic structures and poets, both traditional and modern.

ENG 232 3 C/45 CH
Introduction to the Novel

Prerequisite: ENG 120

This course is an analysis of the novels structure, determination and evaluation of theme and technique and the writing of critical essays.

ENG 233 3 C/45 CH
Introduction to Drama

Prerequisite: ENG 120

This course is a study of plays from the ancient Greek period to the present.

ENG 234 3 C/45 CH
English Bible as Literature F, Sp, Sm

Prerequisite: ENG 120

This course is an examination of the literary aspects of the Bible and study of a number of its literary forms and devices.

ENG 240 3 C/45 CH
Introduction to Shakespeare

Prerequisite: ENG 120

This course is an introduction to Shakespeare, his plays, comedies, tragedies and histories.

ENG 250 3 C/45 CH
American Literature, 1800 to Present

Prerequisite: ENG 120

This course is a survey of major American writers in relation to their social and cultural environment. Writers will be chosen not only on their own literary merits, but also as representative of important periods, attitudes and styles.

- ENG 252** 3 C/45 CH
English Literature Across the Centuries
Prerequisite: ENG 120
 This course is a survey of major British writers from the middle ages to the twentieth century. They are selected both on their own literary merits and because they represent the attitudes and values of their historical periods.
- ENG 260** 3 C/45 CH
Introduction to African-American Literature
 This course focuses on the historical and thematic overview of the African-American writer from 1760-1899. Particular attention shall be given to the early slave narrative using formal analytical techniques, thus introducing students to the various modes of critical and literary thought. Emphasis shall be placed upon some literary styles and forms including folklore, spirituals, gospel and historical tradition.
- ENG 261** 3 C/45 CH
African-American Literature in the Twentieth Century
Prerequisite: ENG 120
 This course is a survey of all directions and phases of African-American writing from 1900 to the present. Particular attention is given to the writers of the Harlem Renaissance, major African-American novelists and contemporary poets. Such literary styles as the essay, short story, the novel and dialectic writing are explored. Masters of these literary styles, such as Chesnutt, Baraka, Locke, Hughes, Walker, Wright, Brooks, Ellison, Hayden and Angelou are studied.
- ENG 266** 3 C/45 CH
African-Caribbean Literature
Prerequisite: ENG 120
 This course is a study of African-Caribbean literature, encompassing the West Indian Island and adjacent countries of South American - Guyana, Suriname, French Guiana and Belize in Central American. Emphasis will be on the diverse linguistic and cultural influences on the prose and poetry of Caribbean literatures. Study will also be on the writing of expatriates of the Caribbean.
- ENG 270** 3 C/45 CH
Professional and Technical Report Writing
Prerequisite: ENG 119
 This course is designed for the advanced student in pre-professional or transfer programs; the designing and presentation of various forms of communications, both written and oral, as solutions to technical problems. The primary focus is report writing. The case approach is used, allowing students to actively engage in problem-solving situations.
- ENG 275** 3 C/45 CH
Advanced Expository Writing
Prerequisite: ENG 120
 An advanced course in expository writing which will build on the rhetorical and analytical strategies taught in ENG 119 and 120. The class will focus primarily on writing an effective argument.
- ENG 280** 3 C/45 CH
Creative Writing F, Sp, Sm
Prerequisite: ENG 120
 Practice in writing in a variety of literary forms, as well as the analyzing of literary models and responding critically to the work of other students.
- ENG 285** 3 C/45 CH
Children's Literature F, Sp, Sm
Prerequisite: ENG 120
 A survey of children's literature, acquaintance with quality books for children and criteria for evaluating them.
- ENG 290** 3 C/45 CH
Spanish-American Literature
Prerequisite: ENG 119
 This course will examine major 20th century Spanish-American writers and their works. These writers, living in the United States, will be referenced with other Latin-American writers (outside the United States) to show the cultural and historical links among them.

Continued on next page.

ENGLISH (ENG) continued**ENG 292** 3 C/45 CH**Latino Literature: The Past Decade***Prerequisite: ENG 119*

Survey of nationally renowned and emerging Latino writers, musicians, and screen writers, covering cultural, racial, and gender identity, political activism, sexual orientation and spirituality.

ENTREPRENEURSHIP (ENT)**ENT 100** 3 C/45 CH**Introduction to Entrepreneurship**

This course is designed to introduce students to the entrepreneurial process from conception to birth of a new venture. The students will examine elements in the entrepreneurial process- personal, sociological, and environmental- that give birth to a new enterprise.

ENT 210 3 C/45 CH**Human Resource Management for Small Businesses** F, Sp, Sm

In an ever-changing world, entrepreneurs must adapt and flex, push and explore. This course surveys and analyzes contemporary techniques for managing a strategically oriented human resource function in a small business setting. Topics include staffing, rewarding, developing, and maintaining organizations, jobs and people.

ENT 205 3 C/45 CH**Operations Management for Small Businesses**

Production and Operations Management is important to the overall strategy and competitiveness of a small business owner. This course focuses on specific tools used to manage and enhance a firm's operations and production, such as facility layout, product design, aggregate planning, inventory management, and forecasting.

ENVIRONMENTAL, HEALTH, AND SAFETY TECHNOLOGY (EHS)**EHS 100** 3 C/45 CH**Environmental Laws and Regulations** F

The primary emphasis of this course is on the OSHA regulations pertaining to worker protection from exposure to occupational hazards. Discussion topics will include: EPA regulations relating to air, water and soil contamination. DOT regulations relating to safe packaging, storage and transportation procedures. Students will concentrate on researching, interpreting and applying regulations for workers who handle and transport hazardous materials. Students will identify and interpret, from case studies, applicable regulations and recommends compliance strategies.

EHS 130 3 C/45 CH**Characteristics of Hazardous Materials** F*Prerequisite: CHM 105*

This course is designed to teach the hazards of each class of hazardous materials. Some of the classes of hazardous materials are: hydrocarbons, flammable and combustible liquids, compressed gases, flammable solids, cryogenic gases, oxidizing agents, plastics, corrosives, organic peroxides, explosives, radioactivity, water and air reactive materials. The course will also present information needed for the first responder to be able to recognize and manage the hazardous materials incident.

EHS 210 3 C/45 CH**Safety and Contingency Planning/Incident Management** Sp

This course is designed to teach students how to develop an emergency response contingency plan for a facility or community. Emergency response components of HAZWOPER (Hazardous Waste Operations and Emergency Response). Through case studies, students will analyze and apply the theory of Incident Command System (ICS) from discovering a hazardous substance release to decontamination and termination procedures.

EHS 270 3 C/45 CH
Sampling Procedures F

In this course emphasis is placed on the methodology of sampling, analyzing and interpreting the results of the analysis of hazardous materials. The course will include industrial hygiene monitoring, pH testing and moisture content, selecting analytical service laboratories, and an introduction to chemical methods of analysis including spectroscopy and chromatography.

EHS 280 3 C/45 CH
Hazardous Materials Health Effects/Applied Toxicology F

Prerequisite: BIO 155

This course is a review of the research done in determining the systematic health effect of exposures to chemicals. Determination of risk factors, routes of entry, control measures, and acute and chronic effects are discussed.

EHS 292 2 C/ 30 CH
Industrial Chemical Spill response (Practicum) Sm

This course includes a 24-Hour hands-on experience regarding the characterization and cleanup of industrial spills. Meets OSHA HAZWOPER requirements.

EHS 294 3 C/45 CH
Hazardous Waste Site Worker Sm

This course includes a 40-Hour hands-on experience regarding the characterization of working in an hazardous material workplace.

EXTENDED LEARNING OPPORTUNITIES IN NURSING (XNR)

XNR 310 3 C/90 CH
Administration of Medications F, Sp, Sm

This course is designed to strengthen skills in medication administration, knowledge of drug calculation. It is open to all enrolled nursing students. It is required of all students who do not pass the math

pretest in Nursing. (meets six hours per week.)

XNR 314 3 C/45 CH
Clinical Nursing F, Sp, Sm

Prerequisite: NUR 102

This course is designed to meet the individual needs of the nursing student who has had foundations in nursing.

XNR 320 3 C/45 CH
Compensation Anatomy & Physiology F, Sp, Sm

Prerequisites: BIO 240, BIO 250

This course emphasizes compensatory mechanisms of the body, integration of biological principles and concepts of physical health.

FACILITY MAINTENANCE PROGRAM (FM)

FM 101 3 C/45 CH
Basic Facility Maintenance F, Sp

This course covers the fundamentals of work orders, work descriptions, engineering and architectural print reading, the mechanical and electrical nature of the work, location and identification of the problem, tools and material requirements to schedule work.

FM 102 3 C/45 CH
Plumbing & Pipe Fitting F, Sp

This course covers mechanical blueprint reading, pipes and valves construction, valve operation, repair and maintenance, BOCA mechanical codes for plumbing and pipe fitting methods of pipe connection, uses of sewer augers, size and cutting of piping materials, reading pressure gauges to determine fluid pressure, copper pipe letter codes to determine pipe thickness, repair, maintenance and operation of back flow preventors. Also, basic function of plumbing sanitation, fitting, piping, vents, traps, potable, hot water supply drain, waste and sewer, etc. will be covered.

Continued on next page.

FACILITY MAINTENANCE PROGRAM (FM) continued

FM 103 3 C/45 CH Carpentry F, Sp

This course covers carpentry terms, usage of carpentry equipment, basic construction materials, fractional arithmetic, wood jointing and fastening methods, types and sizes of fasteners, types of hinges, backing and latching devices, door sizes review, maintenance and installation. Also door code identification, counter tips and their standard heights, repair, repair maintenance and installation of counters, construction, repair and maintenance will be covered.

FM 104 3 C/45 CH General Maintenance F

This course covers preventive maintenance of mechanical equipment such as air compressors, pumps, hydraulic systems, troubleshooting of a wide variety of hospital/nursing home/ hotel/office building equipment, gas and arc welding methods and procedures, alignment of flexible couplers for electric motors, packing glands, cut and installing glass panes. Use of various types of paint products and painting of walls, ceilings, floor coverings, use of hand and power tools in accordance with OSHA requirements, replacement of V-belts and alignment of pulleys and sheaves, selection and application of lubrication to machines and the adjustment of speed (RPM) of pulleys operated equipment and machines will be covered.

FM 105 3 C/45 CH Grounds Maintenance Sp

This course covers the maintenance of lawns and gardens, the mowing of lawns and grassy trees, the selection and use of proper fertilizers, irrigation of grounds, maintaining lawn and garden equipment, installing irrigation systems, building and install fencing. Also the removal of snow and ice, plowing below snow, scraping ice, spreading chemical/ice melters, clearing storm drains. The cleaning of outside areas: removing litter, sweeping/vacuuming entrances, cleaning outside of the building, the repair & installation of outside signs and the setup of seasonal displays/decorations will be covered.

FM 106 3 C/45 CH Safety and Support Services Sp

This course covers gas and welding safety, safe operation of hand and power tools, lock-out tag-out procedures, use and handle sharp containers, ladder safety, lifting techniques, inspection controls and blood borne pathogen safety. Also, national, OSHA, MIOSHA requirements pertaining to facility maintenance will be covered.

FM 299 3 C/45 CH Facility Maintenance Co-op

This course provides fieldwork experience.

FIRE PROTECTION TECHNOLOGY (FPT)

FPT 110 8 C/120 CH Fire Fighter I

Prerequisite: Program Admission

Corequisites: FPT 11, FPT 115

This course is designed to provide a student with the knowledge necessary for entry level positions on fire departments. Topics include fire fighter safety, personal protection equipment, hose operations, ladders, fire prevention, and others. Students who complete all course requirements will be eligible to take the State of Michigan Fire Fighter Training Council (MFFTC) written and practical examinations leading to certification as a Fire Fighter I. This course must be taken in conjunction with FPT 115.

FPT 115 5 C/75 CH Fire Fighter I Lab

Prerequisite: Program Admission

This course is designed to provide student with the psycho motor skill necessary for entry level positions in the fire department. Skills include hose operations, ladders, personal protective equipment, and others. Students who complete all course requirements will be eligible to take the State of Michigan Fire Fighter Training Council (MFFTC) written and practical examinations leading to certification as a Fire Fighter I. This course must be taken in conjunction with FPT 110.

FPT 120 5 C/75 CH
Fire Fighter II

Prerequisite: MFTTC Fire Fighter I Certification

Corequisites: FPT 120, FPT 125

This course is designed to provide student with the additional knowledge necessary for entry level positions on fire departments. This course builds on the knowledge acquired in FPT 110. Topics include vehicle extrication and hazardous materials operations. Students who complete all the requirements will be eligible to take the State of Michigan Fire Fighter Training Council (MFFTC) Fire Fighter II written and practical examinations leading to certification as a Fire Fighter II. This course must be taken in conjunction with FPT 125.

FPT 125 3 C/45 CH
Fire Fighter II Lab

Prerequisite: MFTTC Fire Fighter I Certification

This course is designed to provide student with the additional knowledge necessary for entry level positions in the fire department. This course builds on the knowledge acquired in FPT 115. Skills include vehicle extrication and hazardous materials operations. Students who complete all the requirements will be eligible to take for the State of Michigan Fire Fighter Training Council (MFFTC) written and practical examinations leading to certification as a Fire Fighter II. This course must be taken in conjunction with FPT 120.

FPT 210 6 C/90 CH
Fire Service Management I

Prerequisites: MFTTC Fire Fighter II Certification and three years experience on an organized fire department.

This program is designed to prepare fire fighters for advancement in the fire service. It is based on the Michigan Fire Fighters Training Council (MFFTC) Company Officer Prerequisite curriculum. Topics include Educational Methodology, Incident Safety, Incident Management and Strategy and Tactics. Students meeting all course requirements are eligible to continue on to the MFFTC Company Officer Course.

FPT 220 6 C/90 CH
Fire Service Management II

Prerequisite: FPT 210

This program is designed to prepare fire fighters for advancement in the fire service. It is based on the Michigan Fire Fighters Training Council (MFTTC) Company Officer curriculum. Topics build on those from Fire Service Management I. This program meets National Fire Protection Association (NFPA Standard 1021, Fire Officer Professional Qualifications. Student meeting all course requirements are eligible to take the MFFTC examination for certification.

FPT 230 4 C/60 CH
Fire Service Management III

Prerequisite: FPT 220

This program is designed to prepare fire fighters for advancement in the fire service. It is based on the Michigan Fire Fighters Training Council (MFTTC) Leadership and Health and Safety curriculum. Topics include problem solving, ways to identify and assess the needs of the Company Officer's subordinates, methods for running meetings effectively, decision-making skills for the Company Officer, ethics, use and abuse of power at the Company Officer level, delegation to subordinates, assess personal leadership styles through situational leadership, discipline subordinates, and applies coaching/motivational techniques for the Company Officer.

FPT 240 3 C/45 CH
Fire Service Management IV

Prerequisite: FPT 230

This course builds on the previous Fire Service Management courses, offering an in-depth look various topics. Topics considered budget management, marketing for the fire service, public relations, labor relations, and risk management. This course is designed for upwardly mobile individuals who seek to move into the upper ranks within the fire service.

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FIRE PROTECTION TECHNOLOGY (FPT) continued

FPT 250 3 C/45 CH Fire Service Management V

Prerequisite: FPT 240

This course continues the process of developing upwardly mobile individuals within the fire service. Topics in this course offer in-depth work in the following areas labor issues, labor law, diversity, dealing with NFPA standards, complying with OSHA regulations, and dealing with regulatory agencies. The course is designed to prepare those individuals to be fire chief.

FPT 255 3 C/45 CH Fire Inspection Principles and Practice

The course provides fundamental information regarding the history and philosophy of fire prevention, organization and operation of a fire prevention bureau, use of fire codes, identification and correction of fire hazards, and the relationships of fire prevention with built in fire protection systems, fire investigation, and fire and life safety education. It is designed to enhance the student's knowledge of fire prevention and its purpose within fire service organizations.

FPT 260 3 C/45 CH Industrial and Commercial Fire Protection

Prerequisite: FPT 255

This course considers the intricacies and differences between residential and commercial/industrial fire fighting. Students will discuss the strategies and tactics for a successful operation at larger structures, and the unique challenges for these types of operations. Topics include offensive and defensive operations, accountability, emergency escape techniques, and aerial operations.

FPT 265 4 C/60 CH Search and Rescue Operations I

Prerequisite: FPT 120

This course will prepare the student to plan and respond to various technical rescue incidents. This includes development of an action plan, Scene safety

considerations, trench collapse and rescue, confined space rescue, and building collapse. The student will take into account patient considerations including extrication of victims and patient packaging. Shoring of collapsed structures is discussed in length.

FPT 270 3 C/45 CH Search and Rescue Operations II

Prerequisite: FPT 265

Course is meant to build on FPT 265 Search and Rescue Operations I. Topics include: types of Rescue Companies, qualifications for rescuers, specialized equipment, low angle rescue, high angle rescue, water rescue, and elevator rescue. This is not a hands on class, but is meant to give the student an in-depth perspective of theory and knowledge in the subject area.

FPT 275 3 C/45 CH Hazardous Materials in Fire Service Operations

Prerequisite: FPT 120

This theory based class enhances knowledge in hazardous materials for the hazardous materials responder. The student will look in-depth at topics such as the physical and chemical properties of hazardous materials, USDOT regulation for hazardous materials, emergency response to hazmat incidents, potential hazards at these incidents, and hazmat prevention techniques.

FPT 280 3 C/45 CH Current Concepts in Fire Service

Prerequisite: FPT 120

The student will review current issues affecting the fire and emergency service as well as their own organizations. Each week the student will research and report on current and pertinent topics within the fire service and their affect on their organization. The student will use many resources in doing research including fire department policy and procedure, Federal and State legislation and regulation, books, magazines, and the Internet.

FPT 285 **3 C/45 CH**
Fire Officer Internship

Prerequisite: FPT 220

This course has two tracks that can be followed. The first allows the student to work within their own department. Students will submit and carryout a project for use within the department. The project must be of value to the department. A written report on the final outcome of the project must be submitted, or, an internship with a fire department of the student's choice or a department of choice by the college. This track will be to enhance the student's abilities and skills as an officer. The student would work with various individuals in the host department, and keep a log of their activities.

FOODSERVICE SYSTEMS MANAGEMENT (FSM)

FSM 101 **1 C/15 CH**
Foodservice Systems **F, Sp**
Management Orientation

Career opportunities are explored and students are encouraged to define career goals. Other topics include developing a portfolio, reviewing research in professional journals, self-assessment, time management; problem solving skills and study skills are also emphasized.

FSM 105 **3 C/45 CH**
Principles of Foodservice Systems **F, Sp**

This course begins with the history of foodservice. An overview of the different segments of the market is presented including current trends in to the foodservice industry. The central theme is a systems approach to understanding foodservice with emphasis on the components of foodservice systems, styles of foodservice, human and physical resources, and the menu as a management tool. Equipment layout and design and computerized menu development are also introduced.

Field trips and seminars emphasize observation of the various types of foodservice systems, equipment, layout and design. Students must attend five seminars

in one of the option areas. This is a Manage First certificate course that meets the criteria of the Educational Foundation of the National Restaurant Association.

Option 1 Schools – seminar topics to include school foodservice history, current legislation, styles of foodservice systems, funding, support organizations, career opportunities, requirements for credentialing by The American School Foodservice Association.

Option 2 Institutional – seminar topics to include history of the various types of institutions, laws and regulations, styles of foodservice systems, support organizations and career opportunities.

Option 3 Hospitality - seminar topics include identification of different segments of the market, current trends, styles of foodservice, support organizations and career opportunities..

FSM 115 **2 C/30 CH**
Food Safety and Sanitation **F, Sp, Sm**

Current concepts in food protection are presented. The course provides updated information and methodologies necessary for the assessment, planning implementation, and evaluation of sanitation in today's foodservice operations. This course also covers application of factors basic to FDA standards, quality control, Train-the-Trainer techniques, Michigan Law and an in-depth coverage of the principles of Hazard Analysis Critical Control Point System. Students completing this Manage First course are eligible to take the NRA Educational Foundation and State of Michigan certification examinations.

Continued on next page.

FOODSERVICE SYSTEMS MANAGEMENT (FSM) continued

FSM 130 2 C/30 CH Menu Planning and Nutrition Sp

This introductory course teaches the skills and concepts necessary to plan menus for various customers in for-profit and not-for-profit markets. Techniques presented encourage students to take a systems approach to menu planning. Balancing nutrition with taste and presentation is emphasized. Students review current USDA guidelines.

Menu planning practice skills require meeting the nutrition requirements of pre-school, school age, adolescent and adult consumers. This course also includes a summary of the essential nutrients and their functions in the body. Students complete computerized menu projects as they learn the concepts. Students are required to attend 2 seminars.

Option 1 Schools – seminar topics to include the federal Child Nutrition Program guidelines, Offer vs. Serve foodservice, and innovative use of commodities.
Option 2 Institutional – seminar topics to include modified diets, Healthy American guidelines, American Heart Association guidelines, and American Cancer Society guidelines.
Option 3 Hospitality - seminar topics include menu styles, menu service, and other topics.

FSM 140 2 C/30 CH Principles of Food Preparation F, Sp

Corequisite: FSM 140L

Food preparation topics include: scientific principles of food preparation, with emphasis on the physical and chemical changes involved, cultural and economic aspects of food consumption, evaluation of product quality, basic concepts and techniques of volume food preparation, basic principles of food production, distribution, and service.

Food safety and sanitation is stressed. This Manage First course meets the criteria of the Educational Foundation of the National Restaurant Association. Laboratory required.

FSM 140L 1 C/60 CH Principles of Food F, Sp Preparation Laboratory

Corequisite: FSM 140

Lab fee \$25.00

Principles of Food Preparation Laboratory offers each student the opportunity to explore the chemical and biological properties of foods as a result of changes in temperature, cooking preparation, medium and time, as well as other factors. The observations and participation in experiments are coordinated with principles taught in FSM 140. An emphasis is placed on problem identification and problem solving from the perspective of the foodservice manager. Lab meets three hours weekly.

FSM 145 3 C/45 CH Quantity Food Production F, Sp

This course requires observation and demonstration of identified skills. The emphasis is on the menu as a control measure and recipes as tools for food preparation and distribution. Students will learn the application of the principles of food preparation, identification of the criteria used for quality assurance, expected yield, and proper technique.

Quantity Food Production includes volume food preparation techniques for egg cookery, vegetables, salads, starches, sauces, meats and basic baking. Students are required to utilize computer programs designed for food production activities. This Manage First course meets the criteria of the Educational Foundation of the National Restaurant Association.

FSM 146 4 C/90 CH Quantity Food Production: F, Sp Practicum I

Students are assigned to an appropriate (consistent with their career goals) area site for (15) practicum days. This course requires observation and demonstration of identified skills. The emphasis is on the menu as a control measure and recipes as tools for food preparation and distribution. Students will practice the application of the principles of food preparation, identification of the criteria used for quality assurance, expected yield, and proper technique. Volume food preparation includes egg

cooking, vegetables, salads, starches, sauces, meats and basic baking. Students are required to utilize computer programs designed for food production activities. Four 1-hour seminars per semester scheduled at the Northwest Campus.

Option 1 Schools – Targeted position functions include cooks, bakers, dishwashers, transportation, and service. Task and behaviors appropriate to each position will be observed, demonstrated and practiced. Practicum will be located in an area school district.

Option 2 Institutional – Students are introduced to the functions required of each food production unit in the foodservices department. This practicum may be located at hospitals, nursing homes, corrections facility or extended care facility.

Option 3 Hospitality — Students are introduced to the functions required of each position in the “back of the house” production and “front of the house” customer service area. Task and behaviors appropriate to each position will be observed, demonstrated and practiced. This practicum will be arranged at a hotel, restaurant, or other for profit establishment.

FSM 220 **3 C/45 CH**
Food & Beverage Cost Control **Sp**

Prerequisite: Math 112 or equivalent

This course reviews the development of cost control measures for each subsystem of the foodservice operation. Students examine foodservice situations requiring math skills. There is a focus on food and labor cost to include: sales, budget, costing recipes, pricing, equipment, utilities, overhead and profit. Students will use required industry foodservice forms for data collection. This Manage First course meets the criteria of the Educational Foundation of the National Restaurant Association.

FSM 230 **3 C/45 CH**
Purchasing for Foodservice Systems **F**

Prerequisite: FSM 145

Topics of discussion include: fundamentals of food and equipment purchasing, food storage, inventory, cost controls, development of specifications, budget analysis, data processing, receiving, storage, issuing and inventory control. The purchasing subsystem is viewed as one component of the foodservice system

with the menu as the central focus. A strong emphasis is placed on quality, quantity and cost control. Field trips to vendors, food brokers, and facilities that engage in institutional feeding are mandatory. Students are required to utilize the computer programs designed for purchasing activities. This is a Manage First Certificate course that meets the criteria for NRA Education Foundation certification.

FSM 235 **4 C/90 CH**
Foodservice Practicum II **F**

Prerequisites: FSM 220, FSM 230

Students are assigned to the same practicum site as in FSM 146 for (15) Practicum days. Course requires observation, practice and demonstration of identified skills. The emphasis is on development of supervisory skills in food procurement and cost control. Students will apply the principles taught in FSM 230, Purchasing for Foodservice Systems and FSM 220, Food and Beverage Cost Control. Students will spend time becoming competent in the skills needed in each of the procurement subsystems. Students are required to utilize computer programs designed for food procurement activities. Four 1-hour seminars per semester scheduled at the Northwest Campus.

Option 1 Schools — Emphasis on formal bids, contracts, prime vendors, commodities, tracking and reimbursement forms required, inventory.

Option 2 Institutional — Emphasis on cost controls, purchasing groups, specifications for special dietary items, budgetary restrictions, and costing out in a non-profit setting.

Option 3 Hospitality — Emphasis on specifications, identification of resources, forecasting in a for profit setting.

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FOODSERVICE SYSTEMS MANAGEMENT (FSM) continued

FSM 240 3 C/75 CH Computer Applications in Foodservice Lab

In this course students will become familiar with the use of computers in the foodservice industry. This hands-on lab course develops skills in the use of computer software programs for menu planning, equipment layout and facility design, cashiering, ordering, inventory, personnel and payroll record keeping, policy and procedure manuals, HAACP, budgets, costing and other functions. Five hours lab time required weekly.

FSM 250 3 C/45 CH Management of Foodservice Systems Sp

Prerequisite: FSM 230

Corequisite: FSM 255

Students learn management theories and styles and the application of these concepts to foodservice systems. Human resources as a component subsystem is stressed, as well as, assessment, planning, implementing and evaluating foodservice systems. Other topics covered include problem identification, problem solving, continuous quality improvement, and employee management concepts. Course includes a study of federal and state regulations that apply to foodservice. This Manage First course meets the criteria of the Educational Foundation of the National Restaurant Association.

FSM 255 4 C/90 CH Management of Foodservice Systems: Practicum Sp

Prerequisites: FSM 145, FSM 235

Corequisite: FSM 250

Students are assigned to the same practicum site as in FSM 146 and FSM 235. The Practicum focus is on development of management skills, techniques and competency. Students are assigned to a facility in the Metro Detroit area. This practicum requires thirty (30) on site days. During this time students will observe and practice management techniques in scheduling, quality assurance, employee training, purchasing, menu planning, cost control, and other areas. Students

will be expected to perform the observed functions in an acceptable professional manner.

Option 1 School — Application of management skills in a school foodservice facility.

Option 2 Institutional — Application of management skills in a non-profit institutional setting.

Option 3 Hospitality — Application of management skills in a for-profit hospitality establishment.

FORENSIC PHOTOGRAPHY (VDP)

VDP 110 3 C/45 CH Introduction to Digital Photography

This is a first term course that focuses on teaching students how to operate 35mm digital cameras. Students will learn how to properly use camera controls, capture and expose of digital images. Students should own or have the use of a 35mm digital camera (with manual & automatic controls).

VDP 115 3 C/45 CH Digital Photo Imaging I

This course introduces photography student majors to computer based digital image processing. Through the use of digital production equipment (cameras, scanners, printer, and photo imaging software) students learn how to process images in a digital (computer base) processing environment.

VDP 120 3 C/45 CH Forensic Photography

This course expands on lessons in beginning Digital Photography, with special emphasis on the application of photography to criminal and civil investigations, including the preparation of courtroom presentation. Emphasis is placed on aspects of design, composition, perception and content students will gain a scientific understanding of how to make informed choices in black-and-white and color digital photography.

VDP 210 3 C/45 CH Studio Photography

This course introduces the use of artificial lighting to create photographic illustrations in a controlled

environment. Lighting techniques are demonstrated and applied in a series of photographic exercises with tabletop still life and portraiture. Both “hot lights” and electronic flash are used to achieve total control of composition, color, contrast and reflection. Emphasis is placed on the technical mastery of complex equipment, coupled with an aesthetic understanding of the physical principles of light.

VDP 235 **3 C/45 CH**
Photojournalism

This basic course in photojournalism and introduction to documentary photography will focus on creating photographs for newspapers. We will cover the history and ethics of contemporary photojournalism and documentary photography. Students will work on weekly assignments, small picture packages and one long-term project.

VDP 255 **3 C/45 CH**
Forensic Photography Capstone Portfolio Project

This is a special course designed by the student and guided by the instructor to start the development of a capstone - portfolio project. Students will develop a project that reflects what they have learned in the program. Group approach and class critiques will be important elements of the production of the capstone portfolio.

FRENCH (FRE)

FRE 101 **4 C/60 CH**
Elementary French I **F, Sp, Sm**

This course is designed for beginning students and aimed at developing the four skills of understanding, speaking, reading and writing French. Emphasis is on grammatical constructions, vocabulary, basic idioms and phonetics. Special emphasis will be on the development of conversational French.

FRE 102 **4 C/60 CH**
Elementary French II **F, Sp, Sm**

Prerequisite: FRE 101

Continued emphasis will be on the four basic skills, fundamental grammatical construction and

vocabulary. Expanded training in reading, writing and composition. Emphasis is on French conversation and idiomatic constructions.

FRE 201 **4 C/60 CH**
Intermediate French I

Prerequisite: FRE 102

This course is an expansion of essential principle of grammatical idiomatic usage through oral and written exercise, emphasis is on French conversation, and continued development on reading French.

FRE 202 **4 C/60 CH**
Intermediate French II

Prerequisite: FRE 201

The focus of this course is on reading French on an advanced level and a continued emphasis on idiomatic usage in both speaking and writing French.

GEOGRAPHY (GEO)

GEO 202 **3 C/45 CH**
World Regional Geography **F, Sp, Sm**

This course is a study of the spatial relationships between human societies, cultures and natural resources in the various regions of the world. Through lectures, geographic films and field experiences, the course examines the cultural and physical landscape to illustrate how they relate to and interact with each other as part of a total region.

Continued on next page.

GEOLOGY (GEL)

GEL 202 4 C/60 CH

**Earth Science for Elementary School Teachers
(Formerly ED 202)**

Prerequisite: ED 111

Lab fee: \$20.00

Lecture and laboratory course dealing with earth science concepts and strategies for teaching these concepts in elementary schools. Current State of Michigan earth science teaching objectives and associated learning activities will be emphasized. In addition, students will develop an earth science lesson and teach it to children in an elementary (K-8) school.

GEL 210 4 C/90 CH

Physical Geology Lecture F, Sp, Sm

Geology is the scientific study of the Earth. Physical geology is concerned with earth materials, changes in the interior and surface of the earth, and the dynamic forces that cause those changes. The course is organized beginning with a focus on earth materials, minerals, igneous rocks and volcanoes, processes of weathering, sediments and sedimentary rocks, soils, and metamorphic rocks.

Internal earth processes are emphasized, covering the processes of mountain building, structural geology and maps, plate tectonics, earthquakes, and the earth's interior and the sea floor. The final focus is on surface processes including streams and groundwater, glaciers, deserts, wind and shoreline processes. (meets six hours per week, four hours lecture, two hours laboratory).

GERMAN LANGUAGE (GRM)

GRM 101

4 C/60 CH

Introduction to German

This course is designed to provide the learner with a solid background in the four language skills: speaking, understanding, reading and writing. Learners will be introduced to grammar structures and vocabulary.

They will develop reading and listening skills and be introduced to diverse aspects of German life and culture.

GERONTOLOGY (GER)

GER 110 3 C/45 CH

Introduction to The Study of Aging F, Sp, Sm

This is an introduction to the major issues in the field of gerontology with emphasis on the normal process of aging. Topics include physiology, psychology, economics, political issues, demography, sociology, education and community programs.

GER 115 3 C/45 CH

Programs/Services to the Aged F, Sp

Prerequisites: GER 110, ENG 119

This course provides a comprehensive view of the national, state and local structures, both public and private which provide services for the aging population. Included is an examination of the major legislative programs, agencies and regulations affecting the elderly.

GER 120 3 C/45 CH

Health and Physical F, Sp

Processes of Aging

Prerequisites: GER 110, GER 115, ENG 119, PSY 101,

program admittance or dept. approval

Physiological changes which are normal to the aging process and to the health and well-being of the elderly are studied by examining issues unique to aging, including sensory abilities, exercise, nutrition and drug use and misuse. Present patterns of health, illness and disease behavior, as well as rates of utilization of health and medical facilities and services will be investigated. Longevity and the quality of life are considered with an emphasis on preventive care, health maintenance and alternatives to institutionalization.

GER 125 **Mental Health and the Aging** **3 C/45 CH**
F, Sp, Sm

Prerequisites: GER 110, GER 115, ENG 119, PSY 101, program admittance or dept. approval

This course focuses on the mentally healthy older adult from a social-psychological perspective. It investigates the changing nature of social roles, emotional and social consequences of multiple losses, redefinition of needs in relationship to family and friends as well as the topic of retirement and the use of time.

GER 130 **Counseling and Communication Skills with Older Adults** **3 C/45 CH**
F, Sp

Prerequisites: GER 110, GER 115, ENG 119, PSY 101, program admittance or dept. approval

This course is an introduction to basic counseling skills for service providers who work with older adults. Basic communication and counseling skills are presented and practiced, including special considerations in dealing with older adults. Topics include empathy, death and dying, loss, grief and depression.

GER 140 **Legal Issues of Aging** **3 C/45 CH**
F, Sp

Prerequisites: GER 110, GER 115, ENG 119, PSY 101, program admittance or dept. approval

Major legally defined rights of older adults are considered. Information to provide service professionals and older persons more efficient access to legal services. The court system and probate, estate planning, taxes, guardianship and age discrimination are among the topics discussed.

GER 155 **Seminar for Gerontology Field Placement I** **2 C/30 CH**
F, Sp

Prerequisite: Satisfactory completion of required GER courses

Corequisite: GER 156

This course integrates classroom material with on-the-job learning experience in community settings coupled with concurrent classes and individual assignments. Emphasis is on upon skills development.

GER 156 **Gerontology Field Placement I** **4 C/60 CH**
F, Sp

Prerequisite: Satisfactory completion of required GER courses

Corequisite: GER 155

This course focuses on observation and participation in structured learning roles and activities in community agencies in the field of aging. Students are supervised by an approved field work instructor with regular consultation and review with the college instructor.

GEOHERMAL SYSTEMS TECHNOLOGY (GTT)

GTT 100 **Principles of Thermogeology** **4 C/60 CH**

This course will cover the basic principles of the Earth's heat sources and their use as alternative, renewable, and baseload energy. Attention will be given to the Earth's formation, its core as a heat source, and its crust for solar energy storage. Ground source heat and its use as a renewable energy heating and cooling source will be emphasized. Field experience to geothermal sites will be conducted.

GTT 105 **Applications of Geothermal Systems** **4 C/60 CH**

This course will explore the variety of geothermal systems installed around the world. The student will focus on emerging energy issues and challenges the nation and the geothermal REHC industry face in regard to economics, energy conservation, and energy use challenges to local economies. The course will emphasize how geothermal systems integrated with other renewable energy sources can play a significant role in successfully addressing these challenges. Students will learn how to systemically reduce the use of fossil fuels in local economies and municipalities while concurrently establishing sustainable local communities and buildings. Students will experience building sites or drilling sites geothermal/ground source heat.

Continued on next page.

GEOHERMAL SYSTEMS TECHNOLOGY (GTT) *continued*

GTT 201 3 C/45 CH **Geothermal REHC Technology**

This course will cover the basics of geothermal energy production and technology. Essentials on how to utilize and integrate geothermal technology as an energy source will be analyzed and demonstrated. Examples of residential and commercial applications will be shown and reviewed.

GTT 220 4 C/60 CH **GHEX Accreditation Exam Preparation**

This course provides the student with practical field experience and hands-on techniques for the fusion of the two primary ground heat exchangers used in the day-to-day installation of a ground-source heat exchanger (GHEX) using today's industry standards. This course culminates the completion of the Geothermal REHC Technology Certification Program by taking the student through the process of preparing for the International Ground Source Heat Pump Association's Accredited Installer examination.

HEALTH (HEA)

HEA 220 1 C /18.75 CH **Computer Applications in Health** F, Sp, Sm

Prerequisites: BIO 250, BIO 295, ENG 120, NUR 101

The focus of this course is to introduce health occupation students to basic computer applications. Content includes basic utilization of computers and its relation to health care and various hospital departments.

HEALTHCARE RENEWABLE ENERGY TECHNOLOGY (HCE)

HCE 101 3 C/45 CH **Introduction to Healthcare Renewable Energy Issues**

This introductory course will focus on emerging energy issues and challenges the nation and the health care industry face in regard to economics, energy conservation, national security, climate, and energy related health-care challenges. The course will emphasize that health care leaders and industry can play a significant role in successfully addressing these challenges by demonstrating their commitment to the very important work of reforming the health-care system with the understanding that reform must include energy and ecological advancements as well as advancing substantive clean energy solutions.

HCE 110 4 C/60 CH **Introduction to Photovoltaic (Solar Electric) Technology**

This course will provide an introduction to photovoltaic (solar electric) technology for students with a strong personal interest in photovoltaics (PV) as well as those considering a career in solar electric technology. This course provides students with the theoretical basis for understanding the various types of solar electric systems. The course covers the history of solar electricity, current markets and health care industry status, basic electrical theory, and other considerations necessary for solar electric systems. Topics include a detailed study of system components as well as the proper and safe electrical interconnection of these components and includes hands-on training exercises and experiments. Local visits to PV related facilities and assembly of real world systems examples.

HCE 115 4 C/60 CH **Fundamentals of Wind Energy**

This course will provide an introduction to the practice and theory of wind electric generation as applicable to the Health Care industry. Topics include homeowner, small/business, utility, interior, offshore, grid tied and off grid wind systems; mechanical and electrical components; economic viability; environmental, aesthetic and safety concerns; and laws and permits.

Students participate in the site visits and meet with wind energy experts

HCE 120 4 C/60 CH

Sustainable Design and Green Building

This course will provide an introduction to sustainable design and Green buildings. Topics include the study of energy issues related to Health Care facilities and buildings. Additional topics include residential building site analysis and design; air, heat and moisture flow; Green building materials; climate and designing with nature; energy conservation and efficiency; sustainable energy systems; and on-site power generation. Students visit Green buildings to reinforce classroom learning.

HCE 200 3 C/45 CH

Energy Conservation and Efficiency

This course will provide exploration of the methods and equipment to improve the energy efficiency of existing and new structures. These energy uses include heating/cooling loads and electrical consumption. Students learn how to use existing technology to assess energy usage, evaluate opportunities for reducing and managing loads, and learn best current practices within the Health Care industry.

HEALTH SCIENCE (HSC)

HSC 100 1 C/30 CH

Medical Measurements and Mathematics

This course provides students with the necessary medical mathematics for calculating various drug administration.

HEMODIALYSIS (HMD)

HMD 110 3 C/45 CH

Hemodialysis Terms & Principle

This course provides students the introduction to the terminology of the Hemodialysis patient care. Usage, definition, pronunciation and spelling of terms common to the renal anatomy and physiology, chronic kidney disease, Hemodialysis devices, vascular access and Hemodialysis procedure and complications will

be discussed. Computerized study guide audiocassette tapes are used to enhance students' learning. This course also defines the basic principles of diffusion, filtration, ultrafiltration, convection, and osmosis. Explains how diffusion, filtration, ultrafiltration, convection and osmosis relate to solute transport and fluid movement during dialysis. Describes the principles of fluid dynamics and how they relate to dialysis.

HMD120 Anatomy & Physiology of Kidney 3 C/45 CH

This course identifies the structures and functions of the normal kidney; describes acute vs. chronic kidney disease; list symptoms of uremia and conditions that often occur due to the kidney failure.

HMD130 3 C/45 CH

Surgical Principles of Peritoneal

This course describes the three main types of vascular access. It presents to students basic anatomy of human systemic, pulmonary, and portal circulation systems; identify the predialysis assessments for all types of vascular access, describe the methods of needle insertion for AVFs and grafts; accessing procedure, exit site care, and monitoring of vascular catheters. Also presents to students basic principles of surgical sterile technique, surgical instruments, medical devices, and step-by-step surgical techniques for AVFs and AV graft placement.

HMD140 3 C/45 CH

Hemodialysis Patient Care Management

This course describes at least four conditions that often occur due to kidney failure. Students will discuss the treatment options for kidney failure. They will identify members of the care team and discuss the communication skills dialysis team members use while working with the patients. Also describe the goal of rehabilitation and the Hemodialysis Patient care Specialist's role in it. Hemodialysis patients' nutrition, patients' cope and education including patient self-management and the importance of hope will be discussed.

Continued on next page.

HEMODIALYSIS (HMD) continued**HMD150** 3 C/45 CH**Hemodialysis Machine Set-up**

This course describes at least four conditions that often occur due to kidney failure. Students will discuss the treatment options for kidney failure. They will identify members of the care team and discuss the communication skills dialysis team members use while working with the patients. Also describe the goal of rehabilitation and the Hemodialysis Patient care Specialist's role in it. Hemodialysis patients' nutrition, patients' cope and education including patient self-management and the importance of hope will be discussed.

HMD160 3 C/45 CH**Hemodialysis Clinical Pharmacy**

This course is an introduction to medications used in the Hemodialysis procedure. It emphasizes classification, administration, forms, methods, interaction, and desired effects of pre-, intra-, and post-hemodialysis medications. The Hemodialysis Patient Care Specialists; legal responsibilities are included.

HMD170 3 C/60 CH**Hemodialysis Clinical Practicum**

This is supervised clinical course (under direct supervision of clinical preceptor in dialysis setting), and a continuation of HMD 150 - Hemodialysis Machine Setup & Maintenance - Laboratory course. Students perform in the role of the Hemodialysis Patient Care Specialists on various stages of Hemodialysis procedure. This clinical setting involves two days per week, 8.5 hrs per day. Training series and students evaluation are based on the eight core modules. Each module is a self-sufficient topic, containing objectives, suggested practice areas with relevant informational background, and evaluation material. In addition, there is a separate reference module, which includes a glossary of terms. Students are responsible for their own transportation.

HEATING, VENTILATION AND AIR CONDITIONING (HVA)**HVA 101** 4 C/75 CH
Basic Refrigeration I F, Sp, Sm*Lab fee**Corequisite: HVA 102*

This course covers theories, application and principles of refrigeration and air cooling, basic cycles, systems, components, refrigeration accessories. The course also includes refrigeration code regulations, safe designs, construction, installation, alteration, inspection, testing and licensing of refrigeration systems.

HVA 102 2 C/45 CH
Hermetic Systems F, Sp*Lab fee**Corequisite: HVA 101*

This course covers application, installation and servicing hermetic systems, including domestic refrigerators, freezers room coolers, water coolers and humidifiers.

HVA 103 2 C/45 CH
Commercial Refrigeration F, Sp*Lab fee**Prerequisites: HVA 101, HVA 102**Corequisite: HVA 108*

This course covers application, installation and servicing of commercial-industrial refrigeration, including operating and testing of low, medium and high temperature systems.

HVA 104 4 C/75 CH
Air Conditioning I F, Sp*Lab fee**Prerequisites: HVA 101, HVA 102**Corequisite: HVA 105*

This course covers load calculation, basic psychometrics, system design, air handling, selection of equipment and controls, installation and servicing of residential and commercial systems.

HVA 105 4 C/75 CH
Air Conditioning II Sp, Sm

Lab fee

Prerequisites: HVA 101, HVA 102

Corequisite: HVA 104

This course covers advanced design, application installation and servicing of commercial and field-assembled packaged air conditioning units, including testing, starting balancing and troubleshooting.

HVA 106 4 C/60 CH
Basic Heating F, Sp, Sm

Lab fee

Corequisite: HVA 107

This course covers fundamentals of heating including comfort standards, heat loss calculation, electric control wiring, servicing components and study of various types of systems. The course also includes local and national codes governing safe design, construction, installation, alteration, and service and testing.

HVA 107 2 C/45 CH
Heating Controls F, Sp

Lab fee

Corequisite: HVA 106

This course will cover heating controls, how they operate, how they are wired. Included in this course are schematic diagrams, pictorial diagrams and control operation.

HVA 108 4 C/75 CH
Refrigeration Controls Sp

Lab fee

Prerequisites: HVA 101, HVA 102, HVA 103

This course will cover refrigeration controls, how they operate, how they are wired and their uses. Included in this course are schematics diagrams, pictorial diagrams and control operation.

HVA 109 4 C/75 CH
Ventilation & Duct Fabrication Sp

Lab fee

Prerequisites: HVA 106, HVA 107

This course covers advanced system design and layout, including sizing and installation of air handling systems on selected blue prints.

HVA 110 4 C/75 CH
Force Air & Hydronic Heating F, Sp

Lab fee

Prerequisites: HVA 106, HVA 107

This course covers application, installation and service of steam and hydronic heating systems, including equipment selection, layout, construction, testing, adjusting and troubleshooting. Piping systems are also studied.

HVA 111 3 C/60 CH
Applied Electricity in F, Sp
Air Conditioning and Heating

Lab fee

Prerequisites: HVA 101, HVA 102, or HVA 106 and/or HVA 107

In this course the student will learn the fundamentals of electricity as applied to air conditioning, heating and refrigeration covering such topics as: basic electricity, electrical symbols, circuits, electric meters, alternating current, single phase motors, testing, motor protection and troubleshooting.

HVA 112 2 C/30 CH
Refrigerant Recovery, Sp
Recycling and Reclamation I

Lab fee

Prerequisites: HVA 101, HVA 102 or HVA 103

In this course emphasis is placed on dehydration, refrigerant, charging, recovery, recycling and reclamation procedures, as well as techniques using a state-of-the-art multiuse recovery/recycling machine. This course provides training required for refrigeration technicians for the EPA approved certification.

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HEATING, VENTILATION AND AIR CONDITIONING (HVA)

continued

HVA 113 2 C/30 CH
Refrigeration Code and Regulations Sm
Lab fee

Prerequisites: HVA 101, HVA 102, HVA 103

This course provides the student with the refrigeration safety code of the American Standard Association as approved by the American Society of Heating, Refrigerating and Air conditioning Engineers. The topics considered are scope and purpose, derivation, refrigerant, classification, system required for various establishments, installation requirements, piping valves, fitting and related parts and safety devices.

HVA 114 2 C/30 CH
Heating Code and Regulations F
Lab fee

Prerequisite: HVA 106

This course provides the student with the heating safety code based on the BOCA, Basic National Mechanical Code, ANSI Z2231.1, National Fuel Gas code-NFPA54 adopted by all municipalities of the USA. These codes offer general criteria for the installation and operation of gas piping and gas equipment on consumers' premises. It is included to promote public safety by providing guidelines for the safer and more satisfactory utilization of gas.

HVA 201 3 C/45 CH
Introduction to Sp
Boiler Plant Maintenance

Lab fee

This course covers water and steam, steam cycles, blow down, characteristics of steam and type of steam piping and systems. Also low pressure boilers and boiler room accessories, safety devices, their function and testing, fire tubes, boiler plant auxiliaries, pumps injectors, regulators, feed-water, heaters, valves, traps, separators, water treatment principles, scale prevention, reaction under temperature and pressure, boiler circulation, feeds and construction, impaired testing, operation of boiler and boiler efficiency improvement techniques will be covered.

HVA 202 3 C/45 CH
Steam I F

Lab fee

Prerequisite: HVA 201

This course covers fundamentals of heat, steam and other vapors, gases and vapor cycles of fuels and combustion, steam power plants, heat engines, building heating, systems and instruments. This course and other 200 level HVA courses prepare students for boiler operation and licensing.

HVA 203 3 C/45 CH
Steam II Sp

Lab fee

Prerequisite: HVA 202

This course covers definitions, safety regulations, and codes, fire tube boilers, water tube boilers, heating, surface and boiler horse power, boiler materials and construction, safety alarms and valves, fusible plugs, feed and blow off accessories, fuel gas analysis, water treatment, repairs and inspection.

HVA 204 3 C/45 CH
Boiler Room Accessories Sp

Lab fee

Prerequisite: HVA 201

This course covers boilers, foundations and supports, safety devices, water walls, water columns, headers drum materials, laying up of boilers, heat absorption rates of various water surfaces, pumps, injectors regulators, turbines, air pre-heaters, collectors and traps, separators, drafts, automatic control equipment and operation.

HVA 206 3 C/45 CH
Refrigeration Operators Sp
Exam Preparation

Lab fee

This course covers fundamentals of refrigeration, compressors and their types, capacity controls, starting, stopping and operation, valves shapes, booster pumps, pump out and dual suction compressors, lubrication systems and lubricants, shaft seals and cylinder cooling, type of evaporators, cooling towers and spray ponds, accumulators and separators, samples of multiple choice questions, systems

diagrams. Sequence of operations and calculation problems will be covered.

HEAVY EQUIPMENT MAINTENANCE (HEM)

HEM 101 5 C/75 CH Diesel Engine I

Lab fee

This course covers various aspects of general engine diagnosis, cylinder head and valve train diagnosis and repair, engine block diagnosis and repair, and engine brakes. Performance task within this course will be according the most current ASE standards.

HEM 110 5 C/75 CH Diesel Engine II

Lab fee

Prerequisite: HEM 101

This course covers various aspects of lubrication systems, cooling system, air induction and exhaust system, fuel supply system, mechanical fuel injection and engine brakes.

HEM 111 6 C/90 CH Suspension and Steering

Lab fee

This course covers various aspects of steering systems, steering column, steering units, steering linkage, suspension systems, wheel alignment, tires and frames.

HEM 112 7 C/105 CH Brakes

Lab fee

The primary concentration of this course is on basics and hands-on of components that make up the chassis of over-the-road trucks and trailers. It will also cover the operation, troubleshooting and repair of a variety of construction equipment. Components used in the lab are representative of the major manufacturers' current technologies.

HEM 116 3 C/45 CH Vehicle (Mobile) Hydraulics

Lab fee

Prerequisite: HEM 100

This course covers the basic fundamentals and principles of Hydraulics from construction, operation and application, to how they apply to Heavy Maintenance and troubleshooting of the various systems is also covered.

HEM 121 5 C/75 CH Electrical/Electronic System I

Lab fee

This course covers various aspects of general electrical systems and battery diagnosis and repair.

HEM 122 5 C/75 CH Electrical/Electronic System II

Lab fee

Prerequisite: HEM 121

This course covers various aspects of starting, charging and lighting systems diagnosis and repair.

HEM 123 7 C/105 CH Preventive Maintenance

Lab fee

This course is designed to cover various aspects of preventive maintenance on medium and heavy duty diesel trucks.

HEM 124 7 C/105 CH Drive Train

Lab fee

Prerequisite: Program Admission

This course covers various aspects of clutch, transmission, drive shaft, universal joint, drive axle diagnosis and repair.

HEM 125 6 C/90 CH Heating, Ventilation & Air Conditioning

Lab fee

Prerequisite: Program Approval

This course covers various aspects of HVAC systems, A/C system and components, heating and engine cooling systems, operating systems, related controls and air/vacuum mechanical system diagnosis, service and repair.

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HEAVY EQUIPMENT MAINTENANCE (HEM) continued

HEM 200 5 C/75 CH **Diesel Engine III**

Lab fee

Prerequisite: Program Admission

This course covers various aspects of fuel system diagnosis and repair, electronic fuel management system diagnosis and repair.

HEM 202 5 C/75 CH **Electrical/Electronic System III**

Lab fee

Prerequisite: HEM 122

This course covers various aspects of gauges, warning device, and related electrical systems diagnosis and repair.

HEM 210 2 C/60 CH **Diesel Engine Fieldwork Experience**

Lab fee

Prerequisite: HEM 200

This course provides diesel engine fieldwork experience for students.

HEM 211 2 C/60 CH **Suspension and Steering Fieldwork Experience**

Lab fee

Prerequisite: HEM 111

This course provides suspension and steering fieldwork experience for students.

HEM 212 2 C/60 CH **Brakes Fieldwork Experience**

Lab fee

This course provides brake fieldwork experience for students.

HEM 222 2 C/60 CH **Electrical/Electronic System Fieldwork Experience**

Lab fee

Prerequisite: HEM 122

This course provides electrical/electronic fieldwork experience for students.

HEM 223 2 C/60 CH **Preventative Maintenance: Fieldwork**

Lab fee

Prerequisite: HEM 123

This course provides preventive maintenance fieldwork experience for students.

HEM 224 2 C/30 CH **Drive Train Fieldwork Experience**

Lab fee

Prerequisite: HEM 124

This course provides drive train fieldwork experience for students.

HEM 225 2 C/60 CH **Fieldwork Experience**

Lab fee

Prerequisite: HEM 125

This course provides heating, ventilation and air conditioning fieldwork experience for students.

HOMELAND SECURITY (HLS)

HLS 100 Intro to Homeland Security 3 C/45 CH

This course is designed to introduce the audience to fundamental components and concepts of homeland security. Topics that will be discussed are: History and origins of terrorism, critical infrastructure-identify and protect, national security strategies and organizations and an introduction to weapons of mass destruction.

HLS 101 Introduction to Terrorism 3 C/45 CH

This course is designed to provide a history of terrorism.

HLS 102 3 C/45 CH **Business & Industry Crisis Management**

This course is designed for business and industry. Topics include: contingency planning, business area impact analysis, risk communication and management, crisis management, disaster recovery and organizational continuity.

HLS 103 3 C/45 CH
Emergency Management Principles

This course is designed for tourism, hospitality and travel management industries. Topics include: overview of disaster threats to tourists, industry managerial experiences, assessing tourist business vulnerabilities, industry disaster planning and customer and employee expectations.

HLS 104 3 C/45 CH
Terrorism & Emergency Management

This course is designed for emergency response personnel. Topics include: history of terrorism in the United States, domestic and international terrorism, law enforcement/national security aspects, applying emergency management framework, the structure of antiterrorism programs and preparing and responding to major events.

HLS 105 3 C/45 CH
Hazards Risk Management

This course is designed for emergency response personnel. Topics include: contribute to the reduction of growing toll of disasters in the United States by providing an understanding of a process that provides a framework that may be applied at all levels of communities and governments, to identify, analyze, consider, implement and monitor a wide range of measures that contribute to their well being.

HLS 203 3 C/45 CH
Counterterrorism for First Responders

The course provides procedures for handling terrorist attacks.

HISTORY (HIS)

HIS 151 3 C/45 CH
World Civilization I
Pre-History – 1500 CE

This course is a Global History studying the development of civilizations from the end of the Pleistocene Epoch through the European Renaissance. The course focuses upon the political, economic, and cultural development and achievements of, and the

connections and networking between, various civilizations and societies of the world.

HIS 152 3 C/45 CH
World Civilization II
1500 CE - Present

This course is a Global History surveying major civilizations of the world in the post-European Renaissance period featuring the development of politics, economics, science, and culture. Emphasis is placed on the increasing interdependence of all Earth's societies.

HIS 220 3 C/45 CH
History of Michigan

This course covers the historical development of Michigan from the period of the French exploration to the present. The major political, social and economic developments of the state. Emphasis on southeastern Michigan, especially the metropolitan Detroit area.

HIS 230 3 C/45 CH
Patterns of American Life:
A Cultural History of 17th to
19th Century America

This course traces the growth of American society from colonial days through the nineteenth century. Visits to local museums such as Henry Ford Museum, Greenfield Village, Heritage House, Detroit Historical Museum and the Dossin Great Lakes Museum will be the focal points in an audio, visual and tactile experience. Students will learn blacksmithing, candle making and other crafts.

HIS 249 3 C/45 CH
U.S. History I 1607 - 1865

This course covers the political, social and economic development of the United States from colonization through the Civil War. Emphasis is placed on colonial America, the Revolutionary War, the Constitution, the slavery question and the Civil War.

Continued on next page.

HISTORY (HIS) continued

HIS 250 3 C/45 CH
History of the United States II F, Sp, Sm
1865 to Present

This course covers the rise of the United States as an industrial leader and world power. Emphasis on the transition from slavery to freedom, the growth of big business, the Great Depression, postwar America and America's wars.

HIS 255 3 C/45 CH
History of American Labor Sm

This course covers the growth of organized labor from early craft unions, through the struggles of the industrial revolution, to the present multi-organizational federations. Analysis of current problems, organizational forms and activities of organized labor.

HIS 261 3 C/45 CH
African-American History I F, Sp, Sm

This course is an American history course that focuses on the role the African-American has played in American history up to 1865. A survey of the African background, the Colonial period and the African-American experience from the American Revolution to the Civil War. This course provides students with a general background on the development of the American nation and the significant role played by African-Americans prior to the Civil War.

HIS 262 3 C/45 CH
African-American History II F, Sp, Sm

This course is an American history course from 1865 to the present. The course focuses upon the African-American during the Reconstruction period and the thoughts and actions of African-Americans during the Twentieth Century as expressed through various leaders and organizations. This course provides students with a general background on the development of the American nation and the significant role played by African Americans from the period of the Civil War to the present.

HOTEL MANAGEMENT (HTM)

HTM 105 3 C/45 CH
Introduction to Hotel & Restaurant Management

The focus of this course is on analysis and understanding of the interdependent nature of major departments within a hotel operation. Emphasis will be placed on food and beverage, front office and rooms division, sales, human resources and facility management.

HTM 106 3 C/45 CH
Hotel & Restaurant Management

This course is designed to provide students with an in-depth study of Hotel and Restaurant Management. Special attention will be paid to supervision, procurement, computer systems, and the international hotel and restaurant management market.

HTM 200 3 C/45 CH
Hotel and Restaurant Operations

The focus of this course is on analysis and understanding of food, beverage service and controls for hotel dining rooms, restaurants, banquets, and cafeterias. Emphasis will be placed on food and beverage management, menu planning, personnel, merchandising, operational reports, and equipment. The course will also cover operational regulations pertaining to safety, health, taxes, and licenses. The course will teach students how to successfully manage food and beverage operations found in lodging properties including coffee shops, gourmet dining rooms, room service, banquets, lounges, and entertainment/show rooms.

HTM 210 3 C/45 CH
Customer Service Management

This course will introduce you to the rewarding careers available in the hotel front desk management. Hotel general managers are required to meet the challenges of day to day operations while practicing solid future planning. This course will present the technological advantages today's hotel manager have at their disposal and the challenges of hiring, training, scheduling and empowering workers to achieve top quality results. This course is specifically designed to

train students to enter front desk in an assistant or supervisory role. The hotel's front desk is the control center for the property and workers at the supervisory level, and above must be well trained and motivated in order to achieve business objectives of a high yield, high occupancy rate, and above all top quality service.

HTM 225 3 C/45 CH
Special Events and Catering Management

The focus of this course will be on management and operations of conventions, meetings, banquets, trade shows, and exhibition for both profit and nonprofit organizations. Emphasizes on programs, planning, budgeting, contracts, marketing, facility selection, and exhibit and convention planning. Special emphases will be put on catering sales and management

HTM 299 3 C/45 CH
Hotel Management Practicum

This course provides a forum where students can acquire entry level knowledge and skills in the hospitality industry while in a performance setting. Students apply the knowledge and skills acquired at WCCCD in an appropriate hospitality establishment approved by the instructor

HUMANITIES (HUM)

HUM 101 3 C/45 CH
Intro to the Visual Arts F, Sp, Sm

This course covers how painting, sculpture and crafts, film and architecture affect our lives. This question is examined in relation to the individual and society with emphasis on HOW to look at a work of art. The course is designed for people who make up audiences and for the student who would like to be a more creative person and a better informed consumer.

HUM 102 3 C/45 CH
Intro to the Performing Arts F, Sp, Sm

This course covers the importance of music, dance, poetry and drama in contemporary life. This question is examined in relation to the individual and society with emphasis on HOW to listen to the music and the words. The course is designed for people who make

up audiences and for the student who would like to be a more creative person and a better informed consumer.

HUM 103 3 C/45 CH
The Art of Humanities F, Sp

This course uses a thematic approach in examining philosophy, literature, drama, art and music.

HUM 126 3 C/45 CH
Foundations of African-American Art F, Sp, Sm

This course covers a survey of African American visual arts and artists from 1900 to the present. Particular emphasis will be given to the artists of the Harlem Renaissance. Major artists such as Tanner, Heyden, Lawrence, VanDerZee, Polk, Bearden, Catlett, White, and Hunt will be studied. The influence of traditional African art on contemporary African American Art will also be explored.

HUM 141 3 C/45 CH
Introduction to the Theater F, Sp, Sm

This course covers the study of the fundamental principles and techniques of the theater. Students will write, analyze, and create theatre on their own, and participate in a class performance.

HUM 211 3 C/45 CH
Music Appreciation F

This is an intensive study of music with emphasis on perception and style. Musical composition and performance styles are emphasized with examples of listening that range from early symphonies to contemporary jazz.

HUM 212 3 C/45 CH
Music History Sp

This is a study of the historical development of music.

Continued on next page.

HUMANITIES (HUM) continued

HUM 221 **3 C/45 CH**
Art Appreciation **F, Sp, Sm**
 Consumerism and aesthetics are stressed in this intensive study of visual arts. The course includes theories of color, design and current views on the educational value of children's art and recommendations for collecting art for home and office.

HUM 222 **3 C/45 CH**
Art History **Sp**
 A chronological survey, the course focuses on the subjects, stories and symbols of visual art. Diverse cultures and styles are studied with examples that include Biblical scenes, African legends and contemporary American trends.

HUM 231 **3 C/45 CH**
Introduction to Film **F, Sp, Sm**
 This course covers a general approach to film, offering a comprehensive view of motion pictures as a communications medium, an industry, and an art form. Includes historical highlights, aesthetic approaches and criticism and fundamentals of production. Students will view films.

HUM 232 **3 C/45 CH**
Film History **F, Sp**
 This course covers a historical approach to motion pictures from the early experimenters and pioneers. It includes the major trends in U.S. and world film production, the relation of film to society and film as communications medium and art form.

HUMAN SERVICES (HUS)

HUS 105 **3 C/45 CH**
Group Expression for Self Growth I **F, Sp, Sm**
 The focus of this course is student development of self-perception, self-understanding and self-growth through group interactions with other students in interpersonal competence acquisition groups. Students will examine their personal values, beliefs, motivations

and goals.

All students pursuing certificates and degrees in Child Care Training, Corrections, Law Enforcement Administration, Mental Health Worker, Pre-Social Work, Registered Social Work Technician, and Substance Abuse Counseling are required to complete this course.

HUS 110 **3 C/45 CH**
Introduction to Human Services **F, Sp, Sm**
 This course covers an introduction to history, resources, services and professional disciplines in the human services field.

HUS 120 **3 C/45 CH**
Group & Social Process I **F, Sm**
Prerequisite: HUS 105

In this course the student will learn systematically to analyze group effectiveness with focus upon group dynamics; group leadership; decision making in groups; group goals; and communication within groups.

HUS 135 **3 C/45 CH**
Professionalism **F, Sp, Sm**
in Human Services
Prerequisite: HUS 105

This course covers professional ethics, values, behaviors and communication skills are addressed. This course prepares the student for a field-site situation through community placement, and fulfillment of the student's field-site role in a professional and responsible manner. Instructor and students locate and finalize individual student community placement arrangements.

By the end of the semester, students know the field site where they will work. CCT students will be assisted in identifying their CCT 103, CCT 104, CCT 105 and CCT 106 practicum sites. CCT students' placement will not be finalized.

HUS 206 **3 C/45 CH**
Recreational and Creative Activities **F, Sp**
 This course covers music, games, crafts and field trips as practical methods for teaching children, youth and

adults to express themselves and communicate ideas effectively. The importance of creative expression in the healthy growth and development of the consumer of the service is emphasized. Class substitution only with permission for RL 110.

HUS 220 **Group and Social Process II** **3 C/45 CH**
Sp, Sm

Prerequisite: HUS 120 or Dept approval

This course is a continuation of HUS 120. This course covers conflicts of interest, the use of power, cohesion and norms, problem solving, discussion and growth groups.

HUS 235 **Life Styles of Aging** **3 C/45 CH**
F, Sp, Sm

Prerequisites: PSY 101, HUS 105 and HUS 110

This course focuses on the satisfactions and disappointments of growing old in contemporary America, including problems of aging, coping mechanisms of the older person and society's efforts to assist older adults.

HUS 246 **Independent Study: Human Services** **3 C/45 CH**

Prerequisites: One PSY course, one ENG course, one

MEH, CCT, GER, LEA, COR or SAC techniques course

In this course students explore questions of special interest through research under the direction of a faculty advisor. Basic research methodology is introduced; written reports are required. It's a substitute for an unavailable required course in the last semester when graduation requirements are not met.

INDUSTRIAL COMPUTER GRAPHICS TECHNOLOGY (CAD)

CAD 101 **Fundamentals of Computer Aid Drafting** **4 C/60 CH**
F, Sp, Sm

This is an introductory computer aided drawing and design course. As an elementary course, it will provide the student with an overview of drawings produced with the use of the computer. Students will explore software capability by generating various

configurations and develop operational skills to include among others: input of graphic commands, editing, filing, imaging, rotating and copying, plotting and printing for drawings. Auto CAD software will be used in this class.

CAD 102 **Advanced Computer Aided Drafting** **4 C/60 CH**
F, Sp, Sm

Lab fee

Prerequisite: CAD 101

An advanced computer aided drafting course that focuses on developing those competencies necessary to produce exacting and precise detail 3-D engineering drawings. The course included three-dimensional data base manipulation and is enhanced with menu creation and advanced editing. Auto CAD software will be used in this class.

CAD 110 **Intro to Unigraphics CAD/CAM** **4 C/60 CH**
F, Sp, Sm

Lab fee

Prerequisite: DRT 102 or MAT 121

An introduction to two-dimensional drawing using the Unigraphics modeler. Other topics include UNIX operating system and Visual User Environment (VUE); File Management; Two-dimensional drawing, construction, and editing; view manipulation; layout; and a brief introduction to three-dimensional principles and concepts.

CAD 121 **Tool and Fixture Detailing** **4 C/90 CH**
F

Lab fee

Prerequisite: CAD 102 or CAD 222

Study of the systems used in preparing detail drawings of assemblies. Includes detailing of blocks, pins, turned details, elements and castings

Continued on next page.

INDUSTRIAL COMPUTER GRAPHICS TECHNOLOGY (CAD) continued

CAD 200 4 C/60 CH
UG Free Form Modeling Sp
Lab fee

Prerequisites: CAD 102, CAD 222

Definition of complex surfaces and their intersections. Includes cylinder, convolutes and double curved surfaces of all types.

CAD 203 4 C/60 CH
CAD Applications Sp
Lab fee

Prerequisite: CAD 222

This NX class introduces the student to the use of reference features and expressions to create and constrain sketch geometry in NX.

CAD 211 4 C/90 CH
Die Design and Panel Tipping Sp
Lab fee

Prerequisite: CAD 102 or CAD 222

Die design methods used for cutting dies. Use of standard components for dies employing standard die sets, punches, retainers, springs, and stripper bolts.

CAD 222 4 C/60 CH
Unigraphics Solids Modeling F, Sp, Sm
Lab fee

Prerequisite: CAD 110

An introduction to the fundamental three dimensional models in Unigraphics. Other Topics include Boolean Operations; solid and surface base modeling; create and edit features; analyze, move and hybrid models.

CAD 224 4 C/60 CH
UG/Assembly/Components/Drafting F, Sp
Lab fee

Prerequisite: CAD 222

Provides students with fundamentals of three dimensional drafting, geometric dimension and tolerances; and an introduction to organization of

several different part files which share common data and components, subassemblies and assemblies.

CAD 226 4 C/60 CH
Advanced Unigraphics Solid Modeling Sp
Lab fee

Prerequisite: CAD 222

An advanced Unigraphics solid modeling course that provides students with the ability to model complex free-form surface parts applied to the automotive industry for component engine and sheet metal design.

INDUSTRIAL CONTROL TECHNOLOGY (IEC)

IEC 202 3 C/60 CH
Introduction to Robotics Sp
Lab fee

This course is an introduction to the field of robotics technology. It will provide the student with a historical overview of the use and development of robotics. It will also include a discussion of the different types of robots 133 (e.g., point-to-point, continuous path, electric, hydraulic, pneumatic, etc.) and introduction to robotics programming

IEC 203 3 C/60 CH
Electrical Machinery and Controls F
Lab fee

Prerequisite: EE 111

Principles involved in the function of DC and AC motors and generators and their connection, operation and load characteristics. Study of different types of speed controls and starters, characteristics of single phase motors and polyphase machines including synchronous and induction motors, transformer characteristics such as losses, efficiencies, paralleling transformers and transformer testing are included.

Laboratory experiments to examine the characteristics of the various DC and AC motors and generators, using various speed controllers and starters.

IEC 207 **3 C/45 CH**
Hydraulics and Pneumatics **Sp**

Lab fee

Prerequisite: EE 111

Survey of basic industrial hydraulics and pneumatics, including hydraulic laws and principles, necessary calculations, ANSI symbols, drawing of complete schematic diagrams of circuits studied, controls and motors used in hydraulic and pneumatic systems measuring devices and complete hydraulic and pneumatic systems. Lab coat is required.

IEC 208 **3 C/60 CH**
Programmable Logic Controllers **F**

Lab fee

Prerequisites: EE 111, CT 203

Programmable controller hardware, relay ladder diagram and logic programming, timers and counters, arithmetic function, process control and data acquisition, data communication, computer numerical control computer controlled machines and programmable 134 controllers' installation and troubleshooting systems will be covered. Allen-Bradley PLC-5 family programmable controllers will be used in the lab.

JAPANESE (JPN)

JPN 101 **4 C/60 CH**
Elementary Japanese I **F, Sp, Sm**

This course is an introduction to Japanese language and development of Japanese culture and its characteristics. This course is recommended for educators and others who require or desire an intensive overview of the language.

JPN 102 **4 C/60 CH**
Elementary Japanese II

Prerequisite: JPN 101

This course is a continuation of JPN 101 and is designed to provide basic knowledge of Japanese language for practical communication. It is designed to develop skills in reading, writing, speaking and listening. It also provides information about everyday

life and culture in Japan. Students learn more advanced sentence structures and expressions.

LANGUAGE ARTS (LA)

LA 100 **6 C/90 CH**
Language Arts

This is a reading course offered to students who score between 0 to 4 grade level equivalency on a standardized reading assessment. Intensive reading skill development through an individualized, mastery learning delivery system which permits students to begin at their personal level and progress at their own pace.

LAW ENFORCEMENT ADMINISTRATION (LEA)

LEA 201 **3 C/45 CH**
Intro to Law Enforcement **F, Sp, Sm**

Prerequisite: CJS 100

This course is an introduction to law enforcement and its modern societal role in examining the constitutional restrictions, organizational structure and terminology.

LEA 210 **3 C/45 CH**
Highway and Traffic Control **F, Sp, Sm**

Prerequisites: CJS 100 and LEA 201

This course covers the basic law enforcement practices and responsibilities for safe and efficient movement of vehicle and pedestrians; relations with planning, engineering and judicial agencies.

LEA 225 **2 C/30 CH**
Law Enforce Admin: Seminar I **F, Sp**

Prerequisite: LEA 210

This course is an overview of law enforcement administration and its relationship to theory and practical application. Classroom materials and personal life experiences concerning all areas of administration in law enforcement are discussed.

Continued on next page.

LAW ENFORCEMENT ADMINISTRATION (LEA) continued

LEA 226 4 C/60 CH
Law Enforcement F, Sp
Administration: Practicum

Prerequisite: LEA 210

This course is a supervised work experience in a law enforcement setting with emphasis on the development of positive interpersonal skills. Students must maintain a log and written reports of their field activities.

LEA 230 3 C/45 CH
Fundamentals of F, Sp
Criminal Investigation

Prerequisites: CJS 100, LEA 201

This course is an introduction to basic procedures in criminal investigation, including techniques of surveillance, crime scene search, collection, the preservation of evidence, sources of information including interviews and interrogation.

LEA 231 3 C/45 CH
Criminal Law and Justice I F, Sp

Prerequisite: LEA 230

This course covers historical development and philosophical concepts of criminal law, including legal principles, identification and organization of the courts, identification of crime, intent and the provided penalties.

LEA 232 3 C/45 CH
Criminal Law and Justice II F, Sp

Prerequisite: LEA 231

This course is a continuation of LEA 231 which includes the laws of arrest, search and seizure, the rights of the accused, duties of police officers, laws of evidence and criminal trials, survey and examinations of the roles of the police officer, the judge, jury, defense counsel and prosecution in the judicial process.

LEA 235 3 C/45 CH
Race Relations For Law Enforcement F, Sp

Prerequisites: CJS 100, LEA 201

This course covers racial and cultural tensions as they relate to law enforcement. Techniques which consist of case histories, psychological confrontations, attitude changes, economic oppression, education deprivation and social injustices.

LEA 250 3 C/45 CH
Social Problems in Law Enforcement F, Sp

Prerequisites: CJS 100, LEA 201

This course covers the role of today's police officer in a multicultural society. It includes examination of the problems and causes of tension in social interactions and techniques in alleviating them.

LEA 253 3 C/45 CH
Law Enforcement F, Sp
Administration: Sem. II

Prerequisites: LEA 225, LEA 226

This is a topical seminar on current law enforcement issues for second year students.

LIBRARY TECHNOLOGY (LBT)

LBT 100 3 C/45 CH
Introduction to F, Sp, Sm
Libraries and Service

This course is designed to give the students a firm overview of the various types of libraries and issues in the field. This will be reinforced with training on the profession's commitment to providing high quality service. Development of the service mentality and understanding of patrons needs are critical for quality work. Core abilities will include defining types of patron's and how to meet their needs, competency in prevalent issues in libraries which include federal and local legislation, as well as, ethics, censorship, etc. Course will include tours and guest speakers

LBT 105 3 C/45 CH
Library Technical Services and Acquisitions F, Sp

This course is designed to give the students firm skills in Technical Services. Exercises in cataloging, acquisitions, preservation, and system maintenance. Strong development of the responsibility of preparing materials for ease of access. Coverage of the impact of technology on this aspect will be predominant. Thorough understanding of description and ability to analyze information will be the emphasis.

LBT 200 3 C/45 CH
Evaluating Information Sources F

This course is designed to give the students hard analysis skills for the evaluating the quality of information. Time will be taken to explore all forms of information media and establish standards and guidelines for determining the authority, currency and overall quality of resources. Core abilities will include defining types of information (for example scholarly, commercial, nameplate, etc.) and how each meets an informational need. Course will include tours and guest speakers.

LBT 210 3 C/45 CH
Library Technology F, Sp

This course is designed to give the students practical skills in basic library technology. Time will be taken to explore all forms of library technology of the past, present and future. Overview of common software and hardware issues included. Core abilities will include defining technology needs for institutions and balancing that with maintenance, training and obsolescence costs. Course will include tours and guest speakers.

LBT 215 3 C/45 CH
Introduction to Media Management and Service F

This course is designed to give the students core skills for the complex management of media in libraries. Time will be taken to explore all of media in the past, present and future. Core abilities will include asserting preferred formats based on usability and longevity as well as budget. An understanding of preservation, storage, cataloging and presentation of

media will be developed. Overview of the future trends of media management will also be covered. Course will include tours and guest speakers.

LBT 220
Library Internship

Prerequisites: ENG 110, BUS 225 and LBT 100

This course is designed to apply theory learned in the classroom and provide job experience. It will also allow the students to see first-hand the library's role in community and their role in the profession. Several seminar discussions will be included to analyze their position with the assistance of their instructor. The student will evaluate this experience and have the opportunity to offer their insight.

LOGISTICS MANAGEMENT (LOG)

LOG 101 3 C/45 CH
Introduction to Logistics F, Sp, Sm

Prerequisite: Program Admission

This course provides general knowledge of current management practices in logistics management. A study of the basic concepts in product distribution including distribution planning and terminology, transportation methods, traffic management, location strategies, inventory control and warehousing.

LOG 102 3 C/45 CH
Purchasing F, Sp

Prerequisite: LOG 101

This course provides a general knowledge of purchasing for today's supply chains. The student will be introduced to cross-functional teaming, purchasing and supply performance, supplier integration into new product development, supplier development, strategic cost management and total ownership cost (TOC) and many other topics.

Continued on next page.

LOGISTICS MANAGEMENT (LOG)

LOG 103 3 C/45 CH
Introduction to Supply Chain Management F, Sp

Prerequisite: LOG 101

This course is designed to provide a general knowledge of Supply Chain Management (SCM) and the associated functions necessary for delivery of goods and services to customers. This course will focus on what employees and managers must do to ensure an effective Supply chain exists in their organizations. Topics include: introduction to SCM, E-Commerce, materials management, information technology, measuring SCT performance, purchasing and distribution and research and case studies.

LOG 104 3 C/45 CH
Materials Management F, Sp, Sm

Prerequisite: LOG 101

This course will introduce students to materials management by learning the planning production process, master scheduling, material requirement and forecasting material demands and inventory levels. This course is designed to build on the student's knowledge of supply chains and how effective material management improves supply chain performance.

LOG 105 3 C/45 CH
Inventory and Warehouse Management Sp, Sm

Prerequisite: LOG 101

This course emphasizes the relationships of inventory and warehouse management to customer service and profitability of the wholesale distributor. The course will focus on the role of computerized systems and resulting information for effective management of inventory and the warehouse under various conditions.

LOG 110 3 C/45 CH
Transportation and Distribution F, Sp, Sm

Prerequisite: LOG 101

Transportation and Distribution course examines the

structure and importance of the commercial transportation industry in the logistics sector of business. The course includes discussions of regulations, economics, characteristics, and development in major transportation modes.

LOG 200 3 C/45 CH
International Logistics Sp, Sm

Prerequisites: LOG 101, LOG 103

The International Logistics course is a study of global logistics with an emphasis on looking at the whole world as one potential market. The course will include an analysis of the global supply chain and current issues such as import/export regulations.

MACHINE TOOL TECHNOLOGY (MHT)

MHT 260 4 C/60 CH
Machine Shop I F, Sp

Lab fee

Prerequisite: MAN 110

This is the study and use of the basic machine tools such as shapers, mills, drill presses, lathes and surface grinders. Projects will be given to emphasize setup, operations and manufacturing processes.

MHT 270 4 C/60 CH
Machine Shop II F, Sp

Lab fee

Prerequisite: MHT 260

This is the further study of machine shop procedures and practices to increase machining skills.

MANAGEMENT (MGT)

MGT 205 3 C/45 CH
Management Principles F, Sp, Sm

Prerequisite: BUS 150

A presentation of the basic organizational concepts in light of the general framework of planning, organizing, coordinating and controlling. Case studies will be used to explain the relationship of the

functional areas of an organization to the company's overall objective.

MANUFACTURING TECHNOLOGY (MAN)

MAN 100 3 C/45 CH
Shop Equipment and Tools F, Sp, Sm

Lab fee

An introduction to precision measuring tools used in tooling and manufacturing processes. In the shop, emphasis is placed on exercises and projects that embody the process and operation of using hand tools, layout tools, and machine tools, such as hack saw, belt and disc sanders, drill press, engine lathe, vertical mill machines and surface grinders. Classroom emphasis is placed on related information that is essential to the set up and operation of machine tools, and to perform basic processes and operations in the shop.

MAN 110 3 C/45 CH
Manufacturing Processes I F, Sp, Sm

Lab fee

Prerequisite: MAN 100

A theoretical and practical introduction to conventional precision machine tools, including drill presses, engine and turret lathes, shape milling and grinding machines. Emphasis will be given on turning, threading, drilling, honing, shaping, and broaching.

MAN 120 3 C/45 CH
Survey of Material Science Sp

Lab fee

Prerequisite: MAN 100

This is a study of the atomic structure, bonding, crystallization, and physical and mechanical properties of metals. The classification and selection of materials as well as heat-treating and hardness testing will be examined.

MAN 200 3 C/45 CH
Quality and Inspection Sp

Lab fee

Prerequisite: MAN 110

This course is designed to give students a background in precision techniques of part measurement, testing procedures, and SPC principles. Emphasis is placed on CNN machine measurement and related software.

MAN 210 3 C/45 CH
Nontraditional Manufacturing Sp

Lab fee

Prerequisite: MAN 110

This is a study of unconventional metal removal methods by using the high energy sources such as water, electricity, chemicals, heat, or light. An overview of the traditional processes that helped to create nontraditional machining will be studied.

MARKETING (MKT)

MKT 200 3 C/45 CH
Principles of Marketing F, Sp, Sm

Prerequisite: BUS 150

A basic course with direct application to marketing functions and policies. Course includes consumer and industrial marketing concepts, service marketing, standardization and grading, pricing and government regulations.

MATHEMATICS (MAT)

MAT 100 3 C/45 CH
Basic Mathematics F, Sp, Sm

This course covers solving problems with arithmetic. Building skills in using whole numbers, fractions, decimals. No calculators will be used for this class.

MAT 105 3 C/45 CH
Pre Algebra F, Sp, Sm

This course is an introduction to variables in building mathematical and problem solving skills. Strong emphasis will be placed on operations with signed numbers.

Continued on next page.

MATHEMATICS (MAT) continued

MAT 110 3 C/45 CH
Business Mathematics F, Sp, Sm

Prerequisite: MAT 100 or MAT 105

This course covers solving problems relating to bank and sales records, percentages in business, financial charges and statements, payrolls and taxes, insurance, bonds, stocks and annuities.

MAT 112 3 C/45 CH
Elementary Algebra F, Sp, Sm

Prerequisite: MAT 100 or MAT 105

This course covers topics which include solving first and second degree equations, operations on polynomials, operations on rational expressions, word problems, graphing and solving linear equations and systems of linear equations and inequalities.

MAT 113 3 C/45 CH
Intermediate Algebra F, Sp, Sm

Prerequisite: MAT 112

The emphasis of this course is on extending introductory concepts. New concepts presented are absolute value equations and inequalities, rational exponents, complex numbers, quadratic equations and inequalities, the slope of a line, conic sections, functions and logarithms.

MAT 121 3 C/45 CH
Technical Mathematics I F, Sp, Sm

Prerequisite: MAT 100 or MAT 105

This course covers application of arithmetic and basic algebra in technical problems, applying rules in arithmetic (whole numbers, fractions, decimals, percentage) to solve technical problems.

MAT 122 3 C/45 CH
Technical Mathematics II F, Sp, Sm

Prerequisite: MAT 121 or placement test

This course is a continuation of MAT 121, using algebra to solve technical problems through the applications of equations, exponents and graphing methods in industrial work.

MAT 128 3 C/45 CH
Math for Elementary Teachers I

Prerequisite: MAT 112

The course provides the future elementary school teacher with a perspective for understanding mathematics taught in the elementary school. Topics include the study of problem solving techniques, fundamental concepts and structure of number systems, sets, numeration systems, integers, number theory and rational numbers.

MAT 129 3 C/45 CH
Math for Elementary Teacher II

Prerequisite: MAT 128

This course is a continuation of MAT 128 which provides the future elementary teacher with background for understanding mathematics taught in the elementary school. Topics include probability, statistics, geometry, motion geometry, coordinate geometry and concept of measurement.

MAT 131 3 C/45 CH
Descriptive Statistics

Prerequisite: MAT 113 or placement test

This course is a basic course for students in business administration, education, psychology, and/or economics. It is a preparation for inferential statistics, providing a definition of statistics, measurements, working out distributions, frequency polygons, measuring central tendency and variability and finding correlation and regression.

MAT 155 4 C/60 CH
College Algebra F, Sp, Sm

Prerequisite: MAT 113, or by placement

This course includes the solution of linear, quadratic and fractional equations and inequalities, lines, parabolas and circles are studied. The concept of function is presented and polynomial, rational, inverse, exponential and logarithmic functions are studied and graphed. The use of graphing technology or a computer algebra system is required.

MAT 156 4 C/60 CH
Trigonometry F, Sp, Sm

Prerequisite: MAT 155 or by placement

In this course the translation of functions is reviewed. New topics include the study and graphing of trigonometric functions, inverse trigonometric functions, right triangle trigonometry, trigonometric identities and equations, the Laws of Sines and Cosines with applications, and Polar Coordinates are introduced.

MAT 171 4 C/60 CH
Analytic Geometry & Calculus I F, Sp, Sm

Prerequisite: MAT 156 or by placement

In this course the functions and their graphs are reviewed. The concepts presented include limits, derivatives, differentiation of algebraic and trigonometric functions, applications of the derivative, definite and indefinite integrals.

MAT 172 4 C/60 CH
Analytic Geometry & Calculus II F, Sp, Sm

Prerequisite: MAT 171

This course covers the study of integration techniques, applications and integrals, limits and indeterminate forms, improper integrals and an introduction to parametric and polar coordinates. The use of graphing technology or a computer algebra system is required.

MAT 271 4 C/60 CH
Analytic Geometry & Calculus III F, Sp

Prerequisite: MAT 172

In this course the concepts presented include plane curves, polar coordinates, vectors, surfaces, vector-valued functions, partial differentiation and multiple integration with applications. The study of vector calculus includes line and surface integrals with applications.

MAT 272 4 C/60 CH
Linear Algebra F

Prerequisite: MAT 271

This course covers core materials, vectors, spaces, linear transformations and matrices, systems of linear equations, determinants and digitalization.

MAT 273 4 C/60 CH
Differential Equations Sp

Prerequisite: MAT 272

This course covers the following topics: the study of first order equations, higher order equations, linear systems of differential equations, power series solutions, and the Laplace transform. The use of a computer algebra system is required.

MECHATRONICS (MCT)

MCT 202 3 C/45 CH
Introduction to Robotics

This course is an introduction to the field of robotics technology. It will provide the student with a historical overview of the use and development of robotics. It will also include a discussion of the different types of robots (e.g., point-to-point, continuous path, electric, hydraulic, pneumatic, etc.) and introduction to robotics programming.

MCT 203 3 C/60 CH
Mechatronics II

Principles involved in the function of DC and AC motors and generators and their connection, operation and load characteristics. Study of different types of speed controls and starters, characteristics of single phase motors and polyphase machines including synchronous and induction motors, transformer characteristics such as losses, efficiencies, paralleling transformers and transformer testing are included. Laboratory experiments to examine the characteristics of the various DC and AC motors and generators, using various speed controllers and starters.

MCT 207 2 C/45 CH
Hydraulics and Pneumatics

Survey of basic industrial hydraulics and pneumatics, including hydraulic laws and principles, necessary calculations, ANSI symbols, drawing of complete schematic diagrams of circuits studied, controls and motors used in hydraulic and pneumatic systems measuring devices and complete hydraulic and pneumatic systems. Lab coat is required.

Continued on next page.

MECHATRONICS (MCT) continued**MCT 208** 3 C/60 CH**Programmable Logics Controller**

Programmable controller hardware, relay ladder diagram and logic programming, timers and counters, arithmetic function, process control and data acquisition, data communication, computer numerical control computer controlled machines and programmable controllers installation and troubleshooting systems will be covered. Allen-Bradley PLC-5 family programmable controllers will be used in the lab.

MCT 212 3 C/60 CH**Mechatronics V: Advanced Robotics**

This is an advanced course in robotic programming for automated material handling. Also include flexible manufacturing, sensors, concept of machine vision, troubleshooting of hardware and software. Emphasis will be on ABB robotics hardware, software and programming.

MCT 215 3 C/60 CH**Mechatronics VI: Advanced Programmable Logic Controllers**

This is an advanced course in Programmable Logic Controllers in programming and hardware using Allen-Bradley programmable logic controllers family. Students will use programmable logic controllers in industrial automation environments. PLC installation and maintenance will be covered in this course.

MENTAL HEALTH WORK (MEH)**MEH 110** 3 C/45 CH
Individual & Group Tech I F, Sp, Sm*Prerequisites: HUS 105, HUS 110, PSY 101*

This course explores the role and function of the mental health worker in therapeutic interaction with individuals. An emphasis is placed on knowledge, skills, insights and attitudes essential in promoting emotional health among adults.

MEH 140 3 C/45 CH
Mental Health Legal Information F, Sp*Prerequisites: HUS 105, HUS 110*

This course focuses on legal information useful in intervention strategies for consumers of human services.

MEH 144 4 C/60 CH
Field Work I: Agency Placement F, Sp*Prerequisites: MEH 110, SAC 203, HUS 135, HUS 105, HUS 110*

This course provides observations and participation in structured learning roles and activities in a community agency, supervised by an agency fieldwork instructor with regular consultation and review with a college instructor,

MEH 210 3 C/45 CH
Individual & Group Tech II Sp, Sm*Prerequisite: MEH 110*

This course is a continuation of MEH 110 and it focuses on the mental health worker's purposeful use of self in interaction with clients and client groups. Introduction to non-clinical strategies and roles such as advocacy, use of community resources and social action.

MEH 226 4 C/180 CH
Field Work II: Agency Placement F, Sp*Prerequisite: MEH 144*

This course is a continuation of MEH 144 with emphasis on skills development and preparation for gainful employment.

MEH 240 3 C/45 CH
Psychopathology & Behavior I Sp*Prerequisite: MEH 110*

This course is a study and review of psychopathology with emphasis upon the etiology, symptomatology, treatment and prognosis of mental disorders.

MUSIC (MUS)

MUS 100 3 C/45 CH
Introduction to the Fundamentals of Music F, Sp, Sm

This course is an introduction to the vocabulary of music, basic terms, notation and appreciation. No credit for music majors.

MUS 101 3 C/45 CH
Fundamentals of Music I F, Sp, Sm

This course is a basic class in the discipline of music, musical elements, theory, notation, scale formation, terminology and ear training.

MUS 102 3 C/45 CH
Fundamental of Music II

Prerequisite: MUS 101

This course is a continuation of MUS 101 with increased emphasis on ear training.

MUS 110 3 C/45 CH
Class Piano I F, Sp, Sm

This course is a study of the fundamentals of piano, including keyboard techniques.

MUS 111 3 C/45 CH
Class Piano II F, Sp, Sm

Prerequisite: MUS 110

This course is a continuation study of the fundamentals of piano, including keyboard techniques.

MUS 121 3 C/45 CH
History of Jazz I Sp

This course provides an introduction to the history of jazz theory, technique, innovators and contributors.

MUS 132 1 C/45 CH
College Choir A, B, C, D F, Sp, Sm

In this course students will perform a variety of literature for chorus and vocal ensemble, including music for concert, church (gospel and hymns), glee club, madrigal and other materials for smaller vocal groups. (One credit per semester, up to a maximum of four credits.

MUSLIM WORLD STUDIES (MWS)

MWS 101 3 C/45 CH
Muslim World Ideologies and Culture F, Sp, Sm

This course covers Islamic precepts, values and concepts as a way of life for the Muslim individual, family, society and world order.

MWS 102 3 C/45 CH
Muslim World Civilization

This course covers aspects of Muslim world civilization, including art, music, philosophy, literature, science and architecture.

MWS 103 3 C/45 CH
Muslim World Historical Survey

This course covers the history of the Muslim world from the rise of Islam to the present. Emphasis is placed on events which have a bearing on the contemporary Muslim world.

MWS 106 3 C/45 CH
Muslim World International Relations

This course covers the dynamics of Muslim world international relations, emphasizing their effects on the interests and security of the super powers.

MWS 107 3 C/45 CH
Muslim World Contemporary Issues

This course covers the problems and issues facing the contemporary Muslim world, stressing their relevance to United States welfare.

MWS 112 3 C/45 CH
Muhammad, Life of the Prophet

This course is designed to provide an understanding of the Prophet Muhammad's life and career; to see that the history and development of Islam is a complex and multi-faceted process and the subsequent development and spread of Arab-Muslim civilization as it relates to the Prophet Muhammad's life. The course also emphasizes analysis about the life and times of the Prophet Muhammad and revelations contained in the Koran.

Continued on next page.

MUSLIM WORLD STUDIES (MWS) continued

MWS 114 3 C/45 CH

Islam in America

This course surveys the history of Islam in America from the earliest years of the African slave population, the antebellum period through the successive waves of immigration from the Muslim world, post 1965 and the aftermath of September 11, 2001. It will include the study of historical and ideological developments of various Islam movements and Muslim groups. Finally, it will study relations between Muslims and non-Muslims and the prospects for the future of Islam in America.

NUMERICAL CONTROL (NC)

NC 111 3 C/45 CH

Numerical Control Concepts

F, Sp, Sm

Lab fee

An introduction to the basic concepts of computer numerical control (CNC). A study of machine tools, controllers, programming languages, and a variety of aspects of CNC. This course is designed to broaden the students' background in numerical control.

NC 222 3 C/45 CH

CNC Machining and Programming I

F, Sp

Lab fee

Prerequisite: NC 111

Introduction to programming using industry standard numerical control mills and lathe machine. The student will learn a variety of programming techniques and verification methods to produce parts.

NC 230 3 C/45 CH

CNC Machining Center Operation and Graphics I

F, Sp

Lab fee

Prerequisite: NC 111

Programming, setup and operations of vertical machining centers. This is a study of 2 1/2 dimensional CAM graphics as an interface between design and

manufacturing from part drawings to finished product. Graphics programs, care modified, verified and simulated. The students gain more experience by manufacturing parts.

NC 231 3 C/45 CH

CNC Turning Center Operation and Graphics I

F, Sp

Lab fee

Prerequisite: NC 222

This is a study of CAM graphics as an interface between design and manufacturing from part drawings to finished product. Diverse programming techniques of semi-automatic, MDI and teach mode will be taught. Tooling considerations include offsets, identification, and tool libraries as an integral part of the course work. The student will gain more experience by producing parts from these programs.

NC 234 3 C/45 CH

CNC Programming and Machining II

Sp

Lab fee

Prerequisite: NC 222

This course will allow students to create programs for CNC programs through the use of codes and dialog programs. A diverse variety of programming techniques such as canned cycles are edited, simulated and verified prior to the machine operations.

NC 235 3 C/45 CH

CNC Machining Center Operation and Graphics II

Sp

Lab fee

Prerequisite: NC 230 or NC 231

This course uses 3D graphics programming to produce a variety of mold parts. Surfaces are extruded, revolved, lofted and swept into a variety of shapes. Programs are modified for tool path, tooling, speed and feeds. The students gain further experience by manufacturing programming parts.

NC 240 3 C/45 CH

CNC Turning Center Operation and Graphics II

Sm

Lab fee

Prerequisite: NC 230 or NC 235

Computer rendering of solids are designed and

modified to produce a wide range of models. These solid models are made from a variety of primitives using Boolean operations and other modifying techniques. Tool paths for solids are then simulated to produce a finished product.

NURSING (NUR)

NUR 110 2 C/30 CH Nursing Foundations – Lecture F, Sp

Prerequisites: ENG 119, BIO 240, BIO 250, BIO 295, PSY 101, Admission to the Nursing Program

This course establishes the metaparadigm concepts: person, health, environment, nursing. In Level I, first year of the Nursing program, emphasis is on the nursing student as a caregiver.

NUR 111 2 C/90 CH Nursing Foundations – Lab

Prerequisites: ENG 119, BIO 240, BIO 250, BIO 295, PSY 101, Admission to the Nursing Program

The focus of this course is for the student to acquire the necessary nursing skills for progression to clinical sites in subsequent courses. This course is organized according to metaparadigm concepts: person, health, environment, nursing. In Level I, first year of the Nursing program, emphasis is on the nursing student as a caregiver.

NUR 112 4 C/30 CH 0 C/90 CH Medical Surgical Nursing 1 – Lecture & Clinical

Prerequisites: ENG 119, BIO 240, BIO 250, BIO 295, PSY 101, HSC 100, NUR 110, NUR 111, NUR 118

This course focuses on the nursing care of the perioperative client, and the client with sensory alterations of vision and hearing. This course is organized according to metaparadigm concepts: person, health, environment, nursing. In Level I, first year of the Nursing program, emphasis is on the nursing student as a caregiver. New nursing skills that the student will master in the nursing lab in this course are IV's and IV piggybacks, blood transfusion, and oral suctioning.

NUR 114 3 C/67.5 CH

Obstetric Nursing – Lecture & Clinical

Prerequisites: ENG 119, BIO 240, BIO 250, BIO 295, PSY 101, HSC 100, DT 130, NUR 110, NUR 111, NUR 112, NUR 118

This course focuses on the nursing care of the obstetric client, newborn and family unit. This course is organized according to the metaparadigm concepts: person, health, environment, nursing. In Level I, first year of the Nursing program, emphasis is on the nursing student as a caregiver. New nursing skills that the student will master in the nursing lab in this course are specific to the care of the obstetric client and newborn.

NUR 116 4 C/30 CH 0 C/90 CH

Medical Surgical Nursing II – Lecture & Clinical

Prerequisites: ENG 119, BIO 240, BIO 250, BIO 295, PSY 101, HSC 100, NUR 110, NUR 111, NUR 112, NUR 118

This course focuses on the nursing care of the client with alterations in respiratory, cardiac or cardiovascular status. This course is organized according to the metaparadigm concepts: person, health, environment, nursing. In Level I, first year of the Nursing program, emphasis is on the nursing student as a caregiver. New nursing skills that the student will master in the nursing lab are tracheostomy care and endotracheal suctioning, central line dressing changes, and setting up chest tubes.

NUR 118 1 C/30 CH Physical Assessment

Prerequisites: ENG 119, BIO 240, BIO 250, BIO 295, PSY 101

Admission to the Nursing Program
This course focuses on Nursing knowledge and skills necessary to conduct a physical assessment on a healthy adult. Some common deviations from normal will be included. The level of skill to be attained is comparable to the admission nursing assessment in an acute care setting. In Level I, first year of the Nursing program, emphasis is on the nursing student as a caregiver.

Continued on next page.

NURSING (NUR) continued

NUR 119 2 C/30 CH

Pharmacology

Prerequisites: ENG 119, BIO 240, BIO 250, BIO 295, PSY 101, HSC 100, DT 130, NUR 110, NUR 111, NUR 112, NUR 118

This course focuses on medication groups and medication administration safety factors. In Level I, first year of the Nursing program, emphasis is on the nursing student as a caregiver.

NUR 210 3.0 C/67.5 CH

Psychiatric Nursing – Lecture & Clinical

Prerequisites: ENG 119, BIO 240, BIO 250, BIO 295, PSY 101, HSC 100, DT 130, NUR 111, NUR 112, NUR 114, NUR 116, NUR 118, NUR 119, BIO 252

This course focuses on nursing care of clients with psychiatric disorders. This course is organized according to metaparadigm concepts: person, health, environment, nursing. In Level II, second year of the Nursing program, emphasis is on the nursing student evolving into the role of the professional nurse. New nursing skills that the student will master in the nursing lab in this course are specific to the care of the psychiatric client.

NUR 212 4 C/30 CH 0 C/90 CH

Medical Surgical Nursing III – Lecture & Clinical

Prerequisites: ENG 119, BIO 240, BIO 250, BIO 252, BIO 295, PSY 101, HSC 100, DT 130, NUR 110, NUR 111, NUR 112, NUR 114, NUR 116, NUR 118, NUR 119, PSY 200

This course focuses on the nursing care of clients with endocrine, renal, immune and gastrointestinal disorders. This course is organized according to metaparadigm concepts: person, health, environment, nursing. In Level II, second year of the Nursing program, emphasis is on the nursing student evolving into the role of the professional nurse. New nursing skills that the student will master in the nursing lab are ostomy care and peritoneal dialysis.

NUR 214 3 C/67.5 CH

Pediatric Nursing – Lecture & Clinical

Prerequisites: ENG 119, BIO 240, BIO 250, BIO 252, BIO 295, PSY 101, HSC 100, DT 130, SOC 100, NUR 110, NUR 111, NUR 112, NUR 114, NUR 116, NUR 118, NUR 119, NUR 210, NUR 212, NUR 218

This course focuses on nursing care of the pediatric client. This course is organized according to metaparadigm concepts: person, health, environment, nursing. In Level II, second year of the Nursing program, emphasis is on the nursing student evolving into the role of the professional nurse. New nursing skills that the student will master in the nursing lab in this course are specific to the care of the pediatric client. New nursing skills that the student will master in the nursing lab in this course are specific to the care of pediatric clients.

NUR 216 4 C/30 CH 0 C/90 CH

Medical Surgical Nursing IV – Lecture & Clinical

Prerequisites: ENG 119, BIO 240, BIO 250, BIO 252, BIO 295, PSY 101, HSC 100, DT 130, SOC 100, NUR 110, NUR 111, NUR 112, NUR 114, NUR 116, NUR 118, NUR 119, NUR 210, NUR 212, NUR 218, PSY 200

This course focuses on nursing care of clients with neurologic, musculoskeletal, hematologic, and oncologic disorders. This course is organized according to metaparadigm concepts: person, health, environment, nursing. In Level II, second year of the Nursing program, emphasis is on the nursing student evolving into the role of the professional nurse. New nursing skills that the student will master in the nursing lab are traction and adaptive equipment.

NUR 218 1 C/ 15 CH

Nursing Issues

Prerequisites: ENG 119, BIO 240, BIO 250, BIO 252, BIO 295, PSY 101, HSC 100, DT 130, NUR 110, NUR 111, NUR 112, NUR 114, NUR 116, NUR 118, NUR 119, PSY 200

This course focuses on issues within the environment of care, as well as professional nursing issues. This course is organized according to metaparadigm concepts; person, health, environment, nursing. In

Level II, second year of the Nursing program, emphasis is on the nursing student evolving into the role of the professional nurse.

NUR 219 **1 C/ 15 CH**
Nursing Transitions

Prerequisites: ENG 119, BIO 240, BIO 250, BIO 252, BIO 295, PSY 101, HSC 100, SOC 100, DT 130, NUR 111, NUR 112, NUR 114, NUR 116, NUR 118, NUR 119, NUR 210, NUR 212, PSY 200

This course focuses on issues within the environment of care, as well as professional nursing issues. This course is organized according to metaparadigm concepts; person, health, environment, nursing. In Level II, second year of the Nursing program, emphasis is on the nursing student evolving into the role of the professional nurse.

NURSING ASSISTANT (NHS)

NHS 100 **10 C/150 CH**
Nursing Assistant **F, Sp, Sm**

This program is a State of Michigan approved nursing assistant program.

OFFICE INFORMATION SYSTEMS (OIS) (Formerly: Business Information Technology)

OIS 100 **3 C/45 CH**
Keyboarding **F, Sp, Sm**

This course is designed to enable the student to learn basic keyboarding and computer literacy skills on microcomputers, using a word processing software package. This course will enable the student to keyboard a variety of data when using a computer. A minimum of three hours of lab per week and a lab fee required.

OIS 101 **3 C/45 CH**

Keyboarding Fundamentals

Recommended: OIS 100

The student will master the microcomputer keyboard using the touch method. The student will type horizontal/vertical documents, memos, tables, postal cards, personal letters, business letters and manuscripts. The student will type from printed script and rough draft copies. When this course is completed, the student will type a minimum of 30 words per minute on straight-copy material with no more than five errors on a five-minute timing. A minimum of three hours of lab per week and a lab fee required.

OIS 102 **3 C/45 CH**

Intermediate Keyboarding

Prerequisite: OIS 101

The student will continue to develop higher levels of typing speed and accuracy while producing business letters in a variety of styles, common business forms, more complex tabulation problems, formal and informal manuscripts and other common business typing problems. The student will type a minimum of 40 words per minute with no more than four errors on a five-minute timing. A minimum of three hours of lab per week and a lab fee required.

OIS 227 **3 C/45 CH**

Desktop Publishing I

Recommended: OIS 102

This course provides a BASICS step-by-step introduction to Adobe PageMaker 7 software. Everything from creating a publication and working with styles and graphics to working with tables and templates is covered. (Course is 85-90% hands-on).

Continued on next page.

OFFICE INFORMATION SYSTEMS (OIS) (Formerly: Business Information Technology) continued

OIS 228 3 C/45 CH

Desktop Publishing II

Prerequisite: OIS 227

A hands-on class using the Adobe PageMaker page layout package with emphasis on the design aspect of Desktop Publishing. A balanced layout; graphics; importing text; the use of paper color, type, size and styles; framing techniques; grids; kerning and leading; etc. to maximize eye appeal and readability will be continuously stressed as several multi-page documents will be created for actual publication or use. Emphasis will be placed on layout and design of the page for the best advertising, marketing, user appeal. Final projects will also be presented for artistic public display and judging.

OIS 251 3 C/45 CH

Microsoft Word Specialist

Prerequisite: BUS 225

Recommended: OIS 102

This course is designed for those students interested in using a full-featured word processing computer program to create a professional looking documents and modifying them easily. Also this course is designed to assist the students preparing to take the Microsoft Office Specialist (MOS) certification for expert level.

OIS 252 3 C/45 CH

Microsoft Excel Specialist

Prerequisite: BUS 225

Recommended: OIS 102

This course is designed for those students interested in using a full-featured excel spreadsheet to organize data, complete calculations, make decisions, graph data, develop professional looking reports, publish organized data on the Web and access real-time data from Web sites. Also this course is designed to assist the students preparing to take the Microsoft Office Specialist (MOS) Excel certification for expert level

OIS 253 3 C/45 CH

Microsoft PowerPoint Specialist

Prerequisite: BUS 225

Recommended: OIS 102

This course is designed for those students interested in improve their skills to create, present, and collaborate on computer presentations. This class is using Microsoft PowerPoint software, as a visual communication tool, to create remarkable presentations with enhanced multimedia capabilities. Also this course is designed to assist the students preparing to take the Microsoft Office Specialist (MOS) PowerPoint certification for expert level. MOS PowerPoint certification recognizes individuals who have achieve a certain level of mastery with Microsoft PowerPoint product.

OIS 254 3 C/45 CH

Microsoft Access Specialist

Prerequisite: BUS 225

Recommended: OIS 102

This course is designed for those students who want to improve their skills to create or make use of a robust database solution. This class uses Microsoft Access software, as a powerful database management system, that allows you to organize, access, and share information in databases in a very easy way. Also this course is designed to assist the students preparing to take the Microsoft Office Specialist (MOS) Access certification for standard level. MOS Access certification recognizes individuals who have achieve a certain level of mastery with Microsoft Access product.

OIS 280 3 C/45 CH

Office Administration and Professional Development

The student will develop a personal plan of action leading to completion of short and long range goals, apply principles leading to success, enhance interpersonal relationship skills and analyze the corporate structure and its mechanisms. Emphasis will be on developing positive work attitudes, time management, interpersonal style, professional growth and stress management.

PARALEGAL TECHNOLOGY (PLT)

PLT 105 3 C/45 CH Legal Interviews & Investigations

Prerequisite: Program Admission

This course reviews interviewing techniques and investigation methods from the perspective of the legal assistant. It covers fact gathering from both public and private sources and reporting of data in a form suitable for law office use.

PLT 120 3 C/45 CH Legal Research Writing I

Prerequisite: Program Admission

Co-Prerequisites: PLT 105, PLT 135

This course is an introduction to the American legal system, legal research and writing skills. Students are introduced to printed and online resources available through the law library and the Internet.

PLT 135 3 C/45 CH Professional Responsibility/Legal Ethics

Prerequisite: Program Admission

This course examines the various issues of professional responsibility and legal ethics that a paralegal encounters. The course will assist the student in developing an awareness and understanding of the professional codes of ethics that govern the legal profession and impact those codes have on the daily responsibilities of the paralegal. Topics covered include client interviews and form preparation, as well as substantive and procedural aspects of the process from the paralegal's perspective.

PLT 140 3 C/45 CH Business Organization and Corporation Law I

Prerequisite: Program Admission

This course is a survey of the various types of business organizations operating in the United States. The course will assist the student in developing an awareness and understanding of the fundamental legal issues arising from the selection, formation, and implementation of a business entity. Topics covered

include an overview of sole proprietorships, partnerships, and other unincorporated entities as well as various types of corporations.

PLT 150 3 C/45 CH Legal Composition and Research II

Prerequisite: Program Admission

This course is a continuation of Legal Research and Writing I. Students will participate in supervised library based research projects, including a mock legal problem, preparation of a legal memorandum, reports, and draft pleadings.

PLT 160 3 C/45 CH General Practice Survey

Prerequisite: Program Admission

This course is an introduction to common areas of legal practice undertaken by sole practitioners and small firms. Students will examine civil and criminal litigation, as well as transactional matters.

PLT 170 3 C/45 CH Probate Law & Practice

Prerequisite: Program Admission

This course is an introduction to probate law and procedure with an emphasis on adult and minor guardianships, conservatorships, decedent's estates and involuntary commitments. Students will also acquire knowledge in probate jurisdictional issues.

PLT 180 3 C/45 CH Civil Litigation Practice & Procedure

Prerequisite: Program Admission

This course covers the necessary preparation required to assist attorneys in the pre-trial, trial, and an appeal process. Substantive legal areas discussed include tort and contract matters.

PLT 200 3 C/45 CH Survey of Property Law

Prerequisite: Program Admission

This course is an introduction to the law of personal property and real property. Topics covered include: title to personal property, gifts, estates in land, future interests, mortgages and landlord/tenant matters.

Continued on next page.

PARALEGAL TECHNOLOGY (PLT) continued

PLT 210 3 C/45 CH
Administrative Law and Procedures

Prerequisite: Program Admission

The course reviews applicable evidence and procedural requirements for workers compensation and social security laws, civil rights and EEOC.

PLT 220 3 C/45 CH
Criminal Law Practice & Procedures

Prerequisite: Program Admission

This course covers the study of substantive criminal law, classifications of crimes and principles of criminal liability.

PLT 230 3 C/45 CH
Family Law

Prerequisite: Program Admission

This course introduces the student to child custody issues, divorce matters, and domestic relations. Related issues include the role of the police department, social services, the Probate Code and Friend of the Court issues. Students will gain a working knowledge of Michigan family law.

PLT 245 3 C/45 CH
Debtor Relief & Creditor Rights

Prerequisite: Program Admission

The course will assist the students in developing an awareness and understanding of the fundamental legal issues regarding creditor rights, debtor relief and responsibility and trustee activities. Topics covered include client interviews and form preparation, as well as substantive and procedural aspects of the process from the paralegal's perspective. Creditor Rights and Debtor Relief explores the process of consumer and commercial bankruptcy will be examined.

PLT 255 3 C/45 CH
Credentialing Exam Preparation

Prerequisite: Program Admission

This course is a comprehensive review of the subjects covered on the Certified Legal Assistant (CLA)

examination. Topics include: communication, ethics, American legal system, as well as several substantive areas of law.

PLT 260 3 C/45 CH
Immigration Law

Prerequisite: Program Admission

This is a course dealing with the rights and responsibilities of aliens and issues involved in representing them before the INS and in the courts. Emphasis on federal immigration law and policy.

PLT 265 3 C/45 CH
Paralegal Practicum

Prerequisite: Program Admission

This is an academic internship opportunity for students to gain practical legal experience in a structured professional environment. Students meet periodically with the course instructor for orientation and evaluation.

PERFORMING ARTS-THEATRE (THEA)

THEA 151 3 C/45 CH
Introduction to Acting F, Sp

Prerequisite: HUM 141

This course introduces students to the basic principles and techniques of acting. Emphasis will be placed on body movement, projection into the mind of the character, voice and diction, and breathing. Students will also study script interpretation.

THEA 152 3 C/45 CH
Stagecraft and Lighting Sm

Prerequisite: HUM 141

This course is a study of the theoretical and practical aspects of stage design and lighting. The course covers the principles of designing the scene, studying equipment for scenes and lighting design, as well as the process of complementing the scene with the play.

PHARMACY TECHNOLOGY (PHT)

PHT 105 5 C/80 CH Orientation to Pharmacy Technology

Lab fee

Prerequisite: Program Admission

Corequisites: PHT 110, PHT 120

This course provides an overview of the scope, philosophy, roles and responsibilities of pharmacy practitioners, pharmacy delivery systems, ethical and legal considerations, and the team approach in pharmacy. Field trips, guest lecturers, laboratory and teleconferences are included.

PHT 110 5 C/75 CH Institutional & Community Pharmacy Lab fee

Prerequisite: Program Admission

Corequisites: PHT 105, PHT 120

This course provides an overview of the organization, functions, and services provided by both institutional and community pharmacies. The role of the pharmacist and the pharmacy technician in each of these settings will be studied. Discussion topics include ethical, legal, and professional issues. Emphasis is placed on pharmacy standards and on hospital and organizational (as in the case of health maintenance organizations and community pharmacies) policy and procedures. Introduction to pharmaceutical calculations. Laboratory included.

PHT 120 5 C/80 CH Drug Distribution Systems Lab fee

Prerequisite: Program Admission

Corequisites: PHT 105, PHT 110

This course provides detailed instruction in the systems, for the distribution of medications including the unit dose, traditional, and ward stock systems used in inpatient facilities, as well as intravenous admixture. It includes discussion of drug storage requirements and an introduction to inventory control, and methods of dispensing prescriptions to ambulatory patients will be addressed. Emphasis will be placed on technician

responsibilities in each of these systems. This is a continuation of pharmaceutical calculations. Laboratory included.

PHT 130 5 C/80 CH Pharmaceutical Calc & Drug Prep

Lab fee

Prerequisite: Program Admission

Corequisites: PHT 155, PHT 210

This course applies basic mathematics in the calculations required for determination of proper dosages, conversion operations, as well as in preparation of parenteral solutions for injection (IVs, chemotherapy, etc.). Detailed instruction in the techniques used in dosage preparation (aseptic technique, safe handling of chemotherapy, etc.) will be provided.

PHT 155 7 C/240 CH Pharmacy Technology Practicum

Prerequisite: Program Admission

Corequisites: PHT 130, PHT 210

Supervised practice in an ambulatory and institutional pharmacy.

PHT 210 5 C/80 CH Pharmacy Computer System

Lab fee

Prerequisite: Program Admission

Corequisites: PHT 130, PHT 155

This course is an exploration of computer systems used in the modern pharmacy. Laboratory practice and the uses of the computer for pharmaceutical calculations are included.

PHILOSOPHY (PHL)

PHL 101 3 C/45 CH Comparative Religions I F, Sp, Sm

This course covers the development of traditional religions and it explores world concepts with an emphasis on Judaism, Christianity and Islam.

Continued on next page.

PHILOSOPHY (PHL) continued

PHL 102 3 C/45 CH
Comparative Religions II F, Sp

Prerequisite: PHL 101

This course focuses on contemporary styles in religions, with an examination of movements, forces and problems shaping the new religious consciousness. An analysis of the structure and relationships of the various movements and their impact on the American scene is provided.

PHL 201 3 C/45 CH
Introduction to Philosophy F, Sp, Sm

This course cover basic problems in philosophy. Readings encompass ethics, politics, science and metaphysics to give students experience in critical thinking to promote objectivity.

PHL 211 3 C/45 CH
Introduction to Logic F, Sp, Sm

This is a course designed to impact principles of clear and consistent thinking through the techniques of logic to avoid fallacies and eliminate ambiguous ideas.

PHL 221 3 C/45 CH
Ethics F, Sp, Sm

This course is a survey of ethical theories which have characterized human beings, with practical applications to current problems in human values.

PHLEBOTOMY (PLB)

PLB 100 3 C/36 CH
Introduction to Phlebotomy

Study basic phlebotomy concepts such as skin punctures, venipunctures, arterial punctures, and bleeding times. Master specimen collection, preservation of specimens from various sources, and specimen processing. Incorporate a personal concept of professionalism (thirty six CH required for the imbedded lab)

PLB 105 3 C/128 CH
Phlebotomy Practicum

Build on previously learned skills while continuing to master specimen collection and the preservation of specimens from various sources. Solidify skills in specimen processing while incorporating a personal concept of professionalism (sixteen CH for eight weeks)

PLB 110 3 C/36 CH
Pediatric Phlebotomy

Become familiar with various pediatric blood collection procedures and equipment. Use hands-on, simulated classroom exercises and observe practices in a clinical setting (thirty six CH required for the imbedded lab).

PHYSICS (PHY)

PHY 101 4 C/90 CH
Physics for Elementary School Teachers F, Sp

Lab fee

Lecture and laboratory course dealing with physics concepts and strategies for teaching these concepts in elementary [K-8] schools. Current State of Michigan physics teaching objectives and associated learning activities will be emphasized. Using such community resources as the Detroit Science Center, playgrounds, and amusement parks to teach physics will be emphasized. In addition, opportunities are provided for WCCCD students to teach physics to a small group of children (under teacher supervision) in local elementary schools.

PHY 115 4 C/90 CH
Fundamentals of Physics F, Sp, Sm

Lab fee

This course covers fundamental principles, theories and problems of physics, and should be taken by students who have not had a course in high school physics, those with an inadequate background for PHY 235 and by those students whose curriculum requires four credit hours of physics. (Meets for six hours - four hours lecture, two hours lab)

PHY 235 4 C/60 CH
General Physics I F, Sp, Sm

Lab fee

Prerequisite: PHY 115

This non-calculus based physics course and it is designed partially to fulfill the physics requirement in pre-medicine, pre-dentistry, pharmacy, electronics, teaching and law. The sequence PHY 235 and PHY 245 is not intended for engineering students. (Meets for six hours - four hours lecture, two hours lab)

PHY 245 4 C/90 CH
General Physics II Sp

Lab fee

Prerequisite: PHY 235

This course is a continuation of PHY 235. Topics include electricity, magnetism, light and atomic physics. (Meets for six hours - four hours lecture, two hours lab)

PHY 265 4 C/90 CH
Physics for Scientists & Engineers I F

Lab fee

Prerequisite: MAT 171

This course is a general calculus based course designed to meet the requirements of engineering students and scientists. Topics include, mechanics, wave motion and thermodynamics. (Meets for six hours - four hours lecture, two hours lab)

PHY 275 4 C/90 CH
Physics for Scientists and Engineers II Sp

Lab fee

Prerequisites: PHY 265, MAT 172 or concurrent enrollment in MAT 172

This course is a continuation of PHY 265. Topics include electricity, magnetism, physical and geometrical optics and elementary quantum mechanics. (Meets for six hours - four hours lecture, two hours lab)

PHYSICAL SCIENCE (PSC)

PSC 110 4 C/60 CH
Physical Science-Physics, Chemistry and Geology

A course for non-science majors covering topics in chemistry, physics and environmental science to develop an understanding of how science, technology and society influence each other, and how to use this knowledge in every day decision-making.

POLITICAL SCIENCE (PS)

PS 101 3 C/45 CH
American Government F, Sp, Sm

This course is an examination of America's democracy, its principles, processes and political institutions. Emphasis is placed on the functioning of the national government and the making of public policy.

PS 104 3 C/45 CH
Introduction to Political Science F, Sp, Sm

This is an introduction to Political Science and it describes the nature of political science, explains the ways in which political scientists study politics and offers introductory treatment of all major topics normally thought of as constituting political science. This course emphasizes a comparative approach to political systems and institutions. The U.S. role as an actor in a global setting will be emphasized.

PS 160 3 C/45 CH
International Politics F, Sp, Sm

Prerequisite: PS 101

This course covers the dynamics of the basic factors motivating the behavior of nations and an analysis of the major areas of global political concern.

PS 235 3 C/45 CH
State and Local Government Sp

Prerequisite: PS 101

This course is a survey of state and local government, including structure, institutions and processes. The course stresses intergovernmental relations.

Continued on next page.

POLITICAL SCIENCE (PS) continued

PS 275 **3 C/45 CH**
Public Administration Internship **Sm**

Prerequisite: PS 101

A course designed to give students the opportunity to experience the activities of an agency or institution related to government and public administration. Internships are available in a U.S. representative's office, political party offices assisting a candidate for public office, a nonpartisan community office, or an interest group office.

PRINT TECHNOLOGY (PRN)

PRN 101 **3 C/45 CH**
Introduction to Print Technology

This course offers students an opportunity to refine their skills with the process of offset lithography. Projects provide opportunities to apply their skill and to understand image concept and design, image assembly, film conversion, platemaking, duplicator, presswork and bindery operations.

PROJECT MANAGEMENT (PRM)

PRM 101 **3 C/45 CH**
Introduction to **F, Sp, Sm**
Project Management

An overview of the key concepts of project management including the history, practices and methods common to project management will be covered. Students will learn the basics of project management using Project Management Institutes™ approach. This course satisfies the education requirement for project management professional certification. It is not a PMP test preparation course.

PRM 105 **3 C/45 CH**
Project Management Tools **F, Sp, Sm**

Prerequisite: PRM101

An overview of project management tools will be provided. Students will learn Microsoft Project to develop project schedules, assign resources, and learn the features and functions of the software including enterprise (web) functionality.

PRM 210 **3 C/45 CH**
Intermediate Project Management

This course will provide in depth coverage of the 9 knowledge areas of project management and integration with other project management models and business practice. The role of the project/program manager will be explored in relation to day to day management of a project.

PRM 220 **3 C/45 CH**
Advanced Project Management

Prerequisite: PRM 105 or PRM 215

Students will be able to develop a clear project management schedule including communication plan, issue and risk management plan, resource management using project management principles and methods.

PRM 215 **3 C/45 CH**
IT Project Management

IT projects have unique requirements. This course will cover the different methods of IT project management including waterfall, phase gate, spiral planning and management. Students will understand the key issues and risks in IT projects including requirements gathering test methods and the need to balance product requirements with project timing.

PSYCHOLOGY (PSY)

PSY 101 3 C/45 CH
Introductory Psychology F, Sp, Sm
 This course is an introduction to the study of human behavior and mental processes, concepts, theories and principals of scientific psychology.

PSY 202 3 C/45 CH
Human Sexuality F, Sp, Sm
Prerequisite: PSY 101

This course focuses on the physiological, psychological, personal and interpersonal aspects of human sexual behavior. It examines changing sex roles and patterns, personal beliefs and value systems.

PSY 200 3 C/45 CH
Lifespan Development
 This course reviews human development throughout the life span (infants, children, adolescents, adults, and older adults) with emphasis on the cognitive, psychosocial, sensorimotor, and multicultural components. It includes age appropriate roles and life tasks.

PSY 220 3 C/45 CH
Child Growth and Development F, Sp, Sm
Prerequisite: PSY 101

This course covers the developmental sequence from conception to adolescence, with specific emphasis on the normal child. Examines psychological, social and biological factors that influence the developing child. Students will not receive credit for both PSY 220 and 225. Recommended for students who wish to meet State of Michigan requirements to administrate in child care settings.

PSY 225 5 C/75 CH
Child Growth and Development Practicum F, Sp
Prerequisite: PSY 101

This practicum will include supervised experiences working with children (this course also includes lecture material from PSY 220). Child care centers, day care nurseries, psychology clinics for children and Children's Hospital are the various settings where students will have opportunities to utilize practical

methodology as well as develop new techniques in child growth and development training. Students will not receive credit for both PSY 220 and 225.

PSY 230 3 C/45 CH
Psychology of Adjustment F, Sp, Sm
Prerequisite: PSY 101

This course covers the evaluation of human effectiveness, psychopathology, the healthy personality and systematic research on problems of adjustment. Students will not receive credit for both PSY 230 and 235.

PSY 235 5 C/ 75 CH
Psych of Adjustment Practicum F, Sp
Prerequisite: PSY 101

This practicum includes supervised experiences working directly with youth and adults in settings such as group homes, learning disabilities centers and day care centers.

PSY 250 3 C/45 CH
Psychology of Personality F, Sp
Prerequisite: PSY 101

This course covers major personality theories and other personality assessments. It explores various aspects of personality development and change.

PSY 260 3 C/45 CH
Social Psychology F, Sp
Prerequisite: PSY 101

This course is an introduction to social psychology. It includes social influence processes, group dynamics, attitude formation interpersonal attraction, intimacy, aggression and discrimination.

PSY 265 3 C/45 CH
Intimate Relationships F, Sp
Prerequisite: PSY 101

This course covers the impact of intimate relationships on our emotional and social well being. It examines ways intimate relationships are formed, maintained and end. Gender is a central organizing construct.

Continued on next page.

PSYCHOLOGY (PSY) continued

PSY 270 3 C/45 CH
Psychology of Infant and Toddler Development F, Sp

Prerequisite: PSY 101

Examines research and theories concerning developmental processes in infants and toddlers.

PSY 285 6 C/90 CH
Transpersonal Psychology with Practicum Sm

Prerequisites: six hours of Psychology, ENG 120 and consent of instructor

In a seminar setting, students study the branch of wisdom and science that concerns itself with psychological and well being. Inquiry will be expanding to include Africa and a worldview. The practicum will include a supervised two week trip to Africa or another country.

PSY 299 3 C/45 CH
Psychology Seminar Sm

Students will explore special topics in psychology in a seminar setting. Topics will vary each year. The course is designed for students who wish to participate in advanced study of theories, concepts and research in a particular topic.

RENEWABLE ENERGY TECHNOLOGY (RET)

RET 100 4 C/60 CH
Renewable Energy/Alternative Energy Principles

This course will cover basic principles and history of alternative energy sources. Industry and government status of geothermal, wind, solar, biomass, fuel cells and other energy sources will be highlighted. Alternative and traditional energies will be defined and compared in terms of today's use. The evolving energy career areas will be discussed.

RET 120 3 C/45 CH
Conventional Energy Sources & Application

The focus of this course will be on the history of traditional energy sources and reason why government, business, and industry are turning to alternative and renewable energy sources. Topic include how to reduce fossil fuel usage and how to convert from traditional energy sources to alternative and renewable energy sources.

RET 140 3 C/45 CH
Energy and Electricity

In this course, students will learn the fundamentals of energy and electricity and how they are utilized in renewable energy sources. Students will examine the power generation process, transmission techniques, and networks. Topics to be explored during this course include: prime energy sources, metering electricity, and disbursement of energy and electricity.

RET 142 3 C/45 CH
Wind Power

In this course, students will analyze the historical concepts, modern applications, and future utilization of wind power. The usages of small, medium, and large wind turbines in urban, rural and industrial settings will be examined. Students will gain general knowledge on the economic and environmental issues associated with wind energy sources and they will also become familiar with site assessments for project planning.

RET 144 3 C/45 CH
Solar Power

This course encompasses several different aspects of solar power. Students will explore the basics of solar energy which includes radiation, heat transfer, flat-plate collectors, thermal energy storage, and solar thermal applications. In this course, students will also become knowledgeable of passive solar building and photovoltaic systems. Topics to be explored include: solar radiation, building heating and cooling loads, energy efficient design and construction, passive solar heating, proper implementation of thermal mass, passive cooling, cell physics, types of PV cells, PV system components, and PV energy storage.

RET 146 3 C/45 CH

Geothermal and Hydropower

In this course, students will examine the historical aspects and principles of geothermal power and small scale hydropower. Students will also analyze the financial and environmental effects associated with the utilization of these renewable energy sources.

RECREATIONAL LEADERSHIP (RL)

RL 110 3 C/45 CH

Recreational Leadership Techniques

This course covers the theories, principles and practice of planning, organizing and conducting effective recreational programs for various groups, with emphasis on group involvement.

SUSTAINABLE ENVIRONMENTAL DESIGN (SED)

SED 100 3 C/45 CH

Principles of Sustainable Environmental Design

This course will provide a broad-based introduction to sustainability that is applicable to all majors. This course examines the historical context and advancement of sustainability as a concept in society. The ethical and scientific basis for sustainable design in the built environment will be examined. Topics to be explored include: Renewable Energy, Sustainable Building and Site Design and the development of Sustainable Communities. Students will analyze how these technologies are utilized in rural, urban and industrial settings. They will also gain general knowledge on how to shape the consumer culture in applying more sustainable practices in design.

SED 101 3 C/45 CH

Sustainable Environmental Design

This course will provide a broad-based introduction to sustainability that is applicable to all majors. This

course examines the historical context and advancement of sustainability as a concept in society. The ethical and scientific basis for sustainable design in the built environment will be examined. Topics to be explored include: Renewable Energy, Sustainable Building and Site Design and the development of Sustainable Communities. Students will analyze how these technologies are utilized in rural, urban and industrial settings. They will also gain general knowledge on how to shape the consumer culture in applying more sustainable practices in design.

SED 120 3 C/45 CH

Residential & Commercial Design

This course will explore the holistic theory of sustainable design practices in residential and commercial dwellings. Students will assess the ecological advantages of producing sustainably designed and high efficiency buildings. During this course students will be introduced to green practices as well as LEED rating systems.

SED 140 3 C/45 CH

Sustainable Materials

This course will discuss the historical concepts of traditional building and how it has affected the environment. Students will become familiar with renewable materials and they will also learn how to maximize the efficient use of natural resources. This course will also assess the sustainable design principles as it relates to the salvaging of existing structural materials. Students will analyze the environmental impacts associated with utilizing renewable and recycled materials.

SED 142 3 C/45 CH

Sustainable Sites

In this course, students will gain knowledge on how to properly evaluate project sites that will minimize the harmful effects on the environment. Students will learn the skills necessary to redevelop damaged and Brownfield sites. During this course, students will survey storm water retention, water irrigation and the use of passive solar. They will also analyze the methods utilized to reduce pollution and reduce the disturbance and heat island effects on ecosystems.

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SUSTAINABLE ENVIRONMENTAL DESIGN (SED) continued

SED 148 3 C/45 CH Sustainable Systems

This course will assess concepts that are utilized in sustainable design to design, construct and retrofit commercial and residential building systems. During this course, the following topics will be explored: electricity, water systems, HVAC systems and connective systems for monitoring commercial and residential energy use

SED 160 3 C/45 CH Sustainable Community Principles

The course will cover the principles of sustainable community design as well as the historical and political aspects of land use, urban design, regulation and investments. Topics that will be explored during this course include: economical housing, economic development, urban renewal, land usage, water technology and transportation sustainability.

SED 200 3 C / 45 CH LEED Certification Exam Preparation

This course will prepare students for the LEED-NC Professional Certification Exam. Students will reexamine sustainable design principles and concepts as well as the green building industry. During this course, students will analyze all of the components of the LEED –NC rating system and they will be required to review case studies and complete a practice exam.

SED 220 6 C / 120 CH Sustainable Environmental Design Capstone

Prerequisites: All courses in certificate desired

This is a special course designed by the student and guided by the instructor to start the development of a sustainable capstone project. Students will work together in interdisciplinary teams to develop and build a project based upon the knowledge that they have obtained throughout the program.

SOCIAL WORK (SW)

SW 101 5 C/105 CH Introduction to FLD Practice of SW/Practicum

Prerequisites: HUS 105, SOC 100, MAT 113

Students will explore the history of social work, employment, qualifications and opportunities, employment tasks and methods of working with a diverse population. Three shadowing practica are included in this course to expand the students knowledge of various employment opportunities.

SW 102 3 C/45 CH Exploring Human Behavior in the Environment

Prerequisite: SW 101

This course introduces students to the notion that individuals are a function of their interaction with the bio-psycho-social contexts. Students will explore theory and knowledge of human psychosocial development, behavior, and functioning, from infancy through death within a framework of culture, ethnicity, social class, race, gender, and sexual orientation. The interplay between and among micro, mezzo, and macro systems of individuals, groups, families, and communities as they influence human growth and development will be explored. Special emphasis on understanding the impact of poverty, oppression, discrimination, exploitation, and violence.

SW 103 3 C/45 CH Substance Abuse Service and Policy

Prerequisites: SW 101, SW 102

This course examines drug and alcohol abuse, its effects on social functioning with a special emphasis on vulnerable population groups, and the nature and effectiveness of substance abuse services. Students will also investigate case studies and recent literature, compare and contrast service using social work principles and examine the roles of agency personnel (paraprofessional/professional). The legislative response to substance use and abuse will also be addressed.

SW 104 3 C/45 CH
Introduction to Child Welfare

Prerequisites: SW 101, SW 102

This course is designed as an introductory level exploration of child welfare issues of neglect and abuse. Students will review historical problems experienced by children and examines violence against and maltreatment and welfare laws and programs. Focus on special practice problems in public child welfare, protective services, assessment of at risk children, in home family centered practice and implementation of the Child Welfare Act. Students will be introduced to various levels of prevention and policy formulation.

SW 105 4 C/60 CH
SW Field Instruction I

Prerequisites: SW 101, SW 102, SW 120

The field education is an integral part of the Registered Social Work Technician Program. It will provide opportunities for students to acquire knowledge and skills needed for the competent practice in human service settings. Students will have an opportunity through practice and experience to apply concepts, theories and principles learned in the classroom. 180 Contact Hours in field placement

SW 106 4 C/60 CH
SW Field Instruction II

Prerequisites: SW 101, SW 130, SW 105

This is a continuation of Field Instruction I, students will expand the knowledge acquired in SW 105 The courses of instruction that students receive in this area are essential to the acquisition of the knowledge and skills needed for the competent practice in human service settings. 185 Contact Hours in field placement

SW 130 3 C/45 CH
Customer Service, Documentation and Interviewing for the Social Work Technician

Prerequisites: SW 101, SW 102

This course must be completed before field placement. Students will demonstrate effective use of telephone communication by preparing for telephone calls, developing listening skills, practicing protocols and background environment. Students will learn basic casework skills and strategies for interviewing clients in various situations.

SW 200 3 C/45 CH
Substance Abuse and Recovery

Prerequisite: SW 101

In this course students will examine the development of drug abuse from a variety of perspectives (i.e. behavioral, pharmacological, historical, social, legal and clinical) with a focus on women and addiction.

SOCIOLOGY (SOC)

SOC 100 3 C/45 CH
Introduction to Sociology F, Sp, Sm

In this course students will examine basic sociological concepts such as theories of social organization research, methods of research, culture, society and social groups, the socialization process, social class and social mobility, race and ethnic relations. Social institutions such as education, family, religion and government will also be discussed.

SOC 103 3 C/45 CH
Social Problems F, Sp, Sm

Prerequisite: SOC 100

This course is a study of current social issues including crime, poverty, domestic abuse, drug addiction, environment, urbanization, racism, sexism, family issues and unemployment. This course provides an overview of the origins, existing policies and proposed solutions to social problems. Course content includes both theory and practice.

SOC 104 3 C/45 CH
American Studies F, Sp, Sm

This course follows an established model of critical inquiry based on an inter-disciplinary study of American culture and national identity. Through a wide range of approaches, students will explore how the American experience and identity are produced by language, representations and the construction of cultural discourse. This course provides a critical understanding of how social identities of race, class, gender and nationalism function to define the evolving state of the American condition.

Continued on next page

SOCIOLOGY (SOC) continued

SOC 120 3 C/45 CH
Death and Dying F, Sp, Sm

Prerequisite: SOC 100

This course is a survey and analysis of concepts, theories and contemporary issues related to death and dying. Among the areas to be studied are bereavement, grief, suicide and funeral service practices.

SOC 144 4 C/60 CH
Field Work I: Community Placement and Seminar

The purpose of the seminar is to promote the integration of social work concepts and theories learned in the classroom with social work practice and skills learned in the field experience.

SOC 225 3 C/45 CH
Sociology of Work F, Sp

In this course students will examine the study of work in American society. There will be an analysis of the structure of the American workforce, the impact of technology, automation, alienation, job enrichment, problems and changing patterns in the workforce with a focus on pressures associated with constant societal changes.

SOC 226 4 C/60 CH
Field Work II: Community Placement and Seminar

Field Work II Community Placement and Seminar is a continuation of the integration of social work concepts and theories and its practical application towards field work experience.

SOC 230 3 C/45 CH
Ethnic Minorities Sp, Sm

Prerequisite: One course in ANT or SOC, Early Childhood students do not need a Prerequisite

This course covers the contributions of ethnic minorities which give our society a unique cultural diversity. Local ethnic differences and problems and multiethnic cooperation is viewed through sociological, anthropological, historical perspectives.

SOC 245 3 C/45 CH
Marriage and Family F, Sp, Sm

Prerequisite: SOC 100

In this course the family is studied cross culturally with emphasis on the contemporary American Family. Topics include gender role socialization, mate selection, alternatives to marriage, the multi-ethnic family and intergenerational issues.

SOC 250 3 C/45 CH
Juvenile Delinquency F

Prerequisite: SOC 100

In this course students will examine the problem of juvenile delinquency as it exists in the United States. An analysis of the various forms of delinquency will be highlighted. There will be an overview of the societal implications of juvenile delinquency ranging from the individual, the family and the community. Juvenile delinquency will be evaluated from a macro perspective by examining the role of schools, court systems, and legal implications with an overview of prevention initiatives and rehabilitation programs.

SPANISH (SPA)

SPA 101 4 C/60 CH
Elementary Spanish I F, Sp, Sm

This course covers grammatical constructions, vocabulary, basic idioms, basic phonetics and oral drill.

SPA 102 4 C/60 CH
Elementary Spanish II F, Sp, Sm

Prerequisite: SPA 101

This course covers completion of fundamental constructions, vocabulary, emphasis on spoken language. Further training in reading, writing, Spanish conversation and the use of idiomatic constructions.

SPA 201 4 C/60 CH
Intermediate Spanish I F, Sp

Prerequisite: SPA 102

This course covers review of essential grammatical principals. Further development of reading skills and idiomatic usage.

SPA 202 4 C/60 CH
Intermediate Spanish II Sp, Sm

Prerequisite: SPA 201

Reading on more advanced levels. Continued emphasis on writing and spoken Spanish.

SPEECH (SPH)

SPH 100 3 C/45 CH
Interpersonal Communication F

In this course there will be the study of the application of the basic skills necessary for interpersonal communication with emphasis on group discussion.

SPH 101 3 C/45 CH
Fundamentals of Speech F, Sp, Sm

In this course there will be the study and application of basic principles underlying effective oral communication with emphasis on public speaking.

SPH 105 3 C/45 CH
Improving the Speaking Voice F, Sp

Prerequisite: SPH 101

This course covers the study of the underlying principles and actions pertinent to the development of appropriate vocal and articulatory skills: breath control, voice production, vocal resonance and inflection.

SPH 111 3 C/45 CH
Interpretative Reading F, Sp

This course covers the selection, preparation and oral delivery of literary material: prose, poetry and drama.

SPH 131 3 C/45 CH
Introduction to Radio, TV & Mass Communication Sp

This course is the study of growth and development of radio, television and other forms of mass communication.

SPH 161 3 C/45 CH
Play Production F, Sp

This course covers the theory and practical application of theatrical arts as related to college level play productions. Elements will include acting, directing,

staging and analysis of the play. At least one major production will be staged with students applying accumulated knowledge in managerial aspects of play production necessary for its success.

SPH 201 3 C/45 CH
Advanced Public Speaking F

Prerequisite: SPH 101

This covers an advanced study, preparation and delivery of informative and persuasive speeches.

SURGICAL FIRST ASSISTANT (SFA)

SFA 200 3 C/45 CH
Fundamentals of Surgical First Assisting-Lecture

Prerequisite: Admission to Surgical First Assistant Program

This course is designed for Certified Surgical Technologists who intend to develop their competencies in the fundamentals of the theory and practice of a First Surgical Assistant. The course teaches the responsibilities of a First Surgical Assistant on how to use peri-operative monitoring equipment, conduct diagnostic tests, and execute surgical procedures.

SFA 210 3 C/45 CH
Advance Surgical Pharmacology - Lecture

Prerequisite: Admission to the Surgical First Assistant Program

This course is a continuation of Surgical Pharmacology (SUR 140) and teaches what medications the surgical first assistant will most frequently use in surgical and anesthetic procedures.

The course will examine anesthesia as a complex and specialized area of pharmacology. Another focus will be on local and general anesthetics, neuromuscular blocking agents, analgesics, antibiotics, drugs that affect blood coagulation, and drugs used to manage circulatory disorders. Safe handling of anti-neoplastic drugs will also be taught.

Continued on next page

SURGICAL FIRST ASSISTANT (SFA) continued

SFA 220 3 C/45 CH Surgical Management of Patients – Lecture

Prerequisites: BIO 252, SFA 200, SFA 210

This is an introductory course on the theory and practice of caring for the surgical patient by the surgical first assistant during the pre-operative, intra-operative, and post-operative phases of a surgery. The student will also learn the role of the first assistant during the pathological and physiological processes and when the first assistant must apply intervention techniques.

SFA 230 3 C/45 CH Surgical First Assistant Techniques – Lab

Prerequisites: BIO 252, SFA 200, SFA 210

SFA 230 is intended for certified surgical technologists, OR nurses, and certified surgical first assistants so that they can develop their competencies in the fundamentals of the surgical skills and surgical techniques of a first surgical assistant.

The course focuses on the surgical first assistant's moral and legal responsibility for performing manipulative clinical procedures, whether for diagnosis, monitoring, or treatment, and includes the theoretical knowledge and practical techniques necessary to assist the surgeon before, during, and after surgery in the use of equipment, hemostasis, instruments, material and suturing.

SFA 235 8 C/360 CH Clinical Preceptorship – Clinical

Prerequisites: BIO 252, SFA 200, SFA 210, SFA 220, SFA 230, SFA 253

This course is a clinical practice of basic surgical skills for surgical first assistant students. A student enrolled in the course is assigned to a qualified preceptor – a surgeon who provides direct supervision and guidance during each rotation. Each student in the course is required to complete a specified number of cases - 115 to 125 cases (approximately 300 hours) with 100 percent skill competency.

SFA 253 4 C/60 CH Surgical Anatomy Lecture and Lab

Prerequisites: BIO 252, SFA 200, SFA 210

SFA 253 is an introductory course that systematically investigating the structure and organization of the human body. This course has been specifically prepared for the surgical first assistant certificate program.

SURGICAL TECHNOLOGY (SUR)

SUR 100 3 C/45 CH Orientation to Surgical Technology - Lecture

This is an introductory course to the career world of surgical technology and peri-operative environment. The role and responsibilities of the circulating and scrub technologists, as well as other surgical team members, are explored.

Also studied are work strategies for success as a surgical technologist including managing pressure, time management, and achieving personal excellence.

SUR 101 3 C/45 CH Central Service Technician - Lecture

Prerequisite: Admission to Central Service Tech Program

This course provides the fundamentals of central processing supply, processing, and distribution (CSD). Instruction and practice is given in aseptic technique, patient centered practices and theories, customer service, and overall policies and practices of central service supply departments. Students who complete this program are eligible to take the American Society for Healthcare Central Service Personnel (ASHCSP) National Certifying Examination.

SUR 102 4 C/196 CH Central Service Lab and Clinical

Prerequisites: SUR 100, SUR 101

In this course, students will be taught and tests on the following skills required for certification of a central service technicians: cleaning; decontamination; processing (inspection, assembling, and packaging) and sterilization of reusable patient care central

services supplies and equipment; and distribution of these supplies and equipment to the units that require them. Students will be in the laboratory setting for the first four weeks of the course. In the final 11 weeks of the course, students will be placed at a clinical site working eight hours a day, two days a week. Students are responsible for their own transportation to the clinical sites.

SUR 110 **3 C/45 CH**
Surgical Technology Principles – Lecture

Prerequisites: Admission to the Surgical Technology Program, ENG 119, ENG 120, BIO 240, BIO 250, BIO 295, PSY 101, ALH 110

This course provides the fundamentals of surgical concepts and techniques. The course covers methods of sterilization, disinfection, surgical instrumentation, equipment, supplies, wound closure and management, and preparation of the patient for surgical intervention. The perioperative care of the patient is emphasized.

SUR 120 **4 C/60 CH**
Surgical Specialties & Techniques I – Lecture

Prerequisites: Admission to the Surgical Technology Program, ENG 119, ENG 120, BIO 240, BIO 250, BIO 295, PSY 101, ALH 110

This course is designed to focus on the perioperative care of the surgical patients during endoscopic, general, obstetric and gynecologic, genitourinary, ophthalmic, orthopedic, ENT, and peripheral vascular procedures. Students will become familiar with the diagnostic, procedural considerations, operative procedures and instrumentation for the specialties. Concentration will also be given to OR principles related to physics, surgical robotics, and electricity.

SUR 125 **4 C/240 CH**
Surgical Technology Clinical I – Lab

Prerequisites: Admission to the Surgical Technology Program, ENG 119, ENG 120, BIO 240, BIO 250, BIO 295, PSY 101, ALH 110

This course gives an introduction to the activities and procedures performed by the scrub and circulating surgical technologists. Students are guided in

activities that will assist them in performing as a member of the surgical team. Patient care, selection of the proper items, practice, and maintaining aseptic technique are emphasized. Students will practice techniques in lab sessions. The last five weeks, tour of various facilities is required. Students are responsible for their own transportation.

SUR 130 **4 C/ 60 CH**
Surgical Specialties & Techniques II – Lecture

Prerequisites: Program, ENG 119, ENG 120, BIO 240, BIO 250, BIO 295, PSY 101, ALH 110, SUR 110, SUR 120, SUR 125

A continuation of surgical specialties and techniques, this course is designed to focus on the perioperative care of surgical patients during cardiac, endoscopic, geriatric, oral, pediatric, plastic and reconstruction, thoracic and neurosurgery specialties. Students will become familiar with the diagnostic, procedural considerations, operative procedures, and instrumentation for the specialties.

SUR 140 **3 C/45 CH**
Surgical Pharmacology Lecture

Prerequisites: Program, ENG 119, ENG 120, BIO 240, BIO 250, BIO 295, PSY 101, ALH 110, SUR 110, SUR 120, SUR 125

This course gives an introduction to medications used in the operating room. It emphasizes classification, administration, forms, methods, interactions, and desired effects of peri-operative medications. Surgical technologists' legal responsibilities are also covered.

SUR 145 **4 C/ 240 CH**
Surgical Technology Clinical II – Clinical

Prerequisites: Program, ENG 119, ENG 120, BIO 240, BIO 250, BIO 295, PSY 101, ALH 110, SUR 110, SUR 120, SUR 125

This supervised clinical course is a continuation of SUR 125. Students perform in the role of scrub person, second assistant, and assistant to the circulating person on various surgical procedures. This clinical meets two days per week, and students are responsible for their own transportation to their assigned clinic.

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SURGICAL TECHNOLOGY (SUR) continued

SUR 155 6 C/360 CH Surgical Technology Clinical III – Clinical

Prerequisites: Program, ENG 119, ENG 120, BIO 240, BIO 250, BIO 295, PSY 101, ALH 110, SUR 110, SUR 120, SUR 125, SUR 130, SUR 140, SUR 145

Further develops clinical skills of students to anticipate the surgeon's needs during the schemes of various surgical procedures. Students practice their role responsibilities as a scrubs person, second assistant, and assistant to the circulating person on various surgical procedures. The clinical assignment meets three days a week. Students are responsible for their own transportation to their clinical assignments.

SUR 160 4 C/60 CH Surgical Seminar and Certification Preparatory – Lecture

Prerequisites: ENG 119, ENG 120, BIO 240, BIO 250, BIO 295, PSY 101, ALH 110, SUR 110, SUR 120, SUR 125, SUR 130, SUR 140, SUR 145

This course includes student presentations and discussions as well as an overview of Surgical Technology in preparation for the National Certifying Examination. It also uses techniques and exercises in successful writing standardize test.

Students will take the practice LCC-ST CST Self-Assessment Exam during the fourth week of class.

TEACHER EDUCATION (ED)

ED 110 3 C/45 CH Introduction to Education I

Prerequisite: Admission to Teacher Education Program

This course provides a foundation for teaching in public and private elementary schools (K-8). Topics and issues are addressed which provide understandings of school organization and role of

schools in society; duties, responsibilities, and expectations of teachers; working with parents and community members; fiscal considerations; and of diversity/equity issues.

ED 111 3 C/45 CH Introduction to Education II

Prerequisite: ED 110

This course is a continuation of ED 110. The major focus is on school curricula and instruction (teaching methods). Student participation in four school-based assignments (field experiences) forms an integral part of the course. Opportunities are also provided for students to gain understandings of Michigan performance objectives/benchmarks and local resources to enhance learning in elementary school [K-8] settings.

ED 202 Earth Science for the Elementary Teacher and Practicum

Prerequisite: ED 110

This is a lecture and practicum course dealing with earth science concepts and teaching methodology. Nationally used elementary science curricula will acquaint the student with techniques of teaching basic earth science concepts. Emphasis is on the pedagogical approaches widely used in elementary classrooms.

TELECOMMUNICATIONS (TCM)

TCM 200 3 C/45 CH Intro to Telecommunications F, Sp

Prerequisite: EE 101 or CIS 112

History of voice data communications, basic services/systems, regulatory agencies and laws, opportunities and overview of technical tasks. Also, introduction to networking concepts, installation of networking software and their maintenance will be covered. Various types of networks will be implemented in the lab. Emphasis on mastering technical terminology.

TCM 202 3 C/60 CH
Fiber Optics Communications Sp

Lab fee

Prerequisite: EE 111 or TCM 200

This course covers the properties and practical applications of fiber optics in telecommunication circuits. Fiber cables, fabrication techniques, modulation schemes, system design, installation and testing and introduction to laser will be covered

TCM 203 3 C/60 CH
Communications I F

Lab fee

Prerequisite: EE 111

A study of the fundamental concepts of communications systems and techniques. Topics covered include amplitude, frequency, phase and pulse modulation concepts, two way systems, basic TV systems and noise and information theory. Introduction to the circuitry of the A-M and F-M superheterodyne receiver, with emphasis on amplifier coupling, AM and FM detectors and similarities and differences between the AM and FM systems.

TCM 206 4 C/75 CH
Basic Switching and Signaling Techniques F

Lab fee

Prerequisites: TCM 200, EE 111

This course include types and function of modern telephone switching techniques, computer and peripherals systems, network design and trucking signaling, protocols and formats, loop and ground signaling.

TCM 211 3 C/60 CH
Communications II Sp

Lab fee

Prerequisite: TCM 203

Study of digital communication principles including digital transmission and digital radio. Wave guides and satellites communications, PCM, DPCM, ASK, PSK will be covered.

VETERINARY TECHNOLOGY (VTP)

VTP 103 2 C/30 CH
Laboratory Animal Medicine – Lecture

This course is an initial learning experience which stresses medical terminology, basic humane animal handling, animal husbandry and supportive care with emphasis on common laboratory animal species.

VTP 104 2 C/60 CH
Laboratory Animal Medicine – Lab Laboratory for VTP 103.

VTP 105 2 C/30 CH
Small Animal Technology I: Lecture

Prerequisites: VTP 103, VTP 104

Corequisite: VTP 106

This course is a study of the physiology and anatomy of the dog and cat and introduces the general principles of pharmacology and calculations of drug dosages. It prepares the student to perform the basic skills necessary for working in a small animal hospital.

VTP 106 2 C/60 CH
Small Animal Technology I: Lab

Prerequisites: VTP 103, VTP 104

Corequisite: VTP 105

Laboratory for VTP 105.

VTP 107 3 C/45 CH
Small Animal Disease

Prerequisites: VTP 103, VTP 104

This course covers the study of common small animal diseases.

VTP 108 2 C/30 CH
Veterinary Clinical Pathology

Prerequisites: VTP 103, VTP 104

This course covers the performance of clinical pathology procedures used to aid veterinarians in the diagnosis and treatment of disease.

Continued on next page.

VETERINARY TECHNOLOGY (VTP) continued

VTP 123 4 C/105 CH
Veterinary Tech Practicum I

Prerequisite: Program Approval

This practicum is for students enrolled in the VTP and involves hands-on experience with practical skills utilized in a biomedical setting.

VTP 201 2 C/30 CH
Small Animal Technology II: Lecture

Prerequisites: VTP 105, VTP 106

This course discusses specialized small animal techniques with emphasis on anesthesiology, surgical assisting and diagnostic imaging.

VTP 202 2 C/90 CH
Small Animal Technology II: Lab

Prerequisites: VTP 105, VTP 106

Laboratory for VTP 201.

VTP 209 2 C/30 CH
Large Animal Medicine: Lecture

Prerequisites: VTP 201, VTP 202

Corequisite: VTP 210

This course is an overview of large animal anatomy and physiology, handling, nursing care, husbandry, pharmacology, clinical pathology, surgery, and diagnostic imaging.

VTP 210 2 C/150 CH
Large Animal Medicine: Lab

Prerequisites: VTP 201, VTP 202

Corequisite: VTP 209

Laboratory sessions include handling restraint and techniques associated with horses, cattle, sheep, goats and swine. Sessions are held at various large animal facilities.

VTP 211 3 C/45 CH
Regulatory Veterinary Medicine

Prerequisites: VTP 201, VTP 202

Corequisite: VTP 212

This is an interactive course which discusses

conditions that determine the fitness of animal products for human consumption and zoonotic implications.

VTP 212 3 C/45 CH
Issues in Veterinary Technology

Prerequisites: VTP 201, VTP 202

Corequisite: VTP 211

This seminar course is presented by various specialists in the veterinary field.

VTP 233 4 C/120 CH
Veterinary Tech Practicum II

Prerequisite: VTP 123

Corequisite: VTP 202

This practicum is for students enrolled in the VTP involving mastery of clinical pathology techniques used in veterinary medicine.

VTP 243 2 C/30 CH
Veterinary Tech Practicum III

Prerequisite: VTP 233

This practicum in a veterinary hospital and/or biomedical setting is for the mastery of advanced technical skills. Must have the director's approval of site required.

XVT 300 1 C/15 CH
VT Practicum IV (Optional)

This is an optional practicum for a limited number of students involving zoo animal medicine (Special selection process by the Detroit Zoo).

VIDEO GAME DESIGN & ANIMATION (VGD)

VGD 268 3 C/45 CH
Computer Games Foundations

This course is designed as a first course for computer Game Design and Development Concentrations which will introduce the vocabulary and concepts of game development. This course is a very comprehensive overview electronic game development process and underlines the historical context, content creation

strategies, and future trends in the industry. The student will learn how games are produced, tested and released. The game industry is the fastest growing segment of the entertainment market and an excellent field for career advancement.

VG D 269 **4 C/60 CH**
Introduction to 3D
Graphic and Animation

Prerequisites: CIS110, CIS 266

Students will learn fundamental and beginner knowledge that is essential for further exploration of 3D graphics. Also they will learn methods and techniques involved with the designing and construction of 3D related objects that are suited for games, movies, and or TV broadcast. After completing this course, students will have a basic knowledge set of a high-end, industrial strength 3D graphics package.

Students should be able to begin developing their own 3D content using the tools and techniques and their own creativity. This course will cover topics such as 3D concepts and terminology, 3D modeling techniques, UV mapping, texturing, lighting, rendering, animation and rigging.

VG D 270 **4 C/60 CH**
3D Character Development and Animation

Prerequisites: CIS 110, VGD 269

Students will become familiar with a variety of three-dimensional digital character animation techniques and applications. The student will learn the basic principles of character animation and development and they will work with meshes to effect different action, such as walking, running or manipulating other meshes. Then they will produce a final short 3D digital character animation of their own design.

VG D 271 **4 C/60 CH**
Introduction to 3D Design

Prerequisites: CIS, VGD 270

This class is an introduction to 3D modeling

VG D 272 **4 C/60 CH**

Texturing Fundamentals

Prerequisites: CIS, VGD 269

This class teaches how to create an emotional atmosphere that will make the photorealistic and fantasy designs look realistic. This course will cover topics such as materials, shaders, light and surfaces, more complex materials, the use of image maps and procedural maps, mapping and unwrapping, image editing and rendering.

VG D 999 **2 C/30 CH**

Video Game Project

Students will develop a Computer Game concept, turn it into a design, implement the programming and art required and produce it on the committed schedule. Go/no go milestones and final "publisher" acceptance reviews will mimic the Industry. The students will have a deliverable for their portfolio that can be used for employment purposes.

WELDING (WLT)

WLT 101 **4 C/75 CH**

Welding and Fabrication I

F, Sp, Sm

Lab fee

This course covers the use of oxyacetylene and shielded metal arc welding equipment to perform various welding operations. It includes the use of filler rods for oxyacetylene. Brazing and silver soldering are included.

Continued on next page.

WELDING (WLT) continued

WLT 102 4 C/75 CH
Welding and Fabrication II F, Sp

Lab fee

Prerequisite: WLT 101

This course provides advanced instruction in shielded metal arc welding, including related theories, codes and standards. The emphasis is on out of position welded joints and procedures for cutting and beveling.

WLT 103 4 C/75 CH
Welding and Fabrication III Sp

Lab fee

Prerequisite: WLT 102

This course covers instruction in tungsten-inert-gas, shielded metal arc welding with manually operated torch on various metals, including technical theory directly related to TIG welding.

WLT 208 4 C/60 CH
Pipe Welding Sp

Lab fee

Prerequisite: WLT 103

This course covers the advanced processes utilized in the modern industry. Pipe joint welding in accordance with American Welding Society codes and specifications, including processed metallic inert gas, tungsten inert gas, shielded metal arc and soldering.

WLT 210 4 C/75 CH
Certificate Welding Practices Sp

Lab fee

Prerequisite: WLT 208

This course covers advanced theory and hands-on application of skills necessary to pass American Welding Society procedures. Practice and theory in shielded metal arc, tungsten inert, metallic inert gas welding in piping, tubing and plate in common alloy metals.

WATER AND ENVIRONMENTAL TECHNOLOGY (WET)

WET 101 3 C/45 CH

Water Treatment Technologies

This course will cover the conventional water treatment processes. Topics to be explored will include: preliminary treatment, coagulation and flocculation, sedimentation and clarification, filtration, and disinfection.

WET 102 3 C/45 CH

Waste Water Treatment Technologies

This course will provide an introduction to the cause of water pollution, the reason for treating polluted waters and the fundamentals of Wastewater treatment. Students will study the basic principles of treatment plant operation and the processes commonly used in pollution control facilities.

WET 210 3 C/45 CH

Advanced Waste Water Treatment Technologies

Discusses wastewater treatment technologies beyond conventional processes. Includes the processes and techniques commonly used for advanced wastewater treatment, disinfection, solids stabilization and disposal, nutrient reduction and toxics removal. Includes field tours and discussion of safety and health, sampling procedures, record keeping, data preparation and report writing, and analytical procedures used to determine optimal plant operation and compliance with regulatory requirement

WET212 3 C/45 CH

Advance Water Treatment

Considers drinking water treatment technologies beyond conventional processes. Includes softening, ion exchange, activated carbon absorption, aeration, air stripping, and membrane processes. Includes participation in field tours and discussions on safety and health, sampling procedures, record keeping, data preparation, report writing and the analytical procedures used to determine and measure drinking water quality.

LOCATIONS



DOWNRIVER CAMPUS

21000 Northline
Taylor, MI 48180
734-946-3500
Voice/TDD 734-374-3206



NORTHWEST CAMPUS

8200 West Outer Drive
Detroit, MI 48219
313-943-4000
Voice/TDD 313-943-4073



DOWNTOWN CAMPUS

1001 W. Fort
Detroit, MI 48226
313-496-2758
Voice/TDD 313-496-2708



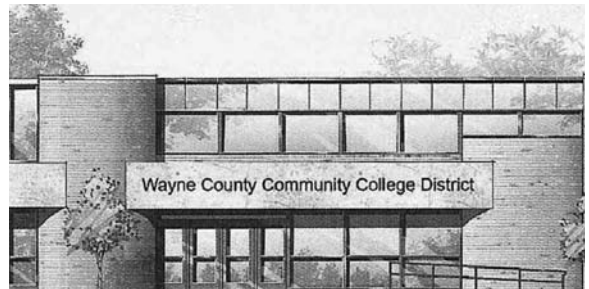
WESTERN CAMPUS

9555 Haggerty
Belleville, MI 48111
734-699-7008



EASTERN CAMPUS: CORPORATE COLLEGE

5901 Conner
Detroit, MI 48213
313-922-3311
Voice/TDD 313-579-6923



UNIVERSITY CENTER

19305 Vernier Road
Harper Woods, MI 48225
313-886-2425

FULL-TIME FACULTY

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Atlas, Courtney, B.S., M.P.H., R.D.,
Foodservice Technician

Bagchi, Bhawatosh, B.S., M.S., Ph. D.,
Physics

Bassett, Josh, B.A., M.A.,
English

Beaudry, Melinda, R.N., ADN, BSN, MSN,
Nursing

Blackwell, Eva Marie, R.N., B.S., MSN,
Nursing

Brem, Antonia, B.S., M.S., Ph.D.,
Biology

Brown, York Melvin, B.S., MBA, CPA,
Accounting

Byrd, Bertha, B.S., M.S.,
Biology

Caddy, David, B.A., M.A., LPC,
Counselor

Cato, Deorphia, B.S., M.S.,
Dental Hygiene

Chenevert, Llorens, B.A., M.Ed., Ph.D., LPC,
Counselor

Ciampa, Gary, B.S., J.D.,
Business Studies

Cintron, Esperanza, B.A., M.A., D.A.,
English

Conklin, Laura, BSN, MSA, RN,
Nursing

Cook, Gwendolyn, BSN, MS, Ph.D., RN,
Nursing

Davis, Ella Jean, B.S., M.A., (Speech),
M.A., D.A., English

DeWindt, Anne, B.A., M.A., Ph.D.,
History

Diedo, Madeline, R.N., BSN, MSN,
Nursing

Dolphus, Lynda, B.A., MSN,
Nursing

Donaldson, Clinton, B.S., M.A., Ed.D.,
Criminal Justice

Elzein, Raja, M.S.,
Computer Aided Drafting

Ewen, Bruce, B.A., M.A.,
Economics

Fairbanks, Douglas, B.A., M.A., Ph.D.,
Business Studies

Forbes, Trent, B.S., D.C., Biology

Franco, J. Thomas, B.A., BBA., MBA., J.D.,
LI.M., Business Studies

Gafford, Andrea, R.N., BSN, MSN,
Nursing

Glotfelty, Gerald, AGS,
Paramedic I/C, Emergency
Medical Technology

Golida, Damus, AAS,
Surgical Technology

Golshan, Rahmatollah, B.S., M.S., Ph.D.,
Electronics/Manufacturing

Greene, Curtis, B.S., M.S., Ph.D.,
Biology

Haynes, Mary, B.S., M.Ed.,
Office Information Systems

Hill, Thomas, MVM Certificate,
Automotive Services Technology

Howard, Thomas, B.A., M.A., Ph.D.,
English

FULL-TIME FACULTY

FULL-TIME FACULTY

Jackson, James, M.S.,
Criminal Justice

Jenkins, Lillian, B.S., M.A., Mathematics

Jensen, Beth, B.S., M.S.,
Environmental & Natural Resources,
Biology

Jobs, Donald, B.A., M.A.,
English

Jordan, Josephus, B.S., M.Ed.,
Social Science

Kennedy, Shiree, R.N., BSN, MSN,
Nursing

Kitakis, Frank, B.S., M.S., Ph.D.,
Biology

Lakkis, George, B.S., M.S.,
Electronics

Lanclos, Julie Gillis, B.A., M.Ed.,
English

Lawson, Kevin, B.S., M.Ed., M.S.,
Mathematics

Lovett, Yvonne, R.N., AD., BSN, MSN,
Nursing

Mahony, Mary, B.A., M.A.,
English

Marquardt, Patricia, B.S., M.S.,
Biology

Matthew, William, B.S.,
Pharmacy Technology

Melisizwe, Yvonne, B.S., M.Ed., LPC,
Counselor

Meyers, Desiree, B.S., M.S., Ph.D.,
Biology

Mitseff, Emily, B.A., M.A.,
English

Mueckenheim, Robert, B.A., M.A., J.D.,
English

Muyia, Harrison, A.B., M.A., Ph.D.,
Political Science

Nwamba, Christian, B.S., M.S., Ph.D.,
Biology

Nyquist, Jo Ann, B.S., M.A., Ed.S.,
Dental Hygiene

Payne, Douglas, A.A.S.,
Computer Graphics Technology

Peace, Wallace, B.A., M.A., Ph.D., LPC,
Counselor

Peltz, Caroline, BSN, MA,
Nursing

People, LaDonn, B.S., M.A., OTR,
Occupational Therapy

Pequinot, Mary, B.A., M.A., LPC,
Counselor

Perlman, Mary, B.A., M.A., LPC,
English

Pradatsurdarasur, Sukhta, R.N., BSN, MSN,
Nursing

Quick, Alida, B.S., M.A., Ph.D.,
Psychology

Samuelson, Norman, B.S., M.S.,
Chemistry

Schmidt, Ann, B.S., M.S., Ph.D.,
Biology

Survey, Mary, R.N., BSN, MSN,
Nursing

FULL-TIME FACULTY

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Shakoor, Adam Adib, B.S., M.Ed., J.D.,
Criminal Justice

Shikhman, Mark, B.S. Ph.D.,
Surgical Technology

Sietz, Richard, B.A., M.A.,
Mathematics

Skidmore, Lynnda, B.S., M.A.,
Biology

Stanley, Mathew, R.N., BSN, MSN,
Nursing

Talpos, Beatrice, B.A., M.A., Ph.D.,
Political Science

Thomas, Sheryl, R.N., BSN, MSN,
Nursing

Tinsley Jr., Clifford, B.A., MSW,
Human Services

Trice, Ronald, B.A., MFA,
Humanities

Varner, Beverly, A.B., M.A., M.Ed.,
Psychology

Waters, Thomas, B.S., M.Ed., Ph.D., J.D.,
Business Studies

Watson, Carol, A.B., MSW,
Human Services

Wittbrodt, Joanne, B.S., M.S., Ph.D.,
Chemistry

Wood, John, B.S.,
Power Automotive Services

Zarb, Pamela, RDH, B.S., M.A.,
Dental Assisting, Dental Hygiene

FULL-TIME FACULTY

ADMINISTRATIVE STAFF

Chancellor's Office

CURTIS L. IVERY, ED.D.
Chancellor

JOHN BOLDEN, M.A.
Senior Executive Vice Chancellor

DEREK T. JOHNSON, J.D.
College Counsel

Vice Chancellors

STEPHANIE BULGER, PH.D.
Vice Chancellor of Educational Affairs

KIM DICARO, B.A., CPA
Vice Chancellor for Administration and Finance

MIKE DOTSON, M.S., M.B.A.
Vice Chancellor for Campus and Operational Services

SHAWNA FORBES, M.A.
Vice Chancellor School of Continuing Education and Workforce Development

MARK SANFORD, M.S.A.
Vice Chancellor for Human Resources and Labor Relations

BRIAN SINGLETON, M.B.A.
Vice Chancellor of Student Services

GEORGE W. SWAN III, ED.D.
Vice Chancellor for External Affairs

Campus Presidents

ANTHONY ARMINIAK, M.S.A.
Downriver Campus

LETITIA UDUMA, PH.D.
Downtown Campus

SANDRA T. ROBINSON, ED.D.
Eastern Campus

DEBRAHA WATSON, PH.D.
Northwest Campus

PATRICK MCNALLY, ED.D.
Western Campus

GARY CUMMINGS, M.S.E.
University Center,
Assistant Vice President

Academic Administration

LARISSA BARCLAY, R.N., PH.D.
Dean of Nursing

RON HARKNESS, PH.D., CRC
Provost, Career Preparation and Campus Operations

ADMINISTRATIVE STAFF

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Additional Administrative Staff

FURQUAN AHMED, B.B.A.

Executive Associate Vice Chancellor for
Finance and Strategic Initiatives

DAVID C. BUTTY, B.S.

Executive Dean, International
Programs/Media Consultant

JONATHAN CARTWRIGHT, SR.

Executive District Director of Government
Relations and Community Affairs

JOHNESA DIMICKS, M.S.W.

Dean of Institutional Effectiveness

DEBORAH DUYCK, B.S.

Executive Director of Public Relations

ADRIAN PHILLIPS, B.A.

Associate Vice Chancellor of Student Services

JACOB B. KELI, M.A.

Associate Vice Chancellor of Financial
Operations and Special Initiatives

MARK LANG, B.B.A., CPA

Provost of Entrepreneurial Institute &
Resource Center

OMOBONIKE ODEGBAMI, M.ED.

Vice Chancellor, International Programs and
Global Partnerships

DARRICK D. MUHAMMAD, M.A.

Director of Campus Safety

SAMMIE RICE

Chief Operation Officer of Physical Plant and
Facilities

ROBERT A. WETTLE, CIA, CMA, CFE, M.B.A.

Director of Internal Audit

KIRAN SEKHRI, M.B.E, M.B.A.

Chief Information Officer

ADMINISTRATIVE STAFF

PROGRAM NAMES

PROGRAM NAMES

1. Accounting	AAS
2. Associate General Studies	AGS
3. Associate of Arts	AA
4. Associate of Science	AS
5. Automotive Service Technology (NATEF) Certified	AAS
6. Aviation Mechanics: Airframe	AAS
7. Aviation Mechanics: Powerplant	AAS
8. Business Administration	AA
9. Business Administration	AAS
10. CIS: Computer Network Administrator	AAS
11. CIS: Computer Programming Specialist	AAS
12. CIS: Computer Support Specialist	AAS
13. CIS: Database Specialist	AAS
14. CIS: Master Web Site Designer	AAS
15. CIS: System Administrator	AAS
16. CIS: Video Game Design & Animation	AAS
17. CIS: Webmaster Administrator	AAS
18. Computer Information Systems	AAS
19. Criminal Justice: Corrections	AAS
20. Criminal Justice: Law Enforcement	AAS
21. Dental Hygiene	AS
22. Dietetic Technology	AAS
23. Digital Media Production	AAS
24. Early Childhood Education	AAS
25. EEE: Computer Technology	AAS
26. EEE: Industrial Electronics & Control Technology	AAS
27. EEE: Telecommunications Technology	AAS
28. Electrical Electronics Engineering Technology	AAS
29. Emergency Medical Technology	AAS
30. Emergency Room Multi-Skill Healthcare Technology	AAS
31. Facility Maintenance	AAS
32. Fire Protection Technology: Fire Administration	AAS
33. Fire Protection Technology: Fire Suppression	AAS
34. Foodservice Systems Management	AAS
35. Gerontology	AAS
36. Heating, Ventilation, Air Conditioning (HVAC)	AAS
37. Heavy Equipment Maintenance Technology	AAS
38. Industrial Computer Graphics	AAS
39. Machine Tool Technology	AAS
40. Manufacturing Technology	AAS
41. Mental Health	AS
42. Numerical Control Technology	AAS
43. Nursing	AAS
44. OIS: E-Business	AAS
45. OIS: Office Specialist	AAS
46. Paralegal Technology	AAS
47. Performing Arts: Theater	AAS
48. Pharmacy Technology	AAS
49. Pre-Engineering	AS
50. Pre-Mortuary Science	AAS
51. Pre-Physician Assistant	AS
52. Pre-Social Work	AA
53. Surgical Technology	AAS
54. Teacher Education: Elementary Education	AA
55. Veterinary Technology	AAS
56. Welding Technology	AAS

CERTIFICATES

1. Accounting	CERT
2. Addiction Studies	CERT
3. Alternative Fuels Technology	CERT
4. American Sign Language	CERT
5. Automotive Service Technology (NATEF) Certified	CERT
6. Aviation Mechanics: Airframe	CERT
7. Aviation Mechanics: Powerplant	CERT
8. Certified Nurse Aide (CNA)	CERT
9. CIS: Computer Support Specialist	CERT
10. CIS: Master Web Site Designer	CERT
11. CIS: Video Game Design & Animation	CERT
12. Dental Assisting	CERT
13. Dental Laboratory Technician	CERT
14. Digital Media Production	CERT
15. Early Childhood Education: Childcare Training (CDA)	CERT
16. Electrical Electronics Engineering Technology	CERT
17. Emergency Medical Technology	CERT
18. Emergency Room Multi-Skill Healthcare Technology	CERT
19. Entrepreneurship	CERT
20. Facility Maintenance	CERT
21. Fire Protection Technology	CERT
22. Foodservice Systems Management	CERT
23. Forensic Photography	CERT
24. Geothermal Systems Technology	CERT
25. Gerontology	CERT
26. Graphic Design Technology	CERT
27. Healthcare Renewable Energy	CERT
28. Heating Ventilation, Air Conditioning (HVAC)	CERT
29. Heavy Equipment Maintenance Technology	CERT
30. Hemodialysis Patient Care Specialist	CERT
31. Homeland Security	CERT
32. Hotel and Restaurant Management	CERT
33. Industrial Computer Graphics	CERT
34. International Business	CERT
35. Library Technology	CERT
36. Logistics Management	CERT
37. Machine Tool Technology	CERT
38. Mechatronics Technology	CERT
39. Mental Health	CERT
40. OIS: E-Business	CERT
41. OIS: Office Specialist	CERT
42. Pharmacy Technology	CERT
43. Phlebotomy	CERT
44. Project Management	CERT
45. SED: Sustainable Building & Sites	CERT
46. Surgical Technology: Accelerated Alternate Delivery	CERT
47. Surgical Technology: Central Service Tech	CERT
48. Surgical Technology: First Assistant	CERT
49. Water and Environmental Technology	CERT
50. Welding Technology	CERT

COMPLIANCE STATEMENTS

TITLE VI OF THE CIVIL RIGHTS ACT OF 1964

Section 100.3 of the Department of Education's Regulation (34 CFR) effectuating Title VI of the Civil Rights Act of 1964 requires that no person in the United States shall, on the ground of race, color, or national origin be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program receiving Federal financial Assistance.

TITLE IX OF THE EDUCATION AMENDMENTS OF 1972

Section 901 of Title IX provides that no person shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance.

Title IX of the Education Amendments of 1972, as amended, is designed to eliminate (with certain exceptions) discrimination on the basis of sex in any education program or activity receiving Federal financial assistance, whether or not such program or activity is offered or sponsored by an educational institution as defined in part 106. Part 106 of 34 CFR, which effectuates Title IX, became effective on July 21, 1975.

SECTION 504 OF THE REHABILITATION ACT OF 1973

"No otherwise qualified individual with a disability in the United States shall, solely by reason of her or his disability, as defined in section 706(8) of this title, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance..." (29 U.S.C. §794(b)).

Part 104 of 34 CFR effectuates Section 504 of the Rehabilitation Act of 1973 which is designed to eliminate discrimination on the basis of disability. On October 29, 1992, the Rehabilitation Act Amendments of 1992 had three significant consequences relative to Section 504: 1) the term "disability" replaced the term handicap, (2) certain conditions were explicitly excluded from the definition of disability, and (3) complaints alleging employment discrimination under Section 504 were to be judged by the standards of Title I of the Americans with Disabilities Act (ADA).
04/08/93

STATEMENT OF COMPLIANCE WITH FEDERAL AND STATE LAW

Wayne County Community College District (WCCCD), pursuant to the requirements of Titles VI and VII of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, the Vietnam-Era Veterans Readjustment Act of 1974, the Elliot-Larsen Civil Rights Act, Executive Order 11246, and Title II of the Americans for Disabilities Act (ADA), complies with all Federal and State laws and regulations prohibiting discrimination and with all requirements and regulations of the U.S. Department of Education.

It is the policy of WCCCD that no person, on the basis of race, color, religion, national origin, age, sex, height, weight, marital status, disability, or political affiliation or belief, shall be discriminated against, excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination in employment or in any program or activity for which it is responsible or for which it receives financial assistance from the U.S. Department of Education. (Policy adopted by the Wayne County Community College District Board of Trustees 7/28/93, revised 7/6/94.)

NOTICE OF NONDISCRIMINATION POLICY

Any questions concerning Title IX of the Education Amendments of 1972, which prohibits discrimination on the basis of sex, or inquiries related to Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination on the basis of disability, and inquiries related to Title II of the Americans with Disabilities Act (ADA), which provides comprehensive civil rights protection for individuals with disabilities, or the College's Statement of Compliance with Federal and State law, should be directed to Mark Sanford, Wayne County Community College, 801 W. Fort, Detroit, MI 48226 or by calling 313-496-2765.

DRUG-FREE WORKPLACE POLICY

Wayne County Community College District will make every effort to provide a drug-free workplace and environment. The College expressly prohibits the unlawful manufacture, distribution, dispensation, possession, or use of any controlled substance in the workplace. The term "controlled substance" shall mean a controlled substance in schedules I through V, of Section 202 of the Controlled Substance Act (21 U.S.C. 812).

Any individual found to be in violation of this policy is engaged in gross misconduct and subject to disciplinary action, up to and including termination.

All employees will, as a condition of their employment, abide by the terms in this policy. In addition, employees engaged in the performance of a federal grant or contract will notify their supervisor and/or personnel department of any criminal drug statute conviction occurring in the workplace no later than five (5) days after such conviction. (Policy adopted by the Wayne County Community College District Board of Trustees 06/28/89, revised 09/23/92)

SMOKE-FREE WORKPLACE POLICY

Wayne County Community College District and its facilities are smoke-free in compliance with the Michigan Clean-Air Act of Smoke-Free Workplaces. (Policy adopted by the Wayne County Community College District Board of Trustees 05/26/93)

WORKPLACE VIOLENCE

It shall be the policy of the Board of Trustees that the College will provide a safe environment for its employees. Threats, threatening behavior, or acts of violence against employees, visitors, guests, or other individuals by anyone on Wayne County Community College District's property will not be tolerated. Violations of this policy will lead to disciplinary action which may include dismissal, arrest and prosecution.

Any person who makes substantial threats, exhibits threatening behavior, or engages in violent acts on Wayne County Community College District property shall be removed from the premises as quickly as safety permits, and shall remain off Wayne County Community College District premise pending the outcome of an investigation. Wayne County Community College District will initiate a decisive and appropriate response. This response may include, but is not limited to, suspension and/or termination of employment, and/or seeking arrest and prosecution of the person or persons involved.

In carrying out this policy, it is essential that all personnel understand that no existing College policy, practice or procedure shall be interpreted to prohibit decisions designed to prevent a threat from being carried out, a violent act from occurring or a life threatening situation from developing.

All College personnel are responsible for notifying the designated management representative of any threats which they have witnessed, received, or have been told that another person has witnessed or received. Even without an actual threat, personnel should also report any behavior they have witnessed which they regard as threatening or violent when that behavior is job-related or might be carried out on a College-controlled site, or

is connected to College employment. Employees are responsible for making this report regardless of the relationship behavior between the individuals who initiated the threat or threatening behavior and the person or persons who were threatened or were the focus of the threatening behavior.

This policy also requires all individuals who apply for, or obtain a protective or restraining order which lists College locations as being protected areas, to provide to the designated management representative a copy of the petition and declarations used to seek the order, a copy of any temporary protective or restraining order which is granted, and a copy of any protective or restraining order which is made permanent. The designated management representative for central administration shall be the Director of Human Resources and the Provost for each campus. (approved: 3/27/96)

GRIEVANCE PROCEDURES

Title VI of the Civil Rights Act of 1964

Title IX of the Education Amendment of 1972

Section 504 of the Rehabilitation Act of 1973

If any student believes that Wayne County Community College District or any part of the school organization has not applied the principles and/or regulations of (1) Title VI of the Civil Rights Act of 1964 (2) Title IX of the Education Amendment of 1972; (3) Section 504 of the Rehabilitation Act of 1973, the student may bring forward a complaint, (which shall be referred to as a grievance through this text) to the local Equal Opportunity Compliance Coordinator at the following address:

Director of Human Resources
Wayne County Community College District
Human Resources Department
801 W. Fort Street
Detroit, MI 48226

The appropriate grievance procedures must be followed by the student in order for his/her complaint to be thoroughly reviewed for merit: The grievance procedures (steps) are outlined below.

Grievance Procedure:

The person who believes he/she has a valid basis for a grievance shall discuss the grievance informally on a verbal basis with the Equal Opportunity Compliance Coordinator, who shall in turn investigate the complaint and reply with an answer to the grievant.

The student may begin formal procedures according to the following steps.

Step 1

A written statement of the grievance signed by the student shall be submitted to the Equal Opportunity Compliance Coordinator written five (5) business days

COMPLIANCE STATEMENTS

of receipt of the answers to the informal grievance. The coordinator shall further investigate the matters of grievance and reply in writing to the student within five (5) business days.

Any complaint submitted under this procedure shall be filed at Step 1 within twenty (20) business days after the student became aware, or reasonably should have become aware of the complaint. If the complaint is not served within that time, the complaint will not be considered. Failure by the student to appeal the complaint from Step 1 to Step 2 within the time limit procedure shall also nullify the complaint.

Step 2

If the student wishes to appeal the decision of the Equal Opportunity Compliance Coordinator, the student may submit an appeal to the President of the College within five (5) business days after receipt of the Coordinator's response. The president (or his designee) shall meet with all parties involved within (10) ten business days to formulate a conclusion, and response in writing to the student within ten (10) business days.

Step 3

If at this point the grievance has not been satisfactorily settled further appeal may be made to the Office of Civil Rights, Department of Education, Washington, D.C. 20201.

Any complaint submitted under this procedure shall be filed at Step 1 within twenty (20) business days after the student became aware, or reasonably should have become aware of the complaint. If the complaint is not served within that time, the complaint will not be considered. Failure by the student to appeal the complaint from Step 1 to Step 2 within the time limit procedure shall also nullify the complaint.

SEXUAL HARASSMENT POLICY

Sexual harassment is an infringement on an employee's right to work and a student's right to learn in an environment free from unlawful sexual pressure. It is the policy of Wayne County Community College District to prohibit unlawful sexual harassment of employees and students.

Sexual harassment consists of overt activity of a sexual nature, which has a substantial adverse effect on a person in both the workplace and in the academic setting. It may include, but is not limited to, the following:

1. Demands for sexual favors accompanied by threats concerning an individual's employment or academic status;
2. Demands for sexual favors accompanied by promises of preferential treatment concerning an individual's employment or academic status;
3. Verbal, written or graphic communication of a sexual nature;

4. Patting, pinching, or other unnecessary body contact with another employee or student.

Any employee or student should report, in writing or orally, any and all incidents of such activity. Complaints may be directed to the employee's supervisor or the Director of Human Resources. Student complainants should report, in writing, or orally, any and all incidents to the appropriate Campus Provost.

There will be no retaliation against an employee or student for making a complaint or taking part in the investigation of a complaint under this policy. To the extent it can, the College will keep matters confidential. The Director of Human Resources shall promptly investigate all incidents of sexual harassment and direct a report with recommendations to the Board of Trustees following the report of an employee. The Campus Provost shall promptly investigate all incidents of sexual harassment and direct a report with recommendations to the Vice President for Educational Affairs following the report of a student. Violation of this policy shall subject the offending party to appropriate disciplinary action up to and including discharge from employment. (Policy adopted by the Wayne County Community College District Board of Trustees 03/25/87, revised 03/27/91, 03/25/92)

CLERY ACT

In compliance with the Student Right-to-Know and Campus Security Act enacted Nov. 8, 1990, later formally renamed the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act, and commonly referred to as simply the Clery Act. The Wayne County Community College District Campus Safety Department collects and publishes specific information on campus crime statistics, security policies and services. The WCCCD Campus Safety Department is service-oriented, trained in professional standards and dedicated to the safety and comfort of our students, faculty, staff and visitors. Our primary concern is to protect life and property and to allow the educational process to evolve safely.

All criminal incidents and emergency situations are to be immediately reported to the campus safety officer located at the security station at each of the District's campus facilities. Depending on the nature of the situation, appropriate police authorities will be contacted. Incident reports are prepared and reviewed by District administrative personnel, and, if warranted, further actions are taken as governed by law, employee labor contracts, and student conduct policies. All staff, faculty, students, and visitors are encouraged to report any suspicious persons, activities, events, as well as actual incidents and emergency situations to the District security personnel immediately.



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